# CROFTER LIFE ON THE WEST DONEGAL SEABOARD

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# A SOCIAL AND CULTURAL STUDY OF CROFTER LIFE ON THE WEST DONEGAL SEABOARD.

THESIS.

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by

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## INTRODUCTION.

In this study of the West Donegal crofter his social and cultural background is intimately related with the controlling environmental factors - physical features, climate, and soil - as these condition his activities, determine his agricultural pursuits and, in influencing his domestic life and associations with his hinterland, encourage the conservative mentality natural to isolation. The historical background, as reflected in the importance of custom, is ever present, although progress is allowing the introduction of modern amenities, fashions, and thought, which tend to eradicate those bonds that permitted the perpetuation of survivals from the past.

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CONTENTS.

Donegal, a county in the extreme north-west of Ireland, is bounded on the north and west by the Atlantic Ocean, east by Loch Foyle and the counties of Derry and Tyrone, and south by Donegal Bay and the counties of Fermanagh and Leitrim.

PHYSICAL FEATURES AND STRUCTURE.

The deeply indented coastline is of exceptional length, extending along the entire northern and western sides. Its land border is comparatively small and runs from Loch Swilly in the north-east in a south-west direction to the Drowes River, south of Donegal Bay. With the exception of a small portion in the south-west corner the land border is formed by the adjacent counties of Derry, Fermanagh, and Tyrone which are under the jurisdiction of the Government of Northern Ireland. The interposition of these counties places County Donegal in a peculiar position, in as much as its only land connection with the remainder of the country consists of a narrow strip in the south-west corner of the county connecting it with County Leitrim.

The area of the county is 1,193,581 acres equivalent to 1,865 sq. miles. In 1937 the total acreage of crops and pasture amounted to 437,460 acres or 683 sq. miles and the balance of 756,121 acres of 1,182 sq. miles consisted of "Other land" which included grazed and barren mountain, turf, bog, marsh water and roads (1).

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1. Report of Donegal Transport Committee, 1934,p.4.

Like many Irish counties Donegal shows two areas markedly different in character. North and west of a line drawn from Donegal town to Letterkenny the country is mountainous and largely barren (fig. 1.), with a coastal area showing for the most part typical congested areas except on the south, where conditions are more favourable (figs. 4 and 5). The eastern part of the county has a more fruitful soil, though not a much better climate. Here there are districts of large tillage farms, formerly much given up to flax cultivation, and there is considerable, though diminishing, milk supply, which formerly supported numerous creameries, institutions the western agricultural districts lack (1).

The only moderately level land lies in the east and south-east, while in the north-west of the county are the two parallel granite ranges, the Derryveagh Mountains and the Glendowan Mountains, separated by the narrow Gweebara Rift - Glen Veagh. The highest summit is Dooish (2,147 feet) in the middle of the Derryveaghs, overlooking Loch Veagh in the rift valley. Like most of the valleys in Donegal, Glen Veagh shows marked signs of glacial erosion. The walls are steep and floors flat, so that the general cross-section is a catenary; longitudinally they are straight and devoid of spurs, particulary Glens Finn and Owenbarra. The valley heads have often been widened by the formation of corries. West of

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1. Report of the Scottish Commission on Agriculture to Ireland, 1906, p. 209.

the Derryveaghs a third parallel range runs in the same direction; it contains Errigal (2,466 feet), the highest mountain in Donegal, overlooking Dunlewey Lake; and north-east of this is the flat-topped Muckish (2,107 feet). This Muckish-Errigal ridge is chiefly quartzite and falls rapidly to the schistose lowlands of the north-west, whilst on the west lies the granitic plain of the Rosses (1).

South-east of Gweebarra Bay and north-east of Glenties is a fine mountain group of which Aghla (1961 feet) is the highest. The Barony of Banagh between Loughrosmore Bay and Donegal Bay is traversed from end to end by a range which may be said to cover the whole peninsula. In the east is the short independent range of Bluestack (2,219 feet) and in the west is Slieve League (1,972 feet) rising sheer from the sea on the south coast, and Slievetooey (1,458 feet) in like manner on the north coast. In the north-east of the county is mountainous Inishowen rising to 2,019 feet in Slieve Snacht.

The rocks of the county are granite (partly intrusive, but chiefly metamorphic), gneiss, schists and quartzites, which indicate that structurally it is a continuation of the Scottish Highlands, with the same north-east south-west trend lines dominating both, as a result, probably, of post-Silurian (Caledonian) earth movements (2). The remarkable rift valley of the Gweebara and Owencarrow, which forms a strdight depression in the granitic region, is somewhat similar in

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1. J. K. Charlesworth: "The Glacial Geology of the North-West of Ireland". Proceedings of the Royal Irish Academy XXXVI, p. 183.
2. Encycl. Brittanica. Vol. 7. p. 527.

direction but on a smaller scale to that of the Caledonian Fault, which traverses the Scottish Highlands in a similar manner. An important syncline of carboniferous limestone, about six miles in mean width, of the same kind as the great limestone field of the Central Plain, curves around the west coast from the southern boundary of the county to Bruckless near Killybegs (1). Primitive limestone, which occurs in scattered patches in the schist and granite of the coastal plain districts, is a boon to the crofting communities that work the acid peaty soils of these barren localities.

Most Donegal rivers are tortuous and slow at source and then develop great speed and become rocky one to two miles from their mouths. The rivers in the valleys between the parallel ridges flow either east to the Foyle or north-east ~~to~~ or south-west to the Atlantic Ocean. The principal east-flowing river is the Finn. North of Donegal Bay the main river flowing south-west is the Gweebara, which enters the bay of that name. The line of its valley - the Gweebara Rift - is continued north-east by that of the Owencarrow, draining Glen Veagh and Lough Veagh and entering Sheep Haven on the north coast. Errigal, Aghla More (1916 feet), and Muckish are separated by the Tullaghobegly and Ray Rivers respectively which, together with the Clady, separate the line formed by those peaks from the parallel Derryveagh ridge. Between Errigal and Aghla is Lough Altan drained by the Tullaghobegly, and at the foot of Errigal on the south-west are Lough Dunlewey and the two Loughs Nacung, drained by the Clady.

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1. The Donegal Highlands. p.XVI, 1913.

The parallel valleys which open upon the coast east of this point are deeper than those opening south-west, due to the unequal denudation of igneous and schistose rocks (1), while the general coastal sinking contributes to the complexity of Donegal's coastline. This complexity is exemplified in the alternation of headland, deeply incised sandy estuary, and undulating coastal plain criss-crossed by river-valleys and dotted with innumerable lakelets. The parallelism of these countless narrow lakelets that are general on the west coast but singular in their great number in the lake-plain of the Rosses, as well as the straight rocky course of the rivers flowing west into the Atlantic, have been determined by the well-jointed granite of western Donegal (2). Lakes are to be found chiefly amongst the glens of the mountains, or in front of the valleys, where glacier ice has debouched on to the plains. They are of two kinds; first, hollows scooped out in the solid rocks by the passage of the ice; and secondly, depressions blocked by moraine matter that has been heaped up across a valley or hollow, so as to form an embankment to dam the streams which enter the depression from above (3). The granitic moorlands west from Slieve Snaght are studded with loughs.

Of the estuaries, Sheep Haven, Mulroy Bay, Trawenagh Bay and Loughrosmore Bay are the most famous. In the north-east,

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1. O.J.R. Howarth, Ireland, p.120, 1911.
2. J.K.Charlesworth. "The Glacial Geology of the North-West of Ireland." Proceedings of the Royal Irish Academy XXXVI, p. 184.
3. E. Shell. "The Physical Geology of Ireland". 1878, p. 192.

of course, but outside our sphere of study are Lough Swilly and Lough Foyle. In all the bays mentioned above as well as Gweebara Bay, Innisfree Bay, and Pollan Bay, extensive areas of blown sand, anchored and mobile, are located. It has been assumed that this sand has accumulated on the thick drift deposits common to all the western bays (1). These dunes, whose great mobility is the result of the prevailing west winds, will be considered in a subsequent chapter.

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1. J. K. Charlesworth: "The Glacial Geology of the North-West of Ireland". Proceedings of the Royal Irish Academy, XXXVI, p. 212.

SOIL.

Plants grow naturally in different types of places, wet or dry, boggy, clayey, sandy, sunny or shady; and so the distribution of different types of rocks, and more important still, the soils derived from these rocks, are agencies that play a big part in determining the natural vegetation of this west coastal region, and influencing the distribution of the population and their agricultural pursuits.

Since soil, "is the product of the decomposition of the mineral of which the drift and surface rocks consist" (1) and realising that metamorphic (quartz, quartzite, gneiss, schist) and igneous rocks (granite) prevail on the west coast of Donegal (fig.6.), we can expect such regions to be destitute of a normally fertile soil, except where cultivable drift overlies the bed rock, but even then the drift usually assumes the character of the underlying rock; on granite it is granitic, on quartz, quartzitic. The granite and quartzite outcrops in the Donegal highlands are bare of drift, which has been deposited on the schists that underlie the valleys and depressions and act as natural receptacles for this grey granular deposit. (2).

The monotonous uniformity of soil texture and consequent sameness in vegetation are directly attributable to

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1. Sir Robert Kane. The Industrial Resources of Ireland. P.61.
2. J. K. Charlesworth. "The Glacial Geology of the North-west of Ireland". Proceedings of the Royal Irish Academy. XXXVI P.183.

geological and climatic infulence. Only in the south, in the carboniferous belt around Donegal Bay (Fig.6) is there any relief from the moorland and boggy stretches correlative with schistose and granitoid drift deposits. Here the soil is friable and warm whilst elsewhere it is cold and gritty. The total area of the county is 1,193,581 acres, whilst three-fifths of this consists primarily of bog and mountain land; only 14% of it is under crops. (1)

That the whole region was subject to severe glaciation is amply testified by the prevalence of the customary glacial indications. The bald rounded summits, bare of every vestige of vegetation, are deeply striated, indicating that at the period of maximum glaciation, not even the highest peaks projected as nunataks above the ice-surface. The abundance of roches moutonnees and erratics, the largest of which, the size of a cottage, is situated at Crolly railway station, are additional indications of the intensity of the ice action whose centres of radiation were located in the highland regions in the county. (2).

The drift deposits resultant from the ice erosion are difficult of access and are only revealed where peat-cutting has been deep enough, or at the bottom of gullies, or in road-metal quarrying sites. Many of the houses on the granite platforms in the townlands of Annagry and Loughnaneoran in the

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1. Ireland. Statistical Abstract 1938. P.47.
2. J. K. Charlesworth. "The Glacial Geology of the North-west of Ireland." Proceedings of the Royal Irish Academy XXXVI. P. 182.

Rosses, are erected on areas from which the present tenants' fathers cut their turf. In such places intensive crofter farming in the pockets of residual peat is an interesting feature of the agricultural life of the district. The drift underlying the peat beds is uniformly of a chalky hue due to bleaching by the chemical processes characteristic of peaty soil conditions. Of a gray gravelly texture it is located between the peat and underlying rock. A decided disadvantage in the structure of this drift is the absence of an argillaceous matrix that would render its cultivation feasible. Most granites are bad soil producers, and disintegrate into coarse sand which is not only poor and unproductive, but suffers the additional disadvantage of being easily denuded from the parent rock, thereby preventing an accumulation necessary for a depth of soil; when mixed with lime the result is usually a highly productive soil. In a metamorphic area the quantity and quality of the soil bear a certain proportion to the intensity of the action which has altered the rocks. Rocks belonging to the gneiss and schist series are usually bad soil producers, except when containing inliers of limestone. In this west coastal region, the presence of such calcareous rocks can be detected from a distance by the oasis-like patches of green and arable land in a desert of sterile moorland and peaty waste(1).

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1. G. H. Kinahan; Superficial and Agricultural Geology of Ireland No. 2. Soils. P. 19. 1908.

In the south around Donegal Bay there is a broad contrast to the prevailing sterility of the drift deposits elsewhere on this strip of coast. Here is found an area of carboniferous limestone, (Fig. 6), covered with a limey clay, the product of the Ice Age (1), and drumlins, which are necessarily confined to areas of thick drift (2). Apart from extremes of wetness or dryness, the character of soils which most affects vegetation is the presence or absence of lime. Owing to the fertility of the soil here, caused by an abundance of limestone, and the richness of the clayey glacial drift, we have here a concentration of population, 125 to 256 per square mile, only met with in the rich sheltered valley of the Finn looking east (Fig.4).

The poverty of the soil is in many respects due not only to the physical conditions already referred to, but to the drainage as well. We saw that the rivers draining the west coast of Donegal were really mountain streams flowing with great rapidity in straight rocky channels. As the fertility of the soil really depends on the richness and variety of its component parts, the intermixture of these component parts, is largely coincidental with fluvial erosion. Soils laid down by rivers - alluvium - are usually the most fertile, and give the richest yield of such crops as

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1. Official Handbook of Saorstat Eireann P. 37.
2. J. K. Charlesworth. "The Glacial Geology of theNorth-west of Ireland" Proceedings of the Royal Irish Academy XXXVl. P. 183.

the climate permits of being cultivated. The rivers therefore, have a single function - drainage, and the agricultural advantages that would accrue from fluvial deposits are lost through flooding and youthful drainage.

Erosion and deposition both on an extensive scale are everywhere visible on the coast. Bluff headlands, rapidly eroded by the Atlantic and rarely guarded at their base by a protective shelf of shingle are the outstanding features of the southerly districts.

At the heads of tidal estuaries in which this coast abounds extensive mud flats are left when the tide recedes. The encroaching vegetation at the water's edge is gradually reclaiming some of these deposits and is especially noticable on the littorina at Gortahork and Trawenagh Bay.

Of all types of deposition blown sand is the most evident. The more extensive areas are located in Sheephaven and Pollaguill Bay, in Killyness Bay, Gweedore Bay, Gweebara Bay, Loughros More Bay, and Teelin Bay. Everywhere the prevailing wind is causing the mobile sand to migrate at the expense of agricultural holdings in the immediate hinterland. Of the areas thus affected those of Gweedore and Dunfanaghy (Sheephaven) merit special reference. At Maghergallon, Gweedore, hundreds of acres are affected and it is feared that the entire area will be left desolate unless protective measures are more vigorously pursued than at present. Six houses at present threatened

by the accumulation now window high, are all that is left of a once thickly populated area. Concurrently with the advance of the dunes the water supply of the area became clogged and failed.

Bunbeg, the port of the Rosses, is set at the eastern extremity of the sand area, so that its tortuous three mile channel westward to the sea, is constantly in danger of being silted up. The Department of Lands is promoting general local schemes of fixation by the widespread planting of bent-grass. This is one of the major projects of the Land Commission on the west coast, a sum of £786 being expended on Mayo and Donegal from 1st. April 1936, to 31st. March 1937. (1) In the Land Act of 1936 provision was made for controlling the cutting or removal of bent-grass growing by the sea-shore. (2).

The great difficulty in an area such as this is that the general thatching material is bent (Muirineach) so that the enforcement of such legislation has to be done very circumspectly. On the Annagry peninsula, east of Inishfree Bay, every house is bent thatched, and many of the crofters here pursue a steady trade in harvesting the grass and selling it to the thatchers on the mainland. The devastation of grass in former days in this area must have been enormous as all houses in the Rosses were bent thatched.

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1. Ireland. Report of the Irish Land Commissioners. 1937. P.32.
2. Ibid. Page. 6.

The extensive sandy areas lying east and west of Horn Head have presented difficulties in days gone by as great as those now being experienced at Gweedore. At the beginning of the nineteenth century one traveller noted that the sand was anchored by a matted growth of bent but that the inhabitants had caused a serious problem and set the sand in motion in places by drawing the grass (1). Even the 'suckers' of old sycamores were killed as a result of the repeated cutting of young shoots which had been forced up through the sand.

On Rutland Island, which lies between Aran More and the mainland, a sum of £40,000 was expended in 1785 on constructing quays for a herring fishery, and additional buildings, chief of which were a police station and a general store. The work was executed with a finality that implied permanence and success, but sand and storms choked the harbour and nullified the promoter's labour.

On the sandy peninsula opposite Carrigart Lord Boyne had erected a comfortable mansion, an old fashioned manorial house and garden, planted and laid out in the tastes of that time with avenues and terraces, hedges and statues, and surrounded with walled parks (2). Workmen made vain efforts to stem its advance, not only to save the estate, but the adjacent crofter holdings. To-day this once

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1. W. Patterson. The Climate of Ireland. P. 174. 1804.
2. C. Otway. Eighty Years in Donegal. P.7. 1827 (1906)

populous area is a waste of 'red sand'. In 1843 the estate was bought by the then Lord Leitrim who succeeded in planting extensive reaches of the mobile sand with bent and so anchoring it (1). As the roots of the bent matted and an annual accumulation of humus fertilised the surface covering, a variety of plant forms amenable to such an environment flourished. It is interesting that heather associations are absent owing to the porous nature of the soil.

The permanency of fixation is undermined by rabbits. The burrows allow the free play of wind on unprotected surfaces with a consequent erosion that undermines the area affected: mobility eventually results. Rabbits were encouraged on Horn Head and the vicinity because their fur, for manufacture into hats, realised a good price, during the Anglo-French wars around 1800. The dunes around Dunfanaghy were fitly called the Rabbit Warrens (2).

When we refer to "soil" as such on the west coast of Donegal, we must remember that there is little soil as we know it - a compound of mineral detritus, but a peaty medium which, through the energy of the crofter has been brought to a fairly high degree of fertility.

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1. S. Gwynn. Highways & Byeways in Donegal and Antrim P. 169. 1899.

2. Ordnance Survey 1836. Donegal. Sheet 15.

If the Donegal crofter ceased cultivating his garden patch he could cut and wind his former arable land and burn it as fuel, just as he could the turf from his peat bank. Only in the lower reaches of the river valleys where alluvium has accumulated, or on the lee-side of ridges, or in pockets where drift and eroded debris has collected, is there a mineral medium which can be rendered fertile by an average expenditure of labour, with a proportionate crop yield.

Extensive areas of the highlands were swept bare of soil during the Ice Age, whilst between the barren mountains are huge glaciated surfaces, water-logged, and occupied by vast boggy moorland, which is again practically uninhabitable. In such regions we may expect the influence of the crofter farmer on the natural vegetation to be negligible. Here on the west coast of Donegal are to be found the uneconomic holdings of struggling small farmers set in a vegetational background that is determined wholly by the forms and life of pure nature. On this stretch of coast the natural vegetation type is heather moorland, that, together with the poverty of soil and the severity of climate, are conducive to the formation of acid bogland. In order, therefore, to study the growth of heather moorland we must consider it in conjunction with that influence climate, which, assisted by soil structure and aspect, gives rise to conditions ideal for the growth of peat.

growth of peat.

CLIMATE AND NATURAL VEGETATION.

The agricultural life of a district as well as the natural vegetation types are directly dependent on climate and soil conditions. But we may go further than this in the case of this western seaboard and say that the "soil", or peaty cover overlying the drift deposits, is a consequence of the climatic conditions prevalent in western Donegal. Great areas on the mountain slopes and coastal plain belong to the so-called soligenous bog type, that is, a fairly uniformly thick layer of peat principally formed by the cotton-grasses and black bog-rush which cover the district. Through finds of implements this peat with its many stumps, especially pine, is dated to the later part of the Bronze Age. (1) It is this surface peat layer that gives its character to the landscape and plays so important a part in the crofting economy. The mineral matter in the soil is in the main derived from the underlying rock by weathering, but in recent years, however, it has been more and more recognised that climate plays a leading part in determining the character of the soil. Percolating rain water, in a great or less degree acidulous, dissolves certain constituents, and may remove them; such soils are said to be 'leached', and tend

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1. K. Jessen. Preliminary report on bog investigations in Ireland. 1934. P. 133. The Irish Naturalists' Journal. November, 1934.

to be acid or sour. Peat, and aciduous soil, may be considered as raw humus accumulated under a covering of heather, cotton-grass, bog-moss, or any other moorland plant. Under heather the raw humus forms a felted mass which interferes with the circulation of the air and water in the soil, and especially hinders the evaporation of superfluous water. The formation of the humus under such conditions is accompanied by the development of organic acids, which accumulate and cause changes prejudicial to the growth of most plants. In forests and under close masses of heather the plant remains decompose slowly and tend to accumulate as raw humus, light and air being deficient.

For such peat to form, special climatic conditions were necessary. A prolonged period of wetness, with an annual average rainfall of at least 40" per annum, was the primary requirement. A second consideration was, that for peat growth, a mean temperature of over 32°F. was necessary. (1). The great outbursts of peat formation in the Atlantic and Sub-Atlantic periods of post-glacial time give us a measure of the raininess of these periods.(2). Prior to this, the retreat of the ice was succeeded by the invasion of continental tree forms principally conifers, the dominant species being pine and birch. (3). The changes

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1. Dr. W.S.Smith. The origin and development of heather moorland. Scottish Geog. Mag. Vol. 18. P. 594. 1902.
2. C.E.P. Brooks, Climate through the Ages. P.200. 1926.
3. L.D. Stamp and H.S. Beaver. The British Isles. P.115. 1933.

over the three stages varied from the mild warm Atlantic type, through the dry, warm, Sub-Boreal or later Forest stage to the moist, cool Sub-Atlantic type(1). The sudden incursion of the last type was so catastrophic as to amount almost to a climatic discontinuity. (1). It was this sudden deterioration of climatic conditions that led to the almost complete disappearance of forest in favour of a vegetation, in which mosses and heather predominated. The disappearance of primitive forest has been attributed to the impoverishment of a naturally open soil, poor in plant food, by rain, assisted by the removal of timber, so that materials necessary for vigorous growth are no longer available. The exploitation will reduce the material returned, and it is generally assumed that one third of the mineral matter taken up by the tree is thus removed (2). It was thus that the protective covering was revealed to denuding agents and the formation of raw humus in the form of bog precipitated. The continued growth of these mosses not only stopped the growth of the trees but led to the growth of bog.

The bog timber is found between successive layers of peat, the old Bronze Age forest bottom and the growth occasioned by the inversion from Sub-Boreal to Sub-Atlantic conditions. In Clooncar Bog, north of Treantagh, there

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1. C.E.P. Brooks. Climate through the Ages. P.200. 1926
2. Dr. W.S. Smyth. The origin and development of heather moorland. Scottish Geography. Magazine Vol 18. P.594. 1902.

are peculiarities of importance. In 1887, whilst bottoming out the bog, 'corkers', with their stems standing vertically, were found. This is peculiar; because in general, timber, that is "bog-stick", is found broken off and lying horizontally - the breaking off usually being close to the corker, and only a few feet above it. This is generally the case throughout the rest of the county, the trees having fallen before the bog grew, while here the bog must have grown rapidly around the standing tree.(1).

The destruction of primeval forest remains has been attributed to the destructive activities of charcoal burners about 1606 whose products were eagerly purchased by the growing iron industry of England. But worst of all were the great inroads made by those engaged in a profitable export trade in lumber and pipe staves. (2). The existence of extensive forests in Donegal at a former date is testified not only by forest remains in bogs, but by place names, e.g. Derrynamansher, Colehill, Gortnavern, all of which signify a number of particular trees - oak, hazel, and alder. The name 'Doire', which occurs repeatedly, always signifies some place famous for its oak trees. (3) The Derrynamansher mentioned above is today a bleak boggy townland, perfectly barren, and lacking

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1. G. H. Kinahan. Superficial and Agricultural Geology of Ireland, No.2. Soils P.28. 1908
2. W. Patterson. The Climate of Ireland. P.74. 1804.
3. J. Joyce. Irish Place Names. Vol. 1. P.504. 1910.

surface indications of the existence of a former oak grove.

In combination with the abundance and continuity of precipitation, (60" per annum), and the consequent humidity of the air, the latitude hinders cultivation and gives all the summits to barren rock, heather, and peat bog. Heather moorland occurs at all elevations up to 2000' and whilst elevation does affect its distribution, the determining complementary factors are climate and soil. But on this uncultivated moorland vegetation, indicative of an impoverished soil and wet climate, the influence of man and beast is least apparent, and the natural agencies of soil and air exert their influence on plant growth with least disturbance: heather and cotton-grass - grass of Parnassus (finnan bán) (1), are the chief associations. It is recognised that heather moorland, although a well-marked type of covering vegetation, includes a number of sub-types indicative of some change in the climatic environment. But on this coastal strip, up to the 300' contour line, a monotonous sameness of a heather-cotton grass complex is established. Cultivated patches and mountainy "stripes", the cultivation of which ceased at the end of the nineteenth century, are the only relief to the prevailing moorland. Where the peat is shallow and comparatively dry, heather flourishes; but cotton-grass or bell-heath usually replaces

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1. P.S. Dinneen. An Irish English Dictionary. P. 258. 1927.

the heather on the wet, deep, black bog. This is well shown everywhere along the western seaboard but especially north-east of Glenties where a local stretch of bog is being reclaimed for industrial purposes.

Where grazing is common this heather covering is thin, a thinness which is really a transition to a pure grassy covering. The liming of heather clad land during a dry spell is one of the primary duties of a crofter before cultivation; but if the newly recovered land is allowed to run idle, climatic and soil conditions are such that a return to primitive vegetational conditions extant before the application of lime is only a matter of a few years.

As a rule the prevalence of a vegetational type points to the prevalence of a climatic type, an observation that holds good for the climatic but not the edaphic factor, as there is a wide difference between the products of similar soils in one climate and another. All along the west coast of Donegal the long wet winters with a persistent rainfall, the fairly low average temperature (41°F...fig.8), combined with a summer which is generally speaking, wet and cool, (58°F...fig.7) and a soil which is essentially poor in plant food are conditions naturally resulting in moorland. It is characteristic of moorland plants that the annual growth in length and weight is small; a rich soil carries a vegetation with a large annual increment. (1) This richness in the soil is

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1. Dr. W.G.Smith, The Origin and development of heather moorland. Scottish Geog. Mag. Vol. 18. 1902. P. 590.

naturally a corollary of an evenly distributed rainfall conductive to plant fertility. But the rainfall has also an important bearing on the effectiveness with which applied manures are rendered available as plant food within the period of time during which the plant ~~food~~ is able to make the fullest use of them. (1). If a heather area is manured the characteristic vegetation disappears because the excess plant food supplied by the manure produces an increase in growth and an early death. Hill pastures are recognised as a grass moor because the droppings kill the heather. The inter-play of the various factors of a physical environment such as soil, climate, location, aspect, produce a plant association peculiar to itself. When this plant association is allowed to develop unaffected by external agencies, especially man - and man and his animals can interfere to a remarkable degree - it forms the natural vegetation cover. This natural vegetation delelopment is known as the Climax Association (2).

The high degree of rainfall in Donegal is not produced merely by intense rain at given periods; it is evenly distributed over the entire year, because of the position of the county in the path of the prevailing wet westerly winds, and its rugged topography. The Relative

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1. The Manuring of Vegetable Crops. Ministry of Agric. Bulletin 71. P.6.
2. L.D. Stamp and H.S. Beaver. The British Isles, P.117. 1933.

Humidity in the north of the county ranges from 88% to 91%. In July it is 90% and in January 91%. This high percentage of water vapour in the air has a chilling effect on the climate of the county, an effect which is aggravated by the amount of surplus surface moisture that, even in the driest seasons, makes the mountain sides impassable, and floods the lakes. These lakes, the results of configuration, are accumulations of surface moisture that have an adverse influence on the climate of the county. In days gone by few landlords in this county did any draining and it was only natural for their tenants-at-will to neglect this necessity also. If they had enjoyed security of tenure, defeasible only by non-payment of rent --- if, in fact, they felt they were labouring for themselves, they would not only ~~would~~ have tilled the land but would have availed themselves of any aid to do so. Much could be done locally by arterial drainage and schemes are at present on foot ~~of~~ for the reclamation of uncultivable bogland. "The climate of Donegal is one of her greatest difficulties, in as much as its uncertainty militates against the assured maturing of crops; especially so does the recurrence of a number of wet years. Moisture has its advantages and disadvantages: The latter would be minimised if a well-devised thorough system of arterial drainage were prosecuted by the Government." (1)

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1. J. N. Murphy. Ireland: industrial, political, and social. P. 88. 1870.

"The Irish Coast Pilot", 8th. Edition. 1930.
Place - MALIN HEAD. Lat. 55°23' N.,Long. 7°24' W.
Height above Mean Sea Level, 208 feet
METEOROLOGICAL TABLE COMPILED FROM 6 - 44 YEARS' OBSERVATIONS.

| MONTH | AIR TEMPERATURE. | | | | | | | Relative Humidity | Cloud Amount Scale 0 to 10. | RAIN | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Average(1). | Mean Daily | | Mean Monthly | | Extreme | | | | Average fall | No. of days (2). | Max. fall in 24 hrs. (3) |
| | | Max. | Min. | Max. | Min. | Max. | Min. | | | | | |
| | °F. | °F. | °F. | °F. | °F. | °F. | °F. | % | | in. | | in. |
| January | 41 | 44 | 37 | 51 | 30 | 55 | 21 | 91 | 7.4 | 2.6 | 22 | 2.1 |
| February | 41 | 45 | 37 | 51 | 30 | 59 | 20 | 91 | 7.3 | 2.4 | 19 | 1.3 |
| March | 42 | 46 | 38 | 54 | 31 | 62 | 23 | 90 | 6.8 | 2.3 | 21 | 1.1 |
| April | 45 | 50 | 41 | 59 | 34 | 69 | 25 | 88 | 6.4 | 2.0 | 19 | 0.9 |
| May | 50 | 54 | 45 | 63 | 38 | 73 | 31 | 88 | 6.4 | 2.0 | 17 | 0.8. |
| June | 54 | 59 | 50 | 69 | 44 | 78 | 40 | 88 | 6.7 | 2.1 | 16 | 1.7 |
| July | 57 | 61 | 52 | 69 | 48 | 79 | 42 | 90 | 6.9 | 2.8 | 19 | 2.8 |
| August | 57 | 61 | 53 | 69 | 48 | 80 | 42 | 90 | 6.9 | 3.5 | 21 | 1.8 |
| September | 55 | 59 | 51 | 68 | 43 | 84 | 36 | 89 | 7.0 | 2.6 | 17 | 1.4 |
| October | 49 | 53 | 46 | 61 | 37 | 73 | 32 | 90 | 7.0 | 3.0 | 20 | 1.5 |
| November | 45 | 49 | 42 | 55 | 34 | 61 | 30 | 91 | 7.2 | 3.3 | 21 | 1.6 |
| December | 42 | 46 | 39 | 53 | 32 | 56 | 27 | 91 | 7.2 | 3.4 | 24 | 1.0 |
| Means | 48 | 52 | 44 | 74* | 27* | - | - | 90 | 6.9 | - | - | - |
| Totals | - | - | - | - | - | - | - | - | - | 32.0 | 236 | - |
| Extreme Values | - | - | - | - | - | 84 | 20 | - | - | - | - | 2.8 |
| No. of Yrs. Observations | | 30 | | 31 | 31 | 43 | 43 | 17 | 17 | 30 | 30 | 44 |

(1) ½ (Maximum Minimum). (2) Day with .01 in. or more rain.
(3) Maximum Fall during the 24 hours from one morning observation to the next.

* Mean of highest each year and lowest each year.

(Contd.)

WIND.

| MONTH. | Percentage of Observations, from | | | | | | | | | No. of Days Gales. | No. of Days Fogs. (4) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | N. | N.E. | E | S.E | S. | S.W | W. | N.W. | Calm | | |
| January | 8 | 4 | 3 | 9 | 27 | 25 | 13 | 11 | 0 | 7 | 0 |
| February | 7 | 6 | 6 | 11 | 25 | 20 | 13 | 12 | 0 | 5 | 0 |
| March | 11 | 7 | 8 | 9 | 20 | 20 | 14 | 11 | 0 | 4 | 0.2 |
| April | 13 | 6 | 8 | 12 | 17 | 15 | 15 | 13 | 1 | 2 | 0.2 |
| May | 12 | 6 | 14 | 15 | 15 | 12 | 13 | 12 | 1 | 1 | 0.3 |
| June | 13 | 6 | 13 | 12 | 12 | 13 | 15 | 14 | 2 | 1 | 0.7 |
| July | 15 | 4 | 9 | 8 | 12 | 15 | 18 | 18 | 1 | 1 | 0.2 |
| August | 12 | 5 | 7 | 7 | 18 | 17 | 17 | 16 | 1 | 2 | 0 |
| September | 10 | 4 | 6 | 11 | 23 | 17 | 15 | 13 | 1 | 3 | 0 |
| October | 11 | 6 | 7 | 12 | 23 | 17 | 10 | 13 | 1 | 4 | 0.2 |
| November | 8 | 5 | 5 | 12 | 24 | 21 | 12 | 12 | 1 | 6 | 0 |
| December | 7 | 4 | 4 | 11 | 26 | 22 | 13 | 13 | 0 | 7 | 0 |
| Means | 11 | 5 | 7 | 11 | 20 | 18 | 14 | 13 | 1 | - | - |
| Totals | - | - | - | - | - | - | - | - | - | 43 | 2 |
| Extreme Values | - | - | - | - | - | - | - | - | - | - | - |
| No. of Years Observations | | | | | 35 | | | | | 20 | 6 |

(4) Visibility less than 1000 metres (1100 yards) at 0700.

Even if drainage operations on a large scale are accomplished it is likely that the soils will remain acid in nature, owing to the excess of moisture in the atmosphere, and only by careful application of alkali manures will they be suitable for arable farming. In fact, the location of agricultural patches on lakesides, e.g. Loughanure, and deltaic fans, e.g. Glentornan, is due, first, to the presence of cultivable land, and second, to the nature of the soil which is alkaline in nature because of the presence of lime and other bases in quantity.

When considering the agricultural systems of the crofter the average Relative Humidity of 90% will be of the greatest importance. It is because of its position in the extreme north-west of Ireland in the generalised path of the annual series of depressions that the Relative Humidity Index of Donegal is so high. It is at its lowest 88% in April just at the time of planting. After June there is a general increase in moisture content in the air until it reaches its peak of 91% from November to February. During harvest time it varies from 89% to 90%. This excessive humidity rather than the actual precipitation is the serious defect in the climate of Donegal. It is interesting to note that the July-August period is the wettest time of the year, whilst July has the maximum fall in a day. The high cloud amount is closely associated with the humidity, varying as does the humidity from the lowest 6.4 in April

to the highest register of 7.4 in January.

The insular position of Donegal, its rugged nature, the great arms of the sea running far inland and the presence of extensive reaches of surface water result in a small annual range of temperature of 18°F. Throughout the winter months and up till the spring, the temperature falls from 53°to 51° with a minimum during this period of 30°F. It is noteworthy that sleet rather than snow is the rule on the west coast; snow lies only on the highest tops, especially those of the north, and then only for a short time. In spring the monthly temperature advances rapidly from 54°F in March to the peak temperature of 69°F for the months June to August. The mildness of the winter is a striking feature of the coastal regions. Some days are so mild as to allow open air grazing.

In Peter Lombard's time, circa 1620, the winters were so mild and open in Ireland that the people were negligent in making hay as fodder for cattle, depending greatly for their support on the verdancy of the district. In his time there were few stall-fed animals and a few fields of waste grass were sufficient, during the winter, for beasts always accustomed to exposure in the open air. (1)

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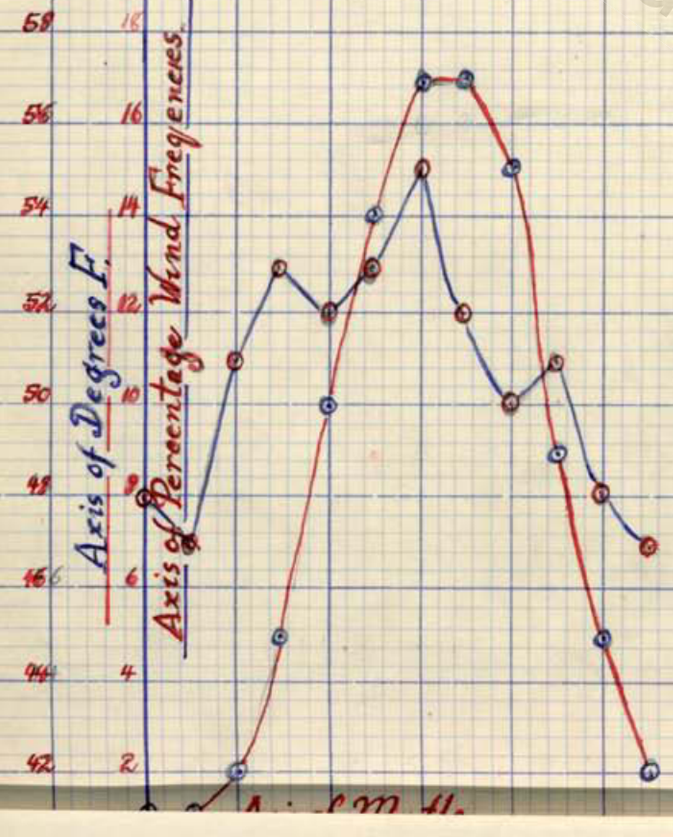
1. The Donegal Highlands P. 159. 1913.

It is remarkable how a succession of rainy days on this west coast, with great blankets of driving mizzle rolling in from the sea, have usually dry cool nights.

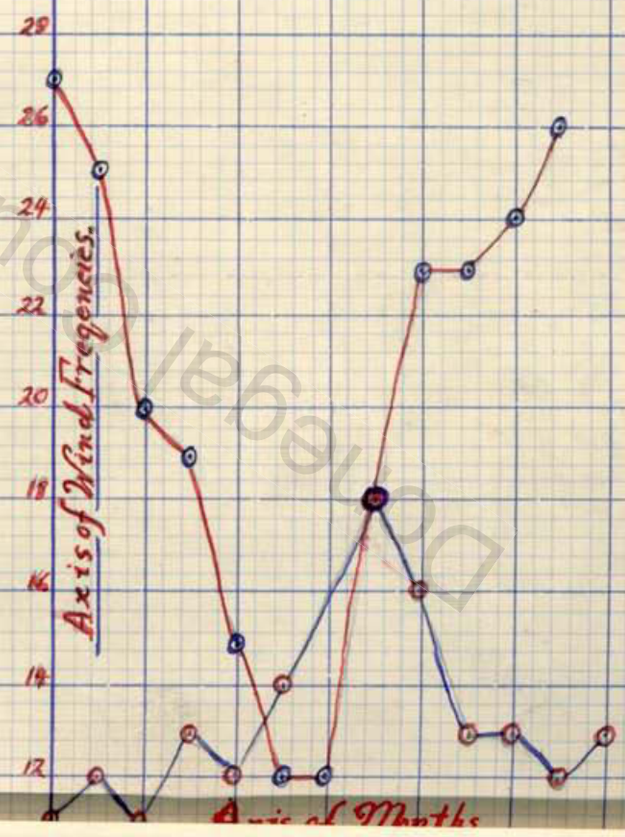
The climate of the west of Donegal is characterised by the prevalence of strong westerly and south-westerly winds bringing a heavy rainfall, and a mild climate. Although the county lies wholly within the westerly wind belt there is not, at any season of the year, a constant westerly or south-westerly wind: the latter is the dominant wind throughout the year. The deep estuaries, and mountain chains which are, except in the south, parallel to the wind direction, allow the penetration far inland of oceanic influences, more than would otherwise be the case.

In winter the greatest percentage of wind directions is 27, from the south. It is this prevailing wind which mitigates the severity of the season, and counteracts the rigour of frost and snow. The south wind is the dominant wind throughout the year, blowing with increasing vigour (23) at the harvest time, until it reaches its maximum of 27 in January. There is a uniform decrease from 27 down to 12 in July when westerly winds prevail. A similar decrease in gales occurs over this period also, falling uniformly from 7 in January to 1 in July, and rising to 7 again in December. The decrease in south wind intensity from January to July is accompanied by a corresponding increase in the strength of the west and north-west winds, which reach their maximum monthly intensity of 18 in July.

Graphs showing relation between advance of North Wind Intensity and progress of Average Monthly Temperatures.




Graphs showing relaton between Decline of South Wind Intensity and Increase of North West Wind Intensity.



After this they wan in strength to 13, while the south and south-west winds increase to 26 and 22 respectively. Dr. Rutty who kept a journal of the weather for half a century, 1716 - 65, noted that most constant over that period was south-west 688, followed in turn by west 668, and north-west 457.

An interesting feature of the wind scheme affecting Donegal is the gradual increase in north wind intensity as the year advances, from 8 in mid-winter to 15 in mid-summer (See graph). This incursion of a northerly current may be the retarding influence to an increase in the average summer temperature of 57°F. The relation between the graph of the progress of the cold current and the progress of the average monthly temperatures is a significant one. Except for the irregularities at March and September --- after each of which the progress is uniform --- the graphs are parallel. Furthermore, the peak temperatures and the greatest north wind or north-west intensity are recorded about July.

The effects of wind are also seen on the littoral reaches; where the immediate foreshore is washed with salt spray carried inland by the wind, the plants show adaptation to the salty condition of the somewhat scanty soil. Moreover, on such an unsheltered littorina the winds have a destructive effect on tall plants, especially as they are usually strong and persistent. Trees are dwarfed, and are observed leaning away from the prevailing south-westerlies. Many of them also have intricate and vigorous root systems which

ensure a hold on a rocky unstable terrain. It is an interesting feature how the tree life gradually diminishes in size from Sheephaven to Gweebara Bay. In the latter place dwarf oak and stunted holly grow in clumps wherever possible and so ensure continuity.

The severe inroads on the health of the people, both young and old, that accompanies residence in so moist an area is reflected in the exceptional number who suffer from pulmonary complaints and rheumatics. Donegal has the fifth largest population of the twenty-six counties, yet it ranks second in the National Tuberculosis Grant --- Dublin County being first. Mayo and Galway, structurally and climatically similar to Donegal, have larger populations yet receive a far smaller grant (1). Both afflictions attack equally forcibly the young and old. The common type of chest trouble in juveniles is asthma. The excessive rainfall is only indirectly culpable as herding over sodden ground, with its constant wettings through lack of shelter in inclement weather, and the accompanying evil of wet feet, are the chief sources of misfortune to the young. Dearth of trees and adequate natural shelter is responsible for the prevalence of phthsis (2).

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1. Ireland; Report of Department of Local Government and Public Health 1936-37. P. 228.
2. Agriculture and Technical Instruction Acts (Ireland) 1899. Minutes of Evidence of Commission of Enquiry. P.440.

ANTHROPOLOGY AND AGRICULTURE.

The sociological problems of the communal centres and their development on the west coast of Donegal is one that has, because of the paucity of archaeological evidence, been considered only through conjecture and tentative suggestion. That many existing social centres, especially those in sequestered valleys in mountainous districts, as in the Baronies of Boylagh and Banagh in the south, are the relics of former rural communities, practising ancient communal observances and regulating their lives in no small measure, by influences of former times, is a conclusion opined from a consideration of groups in more accessible localities. How a community in such an area, rarely coming in contact with the influences of its immediate surroundings gradually developed, or remained as a limited rural nucleus; the factors leading to the establishment of this and coastal groups; the progress of the social and cultural bonds existing between similar centres in contiguous areas --- all these are problems intimately related to the still untouched problem of transhumance.

That the west coast was peopled as early as Neolithic times is testified by the presence of kitchen middens at Dunfanaghy and L. Swilly (1). On the south side of the plain of Tranarossan (Rosguill Peninsula) is an extensive

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1. W. R. Kermack. Human Environment and Progress. p.112. 1927.

area of these middens in which bronze pins, brooches, drilled bones, primitive corn mills and other evidences of pre-civilisation days have been found (1). If at such a time, corresponding generally with the warm Sub-Boreal period, conditions prevailing were such that the forest cover did not permit freedom of movement, then communication must have been by sea and the bare, or less-densely clad, hill tops. The mountains, owing to their rugged nature, must be ruled out as highways, whilst their lower slopes may have played some part later in the scheme of communication. The river valleys, the means of least resistance, at that time must have been so densely forest clad as to present an impenetrable front to a people whose implements were as yet rudimentary. Even as late a 1800 Glen Veagh was wooded (Gleann Bheith- the birch glen) with birch, oak, alder, and rowan (2). Since Sub-Boreal conditions were warmer and drier than the preceding or succeeding climatic phases, the county was forested in the later part of the Bronze Age to the west coast and high up in mountains. The forest was chiefly oak, which was followed by pine, birch, alder, yew, bird cherry and much hazel (3). Settlement, therefore, must have been confined to those altitudes permitting of communication, and to the shore line

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1. C. Otway. Eighty years ago in Donegal, P. 9. 1827.
2. Ibid, p.21.
3. K. Jessen. Preliminary report on bog investigations in Ireland. 1934. p. 133. The Irish Naturalists' Journal November 1934.

also. It is possible that structural difficulties prevented upland settlement, whilst an abundance of evidence indicates a population essentially maritime, and that gradually moved inland as the forest covering disappeared.

The contents of the middens around Sheephaven reflect the general economy of the social centres in which they were located. Crude axe heads point to an early Bronze Age site but polished ones indicate a later occupation. The presence of cattle and sheep bones besides corn mills of an ancient pattern (1) evidence an economy that was primarily agricultural and pastoral; fishing was also a means of subsistence(2).

The close association between the numerous raths that dot this coastline and the migration from higher altitudes, has been suggested as having been due to the change from Sub-Boreal to Sub-Atlantic conditions at the end of the Bronze Age, and the accumulation of upland peat (3). In Donegal there are 215 of these raths (4), the majority lying around the coastal stretch from Fanad to Horn Head. In the vicinity of Dunfanaghy there are approximately 32 earthworks --- varying in elevation from 30 ft. to 300 ft. above S.L. (5). --- the majority of which lie near the sandy

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1. The Londonderry Sentinel. "MacSwyne-na-doe --- His land in Wild Donegal, p.5.
2. For an interesting account of some midden contents see "Recent acquisitions from Co. Donegal in the National Museum", Sean P. O'Reordain, p.p. 183-187. Proceedings of the Royal Irish Academy Vol. XLII, Section C. No.8.
3. E.E.Evans, Some survivals of the Irish Openfield System, p. 28, "Geography". March 1939.
4. R.A.S.McAlister, The Archaeology of Ireland. 1928,p.176.
5. Ordnance Survey, 1836, Donegal,Sheets. 15, 25, 26.

These raths, in the ramparts of which gate-gaps occur, were deemed to be protected dwellings into which cattle and their owners retired at nightfall, the owners occupying the wooden buildings situated in the inner space (1). The concentration of raths around Dunfanaghy indicates the past importance, now lacking, of this district. Cuellar visited the booley-rath of the McClancy-clan overlooking Lough Melvin, where the flocks and herds were folded in an earthwork enclosure (faced with stone) 220 ft. in circumference. From this ancient dwelling a bridle path led to the grazings on the mountain above. Portions of this rath have recently been discovered (2) It is possible that this was an original landing spot of Celtic or pre-Celtic settlers and still retained until the end of Bronze Age times the original importance such an event would imply. Again, these sandy reaches must have been ideal for a fisher folk who probably used curraghs for deep sea fishing rather than dug-outs. It may be assumed that the agricultural strips lay convenient to the shore dwellers and the rath communities, because the earth ramparts, of average diameter 100 ft(5), are big enough to accommodate a number of families (3). The average acreage to each rath in Donegal is the greatest in Ireland --- 5550 acres (4). The rath

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1. P. Boissonnade. Life and Work in Medieval Europe. 1927. p.78.
2. Captain Cuellar's Adventures in Connemara and Ulster. A.D 158
   Translated by H. Allingham, 1897.
3. R.A.S. McAlister. The Archaeology of Ireland. 1928. p.176.
4. Ibid.
5. R.J. Herring. History of Ireland. 1937, p.4.

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and shore populations could have been coeval, the former being a progressive step towards final settlement up to 500', generally accepted as the limit of agriculture. As the change in climate was now such as to reduce the forest area the various groups frequented upland pastures where cotton grass grew in abundance. It is possible that the area of available grazing, insufficient for the gradual increase in the cattle population, forced the people to seek the hill pastures and so preserve for winter grass the grazing nearer home.

It is noteworthy that there have been no recorded traces of upland occupation on the west coast of Donegal, whilst the only archaeological evidence is that which points to a considerable maritime population, nucleated for the most part, lying below the 500 ft. line.

The field-system and village type of these early inhabitants is yet unknown to us, but local conditions as well as the determining influence of custom must have regulated their cultural landscape and that of their Celtic successors. The fundamental problem confronting these old communities was that of wringing a subsistence from the land in face of all the environmental difficulties and those imposed by a rudimentary technical knowledge. A consideration on the Celtic field system as it occurred elsewhere and an application of the conclusions thus gleaned to western Donegal or similar areas on the west coast of Ireland, could only be acceptable provided the conclusions were influenced

by close attention to the structural features of the seaboard: the location of settlements and the framework of their social economy are much more the products of the topography and soil, aspect and climate of their respective sites, than of the dictates of custom. It is reasonable to expect the ancient settlers or their Celtic successors developing a social and agricultural system determined by their physical environment rather than imposing an organisation on a region physically unsuited for such a system.

The Celts, who arrived about 400 B.C. (1), introduced their system of husbandry with its Infield and Outfield divisions, the latter occupying about four-fifths of the communal land.(2). The idea of collective ownership of the land was never quite lost sight of, but an ownership confined to a select family group; ~~although~~ mention of private ownership of land is present in our oldest manuscripts. Outside the Brehon Laws there is little mention of this communal possession of lands, and even the references there treat it as a "dim memory of the seventh century" (3). There are even historical traces that, prior to this time, herds were common property, but after it, private ownership of cattle became general(4). McNeill points out

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1. R.A.S.McAlister. The Archaeology of Ireland, 1928, p.17.
2. W. R. Kermack. Human Environment and Progress, 1927, p.58.
3. P. W. Joyce. A Social history of Ancient Ireland, 1903, Vol. 1. p.185.
4. P. Boissonnade. Life and work in Medieval Europe, 1927, p. 78.

that the tribal land, (tuath) was not held in common by a tribe, and such a practice never existed in the ancient Irish agricultural system. The origin of such an error that tribal land was held in common with a periodic redistribution of strips, was caused by the misunderstanding of the word 'fine', which means 'a family', and not 'a tribe'. (1). The 'deirbfine', or family land was not subject, as in later times, to the law of primo-geniture, but to gavelkind within the 'fine', which embraced four generations (5). This procedure, really based on the idea of private property, probably led to the modern conjecture that the land in the tuath was held in common. Only pasture-land and bog were the chief areas outside the arable that were thus held. After the harvest the arable became part of the common grazing. As the result of investigations in Donegal, Coughlan concludes that the land was never held in common, because rundale points towards private ownership (2).

The practice of gavelling the deirbfine every two or three years (3) gradually fell into abeyance until the only commonage was bog and pasture, where a recognised number of cattle from each person grazed. Before this the private property of a Celtic family within the 'fine', was limited to household goods, cattle, garden and house and temporary usufruct of arable holdings (4).

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1. E. McNeill. Early Irish Laws and Institutions, p.12.
2. D. Coghlan. The Ancient Land Tenures of Ireland. 1933. p.86.
3. P.W. Joyce. A social history of Ancient Ireland. 1903. Vol. 1, p.186.
4. P. Boissonnade- Life and work in Medieval Europe. 1927, p.80.
5. The Ancient Land Tenures of Ireland. 1933, p.9

On this coastline the observances regulating the lives in a Celtic community of the type located in south-east England, must have been severly adapted to suit local conditions. Coaration, and large scale farming operations could not have been feasible on terrain that today permits only of spade work, or ploughing in a small way. The small scale agricultural economy prevailing must have been akin rather to that in Brittany, an analogous structural unit, than to a type located in a softer physical background.

Whatever the origin of runrig, it is certain that in early times the human settlement had three primary requirements (1) a supply of water, (2) a grazing area, (3) land suitable for tilling. The configuration of the fields, and the farm economy, eventually practised in any new settlement was the result of the interplay of the major factors, physiography, the tillage implements used, and custom.

The appearance of any cultivated area—and the areas of Celtic social development were cultivated — is chiefly due to the shape of the fields, which in turn is due to the conception of ownership of the land. The ideas of a community isolated from adjacent centres on the west Donegal coast, and in close contact with its environment, would tend to become stereotyped in their isolation and lack that flexibility resultant from a broadening of the social horizon. Amongst the Celts two field forms seem to have been common (1),

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1. Henri Hubert. The Greatness and Decline of the Celts. 1934, p.248.

the closed field and the long open field. The first type, which is common to Ireland and makes a landscape of hedges is located in those areas where the more primitive second form has since gone. The long open field is the typical field of rundale culture, with its surface patched with variously coloured strips. It is associated with communal practices, particularly as regards fallow, which may have possible partition.

Whilst no particular field shape prevails on this west coast there is a universal predominance of strip and square field, or corn-plot, cultivation; for example, the strips in singular order range the road from Magheraroarty to Meenlargh, south of Ballyness Bay, and likewise St. John's Peninsula in Donegal Bay; and examples of the square field and corn plot culture are ~~to been~~ located in the mountain valleys of Boylagh, Owenea, and the coastal townlands of Ranafast and Annagary. In Ranafast some of these cornplots are just about six feet by ten, the size depending on the area of the pocket of cultivable soil in the granite outcrops, or where a patch has been reclaimed from the waste of moorland. Such field types, with stone ditches or peat balks, are native to the whole of the west coast of Ireland. There is a tendency, however, to have those fields which are rectangular with their narrow side to the road, so as a maximum number of holdings will have a road frontage, thereby facilitating transport and communication: the holdings facing south

on the Gweedore estuary are so positioned. This seems to have been a primary consideration in the disposition of holdings in the land tenure system of ancient Ireland (1). Wherever possible, holdings have road frontage and even if a social centre is surrounded by moorland, the village path cuts through the house cluster, as in the Bogagh Glebe crofts. Everywhere along the coast the crofter settlements are the reclaimed portions of mountain waste, whether it be the densely populated coastal area, the lakesides, or the sheltered valleys. (figs. 4 and 5). Lakeside cultivation especially on the lake deltas (2) is an especial feature of Donegal crofter life, the arable patches being above the winter flood level and lying between the houses and the lakeshore. Delta cultivation in the Scottish Highlands is due, just as in western Donegal, to the sparseness of level ground which can be tilled rather than to adverse soil conditions (3). Levees at Loughanure in the Rosses protect reclaimed, hand-built patches from being inundated. On the more inaccessible mountain regions behind Glencolumbkille, isolated farm dwellings, surrounded by their reclaimed arable patches with circumambient mountain grazing are the results of more recent land troubles rather than the uninterrupted growth of social nuclei. In the Barony of

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1. D.Coughlan. The Ancient Land Tenures of Ireland, 1933, p.96.
2. Cf. E.E.Evans, Some Survivals of the Irish Openfield System, Geography, March, 1939, p.33.
3. G. Meiklejohn. The Settlements and Roads of Scotland, 1927, p. 14.

Boylagh the isolated communities are reminiscent of the kers of Brittany (1). The Celtic influence is shown in the nucleated villages of north and east France with the arable land running down the hill slopes in parallel bands (2).

It is possible that the original settlements on the coast were the nucleated type because, as Celtic social centres, the relationship of the 'fine' group and the distribution of land would indicate a group movement rather than an isolated farm culture. The early Celtic settlement consisted of a group of huts (3) and it is likely that they were the centre around which the openfield was distributed. Futhermore, the raths, which are big enough to contain a small community, are probably protective units? of a group culture based mainly on a pastoral economy with subsidiary agricultural pursuits. The grouping of the raths around Dunfanaghy and Teelin, whilst individually belonging to a single farm system (4), represent an association indicative of the group movement. In more recent times the attempts at consolidation of rundale holdings met with the greatest opposition not only on economic grounds, but because the sequestration of houses was antagonistic to the hereditary tendencies of the crofter communities, long accustomed to field and house grouping (5). It is likely that the

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1.F.Seebohm, Customary Acres and their Historical importance, 1914, p.118.
2.Henri Hubert, The Greatness and Decline of the Celts,1934, p. 216.
3.Ibid, p. 250.
4.E.E.Evans 'Some Survivals of the Irish Openfield System". Geography. March 1939, p.28.
5.Lord George Hill. Facts from Gweedore, 3rd. Edition, 1854, p.32.

Einzelhöfe mark a secondary dispersion following on the dissolution of rundale (1). In 1802 there were some 500 "villages" in Donegal, "but dispersing daily into separate habitations and holdings". (2) Such a constant grouping, with holdings distributed around the domiciles, was the consequence rather than the cause of the system of land tenure and cultivation. The shape of the crofter's field, strip-like or broad, is determined by the implement used in tilling it. The Saxon open field, with its roughly cut 'acres" of the proper shape for working with a heavy plough (3) had no part in the Celtic system. The Celts, who were of the open slopes rather than the valleys, seem to have developed a broad field system by the use of a lighter plough of the "ard" type (4) which had no mould board and was drawn by two oxen. While such a plough need not have been used universally by the Celts, it is likely that mountainy or rocky regions as the Donegal coast demanded a more facile implement. It has been suggested that the breast plough supplanted the ox-drawn plough on headlands in Wales and on patches of ground between rocks (5). Until recently the caschrom was in universal use in the Scottish Highlands, and is still used in Uist on rushy or tussocky

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1. E.E.Evans. "Some Survivals of the Irish Openfield System". Geography. March, 1939, p. 28. Maps. p.29.
2. J. McParlan. A Statistical Survey of Co. Donegal, 1802, p.64.
3. F. Seebohrn. The English Village Community. 1883, p.2.
4. Ake Campbell, "Irish Fields and Houses. A Study of Rural Culture. "Bealoideas, Iml.5, Uimh.1, Meitheamh 1935, p.59.
5. I.C.Peate. Guide to the Collection of Welsh Bygones, 1929, p.41.

land that would be impossible for a horse-drawn plough. On the West Donegal coast the early crofter tilled his field with a'wooden spade with an iron point' (1), in all probability some form of the loy. The loy in the adjacent county of Leitrim was "a spade of uncommon shape, having room only for the right foot to work on, about 4 inches broad at the lower end, tapering to a breadth of 5 or 6 inches to where the foot commences, which is a distance of 18 inches from the lower extremity, with a handle about 5 feet long. The handle or haft, is fashioned from solid wood, which slips into an iron socket, edged and fitted to the timber, in a strong and permanent, though simple manner. Some people who have more strength in the left than the right leg, cause the rest to be made on the left side of the loy; an implement of this kind is called 'a left-handed loy'"(2). It is possible that the Donegal crofter, who could not use an iron spade, had an implement similar to that in use in Connemara today (fig. 9.). This particular spade with its upturned lip is ideally adapted for ridge-making or cutting sods (Scraith), as the cutting pressure exerted forces the sod to turn on the lip, a miniature mould board, and makes unnecessary the turning movement of the cascrom. Another significant point is that the method of lazy-bed building

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1. J. Hamilton. Sixty years esperience as an Irish Landlord, 1870. p.46.
2. J. McParlan. Statistical Survey of Co. Donegal. 1802, p.39.

in a Donegal croft is similar to that practised in Connemara. (fig. 10).

Spade labour which is the principal means of cultivation plays a considerable part in the crofting economy of the west Donegal coast. It determines the shapes and sizes of the plots, (Cuibhreann), and permits cultivation on the mountainous coastline of Donegal Bay and the mountainous valleys of Boylagh that would otherwise be impossible to till.

Such a spade culture in place of a widespread use of the plough is a relic of western European social influences (1), and is to be met with in those areas along the seaboard of the North Sea where the rural economy is principally cattle-breeding and fishing, with agriculture supplementary to them (2) The crofter todsy uses an ordinary metal spade and where possible a home-made plough (fig.9, and plate 1). The one shown here was made from pieces of a packing case and had as wings roughly cut sheets of corrugated iron. The only other singular feature of this drill-plough was the metal soc. This crude implement was seen in July 1939, at the house of Aine Sheamuis, Altnagoire, Ranafast.

Previous to this ploughs were seldom used and then only on flat coastal stretches; in south Donegal the crofters used a strange instrument in addition to the loy mentioned above

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1. Sigurd Erixon. Western European connections and culture relations. Folkliv, 1938: 2, p.168.
2. Ake Campbell. Irish Fields and Houses. A study of Rural Culture. Bealoideas, Iml.5, Uimh.1, Meitheamh, 1935.

for tilling their crofts. It consisted of a crooked stick with a second grafted into it to give two handles. The point of the stick was iron shod. The cost of making it was about half-a-crown (1) The general appearance and method of using this implement must have closely resembled the breast plough of the Antrim Glens, or that in use in Wales. This resembles a large spade with a long crossbar handle, or spreader, at the opposite end, and was used by the labourer grasping the ends of the spreader and pushing the implement with his body. The Antrim breast plough lacks the upturned lip of the Welsh one (2). When ploughing was done the two horse plough was used (3), but in the north coastal districts the landlords used oxen to pull the plough in mountain lands. (4). It is possible that they had seen examples of such ploughing amongst their tenants who were perpetuating the ancient Celtic custom. The old wooden plough was used by the crofters on the Connolly Estate near Donegal town (5). This old Irish plough seems to have been quite common in the county and was not supplanted by the iron plough until 1830, when the latter was used for the first time in Raphoe on the east (6). The wooden plough must have held sway on the west until a much later date.

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1. J. Hamilton. Sixty years experience as an Irish Landlord, 1870, p.47.
2. I.C. Peate. Guide to the Collection of Welsh Syegones, 1929, p.41 and plate XXVI.
3. J. McParlan. Statistical Survey of Co. Donegal, 1802, p.29.
4. Ibid, p.30.
5. H. Coulter. The West of Ireland, 1862, p.292.
6. Ordnance Survey Memoirs, Donegal, Raphoe.

The west Donegal croft is usually divided into two main sections, the arable land and the rough grazing. Where the crofter and his family have been industrious a third division of lea-land, used as occasional summer and winter pasturage, is added. The custom is to graze the rough pasture constantly and, in the evening, to put the cow on the lea-land. Cows-in-calf are kept there as much as possible. Owing to constant pasturing over the rough grazing, heather is stunted and gives way to grassy patches, which, however, are usually grazed bare. The disposition of the land is this: the house and offices occupy the middle of the holding; immediately around the house lies the arable land, and surrounding all is the moorland pasture. Where a social nucleus of a few houses is found the same distribution holds good, the approach to the dwellings being by a communal path.(1) On mountainsides the houses again occupy a central position, but in this case the rough grazing lies above it and the arable immediately below it (fig.3 and plate 2). Life in the early Celtic community developed on the lines of communication and formed the veins and nerves of the settlements. (2)

The lea field, while providing some grazing for a cow, receives the benefits of a constant manuring because it

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1. See plates 1 and 2, in "Donegal Survivals," (E.E.Evans), Antiquity, June 1939.
2. Henri Hubert. The Greatness and Decline of the Celts, 1934, p.250.

is arable land and can at an appointed time be broken up, or a part of it tilled, in order to let some other portion of the arable get a rest. The lea is treated as a reserve liable to periodic cultivation.

The customary divisions of a crofter holding are the arable and rough pasture, with possibly a lea strip. The arable is usually tilled until exhausted, notwithstanding that it gets all the manure collected in the dung heap (aòileach). ~~Since~~ This consists of the cleanings from the byre after stall-feeding one or two cows for the winter season. The amount of available manure is at a minimum. But the stringent effects of the lack of manure on the arable is relieved somewhat by seaweed and the simple crop rotation--- corn (two or three years), potatoes, and turnips, corn, grass. In the eighteenth century, before the introduction of root crops and consequent rotations, the soil must have been exceptionally impoverished. The chief obstacles to good cultivation, apart from conditions of soil and climate, are (1) inadequate tillage operations; (2) late sowing; (3) bad seeds; (4) continuous cropping; (5) scarcity of manure and neglect in preserving it; (6) absence of enclosure; and (7) general apathy. In the last case, the agricultural migrants who return annually diffuse technical knowledge gathered in Scotland and England, but are ignored because of the lack of resources necessary for improvement, and the general tendency to remain adamantly apathetic: their forefathers had a way of doing things that

the modern crofter is slowly realizing does not concur with more recent agricultural developments, but methods from which he cannot suddenly sever himself owing to the tenacity of custom.

Late Sowing

Digging of the arable rarely takes place before March, after which comes the manuring and seeding, the latter rarely being completed Before the end of April, and formerly used be as late as June (1). Ploughing or digging after the harvest, followed by manuring, are never done as the autumn and winter rainfall is too heavy; manure would be wasted and the effects of tillage obliterated in the peaty soil; low-lying fields would become puddled and the loosening, consequent on tillage, would result in the soil on hillsides being washed away. In some cases the land is trenched immediately after the harvest to assist drainage, but generally it is allowed to lie as the crop left it. So careful is the crofter in the conservation of his holding that he usually digs across his patch, starting from the bottom and working up. By so doing he constantly renews the head soil and prevents erosion. All the crofter's plots (cuibhreann) are located on a slope to ensure proper drainage. The modern iron spade is not so easy to work as the loy or Connemara spade, owing to the absence of the lip, or flange, that naturally turns the sod.

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1. Ordnance Survey Memoirs of Donegal, Box.22, Kilmacrenan.

On the smaller crofts, pockets in the rock, peat covered ledges, in fact, any cultivable surfaces adjacent to the house, are dug and sown. Proximity to the house is an important consideration, because the absence of fencing leaves the growing corn or potatoes open to a neighbour's cattle, and a careful eye must be kept against such depredations.

The evils of late sowing are most obvious in the field. Grass is rarely cut until August and then interferes with the additional work of the harvest. It is true that after a wet winter, when the land has lain untouched, the soil is often too waterlogged for the making of a proper seed-bed. If the land were trenched immediately after the harvest and digging begun in early spring, the soil would be suitable for a much earlier sowing. Oats are usually sown as late as April, and barley and rye after that. This results in the harvest being postponed until the equinoctial storms compromise the crop. In one journey in early November, 1939, from Dunfanaghy to Ardara, innumerable patches were seen with sodden 'lying' masses of oats which seemed beyond the trouble of reaping. This is an exception rather than a rule, as the corn is reaped generally in October, and is followed in turn by rye (seagal), potatoes, and turnips. But laxity in expediting the harvest is still a considerable source of loss in cereals.

The low yield of crops is partly caused by the use of poor and degenerate seed because no seed from other districts is introduced, while the best grain and finest potatoes are

always used for food and the worst stored for seed. The Department of Agriculture is trying to rectify this by distributing certified seed, suitable for impoverished soil and severe climatic conditions, at a nominal cost (1).

Continuous Cropping.

The continuous corn cropping is one of the worst features of the agricultural economy of the west Donegal crofter. The natural fertility of the soil, low at all times, is further reduced by successive corn crops, or the constant potato-corn rotation for upwards of six years before a new piece of lea-land is broken up to grow its first corn. Under the system of rundale a piece of land was under corn for a season, then abandoned to recuperate while another was laid under tribute during the next year, and so on, until presumably, the circuit of available land was complete, and the area first broken up had to be cultivated again (2). The lea-land so exhausted by cropping is rested for four years as an infield grazing.

MANURES.

The soil conditions on the west Donegal crofter holdings are such, that the constant application of manure is done to keep the soil rich enough to produce a crop, rather than to store up a reserve of fertility by annual improvement. Manures used by crofters are dung,

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1. Eire. 7th. Annual Report of the Minister for Agriculture, 1937-38. p.21.
2. Orwin. The Open Fields, 1938, p.38.

seaweed, lime and artificial manure. Before the introduction of artificial fertilisers they were confined to the use of dung, seaweed, lime and seasand. Of these, the first two alone were extensively used on the crofter holdings, and today still play the biggest part in the general scheme of improvement. Sea-sand is not in favour amongst the crofters except from Donegal Bay to Killybegs where it has a high calcium content, and when preparing ground for sowing rye. Whilst the dung-heap (aoileach), is no longer found outside the door (1) there is a decided ignorance of the proper method of preserving the manure. The aoileach in fig.14 is on a slope so that the invaluable juices drain into the river on the left and so are lost. The sole manure gathered in quantity on most holdings is cow dung, although special care is taken to collect bird droppings. The preservation of manure and the erection of suitable middens in sheltered places, is one of the many tasks that the government agricultural inspectors commissioned in the Gaeltacht inculcate. Where a crofter does erect a midden it is usually a circular patch with stone walls about 2 feet high, smeared on the outside and inside with mud.

Seaweed.

One of the most onerous of the crofter's labours is gathering seaweed in spring, usually March. From the

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1. The Devon Report, Vol. 1. p.132.

beginning of the new year the weed cast up by successive storms, especially during May and November, is carefully gathered and stacked above the high-water mark. Some crofters start gathering immediately after the crop is in the ground, and take advantage of the summer weather for cutting deep-sea weed. Weed stacked for Spring use is shown ranged in clamps along the shore at Knockfola --- Plate 3. Generally, however, intensive cutting does not start until spring and then the weed is put directly on to the cuibhreann instead of clamping it. Spring cutting is the rule in Connemara and the Blaskets, in the latter place advantage being taken of the spring tides (1). There is a variety of opinion amongst the crofters as to the method of using it even in adjacent townlands: whilst the tendency is to stack and"wind" it, many prefer to apply it to the land immediately it is cut, on account of the soft weed dissolving more rapidly than the stacked stuff. Then there is the facility with which the limp fresh weed can be handled and the severity of the black rough fronds of the stacked weed on the crofter's hands at sowing time. Only on sandy expanses is there exclusive stacking and no seasonal cutting owing to the absence of a rocky foreshore(cladach) from which weed can be cut at any time.

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1. Tomas o Croan. An t-Oileanach, 1935, 1.19.

The crofter is keenly aware of the relative values of the different types of weed, which can be considered in the two broad divisions (fig 15) - soft (feamnach bhog, Fucus Vesiculosus) and hard or yellow (feamnach chruaidh, Bifurcaria Tuberculata). Of these, the first is in greater demand as it is so soft that it can be gathered by hand, whilst the second is so leathery and supple that it has to be reaped with a sickle. An additional point in favour of the former is that it melts more rapidly into the ground --- the crofter's criterion of weed values --- and thus expedites succeeding farm work.

The weed is reaped from two areas, rock beds near deep water, and the Claddach. The most valuable, laminaria saccharina (feamnach ruaidh), which has long red-brown streamers many feet in lenght, contains as much nitrogen and potash as farmyard manure (1).

After a day's cutting it is secured in the form of a raft and, either towed to the mainland by a rowboat, or curragh, or paddled ashore by a crofter, a feature which is common to the whole west Donegal coast. The implement used in cutting feamnac Ruaidh is a pole about twenty feet long with a sharpened blade, three feet long, fixed at the head at right angles to the haft. A coil of lead or some other metal is fixed immediately below the blade to act as

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1. The Manuring of Vegetable Crops. Bulletin 71, Ministry of Agriculture and Fisheries, p.18.

a sinker. The blade is usually a sharpened metal strip which is flattened, sharpened, and fixed on the haft by two rings and tarred cord. It is used for ravelling and plucking the fronds of weed rather than cutting them. When released, these float to the surface where they are secured as a raft. Feamnach ruaidh is much in demand as manure and considerable time is spent in harvesting it on adjacent islands by men working yawls. In-shore cutting is done by individual crofters in small boats and curraghs.

Before applying it sand is carefully washed out of the weed (1) --- "because it makes the ground heavy", and is then carried in a basket on the crofter's back to his holding. Carrying a basket on the back, a relic of west European cultural influence, is an archaic feature with centuries old traditions, and is common along the western seaboard of Europe down to Brittany, in Belgium, Holland, Jutland, Bohusland in Sweden, Vestlandet in Norway, and all the north-west of the British Isles (2). A traditional adversity to sand has always characterised the west Donegal crofter's agricultural practices, but there is an isolated case of estuarine silt, which underlies the thin covering of sand in the inlets, being used annually in Swilly without manure, and producing good crops. (3). It was drawn in

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1. Facts from Gweedore, p.17.
2. Sigurd Erixon. West European connections and cultural relations. Folkliv, 1938, 2, p.169.
3. Ordnance Survey memoirs of Donegal. R.I.A., Box 22, Raphoe.

summer in great quantities and, after being broken fine with a spade, was deposited in pits until required. Around S.Gweebara and Loughrosmore Bays only "dirty sand", which is really riverina detritus, underlies the sea-sand cover and is so fertile that it is used without manure. Indolence and the trammels of custom prevent its more extensive use.

The importance of seaweed as a manure in the crofter economy cannot be over estimated as it possesses the essential virtues of being cheap and plentiful. Besides, a peaty soil responds considerably to applications of seaweed which is so rich in Phosphate and Potash, chemicals such a soil lacks (1). Those who cannot harvest feamnach ruaidh are forced to depend on the claddagh growth which tends to make the potatoes wet and gluey, qualities that made the last of the old potato crop so distasteful in early days, before the introduction of early potato cultivation (2).

The foreshore, the source of the bulk of the manure, is regarded as belonging exclusively to the Government. At the beginning of the eighteenth century landlords fully realised their limitations in this regard and the crofters their rights: the claddagh belonged to the Admiralty, and seaweed gathering went on apace unhindered by taxes or

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1. The Manuring of the Vegetable Crops. Bulletin 71. Ministry of Agriculture and Fisheries, p.18.
2. J. Binns. The Miseries and Beauties of Ireland, 1837, vol.1, p.49.

similar considerations. Where interference did take place trouble usually ensued as the crofters were forced to gather their weed at a certain time. The wrack bed was considered in the same way as any other part of the holding, being sold when any emergency arose.(1). The crofters on the Patterson estate in Sligo paid half their rents in seaweed which was reaped between the high-water and low-water marks. It consisted mostly of fucus vesiculosus and fucus serratus. Like the Donegal crofter, those in Sligo also cut deep sea-weed, laminaria saccharina and tortosa marina. The weed was first stacked on the shore and then spread on the ground in winter, so that it had thoroughly melted in before spring.(2) Whilst rundale lasted and the communal element was perpetuated, no attempt was made to delimit the foreshore into areas on which weed-gathering was the exclusive right of a particular crofter. After consolidation, however, foreshore rights must have been established where holdings abutted on the coast. In ancient Ireland a person could take seaweed from any part of the strand or dilsk from every rock (3). In the congested districts bordering Donegal Bay, weed may be gathered only on the owner's foreshore, but drift-weed is free to all.

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1. The Devon Report, 1847, p.63.
2. J. Binns, Miseries and Beauties of Ireland, 1837, vol.1. p. 354.
3. The Ancient Laws of Ireland, vol. 5, p.483.

The crofter's practice of stoning the beach is still one of the greatest ways of encouraging weed to grow. Stones on a crofter's weed bed are occasionally raised, as sinking discourages weed growth. Along the south coast of Wexford there can still be seen the lots into which the foreshore was divided for the development of seaweed farms.

of Carlingford.

It has been suggested (1) that seaweed alone could be used to reclaim the blown sand areas, some 16,000 acres on this west coast, and so provide a cultivable area similar to that at Rush, Co. Dublin, which was in 1840 a sandy waste. The rafts of weed brought by the tides and deposited in the bays could be used by the crofters for this purpose instead of being swept out to the Rockall Deep some 150 miles off the coast.

It is likely in the past that the crofter's cattle was fed on seaweed occasionally, as many forms of it are edible, and especially as grazing was circumscribed to the rough pasturage adjacent to the holding. Under modern crofting conditions in the Shetland Islands seaweed is regarded as a crop in the broad sence of the word, because it is used as a fodder in spring for the hill stock, which eagerly devour it owing to the absence of other forms of nutriment (2). Shellfish, and seaweed called

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1. G.H. Kinahan. Superficial and Agricultural Geology of Ireland, No.2. Soils, 1908, p.11.
2. A. C. O'Dell. The Historical Geography of the Shetland Islands, 1939, p.81.

dulaman (dubh-loman), which is in season in March, and dilsk (dhileasc) were once important items in the poorer crofter's dietary and were in general use during the Famine along the western seaboard (1), ~~in donegal~~ In Donegal, and especially when "50,000 crofters north of Rutland Island, were on the verge of starvation" (2). The interval between the old crop becoming unfit and the new crop fit for food was a season of great distress during which many gathered dulaman (3). Shellfish in the Blasket Islands were looked upon as 'kitchen' on Good Fridays and Fast Days (4). In the hard spring of 1883 the Donegal crofter lived on fucus vesiculosus which was prepared with Indian corn (5).

The lea-land rarely gets manure other than seaweed which is spread on it by degrees, so as to manure it thoroughly, and yet not interfere with grazing. In 1846 it was used for reclaiming moorland "after which good crops of potatoes and oats were yielded." (6)

Lime

The presence of residual lime deposits in scattered pockets provides the crofter with a medium, without which his arable land would be sour and in a wretched condition

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1. G. Locker-Lampson. Ireland in the Nineteenth Century, 1908, p. 59.
2. J. Hamilton, Sixty Years Experience as an Irish Landlord, 1870, p.131.
3. J. Binns, Miseries and Beauties of Ireland, 1837, vol.1, p.354.
4. Tomas O Croan. An t-Oileanach, 1935, p.32.
5. C. F. Gordon Cumming. In the Hebrides, 1883, p.32.
6. Facts from Gweedore, p. 17.

from weeds. With seaweed, it responds in a positive way to the aciduous peat, and acts as an important adjunct of the soil rather than as a stimulant. Once a soil has been well limed it keeps condition for upwards of thirty years (1) provided the rainfall is not so excessive as to leach the lime out of it before it is assimilated by the crop. On the damp peaty soils of the crofter holdings an annual liming is a necessity of successful oat cultivation. The universal use of lime on crofter holdings is denoted by the absence of heather, rushes, and coarse grasses. Grazing land is more commonly fertilised solely by animal droppings when grazing, rather than by a definite manuring scheme. When a crofter was given a "stripe" to reclaim his first task was to burn the surface and then put lime or seaweed on it. These stripes although now relapsing into their original condition show as green patches on the mountain-side.

The lime is burnt either at the quarry, or more often in a special kiln (fig.16) belonging to some crofter who burns for his neighbours. Before undue interference from landlords every crofter had his own lime kiln, but the use of this was discouraged and he was forced to use the public one erected for the purpose at a cost of 2/6 each time. (2). The kiln is about 3 ft. high with an opening at the top 3 ft. in diameter,

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1. A. C. O'Dell. The Historical Geography of the Shetland Islands, 1939, p. 190.
2. D. Holland. Landlord in Donegal, 1876, p.28.

tapering to the doorway below. Some of these show a fine artistry in drystone circular stonework and often, whilst being symmetrical on the outside, are conical inside. The interior is slimed with mud. Often the kilns are temporary structures erected on a height to encourage a draught, but always they are of stone. When permanent, the crofter often utilises a hill or natural pocket in the rocks as a feature in the Kiln. The one shown in fig. 16, which has a decorative border of peat sods, was built on similar lines to the older corn kiln. In burning, a slow fire is lit under the alternating layers of turf and limestone which fill the kiln, and then the mouth is sealed by damp sods. The fire is fed with fresh fuel through the doorway which is one foot square. When burnt, the lime is raked out and together with the ashes, forms an invaluable manure. This procedure is similar to that observed by Boate who describes lime-burning in some detail. "In the side of some little height they make a great pit, round or square according as convenience is offered - many feet wide at the top, it doth by degrees grow narrower towards the bottom. The inside of this pit they line round with a wall built of lime and stone, at whose outside, near the bottom, a hole or door is left, by which to take out the ashes; and above that an iron grate is laid - and upon this they lay a lay of limestone - and upon that a lay of wood or turf - and so by turns until the whole kiln be filled, ever observing that the outmost lay be of wood or turf." (1)

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1. G. Boate. Natural History of Ireland, 1652, p. 157.

Shells, which were much valued as a manure in ancient Ireland(1) are seldom burnt as a source of lime for manure, because of the mildness of the lime they yield. The judicious use of lime prevents finger-and-toe in turnips and promotes a vigorous grass growth, whilst preventing the appearance of such weeds as spurrey.(2).

The artificial manures used are guano and sulphur, astringent fertilisers that have long since been abandoned in more scientific farming areas. The former is used extensively on all crops and, as it is purely a stimulant, its effects are shown in one season's produce only. Unlike lime, seaweed, and manure, it contributes nothing to general agricultural improvement and exhausts rather than nourishes the soil. The widespread use of sulphur is a practice much to be deprecated as its use, chiefly on turnips and mangold, robs the ground by unnatural forcing. The increasing use of artificials, which are cheap and conveniently purchased, has been brought about at the expense of the more effective natural manures especially seaweed, which must be gathered, and sometimes processed, at a considerable labour cost.

Crofters are encouraged to reclaim land by means of Government monetary assistance in the erection of lime kilns, in the purchase of lime, and sea-sand with a high calcium

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1. P. W. Joyce. A Social History of Ancient Ireland, 1903, vol.2. p.270.
2. A. C. O'Dell. The Historical Geography of Shetland Islands, 1939, p.69.

content. The amount of lime distributed under the sheme jumped from 373 tons in 1937 to 1,702 in 1938 (1), since the crofters realise that it is essential to successful farming on peaty soils, and for reclamation.

Burning.

Whilst burning the surface of the soil is a sure means of fertilising the land, and had a recognised place in ancient Irish agricultural practices (2), it was always discouraged as references to legal impediments in the Book of Aicill, and Senchus Mor (3), and modern Acts testify. One of the most recent, the Deasy Act, 1860 (23 and 24 Vict. Cap.154) enacted, "that no tenant under any lease or other contract of tenancy conferring an estate or interest less than a perpetual estate or interest shall burn or permit to be burned, the soil or surface of the land or any part thereof, without the previous consent in writing of the landlord, being a person competent to grant such a licence, under a penalty not exceeding £20 for each statute acre, or any fractional part of a statate acre on which such burning will take place." The interesting point about this is that burning was permitted but of a type that did not prejudice the soil. When burning was perpetrated contrary to the owner's wish, the defaulter was fined £10, but such a

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1. Eire. 7th. Annual Report of the Minister for Agriculture, 1937-38, p.31.
2. J. C. Walker. Historical Memoirs of the Irish Bards, 1818, vol.2. p.269.
3. D. Coghlan. The Ancient Land Tenures of Ireland, 1933, p.102.

proscription failed to prevent the continuation and spread of the practice. The most obvious contributory cause, other than the manifold advantages accruing from a dependable source of ash-manure, was the demeanour of the landlord who saw in improvement an added source of revenue (1). It seems that before cultivation started on a new stretch it was first of all burnt, after which it was ready for tilling. Besides newly reclaimed areas, the arable was periodically burnt to supply added manure to the exhausted soil. McParlan advocated extensive paring and burning as the only means of reclaiming the waste moorland reaches of the mountainous west coast (2). The custom of burning and the value of the ashes thus procured is reflected in the care with which ashes from the hearth are scattered over the land, or preserved in the aoileach. Boate remarked that ashes and dung were generally preserved until a convenient time for spreading on the ground (3). An annual burning was common only where manure was scarce, and an annual deterioration was coincident with lack of systematic cleaning by rotation. In the Rosses many areas have lost a soil depth of 3 ft., and have been left with bare rock through excessive burning.

In the Scottish Highlands and Southern Uplands burning was a general rule in crofting economy. A number of Irish

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1. E. Wakefield. Statistical and Political Account of Ireland, 1812, Vol. I, p.487.
2. J. McParlan. Statistical Survey of Donegal, 1802, p.47.
3. G. Boate. Natural History of Ireland, 1652, p. 94.

emigrants to Scotland were found near Portpatrick paring and burning the sod while in a green state by a slow smothered fire, because of absence of lime or other fertiliser in their neighbourhood (1).

The area to be burnt was first pared, or dug, so that sufficient surface fuel, together with that left undisturbed, was accumulated to provide ash fertiliser, for the required area. Slow fires were then started on the undisturbed surface and fed with the sods from the pared ground. Damp sods kept the fire close and prevented active firing. In Co.Antrim, where burning was widespread in the mountain regions, a series of concentric circles 6 to 10 ft. in diameter were described over the area to be treated, and trenches a foot deep and the same broad were dug on their circumferences. Fires were kindled in the centre and regulated with damp sods (2). After a thorough slow burning the accumulated ashes were scattered evenly over the ground. The crofter provided an excellent fertiliser at the expense of his land, and in a congested District like that on the west Donegal coast, land was to be preserved rather than burnt away. Since a cubic yard of peat yields only a little more than a handful of ash, some conception of the waste and demerits of the custom can be ascertained.

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1. J. C. Curwen. Observations on the state of Ireland, 1818, p. 80.
2. Ibid, p. 146.

CORN.

The staple crops were oats and barley, but today the area of the former is extending at the expense of the latter, as "it is too hard for the cattle". Rye is a common crop in the Rosses and Cloghaneely but in the south coastal districts it is practically unknown, so that potatoes and oats are the rotation crops. Rye in the straw (cochan), is fed to cattle before St. Brigid's Day when other fodder is scarce; as all the straw is thus necessary for fodder, this partly accounts for the use of flax and bent as thatch. Barley, which seems to have been of considerable importance in the rotation scheme (1) was strictly confined to the immediate seaboard (2), and is now considered as an essential rotation crop solely on the islands. It seems to have been supplanted by oats as the popular cereal, although at the outset flax was intended to take its place, owing to the prevalence of illicit distilling. (3). When every crofter had his own quern, barley was crushed as winter fodder. As it is matured early and flourished in a thin soil it was common as a fodder crop. Oats are the established corn crop in the crofting agricultural economy, but the severity of climate and the exhausting practice of successive corn cropping contribute towards keeping the yield low. As the

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1. J. McParlan. Statistical Survey of Donegal, 1802, p.32.
2. E. Wakefield, Statistical and Political Account of Ireland, 1812, Vol.1, p.438.
3. Statistical Survey of Donegal, p.67.

climatic background is the important factor in all cereal production, the oat crops on the crofters' holdings do not mature with average yields, owing to the adverse influence of a persistent rainfall of over 40 ins., with a high cloud index (p. 24) and the low sunshine figure of 1 to 1.5 hrs., per day in January, and 4 to 4.5 in Winter.(1). Oats are the most suitable of all the corn crops for peaty ground (2), and do well in the cool damp climate of this coastline, although the optimum conditions for oat cultivation are not quite so extreme. Here, there is not only a persistent rainfall but a large percentage of damp misty days, and a large proportion of days on which the seaboard is swept by west winds, factors that combine to render the cultivation of cereals difficult. This is reflected in the disparity between the average yield for Donegal of 17.48 cwt. per acre, and that for the rest of Ireland of 20.1 (3), even though the county has the largest proportion of arable area devoted to oats.

Oats are always planted on lea-ground, except where a crop is repeated in the same cuibhreann. After the spade work the ground is harrowed or more often, raked. Before sowing, lime is spread lightly duringgood weather and then the seed,

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1. L.D.Stamp and H.S.Beaver, Physical Features of the British Isles, p.74.
2. Rotation of Crops, Bulletin 85 of the Ministry of Agriculture and Fisheries, 1937, p.6.
3. Saorstat Eireann. Report on Oats, No. 12, p.17.

usually of a type used for five or six years previously, is sown. The crop is reaped with sickle, or scythe, and after stooking, is stacked. The oats may be kept in the stack during the winter or until spring, small quantities being threshed in the meantime as required, or else the crop is dealt with at once. Stacks are erected on the lee-side of the house as few crofters have barns. Oats which are kept in the stack improve in condition. (1), as dampness is prevented from affecting the maturing grain by shelter and a thatch of rushes. Threshing may be done in a barn, or more often on a flat rock (leac) with flails, a custom observed in ancient Ireland (2). It is to be noted that threshing on the ground was practised throughout the country (3), and was probably attributable to the general absence of barns or storage sheds where the thresher could have been independent of the weather. Not all the crop is threshed as some of it is fed in the ear to cattle during winter. That which is threshed is used for seed and fodder and the straw for bedding.

Whilst not equal to good hay the straw is more valuable as fodder than wheaten or barley straw, and when used as litter, aids in providing a manure of good quality. Bruised furze, was once a common fodder everywhere along the west

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1. Saorstat Eireann. Report on Oats, No. 12 P.12.
2. D. Coghlan. The Ancient Land Tenures of Ireland, 1933, p.100.
3. Statistical Survey of Sligo, p. 747.

coast until the end of the last century for cattle, and especially horses, but it is no longer used in face of more easily procured substitutes. In 19th. century Ireland, cattle fodder was oat straw and potatoes (1).

After threshing, the seed is winnowed by carefully shaking it in a wite. This is a goat or sheep-skin tray 2 ft. 6 ins. in diameter with a bog-fir rim 3 ins. deep. Winnowing is usually done at the corner of the house on a windy day. The wite is held shoulder high and by constantly shaking it, the chaff is blown clear and the oats are deposited on a sheet placed on the ground for the purpose. The middle (criathar-plate 4) used for cleaning the oats of prusagh seed, is similar to the wite only the skin tray is perforated with holes about one eighth of an inch in diameter. It was in general use in ancient Ireland for cleaning oats (2). The one shown was an old type used in Derryconnell near Gortahark, and which had been in the family for four generations. Instead of the sheep-skin being tacked on, it was woven into the bog-fir framework with skin thongs. In the more modern types a barrel hoop (Fonnsa) is used, as it saves the trouble of smoking and bending the wooden frame. Where wites are not used, the seed is put into a bucket and swirled until the chaff has been blown out.

The wite was a familiar feature in Monaghan at the beginning of this century, but the sieve was of different construction to

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1. J. Binns. The Miseries and Beauties of Ireland, 1937, Vol. 1. p.76.
2. Eugene O'Curry. Manners and Customs of the Ancient Irish, 1873, vol. 1. p. cccIx.

that in western Donegal. Instead of skin, it was of withes which were closely interwoven so that the interstices were small enough to release prusagh seed and retain the oats. When the ends of the withes were plaited to form a circular rim, the sieve resembled a flat wooden dish.

Oats and potatoes are the only crops that comprise the rotation scheme on crofter holdings. The rotation is started with corn on lea ground and followed by potatoes, and thus continued for about 8 years, when a fall in the oat yield results in a strip of lea-land being broken up. The rotation ceases on oats, with which Italian ryegrass is sown to provide a thick stubble for autumn and winter grazing, and a hay crop for the year succeeding the oat harvest.

The destructive practice of sowing oats or potatoes for two or three years in the same cuibhreann is still common, but agricultural education disseminated by vocational schools is responsible for improved standards of cultivation that are supplanting such uneconomic practices. Continuous cropping of the type mentioned removes the fertility of the soil faster than the processes of nature can replace it. Considerable investigation by the Department of Agriculture as to the best types of oat for local conditions, has resulted in the dissemination of the straw producing hardy Potato-oat and Sandy-oat, which have a small grain moderate yield and abundance of straw which is an invaluable fodder. The crop is planted between the middle and end of April. Until the end of the 19th. century seed oats were not changed with a resultant

diminution in yield (1).

Before the importation of meal into the crofting districts, every crofter settlement or isolated crofter dwelling had its corn-kiln (2): the small modern lime kiln (fig.16) is of similar structure. The corn-kiln, which was the recognised means of drying corn throughout Ireland at the beginning of the last century (3), and was used also in ancient times (4), is indicative of a damp climate: it is a token of the crofter's anxiety to get his cereal crop saved owing to the vagaries of the weather. In the Scottish Highlands the crop was kiln dried either to ensure a seed free from smut, or merely to dry it (5). The methods of working the kiln, which varied very little in different areas, were all characterised by th slow heating and constant attention. Kiln-drying was associated not only with oats but wheat (6) and flax (7) as well.

When corn was being dried a slow fire was first of all lit in the kiln. Over it a few bog-fir cips one inch thick were placed, and ~~again~~ on these was placed a matting of straw. On this the corn was placed to a depth of 10 ins and stirred continuously to prevent burning. As the drying of the corn was a matter of concern for all in the social centre, or those who had an interest in the kiln, members of different families

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1.T.McGrath. Pictures from Ireland. 1881, p.124.
2.Ordnance Survey of Donegal, 1836, Sheets 41, 81.
3.E. Wakefield. Statistical and Political Account of Ireland, 1812, Vol.1, p.181.
4.D. Coghlan. The Ancient Land Tenures of Ireland, 1933, p.98.
5. Everyday Life on an Old Highland Farm, p.49.
6. Statistical and Political Account of Ireland, 1812, Vol.1, p.606.
7. Ordnance Survey Memoirs of Donegal, Box 22, Raphoe.

agreed to tend it at recognised times, so that the kiln got constant attention night and day until the whole corn crop was dried. The kiln in the Errigal district was about 5 ft. high with a bowl-shaped interior varying from 6ft. in diameter at the mouth to 4 ft. at the bottom. A 1 ft. square flue led out on the windward side. When the fire was well lit a hurdle of bog oak was placed over the mouth of the kiln. On this were placed ~~over~~ a thin layer of straw and a linen sheet for the oats, which were stirred by hand until they were dried (1). In Cavan the kiln was a semi-circular thatched hovel with a hole to admit the fire below, like the 'eye' of a lime-kiln: in the centre were two beams over which a hurdle was thrown, and above this was placed a straw mat to spread the corn upon. Two small apertures were made opposite to each other in the sides of the hovel to draw the air; one of these was always closed when fire was applied (4) The earliest method of drying corn was with a wicker basket or sieve which was held over the fire while a man kept stirring it until it was sufficiently dried (2). If there was no kiln the corn was dried in an iron pot and carefully watched to prevent scorching (3). This latter was the popular way of drying barley for poteen as it ensured privacy.

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1. E. E. Evans, Donegal Survivals, Antiquity, June 1939, p.220.
2. P. W. Joyce. A Social History of Ancent Ireland 1903, Vol.2, p. 342. 3. Ibid. p. 347.
4. Statistical and Political account of Ireland, vol. 2, p. 365.

All grinding was done in the family quern, and the meal stored in a wooden box (1), or barrel. The quern was of twin granite discs ranging from 18 inches to 2 ft. in diameter. Three people worked it, two men spinning the handle of the top stone of the quern, which rested between their legs, and an attendant who poured in the grain. Grinding was done in relays and with great rapidity. Stones were made locally by a craftsman and occasionally pointed by him, as few were expert enough to chip the grinding surfaces to supply the proper friction.

The disappearance of both corn-kiln and quern was a simultaneous thing that was influenced probably by the Repeal of the Corn Laws in 1846, and the erection of corn-mills by landlords, which the crofter-tenants were expected to use (2). As an added result of 1846, a decided fall in tillage was recorded (3). The use of the quern was forbidden by the landlord as it was used at the expense of his mill (4). In the Scottish Highlands laws were passed compelling crofters to bring their oats to the landlord's mill, and empowering lairds to smash querns because they defrauded him of his tolls (5). The toll at Lord George Hill's mill in Bunbeg was a penny per stone.

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1. E. E. Evans. Donegal Survivals. Antiquity, June 1939, p.220.
2. The Devon Report. Vol2, p.1049.
3. The Ireland of To-day: Articles from the 'Times', 1913, p.216.
4. P.W. Joyce. A Social History of Ancient Ireland, 1903, vol.2, p.342.
5. C.F.Gordon Cumming. In the Hebrides, 1883, p.272.

When the kiln fell into desuetude the way was prepared for the introduction of innumerable modern innovations pertaining to domestic economy, the most important of which was the introduction of bought bread at the expense of the gridiron product. But more important still was the disappearance of barley as a staple crop. To-day, few crofters cultivate it although it was extensively grown as a rotation crop at the end of the 18th. century (1).

A consideration of the importance of corn in the west Donegal crofting economy would be incomplete without referring to illicit distillation, which reflected in some way the social conditions extant and perpetuated the use of articles with a corn-culture association.

Poteen

The spread of poteen drinking during the 19th. century may be attributable to many causes, chief among which were the disappearance of markets for surplus grain, due to the repeal of the Corn Laws, and the quicker return and more profitable enterprise that illicit distillation offered the crofter. Hill attributed the success of poteen making in his Gweedore estate to the distance of the markets from the crofter holdings (2). In mountainous districts remote from markets the distillers took all the risk, as the profit was great, and gave any price they wished to the crofter, who was

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1. Statistical Survey of Donegal, 1802, p.30.
2. Facts from Gweedore, p. 25.

saved the trouble of labouring his corn. The conditions conducive to private distillation were ideal: a constant supply of grain, either barley or oats was assured the distiller; the necessary utensils were at hand, whilst the corn-kiln premitted of a privacy that was enhanced by the barren environment. So great was the illicit trade that in 1823, ten million gallons of Irish liquor were accounted for, three million of which had been duty paid (1). Conditions must have been such that the financial gain from it was so great as to encourage collusion between the local authorities and the still owners. Originally a law was passed under which a townland was fined in which a still was found. Instead of answering the purpose for which it was intended it produced a contrary effect, and acted as an encouragement to the erection of new ones. When the authorities realised the adverse results of this law it was soon repealed (2).

The determined opposition by the crofters and the tacit agreement of the few police whose advent was announced by blowing a horn, nullified any legislation that was enacted to eradicate the evil. In Thurles, private distillers were notified of the approach of the police by ringing the market bell (3). So openly was the trade carried on in Tyrone, and so apathetic were the police, that poteen retailers had a

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1. J. Binns. Miseries and Beauties of Ireland, 1837, vol. 1, p.330.
2. C. Otway. 80 years ago in Donegal, p.24.
3. J. Binns. Miseries and Beauties of Ireland, 1837, vol, II, p.280.

trade sign, a broken bottle on a pole (1). The government gauger was a partner in the profits of every still in his district, and there is the record of one who saved almost £6,000 (2). When the police thought it fit to make a seizure they notified the distiller, who gave them a worn-out still for which they got a reward. They never broke poteen vessels, but re-sold them afterwards to their owners (3). During the Anglo-French wars of the 19th. century the poteen trade flourished in the absence of whisky, and especially as the police could not be spared for revenue work as they were in normal years (4). But additional historical considerations influenced the sale of poteen and tended to advertise it. In Spenser's time it was illegal to retail corn unless it was for distilling (5) and Moryson extolled "their aqua vitae, vulgarly called usquebagh, which inflameth not so much" (6), as being an excellent remedy for the ailments that resulted from a damp climate. Whilst the Donegal crofter accepted poteen as a business, he also looked upon it as a medicine that helped him to withstand the cold (7). So great was the practice, that attempts were made to encourage the crofter to grow flax instead of barley, and whilst these succeeded in some measure

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1. T. Reid. Travels in Ireland, 1823, p. 201.
2. Statistical and Political Account of Ireland, Vol. 1, p. 730.
3. Ibid, p. 731.
4. Sir H. Robinson. Memories: Wise and Otherwise, 1923, p. 271.
5. H. Morley. Ireland under Elizabeth and James I, 1890, p. 207
6. Ibid, p. 420.
7. Statistical Survey of Donegal, p. 67.

up to the end of the last century, the flourishing Belfast linen industry contributed to stem the development of the crofter's cottage industry, and again barley was cultivated as a crop, and for distillation. In 1802, barley was cultivated chiefly for distillation around Killybegs. (1).

To-day the manufacture of poteen is at its lowest ebb except in Banagh in the south, which was notorious for it during the 19th. century (2), and even here strict supervision by the police on copper tubing and molasses has confined it to the remote mountain districts. While some of it is consumed locally most of it is sold in the nearest town where an established code of conduct identifies a bona fide customer. In Derry city, the most lucrative market, it is retailed in bottles belonging to some long-established firm.

Instead of being considered as a harmless product and a means of implementing the family purse, poteen making is strongly disapproved of by the crofters because of the harm it does to young people. Those who manufacture it do so under conditions of the greatest secrecy and, owing to the ever-present danger of exposure, have become remarkably alert and keen. It was a similar mental constraint, engendered by the constant danger of hunger and adverse environmental influences that exploited the resources of the crofter in

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1. Statistical Survey of Donegal, p. 81.
2. S. Lewis. Topographical Dictionary of Ireland, vol., 1, p. 475.

the last century and made him quick-witted and a jack-of-all-trades.

The manufacture of poteen varies considerably in different areas, but where the industry has been long established, a mild brew is produced that rivals the finest whiskey, and finds a ready market. It is interesting that querns are still used to crush the grain just as they were in the last century. While crude methods of treating the grain are practised by less skilled crofters the most troublesome and yet most beneficial method is as follows:- ½ cwt. of oats and 1 of barley are made up in linen or hemp bags and placed in a bog hole, each bag being weighted with a stone to ensure that it is properly covered with water. They remain submerged for one night and day to ensure rapid budding, after which they are taken out and the grain spread over a dry floor where it is turned occasionally and thoroughly aerated. It is allowed to remain there until it have budded properly. Wakefield noted that distillers in his time put the grain in a dung heap where the heat helped it to vegetate (1). A kiln is then constructed and the grain dried (p. 71 ) ; the kiln, being a temporary affair is razed to avoid suspicion. When querns and corn-kilns were discouraged in the Rosses, the usual method of drying the grain was in a pot on a slow fire. The privacy thus assured was not always necessary, as the traveller in Creslough could have read

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1. Statistical and Political Account of Ireland, 1812, Vol. 1, p. 730.

"Cake and Wine (poteen)" on the menu in the local inn (1). After this it is ground in a quern and is now ready for the still.

The still is usually an iron pot or a copper tank with a copper worm as a condenser: copper is the best metal for distilling purposes. It is filled with 5 gallons of water which, when boiled, is put into a barrel containing half the quantity of grain. The still is now dismantled and concealed until the juice has been conditioned. This mixture is well stirred to extract the juices, called 'beer'. A cock at the bottom of the barrel allows the juice to filter into a second barrel. The old practice was either to bury the wash (2), or dregs, remaining in the barrel after the beer had been extracted, or else to feed it to pigs (3). Otway was amazed to find distillers at work in public on an island in Lough Veagh, and fattening pigs on the wash. ¾ ozs. of yeast, dissolved in hot water, is now added and, after being covered, the contents of the barrel are allowed to lie for two days, when fermentation takes place. When the fermented juice is boiled in the still the first run-off is condensed into a container. The still is then thoroughly washed and the poteen re-boiled and the second run-off collected. During this last distillation tests are made: if the poteen blazes

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1. Landlord in Donegal, 1876, p.22.
2. Statistical and Political Account of Ireland, Vol, p.730.
3. C. Otway. 80 Years Ago in Donegal, 1827, p.25.

when thrown in the fire it is considered fit for the final stages; but, towards the end of the second boiling, the tests always reveal an inferior type, which is collected in a separate container. It is by blending "the end of the making" with the early distillation of the second run, that is, the almost pure poteen, that a palatable brew is obtained. This blending operation calls for considerable skill, only acquired through long experience in the business. The 3 cwts. of grain used yield about 9 gallons of spirits. All stills are jointed so that they can be assembled or dismantled with the greatest speed. The joints on the assembled still are sealed with a paste made from oatmeal and water. After the last distillation the still is dismantled and concealed until another occasion. A good mild poteen will realise from 25 to 30 shillings per gallon. So important was the quality of the poteen that the purchaser used to buy it before it was distilled, and then surpervise the quality of the ingredients being used (1). Fynes Moryson remarked that it was drunk publicly by the Anglo-Irish gentry at the beginning of the 18th. century and, "that the heat was taken out of it by flavouring with raisins or fennel-seed". (2).

Poteen made in a licensed still was disapproved of by the crofter not only in the west of Donegal, but in the rest of Ulster as well, and was called by the derogatory name 'Parliament". (3).

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1. Miseries and Beauties of Ireland, vol.1, p.325.
2. Ireland under Elizabeth and James I, 1890, p.425.
3. 80 years ago in Donegal, 1827, p.9.

POTATOES

The importance of the potato in the life of the crofter is one that cannot be over-estimated. Its introduction must have been accompanied by revolutionary changes in his economy and social observances. Its importance lied in the ease with which it yields a prolific return, and that there is no need for any especial care during the growing period. The decline of transhumance and the spread of potato culture are suggested as being inter-related (1). The introduction of the potato as a supplementary source of food could not fail to be followed by a consequent rise in the population. The potato has been blamed for the inertia of the crofter (2) because it afforded him the greatest possible return for the expenditure of a small amount of energy in a limited area. He prepared his plot in lazy-bed fashion and concentrated on no permanent improvement. On this western seaboard, where land is at a premium, the rise in the crofting population, with an added call on food resources, contributed largely to the spread of minute sub- divisions under rundale. In the Scottish Highlands the spread of potato-growing was, with the introduction of the kelp industry, the chief cause of the extraordinary increase of population inthe first half of the ninteenth century (3).

The customary method of cultivation is in lazy beds, or

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1. E.E.Evans. "Some Survivals of the Irish Openfiels System", Geography, March 1939, p.34.
2. The Devon Report, vol.1, p.16.
3. M.M.Leigh. The Crofting Problem. p.13.

ridges, built on a slope, which is necessary in a soil that must be constantly drained. The name "rig" is unknown amongst the English-speaking crofters. The disposition of all the crofter's plots is dictated by the contour of the surface, being laid out to secure natural drainage by taking advantage of the fall of the land. As the drill is the sign of a plough culture so also is the ridge the product of a spade culture. When building his ridge, (fig.10) the crofter marks out parallel divisions about a yard in width to accommodate three rows of seed, and separated by strips about a foot wide. A sod is turned on each side of this strip to form a wall for the ridge-side. When the ridge is partly constructed, seed holes to a depth of 3 or 4 inches are made with a pointed stick or trowel-like dibbler (fig.9C). Kibbing with a spade is done by making an insertion with the blade, and pressing the handle forward so as to make an opening into which the seed is dropped. Weed is scattered on top or, what is common to-day, a sprinkling of guano, and when the buds appear at the end of two or three weeks, the ridge is 'set up', or completed, and a top-dressing of seaweed added. Seed potatoes are always set on dung and never on seaweed as the latter thus used makes the tubers small and wet. An alternative method is to divide the intervening strip as side walls for adjacent ridges and use the soil from the trench thus formed as in the previous example. When drilled, the seed potatoes are set on manure in the trenches and then covered with soil from the ridges. When the same cuibhreann is being sown a second year with potatoes the middle of the first year's ridges become the trenches of the

second year's ridges. This is called "splitting".

Scientific potato-culture requires much labour, but tolerable results are got from the lazy-bed method of tillage, which is the easiest method of bringing wild land under cultivation. The pits for the crop in November run longitudinally down the slope in order to avoid rot through excessive moisture. The potatoes are covered with straw or rushes and then with soil. Whenever the ridge is opened withered stalks and weeds are used as an additional covering. The surface sod of sandy areas near Kilcar is used to cover potato ridges, the crofters realising that it keeps the potatoes safe and dry. While an earth covering is the rule, pits neatly thatched with rushes, and roped, are common around Ardara. A trench round the pit helps drainage.

In olden times the plot was re-dug after the first digging to ensure that every potato was collected.

Two types of seed are common to the west coast, Kerr's Pink and Arran Victory, the former being the more widely grown. The introduction of two crops to tide them over the year has been one of the greatest innovations in the crofter's agricultural economy. Early potatoes, e.g. De Vernon or British Queens are sown about the third weed of March, whilst the later main crop, e.g. Kerr's Pinks, is not in the ground until the third week of April.

Every potato patch has a strip of turnips which are given considerable care. Their tinning is an important separate task but they are generally weeded with the potatoes. The value of turnips as a cleansing crop is not yet fully appreciated,

even though they were introduced about 100 years ago (1), as they are rarely grown in the mountain crofts from Glenties to Glencolumbkille. Aberdeens and Swedes are the most common species grown. Both are sown late in the year to ensure a full growth during autumn for winter fodder, Swedes from the last week in May till the beginning of June, and the Aberdeen turnip from the last week in June till the first week in July.

Whilst turnips may be neglected as a cleansing crop, there is a general cultivation of Kail, which is sown as a spring and winter crop, thus ensuring a constant supply of a most nutritious fodder. The Kail-patch is always located as a garden adjacent to the house, and part of it may be occupied by vegetables, or as in the south coastal regions, onions. The attempts to grow onions have met with remarkable success in the Glenties district, and the number of experimental plots increases annually. Gardens in which Kail or vegetables are grown are always well protected with a wire fence or dry-stone wall. Kail, which is fed to the cattle in the morning and evening, is popular because it is believed to enrichen and sweeten the milk.

Spraying the potato crop was once regarded as being injurious to the consumers and the succeeding oat crop. The crofter was loth to use a poison on the haulm which could easily be eaten by his cow, since no fences deterred it from approaching the growing crop. To-day, however, few fail to spray, although in the Rosses spraying has not become general.

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1. Facts from Gweedore, p.6.

Before the general acceptance of spraying machines the crofter used sprinkle the bluestone solution wastefully with a bunchof heather(1). Blight (aicid dubh) is ever present in crops in such a moist climate (2), and the practice of retaining the same species of seed for a number of years, together with negligence in spraying, tend to encourage the disease. In July 1939, many of the potato patches in the coastal strip of the lower Rosses, stretching from Derrybeg to Annagary, were completely affected. The widespread use of potash-yielding seaweed on this west coastal region, reduces the susceptibility of the tuber to Blight (3).

CROP ROTATION.

Under primitive conditions the earliest system of cropping was the cultivation of a selected piece of ground continuously with corn crops, until it ceased to be reasonably productive. A new strip would then be cleared, and cultivated until it in turn became exhausted. Under rundale and the 'fine' grouping of society, some sort of rotation was practised.

The fundamental object in a rotation is to enable the arable to be kept clean and productive so that it may be maintained in constant cultivation. Besides, the rotation is generally linked up in many ways with the livestock of the farm as,for instance, certain grasses and roots are grown both to

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1. C.D.B of Ireland, 9th. Annual Report, 1900, p.15.
2. Potatoes. Bulletin No. 94, Ministry of Agriculture and Fisheries, 1938, p.30.
3. Ibid. p.21.

restore the fertility of the ground and to provide food for the stock. Cattle consume straw - a by-product of corn-growing - and in so doing they produce manure which is returned to the land. The inter-dependence of cattle and corn is so great that the numbers of cattle determine the area occupied by the corn (1) When the crofters lost their hill grazings at the beginning of the 18th. century a rotational crop culture became a necessity in an economy which was once chiefly pastoral, but became primarily agricultural.

Few if any crops can be grown year after year on the same soil without incurring a greatly increased risk of attack by diseases and pests. Crop rotation, therefore, apart altogether from its other advantages, is essential for the preservation of a healthy soil, yet corn or potato cropping for two or three years is no uncommon feature of the crofting economy. Corn crops tend to exhaust the soil and leave it weedy, whilst such root crops as potatoes restore fertility and reduce the weeds. The general tendency is, however, to alternate corn crops with what may be called a restorative crop.

In many ways climate is the most important condition affecting rotations, and in particular, rainfall is very often found to be the main factor as it determines the character of the arable crops grown. On this cool moist seaboard oats and root crops predominate. The earliness of harvesting, the customary time of sowing, both dependent on climate, also affect

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1. E. Wakefield. Statistical and Political Account of Ireland, 1812, p.60.

the rotation. The influence of a soil predominantly sour, has also a decisive influence on rotation. Oats florish on soils containing a good deal of organic matter, and are the best corn crop for peat.

Besides the principal rotation controls of climate and soil, the absence of fencing must have been a determinant in the social structure where commonage was a communal institution. The general absence of fencing on the crofting holdings to-day is a relic of that time, when artifical boundaries other than peat balks were unknown. In the early Celtic society boundaries were usually natural features such as streams and rivers (1), and whilst these are still the recognised limits of townlands, the actual division is principally a narrow balk, a foot or so high and about the same broad. When these separate adjacent holdings, they are often planted with furze to assure permanence and shelter. The scarcity of furze is a notable feature of west Donegal vegetation conditions. Balks are built to a height of three feet when they bottom a field or a slope, as they form a protection against erosion. While no division may actually exist between one plot and another, the customary ones are drains. Fencing is still in its infancy although the Department of Agriculture (2) has made great strides in encouraging this initial step towards agricultural improvement. Fences erected by crofters are crude affairs of bog-fir roots (gragain) placed at intervals along a boundary

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1. R.A.S.McAlister. The Archaeology of Ireland, 1928, p.6.
2. Eire. Seventh Annual Report of the Minister for Agriculture, 1937-38, p.95.

and joined with wire or rope (Plate 5). Where fields have been stoned they are surrounded by dry-stone ditches which are therefore of local material, e.g., the laminated schistose rocks around Sheephaven, which give an even bricklike appearance, or the irregular granitoid ditches around Killybegs. When stoning a field the crofter never clears it completely as rubble tends to conserve heat in cold earth and aerate it.

Drains are of two types, either open or closed, both forms being the common method of draining peaty land. The closed drain runs across the patch in order to ensure maximum drainage and feeds the open drain, which becomes the main conduit for seepage water. The open drain, which usually acts as a field boundary, is a narrow trench 3 ft. deep and not more than 2 ft. wide, with sides sloping gently to the bottom. These are cleared annually and the mud spread on the land. The closed drain is narrower than the open one and has a narrow ledge on each side that runs the length of the drain. On it sods are placed cross wise in order to cover a runnel about a spade wide that carries off seepage water. The space from the sods to the surface is then filled in . This method of making a drain containing bottom ledges was quite common in Sligo (1). Where actual soil - mineral detritus - is found, as in valley bottoms, the runnel at the bottom of the closed drain is made with rocks, a rock at each side and one across, and after a finer layer of gravel has been added, the drain is filled with

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1. J. McParlan. Statistical Survey of Sligo, 1802, p.62.

soil. The crofter in peaty land cannot use rock, because it would sink in the soft peat. As generation after generation adds a closed drain where bogginess is noticed, the arable is soon tunnelled by a network that needs constant renewal, owing to the collapse of the sod roof of the runnel. For extensive bog stretches to be drained, either for fuel or agriculture, detailed schemes of arterial drainage, rather than the isolated individualistic efforts of crofters would be necessary (1).

Absence of fencing has always been associated with absence of rotation, and the hindrances to successful fencing operations under a system of rundale, were no less than the inviolability of custom and the preservation of winter commonage. But with the growth of individualism in agricultural practices after the dissolution of rundale, the tendency to determine private grazings and enclose arable land was a natural corollary. The introduction of enclosure anticipated crop rotation, as without it adequate protection of the arable was impossible. Enclosure as pertaining to a Celtic rundale system is different to that which contributed to the disappearence of the English openfield system: in the former it meant the creation of walls or fences around holdings, but in the latter case 'enclosure' meant the division of common land for the purpose of enclosing them as private property (2).

Where enclosure has not yet been completed an alternative protection for the crops is sought in herding.

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1. Evidence before the Richmond Commission, 1883, T.Baldwin, p.48
2. I.F.Grant. Everyday life on an old Highland Farm, 1924, p.33.

The three chief crops grown are oats, potatoes and grass. The first generally occupies lea-land, but where soil is very poor, or where there is a deficiency of manure, oats follow potatoes on lea-land. In the earlier rotational scheme, flax was interposed as a third crop, with potatoes always as a first sowing: potatoes, oats (or Barley), flax, was the rotation in crofter holdings along the seaboard. Around Dunfanaghy, for example, the scheme used be, potatoes, barley, oats and flax, whilst in the Rosses it was an alteration of potatoes and barley (1). The decline of flax and barley growing is a remarkable feature of the agricultural economy of this western coast. The flax acreage in Donegal fell from 6,000 acres in 1809 to 2,400 in 1937, a decrease due to the economic advantages enjoyed by the more favoured north-eastern part of the country. Linen yarn to the value of £2,000 was sold monthly in the market at Ardara (2).

The only manure oats on lea-land get is a sprinkling of guano to force the young shoots. When potatoes follow as a secondary crop the plot is well manured with manure and seaweed. A rotation of corn and potatoes is now followed for eight to ten years, after which declining yields force the crofter to break up a piece of lea-land or grassland. As clover is too heavy for peaty soil, Italian rye grass or Timothy is sown with the last crop of corn. The land that is

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1. J. McParlan. Statistical Survey of Donegal, 1802, p.32.
2. Statistical and Political Account of Ireland, 1812, Vol.1, p.688.

now resting gets an annual coating of manure to redeem its fertility. A two crop-rotation scheme with a resting period every eight years was the custom on small holdings throughout Ireland on the middle of the last century, and especially on holdings in peaty areas (1). General ignorance of rotation and the exhausting effects of oats on the soil are the only reasons why oats should have followed potatoes on lea-land for eight successive years (2). In earlier times the crofter often took two crops of corn out of a lea land patch and then rested it for 7 or 8 years (3).

While the arable is in cultivation every crofter has his cow herded on the grass adjacent to his holding, or else lets it roam safely on the rough mountain pasture, which is invariably separated by a ditch from the rest of the holding. If he harvests his oats or hay before his neighbour, the cow grazes around the stacks on his own stubble, carefully attended by a buachaill (see p.115). When the crops in adjacent holdings have been garnered and stored in a haggard near the house, the arable is thrown open to all cattle and, with the lea-land, provides the animals with scanty autumn and winter pasturage.

## TRANSHUMANCE AND LIVESTOCK

Transhumance was universally practised throughout Ireland in ancient times, and only ceased about sixty years ago on the

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1. "The Devon Report", vol.1, p.14.
2. Devon Report, p.75.
3. J. McParlan. Statistical Survey of Donegal, 1802, p.29.

Donegal seaboard. The final volume of the Brehon Laws and Senchus Mor mention this custom which is generally supposed to have decended from an early period. The number of cattle permitted on the common mountain grazing was fixed in proportion to the area of the owner's farm. The rights of grazing were classified according to a standard, the cow being taken as the unit. The legal classification was --- 2 geese were equivalent to 1 sheep; 2 sheep to 1 dairt (or 1 year old heifer); 2 dairts to 1 colpach (or 2 year old heifer); 2 colpachs to 1 cow; and 1 cow and 1 colpach to 1 ox. The unit of measurement in the crofting districts of the Scottish Highlands was a cow and her "followers", that is, one calf, one yearling, one two-year-old, and one three-year-old. One cow was equal to 5 sheep (1). If it suited a man he could substitute the equivalent of his cows in any other animal he chose. In the sixteenth and seventeenth centuries it was usual for the people of a townland to retire with their cattle to the mountain pastures and return to their farms for the harvest (2). The temporary settlements or boolies erected on the uplands lacked those social amenities natural to permanent settlement, yet the inconvenience entailed in migrating to a summer grazing was necessary to a people whose wealth, dowries, wages, and fines were measured in cows (3). As mountain grazing was let without reference to acreable rent

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1. M.M.Leigh, The Crofting Problem (1780-1883) Nol., 1929, p.4.
2. P. W. Joyce. A Social History of Ancient Ireland, 1903, Vol.2, p.282.
3. D. Coghlan. The Ancient Tenures of Ireland, 1933, p.103.

it was set under fixed standards in mountainous Kerry, Connaught, and west Donegal. Where mountain land was so set, the area to be leased was said to consist of so many gneeves, cow's grass, collops or suums (1). These terms appear to be nearly synonymous and to mean 'the right of grazing a certain number of cattle upon the common mountain or the possession of so much arable land as would, if in pasture, support the same number of cattle' (2). In Sligo, the adjacent county south of Donegal, the people of a village turned out "a fixed number of collops" according to tenure, to graze the mountain. Here a collop was sufficient to graze a horse or two cows, or four yearling calves. Five goats were the equivalent of a cow. It is interesting to note that in Sligo ewes were milked, although the yield was not so great as that of goats (3). The price of a cow's grass varied in all localities - according to soil which determined grazing fertility - from 1/8 to 17/- (4) A suum to the Scottish crofter was a cow's grass (5). In the Scottish Highlands the scarcity of mountain grazing demands some concrete form of cooperation amongst the crofters in order to determine the number of cattle grazed by the members of the community. To avoid friction, an elected committee determines the number of sheep and cattle kept by each crofter (6). To-day, on the west coast of Donegal, any type of rough grazing land in

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1. In "Belfast News Letter" 26/5/26, F.J.Biggar refers to cattle pasture on western Colinward Mountain being let in suums.
2. The Devon Report, Vol.2, p.722.
3. J. McParlan. Statistical Survey of Sligo, 1802, p.309
4. The Devon Report, 1847, vol.I, p.431.
5. M.M. Leigh. The Crofting Problem (1780-1883) No.4. 1929. p.1.
6. G. Meiklejohn. The Settlements and Roads of Scotland, 1927, p.20

a crofting area is let by the collop (colpa: bullock), as in the Rosses, or 'fear bo' (cow's grass) as around Kilcar and Glencolumbkille. A cow's grass is approximately two acres. The mountain grazing for the summer was let by the suum in Tyrone (1). Ballybo - (cow's land) is a very common prefix in place names in the county.

Transhumance, which was the subject of so many legal enactments in Celtic Ireland, and an established seasonal ritual in more recent times with communal observances concerning the number of animals being grazed, and the fact that it entailed the compulsory absence from home of a number of labourers, must have played as important a part in the general scheme of work as did the harvest. But it was more than this: it was a vital necessity. In a community, where ~~it~~ was obligatory ~~for~~ a seasonal migration of livestock, there must have been a severe limitation of available grazing land. Grass was the controlling factor. Such movements would have been unnecessary had there been sufficient pasturage. It is probable that there was considerable grazing near home, but the absence of any winter feeding stuff other than grass, for we may take it stall feeding did not exist, would induce the owners of cattle to preserve the lowland grass patches for winter feeding. In the Scottish Highlands, where environmental features similar to those in Donegal prevail, there is this dearth of pasturage that compelled a seasonal movement to the mountain shielings.

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1. John McEvoy. Statistical Survey of the Co. Tyrone, 1802, p. 340.

Here the cattle had to be carried out of the cowshed to the fresh pasture at the end of a hard winter and the mortality among them was said to be one in five every winter because of starvation. This was known as 'the lifting' (1). As in Donegal, only a few herds and the womenfolk accompanied the cattle to the upland summer dwellings.

The lack of good grazing grounds on the western seaboard of Donegal, besides the poverty of cultivable ground, results in it being an ideal area in which the difficulties establishing the practice of boolying obtain. Such conditions, which establish the necessity for the movement of cattle in summer to an upland zone that is unfit for winter pasturage, occur everywhere today along the mountainous parts of the west coast. Throughout the summer the cattle are kept in the rough mountain grazing until milking time, when they are brought down to a lea stretch adjacent to the house. There was a well-marked difference between the milk yielded by cattle fed on the coarse mountain grass and that of animals grazed on lea-land: the former class of milk was the stronger, and although a necessity, was less popular than the latter (2). This practice of an upland summer grazing, without actual residence there, is also very common in Creggan, Gortin, and Stolin (Co. Antrim).

Transhumance died on this strip of coast about two generations ago - about sixty years. Many middle aged men today recall how they heard their fathers talk about boolying

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1. I. F. Grant. Everyday life on an Old Highland Farm, 1924, p.61.
2. P. Gallagher. "Paddy the Cope". 1939, p.13.

(buailteachas), a practice that had just gone with the coming of their parents' generation. The mountain grazing need not necessarily have been located near to those who migrated every summer. It seems that any type of upland pasture would not suit but only that which was grassy and dry (1). In the upper Spey valley in Scotland it was customary to make a journey of six miles to the hill grazings. Here progress was made upstream to the headwaters of the river, when the cattle were driven across the mountains to a selected grazing ground (2). Whilst adjacent mountains must have sufficed for cattle owners in a poor pasture lowland area, it seems as if special areas were popular in some districts. The hills around Doocharry, lying east of Gweebara Bay, seem to have been the boolying centre for the surrounding districts; the names Galwolie and Crovehy, and just north of this near Loughanure, Crohyboyle and Ardmeen, are all associated with transhumance. In this region, occupation of the mountain pastures started in May and continued until thebeginning of June. The journey uphill was done by both men and women, the men returning whilst the women remained above tending the cattle, milking, and churning. In June the menfolk again visited the grazing to escort the women and herds safely home. Another version states that the women remained in the hills from St. John's Day (la Éoin) until the harvest (3). The vicinity of Lough Keel seems to have been a popular place and was visited by a great crowd for the summer grazing: the people of the whole lower (i.e. northern) Rosses concentrated

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1. G. Boate. Natural History of Ireland, 1652, p. 109.
2. I.F.Grant, Everyday life on an old Highland Farm, 1924, p.60
3. Irish Folklore Commission. Archives, a.169, l. 541.

on this locality, and the period spent here seems to have been a happy one. The cattle were brought into Glen More for the evening milking which was often followed by dancing - to the music of an itinerant piper. The return journey to the lowlands was made in Autumn. The boolies appear to have been in clusters in "The Glen" to which the cattle were herded for milking, and in which they remained sheltered in the open at night (1). Not less happy was the life on a Scottish upland summer grazing. The migration of the whole community to the hill - the glaning - was made in May when the cattle, driven by the crofters who anticipated a merry time in their summer home, were followed by carts carrying blankets, food-stuffs, dishes and churns (2). Just as in west Donegal, the grazing ground was called 'the glen'. The downward journey from the boolies was made in August to allow the crofters gather their harvest. The shielings were in groups and were remarkably like the west Donegal boitheach - byre. Whilst structural features differed in various regions, the general type was of sods, with a roof of branches covered with sods. It was oblong, but often conical, and was so low that entrance was impossible without creeping through a little opening which was covered by the only door a Highland sheiling ever had, a "faggot of birch twigs placed there occasionally". The bed inside was composed of heath on a bank of sods, while two blankets and a rug served as coverings. The rest of the

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1. Maire. Cioth is Dealan. 1.10-11.
2. I. F. Grant. Everyday life on an old Highland Farm, 1924, p. 118.

furniture was a few wooden milk vessels and pendent shelves made of basketwork to hold the cheese (1). A variation of the shieling closely allied to the type found on the west Donegal coast is the "creel" shieling, which was constructed of wickerwork covered with sods. These were used during the Summer herding and were quickly repaired or erected as occasion demanded (2).

The crofters around Gweedore had usually three pasture grounds; the first in the home commonage, the second on the adjacent islands, and the third in the mountains. The migrations to and from these made on a certain day, were due not only to lack of pasture, but also to an attempt to prevent disease in the cattle. As the animals were continuously on sodden ground throughout the year a change to dry pasture was necessary in order to prevent 'crupan', a form of paralysis that was accompanied by a shrinking and wasting away, and caused by constant dampness on the sour feeding ground. The journey to the mountains was made with the household goods piled high on a pony; a chair or two, creels (cliabhain), an iron pot, the piggin, and a churn (3) comprised the bulk of the chattels. In all migrations the churn was the object of singular importance. The obvious routes to all the upland pastures were by the river valleys which cut deep into the hills and, as they had numerous lakes, provided an easy means of ingress. It is interesting

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1. S. Gordon. Highways and Byeways in the Highlands, 1935, p.317
2. Sigurd Erixon. "Western European connections and culture relations", 1938, Folkliv: 2, p.189.
3. Lord George Hill. Facts from Gweedore, 3rd. Edition, 1854, p. 19.

that in Gweedore sheep accompanied the cattle to the hill and returned with them (1). Just as the crofter depended on his cattle for no small part of his food so also did he depend on his sheep for clothing, so much so, that the sheep became an important partof the general plan of transhumance (2). In his survey (3) Wakefield noted that it was common in Mountainous parts to migrate to mountain pastures at the beginning of the summer with sheep alone. In Scotland the shieling ground was unfit for cattle until it had been grazed extensively by sheep, after which a heather-mountain grass complex supplanted the pure heather type and rendered the area suitable for pasture (4). On the Highland croft milking-ewes were an important part of the dairying economy in the middle of the eighteenth century and it is possible that they were important in the same way on the west Donegal croft. In early Celtic times ewe milk was as important as goat's milk (5).

A further area famous for the custom lay between Lettermacaward and Owenamarra, (Abhann na marbh) near Doocharry. In this case both men and women tended the cattle in the uplands and stayed until November (Samhain). They brought along with them, besides kitchen utensils and churn, all the poultry. This seems to imply, since tending fowl is a woman's task, that the menfolk did not live constantly on the uplands as the women did during the summer, but prepared for the harvest on the home

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1. Lord George Hill. Facts from Gweedore. 3rd. Edition, 1854, p. 19.
2. D. Holland. Landlord in Donegal. 1876, p. 72.
3. Statistical and Political Account of Ireland, 1812, Vol. 1, p. 347.
4. I. F. Grant. Everyday Life on an Old Highland Farm, 1924, p.60
5. P. W. Joyce. A social History of Ancient Ireland, 1903, Vol. 2, p.136.

farm and occasionally returned to the hills. All owners of cattle whether one, two, or a herd, observed this custom, but only those with anumber of animals travelled from Lettermacaward. From the different accounts it appears that every owner tended his respective animals and that whilst grazing collectively was the rule, a buachaill to look after a common herd was not employed. In ancient Ireland such a buachaill was paid by the several owners, and whilst he looked after his own cattle, he was expected to "herd in brotherhood" - to watch carefully those of his neighbours (1). Under modern crofting conditions in Uist, all cattle and sheep, and even horses on the island are driven to the common mountain grazing at the beginning of the harvest, and are there tended by a common buachaill who is paid by the owners of the animals at the end of the harvest. When on the upland grazing, the crofter made a booly (bothog) for sleeping in, which must have been a crude affair as its name "bothog" implies (2).

As the migration period was in summer, and this is the time of calving, it is an added note of interest that new grazing was sought for the cow-in-calf. This seaboard was, and is, an area where the young animal is sold as early as possible - usually about 3 weeks old - to east country buyers who fatten them for market as 'stores'. The calves must have profited enormously from this change to fresh grazing. Since the uplands were

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1. P. W. Joyce. A Social History of Ancient Ireland, 1903, vol.2, p. 282.
2. Irish Folklore Commission. Archives, a.185, 1.274.

pastured from Spring to Autumn it is reasonable to expect calving, and probably lambing, to have taken place there. In mid-Wales a similar intricate movement of sheep to varying altitudes is carried out at recognised times during the year because of lack of suitable pasture (1), and anxiety for a successful lambing. Like the seasonal migration of cattle and sheep in West Donegal, this Welsh movement of winter lowland (hendie) and summer upland (hafod) farming is characteristic of primitive forms of herding. The chief movements are (a) of young sheep to the lowlands for the winter months, and (b) of entire flocks from the lowlands to the uplands for the summer pasturage. The final stages of the movement in Wales are those in which sheep are either turned to an adjacent hill, or are kept upon the higher and drier parts of the farm in alternation with the lower land. In Wales, those regions which have not reached a comparative agricultural equilibrium, usually follow sheep herding by a more or less rapid change to cattle herding, and this in turn by agriculture.

The accounts of the actual houses the herders used in the upland grazings indicate two types of dwelling: the first, a crude permanent hut that was sufficiently incommodious as to imply temporary residence. It was small and of one part, and constructed of balks of oak and other timber rudely jointed by mortise-and-tenon (2). A dwelling similar to this was dug out

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1. C.L. Walton. Some Geographical aspects of the Sheep industry Scottish Geographical Magazine, Vol.36. p. 310.
2. P. W. Joyce. A Social History of Ancient Ireland, 1903, Vol 2, p. 27.

at a bog at Drumkelin (Donegal) and was about 12 ft. square and 9 ft. high, with two compartments each 4 ft. high. It was little more than a sleeping shed with two berths (1); residence must necessarily have been temporary in such an inconvenient structure.

The next example of a booly is the more pretentious one of recent times. Instead of a crude shelter we have a residence obviously modelled on the lowland home and equipped with those necessities which, while affording the minimum of comfort, must have been selected because of their portability. The booly was rudely constructed of rough stones smeared with mud, and was chimneyless: it was thatched with heather or bent. It had a front and back door, and a hole, that served as a window, was covered with a wooden shutter (2). Thetype and number of the domestic utensils were obviously dependent on the distance of the grazing from home. An iron pot, a tin drinking cup, a churn, two or three piggins, a spade and a shovel as well as a rude bedstead filled with heather and potatoes made up the furniture of the mountain cabin, half of which was given to the cattle without any division. The boolies in the Errigal district resembled very closely the modern byre (boitheach), which is either an old house converted for the purpose of sheltering the cows, or else a crude affair of sods or dry stone roofed with heather: bent is never used for this

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1. R.A.S.MacAlister. The Archaeology of Ireland, 1938, p.186.
2. The Devon Report, vol.1. p. 372.

purpose. Modern byres are unknown amongst the Donegal crofters. "The boolies were square, some 10 ft. by 10 ft., built of dry stone or sods, and measuring from 5 ft. to 7 ft. at the eaves and 8 to 10 ft. at the gables. There were no couples, the purlins, three on each side with a ridge pole at the top, stretching from gable to gable. Light branches were placed on the purlins and sods and thatch added. Heather was the customary thatching material, and it was secured by ropes of twisted fir fibre, about 20 ins. apart, weighted with stones tied to the ends. The gables of the booley faced east and west; at the west end was a hearth with a hole in the roof above it; but the fire was made outside except in very wet weather. The only door was at the eastern end of one of the side-walls: it had no jambs and was closed at night by a door of woven sally rods or gorse, leaning against the opening" (1). The absence of a garden or cultivation near any of the boolies (2) emphasises the close dependence of the herders on the cow as a milk producer, especially as the supply of potatoes at booleying time must have been severly limited owing to the poor yield from infertile lowland plots, and especially as it was now summer, when the stocks of farm produce would be at their lowest.

From Hill's accounts of the wretched state of the housing on his land in 1846 (3) it would be logical to presume that the

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1. E.E.Evans. "Donegal Survivals", Antiquity, June 1939, p.221.
2. The Devon Report, vol.1. p. 372.
3. Lord George Hill. "Facts from Gweedore", 3rd Edition, 1854, p. 20.

boolies used by his tenants in the mountains were of the crudest possible type and probably of sods as other convenient building material, either stones or withies, is absent on the bare uplands they frequented running from Loughanure south towards Doocharry.

We may conjecture the state of an impoverished crofter's booley when we realise that O'Flaherty, a seventeenth century chieftain of Iar Connaught, lived in a booley constructed of withies plastered with mud, throughout the Summer. There was one room in which the family and some cattle clustered at night. The thatch roof of mountain bent (fionnan bán) had a hole in it for emitting the smoke from the fire which was in the middle of the room. It appears that a new dwelling was erected annually on the hill pasture.(1).

The second type of hill dwelling is that mentioned by Morysen (2) who noted that in mountainous districts the cattle-herders were mostly nomadic and moved their dwelling "according to the commodity of pasture for their cows". These herders were not loth to sleep in the open when the occasion demanded, or else in a clay cabin or a shelter made of the boughs of trees - wikerwork walls - and roofed with sods. The fire was in the middle of the floor, the smoke escaping through a hole in the roof. The occupants lay around the fire with their feet towards it. This type of booly must have been small and the

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1. Dunton's Letters No.2, in MacLysaght's "Irish Life in the Seventeenth Century", 1939, p. 344.
2. H. Morley. Ireland under Elizabeth and James the First. (Accounts by Spenser, Davies and Morysen), 1890, p. 430.

walls a type of lattice that could be easily transported. A spade, for cutting sods, would have been the only article necessary for completing the cabin at the next camping ground.

When in the mountains the life of the herders was almost nomadic, their movements being determined by the abundance and luxuriance of available grazing. Their food was milk and whitmeats. Spenser testifies to the permanence of the hill dwelling when he mentions that law-breakers retired to the safety of a booley"in a wild out of-the-way place" (1). So great a part did transhumance play in the agricultural economy that a great amount of the time was spent on herds and herding in the sixteenth century Ireland (2).

Of all the articles carried to the mountain home, the churn (cuinneog) was the most important. It was the key to this phase of the crofter's cultural landscape and a token of the interdependence of owner and herd. The milk yield was the index of his prosperity and played a most important part in establishing his social level before the introduction of the potato, which contributed in no small measure towards the disappearance of the crofter's staple diet of milk foods, generally called whitmeats. Dairying of a primitive kind, exclusively for home consumption, was carried on in the summer season. In all probability dairy produce was the most important item on the crofter's dietary and fairly great quantities were consumed, greater than at the present day, when

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1. S.H.O'Grady. Catalogue of Mss. in the British Museum, vol.1. 1926, p. 530.
2. H. Morley. Ireland under Elizabeth and James the First. (Accounts by Spenser, Davies and Moryson), 1890, p.430 .

white bread, strong tea six times a day, with margarine from English factories or butter from an east Donegal creamery take the place of home-grown food. Cuellar mentioned that on visiting a cabin in southern Donegal in 1588 he was given "sour milk" (buttermilk) and oaten bread (1), and noted that oaten bread, buttermilk, and butter comprised the popular diet, whilst on Feast Days some half-cooked flesh without bread or salt was consumed (2). Until the beginning of the present century, potatoes, oaten bread, milk, and fish comprised the crofter's dietary; at the beginning of the 19th. century before the loss of their mountain grazings, the Rosses crofter subsisted on a diet of milk, butter, curds and fish, whilst some, but few, had a little bread either oaten or barley (3). The importance of 'whitmeats' in the crofter's diet is indicative of the importance of cattle rather than crops in their lives, although a change towards a bread rather than a milk culture must now have been making itself felt -"their food was potatoes, oaten bread, and the benefits of the sea-shore, with some milk and butter"(4). In Wakefield's time oaten bread was a luxury in Connemara (5).

In early days the tendency was to carve all wooden articles such as churns out of the solid piece of wood rather than build them up, stave by stave (6), as in the modern article (fig. 11).

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1.Captain Cuellar's Adventures inConnemara and Ulster, A.D.1588, Translated by H. Allingham. 1897.
2. Ibid, p. 17
3.J.C.Walker. Historical Memoirs of the Irish Bards, 1818, vol. 2., p. 199.
4.J. McParlan. Statistical Survey of Donegal, 1802, p.66.
5.E. Wakefield. A Statistical and Political Account of Ireland, 1812, p.751.
6.R.A.S. MacAlister. The Archaeology of Ireland, 1928, p.193.

This type of dash-churn is found throughout western Donegal and is popular because of its portability and size, few crofters having more than one cow. Local coopers used to fashion it out of beech wood staves and hoop it, but nowadays it is brought complete with plunge (loine) in a general store.

Transhumance of the type just mentioned is an integral part of modern Norwegian dairy-farming in mountainous districts. In Spring the women and cattle are conducted to the hill pastures by the men who return for them in Autumn. The dwellings here are sturdy log huts almost as commodious and comfortable as the valley homes. Every morning and evening, collectors gather the milk for the district dairy. The milk containers usually reach the valley road on an endless wire hawser running to the summer pastures above. Since the fowl also go to the hill grazings the sole occupation of the women is tending the cattle and fowl, varied by such homecrafts as knitting and embroidery.

The Donegal crofter who has a reclaimed piece of land as an outfield practises a modified form of the Scottish system of 'tathing' (1). Instead of moving a walled enclosure for his cows about the outfield in order to manure the ground and ensure thorough pasturing, the crofter has resort to one of three things; first, he can hobble his cow, or tie it to a stake as is practised to-day in the Channel Islands and graze his outfield in circles; or lastly, he may confine his beast to a chosen spot by herding. Few crofters have more than two cows, whilst generally, only one is possessed. To-day, instead of a fairly

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1. I. F. Grant. Everyday life on an old Highalnd Farm, 1924.

rich summer pasture in the mountains, the crofter's cow must feed on the rough heatherclad commonage adjacent to the house, with periods spent on the more verdant outfield which is usually cropped bare at the end of the season. It is on this field that the animals graze during the more equable days of winter.

CATTLE.

The effects of environment, especially soil and climate, can be seen in the many breeds of domestic stock on the Donegal coast even allowing for the differences brought about by human selective action. Generally speaking, the crofter's cattle are light in colour, brown, white, and their variations, and show little association other than in size, with the Kerry cow, which is purported to be the 'native' animal. The Kerry might be native to certain regions, in the south-west and north, but there are examples of small native cattle in the north of Ireland being light in colour, usually brown bellied with white or fawn back and shoulders. The persistency of the rainfall, scarcity of suitable pasture and absence of limestone stunted the growth of the animals and weakened them considerably. It is worth while noting that the yield of a good Highland cow in 1769 was one Scots quart of milk (about one imperial gallon), and that calving took place every second year, owing to the poor winter feeding(1); and this was from best black stock which were usually as high as a Guernsey cow when fully grown: the inferior yielded no more than one Scots pint. It is likely that the native black Highland cattle are of the same stock as their black prototypes in Kerry. As the milk yield is determined by the care, breeding and feeding of animal, an impoverishment of any of these factors

(1) I. F. Grant. Everyday Life on an Old Highland Farm, 1924, p. 61.

will seriously affect it.

The Kerry cow, which is of two colours, black and red, is innately docile owing to its long association with human beings, and thrives remarkably on poor grasing. It is believed to be of very ancient breed although it cannot be traced farther back than the eighteenth century. The annual milk yield, which is dependent on the factors noted above, averages 350 gallons on fairly good grazing; the lactation period of 40 weeks in a fairly healthy cow, is reduced to an average of 24 weeks in a Donegal crofter's animal (1). It could be that the red breed of Kerry was represented in the northern area of the country, by light coloured cattle of the sort native to Donegal. Up till 1910 it was custorary for the mountainy men of Monaghan and Tyrone to bring their native stock to the fair at Clones where they competed in vain with the better breeds. Here the native cow was small - "about the size of a donkey" - and was light yellow in colour, the lightest colouring being on the back. Because of their down-turned wide horns, their poor milk yield of about 300 gallons, and agility bred of their rocky environment they soon fell into direpute and became extinct. The native black cattle, which were common also in Tyrone and Donegal (2), were described in 1801 as having "narrow loins and thin quarters; they had short legs, large bellies, and white faces; their horns, which turned backwards were remarkably wide set, and they had large dewlaps" (3); at that time they were doomed to extinction as general farm animals.

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1. Gaelteacht Commission Report, 1925, p. 43.
2. Ordnance Survey Memoirs, of Donegal. R.I.A. Box.22, Lower Moville, 3.
3. John McEvoy. Statistical Survey of the Co. Tyrone, 1802, p.33.

Norwegian mountain cattle in the foothill districts around Galhöpiggen, which are given to transhumance, are similar in colour and size to the light coloured native Irish stock. They are light in colour, generally yellow-brown, and have wide branching horns which, however, are more like those of Highland cattle. An essential difference is in the great milk yield of the Norwegian cow, due to recent government instruction and selective breeding.

In western Donegal the change of breed was gradually introduced by the Department of Agriculture which encouraged the use of Galloway, and black polled (Aberdeen) Shorthorn bulls. The introduction of highly bred bulls caused considerable opposition from those who considered the western Donegal seaboard too severe for the finer type of cattle (1), preferring instead, an inferior breed that would be more amenable to the climatic and physical extremes experienced there. The crofters showed the greatest opposition, as their preference for non-pedigree Shorthorns testified. Through time however, they introduced the Galloway and Aberdeen Angus with more success (2). The polled Angus, Ayrshire, and Devon (3), which preceded these, were decided failures in the crofting areas as they were primarily beef producers, and as the calves succumbed to the severity of an alien environment. At the beginning of the nineteenth century the first experiment in breeding was attempted by

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1. Reports on Agriculture and Technical Instruction in Ireland, 1907, Vol. 1. p. 69.
2. The Congested Districts Board for Ireland. 7th. annual Report 1898, p. 10.
3. Ordnance Survey Memoirs of Donegal, R.I.A, Box 22, Tullyanguish, C.49. p. 57.

crossing Durhams with native stock (1) but it was unsuccessful owing to the inability of the weakened progeny to adapt themselves to local conditions. The present cattle on crofter holdings may be regarded as the progeny of a Galloway-native crossing, and are remarkable for a roughness of coat, characteristic of the native Donegal beast - "a small animal with a rough hide" (2) - that the Kerry lacks. Naturally, careless breeding in recent times has resulted in a nondescript type, technically known as Pensioners. The daily yield may be as low as four quarts a day.

The Galloway, by nature a mountain animal, thrived in an environment, the extreme climate and poor pasture of which were unsuited to the Angus. Crossing it with the native breed must have increased the milk-yield as the native animal was an impoverished specimen and the Galloway primarily a milk producer.

Native cattle, which were reared until recenty by the Earl of Meath, showed the controlling influence of environment on the build of the animal. On his Meath estate they were of gigantic proportions almost reaching the height of a horse, whilst the same breed on the west Dongal coast was stunted.

Since the crofter is engaged essentially in subsistence farming, the annual sale of a calf is of considerable importance in his economy as ~~that~~ the milk yield is to-day an indirect means of augmenting income. The Galloway calf is a hardy little beast that can stand weaning at an earlier date than most breeds,

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1. C. Lewis. Topographical Dictionary of Ireland, 1837, Vol. 1. p. 474.
2. D. Holland. Landlord in Donegal. 1876, p.21.

- usually 4 weeks. Besides, it is naturally polled, and is capable of being fattened rapidly into good beef that supplies the popular market's demands for small joints.

The appropriation of mountain grazing by the landlords on the west coast at the beginning of the eighteenth century was the chief cause that led to the cessation of booleying. This change of social custom imposed with sudden finality deprived the crofter of his chief grazing ground and confined his animals to the impoverished pasture of the lowland. The curtailment of the area available grazing naturally resulted in a reduction in the number of cattle, and as milk-foods were the staple food, an alternative source of food was sought in shellfish on the shore, and imported commodities. As the result of this change, about 800 families on the west Donegal coast were living in 1870 solely on seaweed, crabs and cockles, whilst upwards of 600 who, prior to this had sufficient livestock, were deprived of any animal and as a corollary butter and milk (1). It was asserted that before this appropriation, mountain grazing was the only pasture the crofters had (2). The old people contend that fishing became general only after they had lost their mountain grazing, and was really a substitute for the gap caused in the common diet by the ommision of milk and its associated foods. It is only since the end of the last century that the general possession of at least one cow, except in independent mountainous areas, became general. The

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1.D. Holland. Landlord in Donegal, 1876, p.p. 106-107.
2.Ordnance Survey Memoirs of Donegal, Box 22, C.68, Q6.

enforced break with transhumance was revolutionary to a people who depended more on their cattle than on grain: it deprived them of cattle-grazing and milk, of sheep pasture and wool, and was contributory to the general disappearance of homespun as everyday apparel except in two sequestered mountainous areas, Dunlewey and the hinterland of Ardara. But a greater change than that of food had occurred. Not only did the crofter now rear his cattle for milk but for beef as well, because exorbitant rents demanded the development of his agricultural economy to amplify his income. So great had the dependence of the crofter become on his cattle in this respect, that a hay famine in 1860 around Glenties resulted in a great fall in the cattle population, and resultant poverty to their owners (1).

The disposition of the Donegal crofter with regard to his cattle is not due to any ignorance on his part. He makes use of all available material in foddering and bedding them and improves their byre when the occasion arises. But pasturing cattle is now a thriftless and unprofitable undertaking as the annual calf is sold at a low price, mostly to travelling jobbers (2). Even this disadvantage is imposed by environmental control he must sell his calf as there is inadequate grazing for it. In this he is akin to the crofter farmer of North Uist who sells his calves to jobbers from the mainland. The cow is kept until it eventually dies of the common complaint - tuberculosis. Often the teeth have so far decayed because of age that the animal

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1. H. Coulter. The West of Ireland, 1862, p. 318.
2. Agriculture and Technical Instruction Act (Ireland) 1899, Report of Departmental Committee, p. 70.

has to be destroyed. The hide is then sold for a few shillings. Moryson's remarks on this tendency are especially pertinent: "they will not kill a cow except it be old and yield no milk"(1)

In 1860 (2) there were 187, 583 cattle and 159, 523 sheep in Donegal, while in 1937 (3) the numbers were 141,463 cattle and 157,596 sheep; whilst the cattle population decreased considerably, that of sheep remained approximately the same. A consideration of the recently published statistics (4) reveal that Donegal has the lowest proportion of cows per acre in the country, being 1 to 7.9: the topographically similar areas of Mayo and Galway have a ratio 1:6.9 and 1:7.1 respectively; Westmeath is 1:3.5. The cattle population in the western crofts must have been considerably greater before excessive sub-division took place, owing to the more expansive pasture held by individual crofters. But the cattle population and its fluctuations, whilst being closely associated with variations in areal occupations and internal social economy, are of secondary importance when the health of stock is to be considered. As in the case of the crofters (see p. 30 ) the prevalent disease is tuberculosis. Ignorance on the crofter's part to report to the local government inspector when his animal is ailing from the 'aicid' is conducive not only to further contamination in the byre and on commonages, but in the kitchen as well: tuberculosis of the udder is very common and hard to detect.

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1.H.Morley. Ireland under Elizabeth and James I, 1890, p.428.
2.H. Coulter. The West of Ireland, 1862, p. 287.
3. Ireland. Statistical Abstract, 1938, p. 62.
4.Ibid, p. 45.

Affection must have spread very rapidly owing to the absence of fences between affected and non-affected cattle; and the absence of a favourable percentage of sunny days tends to retain the bacilli in the droppings and grazing. Absence of a good supply of fresh water and the interference of poultry from affected manure heaps are additional factors in spreading the disease (1). The premonitory signs of major developments in the disease are indicated by convulsive coughing which is usually ignored. Government inspectors are confronted by a difficult task in trying to get the western small-holder to report cases. When a tubercular animal is reported for slaughtering it is examined and valued by a government Veterinary surgeon. Compensation varies from ¾ of the market value if the disease is not advanced, to ½ of value if disease is advanced. The minimum compensation is £1. 10. 0. In 1938 the greatest number of official slaughterings in any county for bovine tuberculosis was 74 in Donegal, which was 4½% the total of the rest of the country (2). While Donegal has the smallest proportion of cattle per county in the country, the grant made in 1938 for animals slaughtered there under the tuberculosis order was the fifth highest (3).

The most salient feature in the relationship between the crofter and his cow is that practice known as herding. Obviously a substitute for the more extensive transhumant activities, herding embraces all the features with few of the

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1. Some Diseases in Farm Animals. Bulletin, No.1.
2. Ireland. 7th. Annual Report of the Minister for Agriculture, 1937-38, p. 113.
3. Ireland. 7th. Annual Report of the Minister for Agriculture, 1937-38. p.46.

advantages of uphill grazing. Whilst herding on common grazings is of very ancient date (1) the crofter herd on this west coast has neither the same range nor pasturage as his predecessors. It may be assumed that the common grazing in a crofting community, when transhumance was practised, was a better populated and hence more fertile area than to-day. Few crofters have an extensive grassland wheron a cow can be grazed: the custom is for a herd (buachaill) to follow the animal when grazing the moorland and move it when necessary to a change of pasture: two or three neighbours' cows might be grazing together There is a growing tendency however, to have a single herd with his isolated charges apart from neighbouring cattle, which tends towards limitation of grazing rights, the establishment of private ownership in recognised habitual pasture areas in the quondam commonage, and eventually fencing. An essential difference between the two practices is that where transhumance was an occupation determined by adult supervision on a change of pasture and environment, herding is notably a task for crofter children, who tend their cows over the same area throughout the summer and the more equable days of winter. The average wage for a buachaill is £6 for his season ~~of~~ for six months lasting from May to November. The buachaill in this case is usually a boy who has left school and is waiting to go

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1. P. W. Joyce. A. Social History of Ancient Ireland, 1903, Vol. 2, p. 282.

to Scotland for seasonal work. The second type of herd is the child who earns £2 for herding for the same period after school hours. Whenever a beast sinks in soft bog after rain (i n-abar) the screams of the herd bring neighbouring crofters quickly to the scene where they dig a pit around the bogged cow, fix ropes under its belly - being careful not to injure the udder - and, having raised it sufficiently, place planks or sods nearby to enable it to move to safety.

Hobbling both cattle and horses, or tethering them to a stake, on any reclaimed land is done to ensure even cropping. This practice of tethering animals may be accounted for partly by the absence of fences and partly by the smallness of the holding. Not only are cows so hobbled, but goats and horses as well. Besides delimiting the grazing area, the langal - usually from right forefoot to right hind foot - prevents the cow from reaching a corn or potato-patch, the only protection of which is a balk or, at the most, a double wire between bog-fir stumps. Owing to the constant attention devoted to cattle, fencing is unnecessary in this crofting area..

The constant exposure to inclement weather for almost six months of the year together with under-nourishment, are the chief causes of tuberculosis in so many crofter cattle. Few people bring their cows to the shelter of thebyre during wet weather and the only time such provision is made for them is at night when they are brought in, not for protection from rain, but for the sake of the manure. As the majority of byres on the west coast are the dilapidated dwellings of a previous generation, the conditions are not conductive to good health in the cattle.

The bedding material used in the byre differs widely along the coast. Around Kilcar the refuse from thatching and surplus 'drawn' (cleaned) corn straw, tied in bundles, is common. When this is unprocurable, fern is cut when brown in Autumn and used. Shore dwellers use sand which is carted from the byre at the end of winter and forms an ideal top dressing for potatoes. Generally, animal bedding consists of the most common and suitable vegetation in the district concerned. In mountainous areas e.g. at Drumeen, north of Dunglow, heather and mountain bent are used. At Glencolumbkille inferior hay is used, whilst in the Rosses oaten straw and heather are the alternatives. In every case the used bedding is converted into manure. Whenever bedding other than straw is being used, the plant is always cut in Autumn in order to avoid dampness. Rushes, and 'sprit', which are much favoured around Glenties and Ardara, are cut when brown owing to the inner pith being so retentive of moisture. In seventeenth century Ireland green rushes were a recognised bedding for man and beast (1). Heather is rarely used, and then only the soft shoots, because its fibrous nature prevents it decomposing in the manure heap: it is only substituted when supplies of more suitable bedding are scarce. A common bedding in the mountainous districts of Banagh in the south is a coarse mountain grass (ciob), which is cut and stacked in Autumn for use as bedding during the winter.

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1. Dunton's Letters No. 2. in MacLysaght's "Irish Life in the Seventeenth Century," 1939, p. 344.

One of the most interesting customs associated with cattle, and which survived until the middle of the eighteenth century was that known as the "Glenswilly Decrees" (1). The Decrees were originated as a means of obtaining payment for illicit spirits, and as such a debt could not be legally recovered, the poteen distiller 'lifted' his debtor's cattle which were restored when the debt was paid. A development of the Decrees, which were a firmly established institution on the west coast of Donegal, confined itself to all debts rather than to those entailed in poteen transactions. Supposing B could not recover a debt of £5 from A, he got a reputable person to steal a cow from him and conceal it. A was then approached for the recovery of a sum, a little less than the debt, and asked to leave it in a certain place or told to whom he should give it. On payment, the cow was returned and the 'thief' received his fees, which were usually determined by the amount recovered. The crofters never thought of going to process chiefly because of the expense and shame (2).

SHEEP.

In the system of transhumance as practised in this crofting area, sheep were herded with the cattle. When this custom prevailed in Donegal herds of sheep were rare, five or six being the average per person (3); rather was the sheep looked upon as an integral part of the subsistence crofter farming, a means of satisfying the demand for clothing material

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1.H. Coulter. The West of Ireland, 1862, p. 305.
2.The Devon Report, vol. 2, p. 916.
3. Facts from Gweedore, p. 19.

Whilst transhumance was practised, the number of sheep was prescribed by the demands made on their wool supply, and it was not until a much later date that "herds of native cattle and flocks of native sheep" could be seen in the mountainous grazing lands (1), around Carrick. The confiscation of common mountain grazing by Scottish sheep graziers at the beginning of the nineteenth century on the invitation of Mr Olphert (2), was followed by a simultaneous usurpation of hill pasture by fellow landlords all along the coast, which resulted in a simultaneous disappearance of the native sheep and rights of common grazing. Until this time, about 1820, the west Donegal crofter tended his sheep and cattle on his upland pasture, made his own clothes, and recognised that butter and milk were necessities of life and of hospitality; but after this his individualism, concurrent with isolation, was deeply influenced by new modes of thought and by compulsory seasonal migration. The adults, deprived of an even though scanty life at home sought work as farm hands in England or Scotland (3). The native sheep population was estimated to be 16,000 on the coast at that time (4). Pigs are rare on the coast because they are essentially scavangers and in an economy where little waste is allowed and where the agricultural surplus is negligible, the crofter, even to-day, can but afford enough pasture and feeding stuffs for his cow or cow and sheep. Goats are not common for the same reason. The present

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1. H. Coulter. The West of Ireland, 1862, p. 313.
2. D. Holland. Landlord in Donegal, 1876, p. 37.
3. W. S. Blunt. The Land war in Ireland, 1912, p. 57.
4. D. Holland. Landlord in Donegal, 1876, p. 81.

scarcity of pigs may owe something to their general disappearance during the Famine, before which they were fed on potatoes (1). It was because of an increase in potato-land that pigs were introduced into the Blaskets (2).

The economic value of sheep was, as now, considerably lower than that of cattle. Both were domestic animals, but the labour bill for sheep was very low when compared with that of cattle. Besides, cattle were invaluable in maintaining the fertility of closely cropped pasture, whereas land grazed by sheep alone inevitably deteriorates in course of time, for sheep exhaust the soil by what they take out of it for their own growth and that of wool. Their droppings have small manurial value in compensation. Whilst cattle demanded exclusive attention throughout the year, sheep were attended only when domestic exigencies demanded it. To-day, those crofters who own sheep treat them as members of a herd, attention being paid to them collectively - all being dippedand clipped together. Their predecessors, with their six or seven domestic sheep, looked upon them as individuals,unevenly clipping this one or that one for wool to be knitted into socks, or to pay a debt, whenever occasion arose (3). On Hill's estate at Gweedore, the tenants' sheep presented a bizarre appearance. One animal would have its hindquarters clipped bare and the rest of the body naturally covered with wool, whilst another would be bare on the neck and

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1. Ireland: Industrial and Agricultural, 1902.
2. Thomas O Croan. An t-Oileanach, 1935, l. 195.
3. Lord G. Hill. Facts from Gweedore, 3rd. Edition, 1854, p. 19.

forequarters and its hindquarters fleeced (1). Irregular clipping and plucking was very common in Mayo where half a sheep was sheared in successive months to meet some pressing demand. In Kerry the sheep was clipped bare except for a tuft on each cheek (2). As the shearing took place twice a year the wool must have been valuable and in great demand. The modern sheepowner clips his flock once a year, in June, so that the heat of summer will not encourage vermin and worse still, maggots, and that the fleece will be long enough to serve as sufficient protection to the animal during the winter. Dipping as an antidote to disease and vermin was unknown until an economical and effective appliance in the form of a portable sheep-dipper was introduced in 1901, under the auspices of the Congested Districts Board (3).

The native sheep, which were very small, thin in fore-quarters, with narrow loins (4), had a poor fleece of coarse wool (5), and closely resembled the Scottish Blackface. They were part of an economy which reared animals principally for milk, wool, and manure, and never considered them as a commercial undertaking until rents and taxes interrupted the tenor of their crofter's social structure, in which farming was a means of remaining independent rather than an avenue to financial gain. Like most enterprises on practically virgin soil, sheep-farming

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1.Lord George Hill, Facts from Gweedore. 3rd. Edition, 1854, p.19
2.J. Binns. Miseries and Beauties of Ireland, 1837, vol. 2..p.140
3.C.D.B. of Ireland, 11th. Annual Report, 1902, p. 11.
4.Statistical and Political Account of Ireland, 1812, Vol.1, p. 343.
5. Ordnance Survey Memoirs, Donegal, Raphoe.

must have been highly profitable to such landlords on this west coastal strip as Olphert, Hill and Stewart. It came at a time to meet the increasing demands of the English woollen manufacture, which thrived because of local supplies and no foreign competition (1). Furthermore, the expense and vexation of collecting trifling sums for mountain commonage (2) from a host of small crofters was reduced to a minimum.

It may be assumed that the first Scottish sheep introduced to this coast were the Lintons, or Black-face, a breed that was at the same time being introduced from the Southern Uplands to mark a new era in the Highlands (3). A little bigger than the native sheep, rough fleeced and hardy, the black-faced ewe is unprolific, anatural adaptation owing to the inferior pasture. The lamb mortality is very high, often as high as 25%, and is due to an internal inflammation attributed to "Milk-sickness". The defect in the milk is caused, as thecrofter breeder says, by some unknown mountain moss. The greater the altitude at which the ewe feeds, the higher is the lamb mortality rate.

At first Blackfaced Scottish rams found it difficult to acclimatise themselves to the adverse environment. Many of the 75 introduced in 1892 under Congested Districts Board improvement schemes, succumbed to the severity of the climate and lack of range (4). In further attempts Cheviots and Blackfaced were crossed with native sheep and their progeny

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1. M. M. Leigh. TheCrofting Problem (1780-1883). 1929. No.2,p.3.
2. Lord George Hill "Facts from Gweedore". 3rd.Edition 1854,p.14.
3. I.F.Grant. Everyday Life on an old Highland Farm (1769-1782) 1924, p.67.
4. The Congested Districts Board for Ireland. 1st. Annual Report, 1893, p. 3.

prospered. It was the gradual improvement of native stock, rather than the imposition of a foreign breed in an environment which was almost, but not quite similar to home conditions, that succeeded in supplanting the individualism characteristic of a crofting economy, by a capitalistic scheme of sheep farming. In the agricultural history of every nation the time comes, sooner or later, when small-scale family farming gives way to large scale capitalist enterprises in which a smaller proportionate expenditure of money and labour will secure a higher return from the land. The process of adaptation is not an easy one and even when overseas settlement or alternative occupations are open to the displaced or delimited crofter, there is always much difficulty and hardship.

RUNDALE.

It was not until the end of the nineteenth century that the system of rundale with its impoverishing practice of sub-division was prohibited. In early days it had taken place when a rise in population or tillage demanded a readjustment of the available land: the bog and mountain remained common to all (1). In more recent times subdivision took place on the death of a parent, when the croft, usually the smallest size which could give profitable employment to a farmer, was carved up as a means of providing for his family after his demise. Each son as he married was installed in his portion, and the

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1. D. Coghlan. The Ancient Land Tenures of Ireland, 1933, p.58.

sons-in-law often received as the dowries of their brides some share of the holding (1). To-day, the eldest son brings his wife to his father's house, which he will eventually inherit, whilst the rest of the family are forced to seek alternative sources of living. Before this a newly married son erected his house on his portion and so added to the inevitable congestion. Prior to this sub-division, except in special cases, ~~only~~ was forbidden by the Landlord and Tenant (Ireland) Act, 1870, but a general prohibition of sub-division was enacted by the Land Law (Ireland) Act, 1881, and subsequent Acts. Up to this time the only restraint imposed on sub-division of holdings was that enforced by the landlord, and even then a complete rupture of this social custom was not achieved, chiefly because of the opposition ~~for~~ of the crofters (2). So widespread was the opposition to consolidation of holdings and interference with custom, that in 1907 nearly all the holdings on the west coast of Donegal were in rundale, the mountain grazings being held in common (3). The poverty resulting from excessive sub-division was due to a still more important factor, the economic causes of sub-division. Undoubtedly, the deterioration of the crofter holding because of rundale and its associated practices was aggravated by (a) absence of enclosure - "Each patch is bounded by his neighbours property, and without any fence or ditch between them (4), (b)

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1. The Devon Report, 1845, vol. I, p. 418.
2. Lord George Hill, Facts from Gweedore, 3rd. Edition, 1854, p. 32.
3. Agriculture and Technical Instruction Act (Ireland), 1899, Minutes of Evidence of Committe of Enquiry, p. 440.
4. H. Coulter. The West of Ireland, 1862, p. 199.

sourness of the commongrazing, which got no manure other than by folding the cattle on it, and (c) over-crowding on the common pasture. "Runrig or rundale ... was a system of management which was absolutely incompatible with the very first germs of agricultural improvement" (1). But the economic remedies were left neglected: a tenant was expected to lay out capital and energy on the cultivation of his land and had no security of tenure enabling him to enjoy his labour and encourage him to further efforts. Instead, all improvements whether in drainage buildings or crops, belonged not to the improver but the landlord. The Land Occupation Commissioners' Report stated that the landlord never executed improvements nor erected buildings, but that all these things were done by the tenant (2). On Lord Leitrim's estate the crofters improvements were followed by a proportionate rise in rent (3), whilst on Stewart's estate on Donegal Bay, there was an aggregate increase of £300 p.a. from improvements (4). Minute sub-division was an economic necessity in a system where the only real obstacle to this injurious practice, the free transfer of all land, waste or improved, was not observed. Furthermore, the Donegal crofter was generally a tenant-at-will (5) and as such, was liable to eviction at any time. At Gweedore some of the holdings were so small that a crofter could rake 4 to 10 of them in a day (6). The legal

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1. The Duke of Argyll. Crofts and Farms in the Hebrides, 1883, p. 7.
2. W. N. Hancock. Impediments to the Prosperity of Ireland, 1850, p. 73.
3. D. Holland. Landlord in Donegal. 1876, p. 12.
4. H. Coulter. The West of Ireland, 1862, p. 295.
5. Devon Report, 1847, 262.
6. Facts from Gweedore, p. 13.

enactments hindering the sale of land restrained the initiative of the tenant and prevented his interest from becoming a marketable commodity. When the tenant rented land for a number of years he eventually sub-divided it among his children unless a clause in his agreement prevented his doing so. The tenant-at-will who held his holding from year to year could not do this as he was always within reach of the landlord (1).

Rundale was something that was an integral part of the crofter economy: not only did the thraldom of custom demand it, but such a scheme, in which unfenced farms were composed of scattered holdings that allowed the arable to become a commonage after the harvest, appealed to the crofters as it saved them the trouble and expense of individual herding. Rundale was extremely popular chiefly because it allowed everyone to hold some land, which was cultivated by the most primitive methods of agriculture (2), correlative with an ignorance of crop rotation: it was a natural development in a society that lacked alternative modes of employment. The disposition of the strips was the result of very careful consideration. Sub-division was purely a question of location with special consideration to aspect, soil, gradient and grazing, and neither of size nor shape. The soil was to be the controller of the crofting economy and it was apportioned as fairly as the area for sub-dividing allowed. In the Engligh openfield system

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1. Devon Report, 1847, p. 262
2. I.F.Grant. Everyday Life on an Old Highland Farm, 1924, p.112

sub-division of land was controlled by the policy of allocating fairly the different types of land in varying positions, and the necessity for strips rather than irregular patches of land which would delay ploughing operations (1). In some instances a tenant having any part of a townland had his proportion in 30 or 40 different places and without fencing between them, it being impossible to have any as the portions were so numerous, and frequently so small, "that not more than half a stone of oats was required to sow one these divisions" (2). The patches marked A in fig. 14 are the hereditary rundale allotments of a relative of the owners of the adjacent holdings, but who actually resides nearly half a mile away from these isolated patches.

There is no account of any sort of communal interchange ever having existed in the Donegal crofting economy, although it is likely that the early settlers, who must have formed consistent 'fine' groups, did re-distribute their arable land periodically in pursuance of a policy of fairness to all holders that the strip system of cultivation was based on. It is possible, however, that a communal rotation of crops was practised concurrently with transhumance, as the latter custom demanded unanimity of action in the observance of lowland commonage before and after the harvest. In the Blaskets independent tillage practices were facilitated by the

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Ll. C.S. and C.S. Orwin. The Open Fields, 1938, p.6.
2. H. Coulter. The West of Ireland, 1862, p. 199.

encouragement of fencing unde-r the Congested Board, but before this time a crofter was forced to wait until his neighbours were ready for sowing, otherwise the cattle would have destroyed his newly-sown unfenced plot, which was really part of the winter commonage (1).

In Sligo at the beginning of the nineteenth century the annual redistribution of strips was universally practised. Here the strips were let on the village system so that the course pursued had to be the same, and as the fields passed from one hand to another every year, no occupier ever endeavoured to improve histemporary holding from which he would derive no benefit the following season. This led to a gradual deterioration of farm management (2). The system had definite laws for adjusting any differences that would arise among the holders. If, however, a problem arose for which there was no satisfactory solution the community made application to the agent, or if this was unavailing, to the landlord himself. This rude scheme gave rise to continual wrangling over trifles, but the crofters were averse to any change (3).

The practice of redistribution of strips or 'rigs', as they were called, did not cease in Scotland until 1784, after which they were held permanently by the tenant. Redistribution was effected by the tenants drawing lots for their rigs, from the tackman (4). In the Island of Tyree at the end of the 19th.

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1. Tomas O Croan. An t-Oileanach, 1933, l. 312.
2. Statistical and Political Account of Ireland, 1812, Vol, p.372.
3. Ibid. p. 271.
4. I. F. Grant. Everyday Life on an Old Highland Farm, 1924, p. 102.

century the holding of every tenant was divided into innumerable separate plots, none of which remained in his possession for more than a year or couple of years, the various patches being re-divided by lot (1).

CONGESTION AND LAND TENURE.

Two factors, combined with influences of lesser importance, determined the distribution of population on the west Donegal seaboard (a) climate, and (b) physiography. Of these, the latter is more intimately associated with the regulation of crofting cultural sites than the former, owing to its relation with the edaphic factor. The combined influences of a high percentage of land over 600ft. contiguous to the coast, and a sterile soil rendered fertile only by a great expenditure of energy, tend to concentrate the population along three main lines of communication, the Gweebara Rift Valley, the Owenea-Finn line, and the coastal plain (fig.4A). Owing to the difficulties presented by parallel mountain ridges coastal communication has always been of considerable importance. The improvements in Social life that have gradually infiltrated have generally come from the shore line on which the greatest percentage of the population is located. (fig. 4A). Housing and agricultural improvements, influenced by modern fashions and practices, are always noticed first on the islands where a higher standard of comfort is maintained, and then eventually inland.

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1. Duke of Argyll. Crofts and Farms in the Hebrides, 1883, p.8.

The alternative sources of food, dilsk, fish and seaweed for manure, as well as the ease with which craft could be beached and launched also influenced the distribution of coastal populations.

While natural agencies have determined the location on the extreme west Donegal seaboard of a social life that is a receptacle of Celtic customs and observances, there is at the same time, the historical influences of the Penal laws (1), and the Scottish plantation, thrusting from the west along the Lagan (2), Finn, Swilly, and Foyle (3). Owing to the impoverished state of the land and the inaccessibility of the coast until recent times because of mountain barriers, the greatest percentage of Gaelic speakers are found in a broad coastal belt lying west of a line running from Dunfanaghy through Glenties to Killybegs. Here 90% of the people are native speakers with the exception of the Ardara-Glenties district at the end of the Owenea-Finn cultural highway, where the percentage is 40 (4). It is this region, where Gaelic is spoken by a considerable percentage of the people as the traditional language of their homes, that forms geographically the heart of the west Donegal Congested District.

The coastal plain, with its high concentration of a crofter population, is naturally the region where a land famine exists. Congestion is due to the fact that the land is poor and unable to maintain the population: it is not so much a problem of the

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1. Suggestions on the State of Ireland, 1883, p. 80.
2. W. Harkin. Scenery and Antiquities of North-West Donegal, 1893, p.65.
3. C. Otway. 80 yrs. ago in Donegal, 1827, p. 12.
4. Saorstat Eireann Census of Population, 1926, vol. VIII, Irish Language, p. 90.

 too many children reared

absence of land, but rather the absence of good land, with a resultant diminution in the size of the holding. On the west coast the average area of a holding is about 4 acres, but a considerable number are well under this, e.g., at Drumeen and Alteerig near Dunglow, where many are less than an acre. In 1926 the average number of holdings in Donegal under 5 acres was 4,000 (1), whilst in 1841 they numbered 15,500 (2): the advantageous effects of consolidation are reflected in the greatly reduced number of small uneconomic crofts. One inspector of the Richmond Commission, after 14 years' experience on this north-western seaboard, described the average farm as consisting of "a plot of potatoes, a plot of indifferent oats, and the rest in indifferent pasture or herbage, which often contains more weeds than grass" (3). The inadequate methods of tillage in such holdings that were reduced below the minimum necessary for a decent standard of living, reduced the crofters to a state of semi-starvation towards the end of the winter, and in a bad season to starvation, owing to their absolute dependence on the potato. (4).

The problem of the acute congestion that is prevalent on the west Donegal coast is one that deeply troubled landowners in the past, and of recent years the Department of Lands.

Congestion is the sequel to the uninterrupted development of many features that characterised social life of the last

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1. Statistical Abstract, p. 53.
2. The Devon Report, vol. 1. p.395.
3. Suggestions on the State of Ireland, p. 3.
4. H. S. Thompson, Ireland in 1839, 1870, p. 131.

century. Rundale and the spread of the potato, may be considered the principals of these and though correlated, cannot be dissociated from the Region of Difficulty in which they are located, and the economic and social restrictions associated with the history of land tenure in the 19th. century in this part of Ireland. The general poverty and distress, consequent on the sub-division of land, was chiefly due to the excess of population beyond what the capital on the croft was capable of employing in remunerative agriculture; a great portion of the dependants was living on the effective labour of others, and unable to contribute by their own to the general improvement of the holding. In West Donegal the population is dependent on the land to a greater extent than any other part of Ireland, with the exception of West Mayo; in West Donegal it is 74% (amount of arable land is less than 36% the total area), in West Mayo, 78.2% and in the rest of Ireland 35% approximately (1). The average valuation per 1,000 persons of the congested area of West Donegal, and an area in Meath, shows the disparity in wealth and resources between the populations of the two districts (2).

| | Land. | Land and houses. |
|---|---|---|
| Donegal | 322 | 531 |
| Meath | 9,167 | 10,489 |

Perhaps the first attempt to remedy congestion, which had been aggravated by the introduction of inoculation against

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1. Eire. Report on Seasonal Migration to Gt. Britain, 1937-38, p. 25.
2. Report of Commisiun na Gaelteachta, 1925, p.40.

smallpox in the middle of the 18th. century (1), was by means of consolidating rundale holdings. This meant the re-distribution of parcels of land as a consolidated block with a house adjoined, rather than as scattered plots and with a house cluster The primary result of consolidation was a break with the natural growth of Meizen's Einzelhöfe (2) (Plate 22) and an artificial allocation of land and housing that was determined by economic consideration Instead of the house being the focus of all activities the road pre-empted its functional status. Prior to this pathways connected dwelling with dwelling, and the road was rarely used except for traffic. To-day, crofters use paths that have for generations been used as short-cuts between houses. Consolidation was a necessary step if the social status of the crofter was to be improved.

From the out set the crofter was opposed to this new departure, but the advangtages accruing to him were a reflection of those gained by the landlord. By re-arranging the holdings and enclosing them the arable area was doubled and time and care were spent on improvements (3).

Crofter opposition to consolidation was directed against the new state of society it introduced as well as the forcible evictions it entailed; the re-arrangement of rundale parcels was one result of consolidation, but another was the removal of some

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1. A. Young. A Tour of Ireland, 1780, p. 295.
2. Conrad M. Arensberg. The Irish Countryman 1937, p. 43.
3. Facts from Gweedore, p. 7.

crofters and the unification of their lands with adjacent farms( One of the most notable ruses adopted to prevent sub-division was the limitation of turbary, but this was defeated by the sympathy of neighbours for the person affected. While consolidation was enforced to higher the standard of agriculture it had also as an ulterior motive, an increase in value of the estate (2). "It is needless to say that consolidated crofts are always worth a great deal more than the mere sum of their rents when separate. They can be more economically worked and there is a much larger proportionate surplus over the cost of working" (3).

To encompass such a revolutionary change in the crofting economy was no easy task, as it meant a sudden break with tradition. The prejudices and suspicions of the crofters, together with an innate fear of losing by the transaction, were additional obstacles. Even when consolidation had been made and no matter what covenants enjoined, sub-division continued apace, as a traditional practice could not be suddenly abrogated (4). Besides, there were no alternative industries except those on the land which was the only security for a supply of food; and to risk that security, was , in fact, to risk the very existence of the family from which it was taken. The common danger resulted in a uniformity of ideal and regulated the relations, even until recently, with regard to commonage. It was such an ideal that served to untie them in the agrarian troubles of the 19th.

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1. The Devon Report, vol. II, p. 451.
2. Ibid, p. 455.
3. The Duke of Argyle, Crofts and farms in the Hebrides, 1883, p. 40.
4. The Devon Report, p. 419.

century.

The abolition of rundale was followed bythe erection of better houses, and the introduction of crop rotation and superior stock. All these were only possible after the arrest of sub-division and progress made toward the establishment by consolidation of more adequate and comfortable possessions. Improvident sub-division was essentially ruinous to agriculture and resulted in a pauper population dependent on the variable yields From bad land.

The severance of an ancient predial custom brought the crofter society a step further towards that stage where the individual identified himself with the community rather than with his kin. Even to-day kinship plays a decisive part in perpetuating communal practices, e.g.,at peat cutting, thatching, as well as in the distribution of houses. "In the system of reciprocal duties which surround kinship, much of the strength of the countryside against external destruction is explained"(1). It is this genealogical connection, with its tendency to dub nicknames according to physical characteristic, that permeates the whole social structure of the West Donegal crofter. Criticism for those outside the blood relationship is an incentive to conversation, which stops short of neighbours, who are usually relatives. Intermarriage between crofters from adjacent townlands and emigration tend to weaken the kinship nexus that once regulated crofting communities. The individualism encouraged by the disruption of a rundale economy and the formation of consolidated holdings led to a transition from a kin-group to a political group, wherein a relic of the older

1. Conrad. M. Arensburg. The Irish Countryman, 1937, p. 69.

communal spirit is traceable in the manner in which group political thinking still activates them. The agricultural economy of the progressive modern crofter shows little trace of the drilling enforced by the 'group', and the inertia occasioned by social heritage.

The introduction and spread of tenant-right was consequent on the abolition of rundale: it introduced the financial connection into the crofter's dealings and the usurious practices of the gombeen-man, who was usually the local grocer. But it was of greater consequence than this: while it gave the crofter some return for the improvements he effected, it implemented rather than negated the nefarious system of land tenure extant in the 19th. century. Under a system of tenant-right the crofter was able to sell his farm if he so desired. It was encouraged by many of the landlords on the Donegal coast as it offered the best security for payment of rent. When a tenant did fall into arrears and was evicted, he was still allowed to sell his "goodwill", and the arrears and debts liquidated out of the purchase money. Free sale of land was necessary if it was to act as security for the expenditure of capital, because only then did the greatest advantages accrue to the community. For, "when the sale of land is free it has a constant tendency to get into the hands of those who can improve it most" (1).

Tenant-right became an established system in the crofting districts of West Donegal where crofters contracted debts on its

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1. W. N. Hancock. Impediments to the prosperity of Ireland, 1850, p. 39.

security. After the payment of the right of a holding probably 40 to 50 years' purchase rent as in Gweedore, the tenant was so poor that he was forced to borrow from the local shopkeeper to seed and improve his newly acquired holding: the rate of interest on the loan was often 100%. Many crofters sold their stock, in order to realise the purchase money, borrowing later from the gombeen-man to purchase new stock. Although his interests in tenant-right were entirely financial, he conducted the rest of his business purely on a basis of barter (1). With the advent of Free Trade in 1890, a severe depression was caused in agriculture and the purchasers of tenant-right were indebted more than ever to the moneylender.

It was not until the advent of the Co-operative movement in 1906 (2) that the gombeen-man was relegated to a secondary position in the crofters' social group, and became, through time, the modern grocer, whose trade depends on a reciprocity of confidence and goodwill with his crofter customer. But even this revolutionary change in their relationship has failed to alter the fact that, just as the crofter of the last century was reared on credit (3), so also is the modern smallholder. The Co-operative movement was assured of success in a crofter society, where group action and mutual assistance were immanent influences strengthening the social bond. Isolated, the crofter is conservative, sceptical of innovations, a believer in routine and

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1. Sir. H. Plunkett. Agricultural Co-operation in Ireland, 1931, p. 3.
2. Paddy the Cope, p. 236.
3. W. T.McCartney Filgate. Irish Rural Life and Industry, 1907, p. 234.

tradition: in union with his fellows, he is progressive, open to ideas, and wonderfully keen at grasping the essentials of any new proposals for his advancement.

Notwithstanding the spread of tenant-right, the west Donegal crofter was still impoverished on a holding that was uneconomic, but on which periodic subscriptions from relatives abroad enabled him to survive. He was burdened with rent, rates, tithes and taxes, (1) and even though the landlord was legally obliged to pay the poor-rate when the tenant's valuation was under £4, this was ignored and the crofter forced to pay (2). Improvements on land and dwelling were discouraged by the imposition of a higher rent after they had been effected (3), even though the crofter was anxious to improve his holding and offices (4), provided that the profitable expenditure to energy was not going to prove an indirect burden on his scanty resources. It was a similar obstacle, coupled with the possiblility of eviction at a moment's notice, that deterred the Highland crofter from effecting improvements collateral with a decent standard of living (5).

The first salutary Acts introduced by Gladstone in 1869-70 put pecuniary obstacles in the way of eviction, and forced the landlord to reward the tenant for any improvements he executed, and compensate him for disturbance of occupation. These Acts

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1. Landlordism in Ireland, p. 49.
2. Landlords in Donegal, p.30.
3. Facts from Gweedore, p.7.
4. Suggestions on the State of Ireland, p. 33.
5. H. G. Graham. Social Life of Scotland in the 18th. century, 1899, p. 153.

culminated in that of 1881, which embodied the Three F's, Fixity of Tenure, Free Sale, and Fair Rent. Concurrent with these and subsequent enactments were a number of Land Purchase Acts, especially that of 1885, which were designed at creating a peasant-propietorship whose industry would be invested in improving their holdings.

Owing to the inaccessibility of the Congested District of West Donegal, the landlord there openly flouted those beneficial Acts and the crofter was forced to comply with his wishes (1) as the feudal custom of duty-days on the Nixon Estate at Cloghaneely (2), or the increase in rent imposed on a new tenant, which violated the basic rule of tenant-right illustrates(3).

After the failure of the potato in 1846, the difficulties experienced by the crofter were increased because of the lack of a green-crop to fall back on. In order to avoid a repetition of such a calamity he was forced to adapt his life to the changed social structure after the Famine and seek an outlet from the impoverished agricultural holding in emigration and seasonal migration. While emigration - 14 per 1,000 (4) - took its toll of the crofter population from 1881 to 1901, seasonal migration, general improvements, and migration are the schemes working at present to alleviate congestion in the west

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1. Suggestions on the State of Ireland, (Evidence before the Richmond Commission), p. VIII.
2. Landlord in Donegal, p. 29.
3. Suggestions on the State of Ireland, p. 70.
4. O. J. R. Howarth, Geography of Ireland, 1911, p. 182.

Donegal crofts, and at the same time to make the crofter less dependent on his holding.

The Congested Districts Board was established in 1891 to deal exclusively with the problems of those districts in which the total rateable value of each Electoral Division, when divided by the number of the population, gave a sum less than 30 shillings a head, provided, however, that more than 1/5th. of the total population of the county lived in the Division (1). It assisted the crofters in improving their holdings and stock, as well as promoting home industries and enterprises that provided them with alternative sources of industry to that on the land. Conjunctly with the internal improvements of the holding the Board sponsored public works, such as building bridges and roads, that led to permanent and material improvement in the congested district, and at the same time advanced its trading prospects. Unfortunately, the improvements executed were confined to the more accessible fringes of the west Donegal seaboard where quicker returns were available, while the extreme westerly areas and mountainous districts were untouched; and these were the regions that needed them most, because a large percentage of the land which, under the pressure of economic necessity, had been brought into cultivation on crofter holdings and classed as arable land, would probably have been classed as inferior land in other parts of the country.

Since practically every crofter in Western Donegal was in

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1. Report of Coimisiun na Gaeltachta, 1925, p.36.

charge of a small plot of land and poor stock, the Board's first task was the development of agriculture and the improvement of the breeds of livestock, including poultry. Having reviewed the various sources of income, which vary considerable from Sheephaven to Donegal Bay, knitting, poteen, donations from America and Gt. Britain, fishing, schemes for implementing suitable industries were adopted and successfully executed.

While advancement was expected as general policy in farming practices, a better standard of life in general for the crofter was aimed at. In some small valleys in the mountains many crofting settlements were found where the inhabitants had small patches of land tilled in a primitive and unskilled way. Here the cattle and sheep had diminished in numbers and deteriorated far below the average, and where little effort was made by the men to earn money through migratory labour or otherwise. In such mountain glens investigations revealed that the crofters endured the most comfortless and cheerless lives of all those on the west Donegal seaboard. In a "good year" they were a little more than free from hunger, while a complete or partial failure of their crops involved as a consequence, proportionately greater or less suffering from insufficiency of food (1). W. L. Micks stated in evidence before the Royal Commission on Local Taxation (2) that in the Congested District, of which west Donegal is a good example, "there were two classes, namely, the

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1. C.D.B. of Ireland, 1st. Report, 1893, p.8.
2. Ireland. Industrial and Agricultural, 1901, p.206.

poor and the destitute - nearly all the inhabitants are either poor or on the verge of poverty. The people are very helpful to one another - the poor mainly support the destitute".

The annual income and expenditure of four crofting families of different social position ranging from the highest to the lowest revealed a constant debit side (1) :-

| | Receipts. | Expenditure. |
|---|---|---|
| (1). | Crofter in comparatively good circumstances: | |
| | £41 | £42. 15. 0. |
| | Home produce consumed by family, £12 to £20. | |
| (2) | Crofter in ordinary circumstances: | |
| | £27. 4. 4. | £30. 9. 1. |
| | Home produce consumed by family, £5. 10. 0 to £10. | |
| (3) | Crofter in poor circumstances: | |
| | £9. 16. 0. | £10. 19. 0. |
| | Home produce consumed by family, £12 to £17. | |
| (4) | Crofter in poorest circumstances: | |
| | £8. 3. 0. | £11. 19. 0. |
| | Home produce consumed by family, about £6. | |

The first survey of west Donegal crofting conditions showed that the holdings were small, generally from 2 to 4 acres in extent, and planted with oats and potatoes. The rents for these varied from a few shillings to £6 a year, but in most cases rights of turbary and rough commonage grazing were appurtenant to the holding without further charge. Agriculture was at its lowest owing to insufficiency of drainage, absence of rotation, and scorcity of manure, with general negligence of weeding when the crop was growing.

The backwardness shown by a preponderance of uneconomic holdings is due, chiefly, to the lack of working capital or of an inducement to invest in improving land. Besides, there was and is a too prevalent practice of selling the best and breeding from inferior stock. The general apathy in farm work is

(1) Ireland: Industrial and Agricultural, 1901, p.206.

shown by the tendency to put off tillage, sowing and harvesting until the last moment, while "there is a small value put upon time, and a want of recognition of the fact that the best and most productive manure that goes into the land is labour" (1).

At the outset experimental plots were made for the benefit of crofters, showing uses of different types of manure for growing rotation crops, and the elementary rules governing the successful cultivation of good seed and the improvement of grassland. Concurrent with this, pedigree livestock was introduced to improve the native breeds that had deteriorated. Besides experimental plots, the Land Commission to-day has travelling instructors and Vocational Schools to supplement the work of agricultural improvement, because this cannot be effected successfully on a permanent basis, unless the crofter is educated to the inconsistencies of his predecessors' tillage methods and the modern necessity of adaptability in a farming community, no matter how poor the ground. Special poultry stations e.g. at Falcarragh, Derrybeg, Annagary, and Burtonport, supply cheap clutches of eggs from pedigree birds in order to develop the crofters' stock.

The most important activity of the Board was the consolidation of holdings through the purchase of emigrated crofter's lots, and migration to more suitable holdings elsewhere. While the amount of land capable of being improved in Donegal is approximately half a million acres (2) and much of it is land that was,

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1. Appendix to the 4th. Royal Commission on Congestion in Ireland, 1907, p. 213.
2. The Miseries and Beauties of Ireland, p. 442.

before the Famine, in a high degree of productivity (1), the modern tendency of the Land Commission is to purchase all vacated holdings and after re-shuffling the scattered patches of rundale land consolidate them on a more economic basis - as at Laconnell, Knockfola, Ballycroy, Kilbeg, and Monargan Glebe. Where families are in reduced circumstances and willing to migrate they are brought to a new holdingat Gibbstown, Meath, where they form a Gaelic-Speaking colony. Their holdings in Donegal are commissioned and sub-divided amongst their neighbours in order to give an arable patch of about 5 acres.

In most of the districts in which extreme congestion does occur, e.g., the Rosses, the problem is complicated by the fact that there is no land available in the immediate neighbourhood which would enable the existing small holdings to be enlarged. In others, the problems created by the size of the holdings is intensified by the circumstance that many crofts consist of isolated patches, sometimes amounting to ten, twelve, or even more in number, scattered here and there, often over a very wide area in such a way as to render farming of any kind almost impossible.

Most if not all the holdings are uneconomic. Few, if any are capable of providing a livelihood for a family, and only emigrants' remittances, pensions, unemployment assistance, relief work, tourist expenditure, fishing, the rural industries which have been established along the coast, and the wages of

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1. Suggestions on the State of Ireland, Evidence before the Richmond Commission, p. 6.

seasonal labour, keep the standard among the crofting population above the level required to support life.

In 1925 the Gaeltacht Commission published the results of a survey of existing crofter conditions on the west Donegal coast and appended a table showing the area cultivated and the possessions per 1,000 acres in two typical crofting areas between Glenties and Dunfanaghy.

Per 1,000 acres of crops and pasture (90/100 Gaelic speakers

| | | |
|---|---|---|
| Valuation of Lands -£199 | Valuations of lands - £183 | |
| " " Houses-£129 | " " Houses - £123 | |
| Population - 570 | Population - 484 | |
| Ploughed land | 324 acres. | 247 acres |
| Oats | 149 | 113 |
| Potatoes | 123 | 102 |
| Barley | 1 | 2 |
| Rye | 6 | 4 |
| Turnips | 34 | 21 |
| Cabbage | 8 | 5 |
| Hay | 113 | 189 |
| Pasture | 563 | 564 |
| Milch cows | 205 | 179 |
| Sheep | 376 | 554 |
| Pigs | 11 | 10 |
| Goats | 3 | 3 |
| Horses | 42 | 32 |
| Hens | 2,887 | 2,132 |

The arable, which is about half the area of the pasture, has equal areas of potatoes and oats, due to the oat-potato rotation. Barley, which was once an important crop, is reduced to an insignificant acre, and 2acres, respectively. The poverty in animal life is especially illustrated in the scarcity of cattle, and the absence of a surplus in this subsistence economy, in the reduced number of pigs.

The difficulties to be overcome in inducing the crofter to migrate are the redoubtable ones of sentimentality and finance. As is usual in crofting areas the crofter's wife realises the manifold benefits that would accrue to her in more amenable

surroundings, but threats of emigration and settling down in Gt. Britain from members of her family on migratory labour, deter her from acting. The only crofters who are interested in moving are the very poor whose land is insufficient for their needs, and who have no other source of income. While they are willing to migrate they are, at the same time, a liability to deal with. The more comfortable solvent person whom the Land Commission would prefer to migrate can maintain himself on his croft, and knows that by patiently waiting, his own will be increased in size by the aquisition of portion of a migrated neighbour's holding.

As an offset to the expenditure on migration the Land Commission report that from one to four families in the district have their economic position improved by the transfer of each single family to the east, and the distribution of their home holding in the West among their neighbours. When the first new settlement was established at Rathcarron, Meath, investigations revealed that it cost £980 to settle a family; in succeeding years owing to improved methods of procedure, this was reduced to £375. These figures are exclusive of the purchase price of the lands (1). Grassland suitable for migration can only be acquired at high prices and then a large expenditure has to be incurred in the division and appointment of the new holdings, construction of fences, buildings and roads. After this expense, the new tenants are usually the poorest crofters. One

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1. Report of the Irish Land Commissioners, 1936-37, p.7.

condition governing the selection of candidates for a new holding is that they must be landowners in a crofting district who are prepared to surrender their holdings for the enlargement of adjacent small holdings.

Inorder to reduce the expense of migrating crofters to a minimum, groups of families are brought by road with all their chattels to Gibbstown in Meath. Here each crofter enters a 25 statute acre farm, where an acre of potatoes and two of oats are already planted for him when he arrives. His house (plate 6) is single-storeyed, with 4 rooms (a kitchen and 3 bedrooms); the turf-burning fireplaces are similar to those in the more modern crofter dwellings in west Donegal (fig. 18). The offices are a barn, stable, byre and hen-house, so built as to form a large yard at the rere of the dwelling.

The following are the prerequisites obtained by the new settler on the commencement of his tenancy:-

A horse
harness
cart and crib
turf-barrow
wheel-barrow
a churn
a milk crock
2 milk basins
butter-making utensils
3 milch cows
2 heifers
10 sheep
20 hens and a rooster

20 measures of seed potatoes
7 cwt. artificial manure
2 tons compressed turf
2 barrels seed oats
1 barrel wheat
1 lb. mangold seed
2 lb. turnip seed
a turf bank
plough
harrow
cultivator
grubber
roller

mowing machine between every 5 families
sprayer between every 5 families

Since ploughing is a two horse task, neighbouring settlers ~~corn~~ combine for this work. During the first year of occupation the holder gets 30/- per week.

It is noteworthy that the settler adapts himself rapidly to his new environment which is fertile enough to grow any crop:

the Donegal crofter, whose house is shown on plate 6, was under instruction for cultivating his acre of wheat, a cereal he had never seen until his arrival in Meath.

The principal objection to migration comes from the landless people in Meath, who claim that all untenanted land there invested in the Land Commission should be divided among the local people to the exclusion of others. However, it has been shown that the congest tills a higher percentage of his holding generally than the local landless man, and that holdings alloted to a migrant support a much larger number of persons (1).

Economic conditions on the West Donegal croft are such that there is always an abundance of surplus labour which is forced to seek an outlet in Scotland. Previously, a condiderable quota walked to the hiring fairs at Derry and Strabane, but a keener competition from local labour in these places because of unemployment, resulted in an increase of migratory crofters. Annually, about 3% of the crofting population takes part in this seasonal migration. Their work there is either agricultural, industrial, or domestic, the agricultural being subedivided into that in potato fields, or alternatively, general agricultural labour. In 1937 between 4,000 and 4,500 migrated, half of whom became engaged in agriculture, and the other half in industry and domestic services (2).

The agricultural labourers, previously called "Achill Workers", migrate for either work in the potato fields, or else

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1. Eire. Report on Seasonal Migration to Gt. Britain, 1937-38, p. 31
2. Ibid, p. 62, Appendix V.

as general agricultural labourers, called "Donegalmen". These descriptive names were purely occupational and were not referable to place of origin. The former, who embark from Derry, travel in groups under a "gaffer", and are usually juveniles who eventually reach the independent stage of "Donegalmen", when they travel alone, or more often, with a companion on fixed itineraries in Ayrshire, and the Lothians. As potato work is exceedingly laborious, there is a tendency for youths to go as companions of "Donegalman", rather than join an "Achill" squad. The "Achill workers", who are engaged exclusively in the work of potato lifting, go to Aryshire in June for the early potato digging, and thence to other pre-arranged districts for the later crop.

While there is no regular method of recruitment for general agricultural work, there is an unusual system for the orgenisation of potato squads. A"gaffer", who was once a crofter, but now resides permanently or for a great part of the year in Scotland, visits a recognised district on the coast and, when he has gathered a party of 20 or30 women and juveniles, travels with them back to Scotland. He advances money to those of his charges who need it, deducting it afterwards from their wages.

In the field the potato-lifters get 7d. per hour or thereabouts, and are provided with free potatoes and sleeping accommodation. In this respect the climatic influence again makes itself felt, as their earnings are to an extent governed by weather conditions. The aggregate earning of migratory workers is about £40,000 annually (1).

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1. Report of Seasonal Migration, p. 14 and Appendix V, p. 62.

Those who are engaged in industry are usually labourers whose unskilled work enables them to travel home annually. They are generally engaged in building operations and on roads.

Whenever a worker comes home he does so at a time when he is of most use on the croft. While those engaged in potato-lifting return in November, the industrial workers return about the harvest and spring: when two sons are in Scotland they work in relays, the period spent at home varying from one to two months. When a weekly wage is earned the labourer pays expenses and sends the rest home every two or three weeks. Money is rarely saved until the time of departure owing to the danger of losing it in the meantime.

At home some employment is afforded labourers on (a) road improvement schemes along the whole west coast (see Map) in order to facilitate communication and increase the tourist traffic, (b) peat development schemes, (c) general improvements, such as installation of water supply systems and electricity. All unemployed persons are in receipt of Government monetary assistance.

In the treatment of its social and economic problems, Government intervention tends to take the place of individual effort. But the alleviation of hardship on the West Donegal coast by State aid cannot alter the fundamental conditions of soil, climate and distribution of population, which make the problem of small holdings on this seaboard one of the most difficult questions in local agricultural economics.

HOME INDUSTRIES.

Home industries are schemes introduced to provide the crofter with an outlet for surplus labour that is innate to crofting districts and an economic framework, so predominantly agricultural, that characterises a congested area. The minute holdings make the crofters artificers in some way. Of obvious benefit to such an impoverished area as West Donegal, home industries can lend themselves to two mischievous tendencies if indiscriminately pursued, (a) sweating in the home; a way of engaging all the members of the family, to the very youngest, in a feverish struggle to increase the scanty earnings at the expense of general comfort, and probably sanitation: (b) neglect of agriculture through the temptation to give more time to the industries than the proper care of the farm justifies. While these tendencies have not yet made themselves felt they are likely to develop in the most congested districts, e.g., Upper and Lower Rosses, where lack of employment and abundance of surplus labour are the elements sufficient to stabilise such dangers. In Banagh, the promotion of weaving is a development of sheep-rearing, and a resuscitation of an old industry rather than an innovation grafted onto crofting practices.

The great drawback about home industries is that they produce articles de luxe, which, by being subject to the caprices of fashion, demand skilled workers capable of adapting their products when required. Even when highly organised many difficulties present themselves, chief among which are (a) lack and uncertainty of trained hands: this is the greatest obstacle in machine-knitting centres where girls, after being tutored until they become skilled workers, leave suddenly to get married,

or emigrate. Besides, it is no simple matter to introduce a new industry, cottage or otherwise, suddenly into a population where there is neither the education nor that natural aptitude which comes from generations of experience, and where the capital is not forthcoming from local sources in order to supply the necessary machinery and plant for the new industry; (b) difficulties in the way of favourable purchasing of raw material and the distribution of the products: this was more applicable to conditions prevailing under the Congested Districts Board, or to-day among private enterprises that have to fight against a great drawback in (c) high freight charges; and (d) the cost of power. While these are serious difficulties in the way of maintaining a high standard of production, the spread of Vocational Education, the increased use of electricity, and government subsidies, tend to ameliorate them.

The promotion of home crafts, lace-making, sprigging (embroidery), knitting, carpet-making, and weaving, among the Donegal crofter population, has always been the principal object of government departments concerned in the development of rural industries. Up to 1891 no organised effort had been made to improve the status of the crofter-women whose condition impressed the Gaeltacht Commission so unfavourably (1). Realising that it was on their initiative and effort that the difference between comfort and failure on a small holding so frequently depended, steps were taken to enable them to stabilise their

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1. Report of Coimisiun na Gaelteachta, 1925, p.24.

positions by turning to financial account their leisure time. Under the Congested Districts Board the industries were developed without the adequate selling organisation behind them to assure permanent success. To-day, however, they are under government supervision, or that of private traders from the moment the raw material is purchased, until it has been certified perfect by the "Round Tower" or other Trade Marks.

Weaving and knitting are directly subject to government sales regulations as the finished products are sent to Beggar's Bush, the central Marketing Depot in Dublin, for examination, marking, and export. If there is any flaw in the material it is returned to the worker for correction. It is only by such supervision that the superior worth and finish of the article, which is its selling power, can be maintained.

The subsidiary industries, lace and embroidery, are exclusively cottage industries with centres at Ardara, Glenties, Glencolumbkille, Killybegs and Kilcar, and are still processed under the older system, depending on the business acumen of a manageress for supervision and sale. Lace and embroidery, which have always showed a poor return (1), are less popular than any other craft owing to the slow payment for the great labour, skill and patience expended. For many years up to 1914 there was a steady demand in England and America for Irish crochet and other kinds of lace, but the change in ladies' fashions after 1918 and a high American tariff led to the rapid decline of this craft. At this time lace work from China and

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1. Appendix to 4th. Report of Royal Commission on Congestion in Ireland, 1907, p. 33.

other cheap labour countries, as well as the introduction of artificial silk fabrics, led to formidable competition. It was not until 1924, however, that the imposition of a duty by the British Government on silk goods, practically put a stop to the trade.

A limited demand for Irish made lace still exists in the U.S.A., but the competition of China, Japan, and such countries, which produce large quantities of an inferior lace, has greatly restricted the market for the dearer and better class article turned out by the West Donegal crofter.

The embroidery industry up to 1920 or so, was a very important home industry for crofter women and girls working for Derry and Belfast linen firms, but after that date the orders and raw material were withdrawn and the trade declined (1).

In all these industries, which are carried on in the homes of the crofters, there is a marked dichotomy between the sexes in the organisation of labour.

Carpets. Carpet-makings is confined to Annagary but was once located at Crolly, in the Lower Rosses, Killybegs, and Kilcar. While work in the carpet factory was a means of employing surplus female labour the project was never in favour with the crofters owing to the egregious labour conditions. The work day at Crolly was from 7.30 a.m. till 6 p.m. with a lunch period from 12 to 12.30. Most of the hundred employees were girls who, living within a radius of six miles of the factory, walked

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1. Report of Coimisiun na Gaeteachta, p. 53.

barefooted there in summer and winter, and carried their lunch of dry oaten bread and milk with them. The average wage was six shillings per week. In the present factory one of the looms from the Crolly factory is still worked.

Knitting. This industry has two branches, that done by machines in government workshops at Bunbeg and Falcarragh, and knitting by the crofter's women-folk in the home, called 'out-work'. The latest knitting machines are in use in the work-rooms, producing severally, socks and flat-knitted garments. The out-work is organised into centres, the crofters in the vicinity of each centre being supplied with the wool and needles, and returning the finished garment, usually a pullover or cardigan, to the superintendent, when new supplies are issued. Wool comes from Paton and Baldwin of Alloa and, because of its softness and texture, is ideally suited for the manufacture of high-grade wear. Payment for work is not made until it has been passed by the inspectors at Beggar's Bush.

The government travellers and agents keep the authorities informed of changes in fashion, whereupon the superintendents are requested to alter their products accordingly. Generally speaking, the 'Fair Isle' design, with its intricate patterns and subtle blend of colours, is the one most produced. Garments are knitted to specific sizes and wages paid accordingly; these vary from 4/- for size 22, 4/4 for 24, 4/8 for 26, up to 7/6 for 32. The average crofting woman can finish two large garments per week in the winter time, when the work on the croft is at a standstill and she can ceilidhe with others in a neighbours' kitchen.

Besides government work many women knit gloves and socks

for private firms in Glenties and Ardara, the woollen centres. At the beginning of the last century socks were carried by crofter women to Dunglow (1) where, until 1908, they were paid 10d. a dozen pair (2): Banagh has always been famous for knitted footwear (3).

West Donegal crofter women were renowned as expert knitters in days gone by, and to-day their art has been brought to a fine finish, because it is impossible to follow the skilful movements of the needles with the eye. Young girls are encouraged to start commercial knitting before they leave school.

Crofter women never hold their needles as they would a pencil, which is the customary way elsewhere, but they close their fingers over the needle resting along their palms, and keep it steady with their thumbs, in the traditional way. This tendency is probably due to the influence of bog-fir needles, once in common use here, whose coarseness and length forced the women to hold them in the latter way, rather than the former.

Tradition says that the art of knitting was introduced by shipwrecked sailors from the Spanish Armada, and adopted by the seaboard dwellers with their usual quickness and ingenuity (4). The environment and social conditions lend themselves to the development of some such craft, and the kinship bond encouraged the formation of groups of women around the fire every evening

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1. Ordnance Survey Memoirs of Donegal, 1835, Letters, p. 195.
2. 14th. Congested Districts Board Report, 1906, p. 27.
3. C. Lewis. Topographical Dictionary of Ireland, vol. 1. p.475.
4. The Ireland of to-day, p. 334.

pursuing their task. In a crofter kitchen the fireplace is the focal point, and in winter has always a group busily engaged, but unconscious of the garment growing from their needles. The older women keep their feet warm by burying their toes in the soft peat ash on the hearth-stone.

The spread of knitting has been concurrent with a marked increase in the number of women wearing spectacles, due to the strain imposed by the fine texture and design of their work.

Homespun. Of those industries now being actively encouraged none is more important than weaving. Like knitting, weaving dovetails into the crofter's subsistence economy, as it was once a recognised trade in the older generations where every family had its few sheep as a source of wool for garments. In early times the manufacture of linen was as prosperous as that of wool: the lene - the normal nether garment worn by both sexes, was made of linen (1). The prevailing fashion amongst the women on the Donegal seaboard in Cuellar's time was a linen cloth doubled over the head and tied in front (2). Up to 60 or so years ago flax was widely grown (3), and occupied an important place in the rotation on all crofter's holdings, but the impetus given to the linen trade in the north-east of the country by the introduction of machinery smothered the Donegal cottage industry, and discouraged the cultivation of the crop. In the crofter holdings along Donegal Bay pieces of linen out

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1. The Archaeology of Ireland, p. 197.
2. Captain Cuellar's Adventures in Connaught and Ulster, p. 18.
3. Ordnance Survey Memoirs of Donegal, boxes, 21 and 22.

bleaching were a common sight, while to a girl's praises as a good housewife were added : "There was not a girl in the country could spin a finer thread of yarn, or make a better stocking"(1). Here were organised spinning parties (2), to which girls with their spinning wheel on their backs used travel great distances, and entertain one another while working with singing and tales(3). It was in this same region that many villages specialised in flax, especially around Killybegs, where "linen was vigorously attended" (4). The area under flax at this time was close on 6,000 acres (5), whilst linen yarn valued at £2,000 was sold at the monthly market in Ardara (6).

Just as the decadence of linen weaving was caused by factors beyond their control, so also was the disappearance of homespun as everyday apparel due to similar causes; in this case the influences were proximate. To the interference of landlords in the 19th., century may be attributed the cessation of transhumance, and the disuse of homespun, as material of everyday use (7): When the Donegal crofter lost his mountain grazing the general practice of keeping sheep was discontinued, and with this, spinning.

A comparison in this respect may be drawn with the West Mayo croft where clothing and housing are in substance similar to those prevailing during the latter half of the last century

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1. West of Ireland, p.190.
2. Ibid.
3. E. Wakefield, Statistical and Political Account of Ireland, 1812, Vol. II, p. 739
4. D. A. Beaufort. Memoirs of a Map of Ireland, 1792, p. 32.
5. Statistical Survey of Sligo, p. 683.
6. Ibid, p. 688.
7. Landlord in Donegal, p. 75.

Homespun and bainin are still manufactured and worn locally, but these materials died out as everyday clothing 30 years ago among the West Donegalcrofters. The conditions resulting in the disappearance of homespun in Donegal were the same as those affecting in similar fashion the Scottish crofter, who was forced to use sacking as blankets (1).

In the parishes of Ardara, Carrick and Kilcar, the Congested Districts Board, acting in co-operation with the Irish Industries Association, set up, in 1894, a scheme for improving the manufacture of homespuns. This important industry gave employment to many spinners and weavers, and others engaged in allied branches of homespun production. As a result of this scheme, the industry extended to such an extent that in 1908, the amount earned in these parishes by the homespun workers was well over £11,000 (2). When state assistance and supervision were discontinued, adulterated yarn was introduced, and the trade declined up to 1914 (3), when the Great War created a temporary increase in demand. During the period 1914-18 there was a very active demand for homespuns, and the industry gave a part-time occupation and partial support to over 2,000 sheep farmers, carders, spinners, and weavers. With the decontrol of wool stocks by Britain in 1919, however, the demand for Donegal tweed practically ceased. This was due to several causes, such as: (a) change in fashion which called for finer and more highly finished cloth: (b) the admixture of machine-spun yarn

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1. C. F. Gordon Cumming. In the Hebrides, 1883, p. 130.
2. Appendix to 4th. Report of Royal Commission on Congestion, 1907, p. 38.
3. 18th. Report Congested Districts Board, 1909, p. 20.

with home-spun yarn in the production of home-woven tweed, (c) the lack of variety in patterns and dyes.

Evidence put before the Gaeltacht Commission showed that of the 600 looms and 1,500 spinners almost all were idle, and that the industry was rapidly approaching extinction, due chiefly to lack of supervision and by failure to keep abreast of modern requirements (1).

To-day, only three regions are famous as weaving centres, Dunlewey and the Bannagh peninsula with Kilcar as the central depot, and Glencolumbkille and Ardara as subsidiary centres. While work in these places is confined to a factory, most of the homespun is produced in the crofts nearby, where many of the designs used for centuries are adapted and supplemented to cater for modern tastes by government draughtsmen. As in the knitting industry, materials are purchased, designing and costing carried out, orders booked, and wages paid from headquarters. The marketing arrangements are controlled by the Department's Central Marketing depot at Beggar's Bush, the tweed being sold under the 'Round Tower' Trade Mark. Before effective organisation, tweed was sold in the fairs at Carrick and Ardara, where about 3,000 webs averaging 60 yards in length were sold in 1906 (2). The annual value of homespun in Boylagh is nearly £12,000 (£15,000 in 1909 (3) ), most of which is exported to America and Britain.

The importance and general distribution of weaving around

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1. Report of Coimisiun na Gaeltachta, 1925, p. 51.
2. Irish Rural Life and Industry, p. 148
3. 18th. Congested Districts Board Report, 1909, p.20.

Ardara is well illustrated from a description of the neighbourhood of the town by T.W.Rolleston, the last secretary of the Irish Industries Association: "If one could take a bird's-eye view of this country, at an early hour in the morning, on the last day of any month, he could not fail to notice the number of persons, single or in groups, men and women, who are moving along these roads from every direction towards Ardara. Each wayfarer carries on his or her back a large and heavy bundle wrapped in a white cloth, and slung in a rope generally made of twisted rushes"(1). In 1891 the weavers here rarely made more than £4 from the tweed industry in the year, but by the introduction of new looms, dyes and attractive patterns, they were enabled to make over £20 a year (2).

Owing to the growing demand for tweed, a scheme for the supplying of looms to weavers on the hire-purchase system has been inaugurated, and will assist those learners who have been apprenticed to subsidised weavers, in order to perpetuate the craft.

In the production of homespun, the wool goes through the same stages in every area. In the Barnagh factories, however, the weavers are supplied with yarn, so that they are unlike the mountainy weaver who tends his sheep, clips their fleeces and, after dyeing, has the wool spun either at home, or in a factory in Fermanagh in readiness for the loom: the town weaver has merely become a factory worker in a back-ground of handcraft that tries to appear as unlike the result of mass production as

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1. S. Gwynn. Highways and Byeways in Donegal and Antrim, 1899, p. 79.
2. Congested Districts Board for Ireland, 27th.Report, 1919, p.12.

possible, while the cottage worker continues as his predecessors, using implements that have varied little with the passing of time (fig. 17).

The structure of the crofter-weaver's economy is one in which the duties of the induviduals constituting the family are finely demarcated from one another: take an average family of six people, a father, mother, two daughters, and two sons; the father is the weaver and confines his activities solely to his trade; the sons superintend the work of the farm, their most important duty being working with the sheep, an average flock being about 50 head; the mother is probably the person who dyes the wool and is assisted in preparing it for the weaver by the daughters, who also act as general helps about the croft.

The weaving shop is usually located near a main road in order to catch the eye of the tourist, who is treated on entering to samples of tweed, woven during the winter, and an exhibition of hand-loom weaving. The chief source of income, however, is the contracts issued by Gaeltarra Eireann at Beggars Bush, or private firms in other parts of the country.

In days gone by the sheep, which were never dipped, were clipped twice a year (1), and often in a haphazard fashion when the occasion demanded it (2). The efficiency demanded by modern markets insists on an evenness in the texture of the wool, which is obtained by ordered clipping as well as an average standard of well-being in the flock, occasioned by scientific dipping. In

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1. H. Morley. Ireland under Elizabeth and James I, 1890, p. 422.
2. Facts from Gweedore, p. 19.

June the herds are driven from the mountains and, after being penned, are clipped: shearing is a communal task and exemplifies the reciprocity of labour that is the embodiment of the crofting economy's kinship basis.

After shearing, the wool, which is stored in a room of even temperature to prevent damp rot, or shrinkage through dryness, is sorted and separate piles made, each of a distinctive natural colour: some of it is used in its natural shades for making blankets. As wool is required it is taken to a nearby stream and soaked, vegetable matter and other impurities being eliminated by hand. It is then laid out on the heather, or hung over lines or on a stone wall to dry.

Dyeing. The next process is that of dyeing. This is not only one of the most important but is probably themost interesting stage in the making of Donegal Tweed.

As in all native homecrafts, the crofter depends on the natural products around him, and from selected parts of the "weeds" of his fields extracts the requisite colours. Many of the crofters dye with the weed in the mordanting solution, while others stew the vegetable and, having strained off the brew, add it to the pot. Vegetable dyes, a list of which is given on p.166, impart a greater lustre and depth of colour than chemicals, while they retain their brilliancy for long periods in spite of adverse climatic conditions.

The actual dyeing is carried out in a great cauldron, usually an old three-legged pot, either in a special dye-house erected for the purpose, or else in a sheltered spot out-of-doors.

Before dyeing, the clean fleece or yarn is often soaked in a mordanting solution of either, acid (sulphuric or acetic),

copperas, aluin or urine, but the common method is to use the mordant and dye simultaneously.

Two methods of dyeing are given, the first (a) being the traditional method in Banagh which is unknown in Dunlewey where (b) the second and more modern method is practised.

(a) The roots or herbs yielding the selected colour are put into a pot and, having been covered with water, are boiled gently. A second quantity of weeds may be added according as a deep or light colour is required: when the weeds boiled in a big volume of water a light tint is yielded, whereas, when stewed in a small quantity of water, a darker one results. A piece of salt, which acts as a mordant to the wool, is now added and the mixture boiled for 30 minutes, after which the pot is taken from the fire and the contents strained carefully. The dye is put into a pot and the wool added: dye is never added to the wool as this would produce uneven tinting.

The contents of the pot are boiled gently until the drainage water from the wool, which is lifted with a wooden stirring beetle, is clear, showing that the fibres have absorbed all the dye. Thepot is allowed to become "stone cold", after which the fleece is rinsed several times in cold water until the water is clear. It is now ready for carding, spinning, and eventually weaving.

(b) At present few crofters use weed dyes, and urine as a mordant, aniline or "box" dyes and the more convenient acids being substituted. The trouble entailed in collecting and treating weeds to extract the dye - which is usually weak - precluded a continuation of the older method of dyeing.

The initial processes of clipping and washing are the same as in the older method, with a great 12 gallon pot, which holds about 10 lbs. of wool, as the container. In dyeing and the subsequent treatment, however, the procedure is different. When the cauldron of water is boiling, salt or glauber salts are dissolved in it. To this is added the dye, and then acid. In every case the water must be brought back to boiling point after the addition of the salt, dye, and acid respectively. The dye is first dissolved in cold water before adding to the boiling water otherwise the wool becomes streaked. In order to get a well fixed dye 4 pints of acetic or a cup of sulphuric acid is used, but half this is the customary amount, many dyers use salt only, without acid, in order to keep down the cost price of the finished produce. Acetic acid is in general use as it is easier to work with than the more caustic sulphuric which makes the water spurt and boil over. While alum was once a common mordant, salt, which is as effective and cheaper, and acid, are now used instead; the latter bites and fixes the colour into the cloth, while the former brightens and evens the tint. Copperas was widely used for the past few years but was abandoned because it had a darkening effect; tin, which gives the colours an added brillancy was substituted. Dyers who use salt only, never succeed in producing a permanently coloured material, as the caustic properties of an acid are a necessity of fixation. When acid is unprocurable a ½ lb. of cream of tartar is a good substitute.

The clean dry wool is put into the mixture when it is

simmering, as the dye tends to lie on top of the water and would thus streak it. After this it is allowed to boil until, by repeatedly stirring and lifting with a stick for examination, the water is seen to clear, showing that the wool has absorbed all the dye. The contents of the pot are now allowed to go quite cold after whichthe wool is taken to a stream, thoroughly washed, and then hung out to dry.

The following are some of the principal 'weeds' and their corresponding tints:-

Crottle or "moss". This is the most common of all the weeds and is supposed to have been used of old for dyeing the saffron tilts: it is the only weed that does not need a mordant. There are many species which yield colours varying from yellow, orange, and brown, to red, and are the only weeds still generally used by the crofters.

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|---|---|---|
| Elder | | purple |
| Blackberry<br>Blaeberry<br>Iris Root | | blue |
| Heather tips<br>Ling<br>Nettle | | green |
| Crottle (Calcarius)<br>Blackberry<br>Alkanet<br>Dandelion | | red |
| Crottle (Omphalodes)<br>Heather<br>Furze Blossom<br>Tansy<br>Ragwort<br>Bracken | | yellow |
| Dock root<br>Wild Iris<br>Meadow Sweet<br>Crottle<br>Web-tree<br>Bramble roots | with copperas and logwood | black<br><br>brown. |

Additional sources of dye are :-

1. Bogg bottom (dubhach) - black
2. Tea leaves, with a tint of crimson, give a good red.
3. Soot (needs neither salt nor acid) - cream. Soot, like tea, must be kept in a bag otherwise the grains spoil the wool. Only the best tea can be used.
4. Indigo was a very common dye in old days and is still treated in the traditional way. Water is heated and indigo and alum added. The wool is put into this and the pot kept simmering: the water is never allowed to boil. Like his Hebridean prototype the crofter uses urine as a mordant for indigo.
5. Madder, was once imported, but is now obtained only with considerable difficulty. In Petty's time (1) alum, madder, and indigo were very common foreign dyeing agents.

While a variety of colours may be produced from the available plants, the older people to-day aver that the common colours in their day were white, grey, black, "tick" (mixtures), red and brown. At the beginning of the 18th. century the crofter women, who were expert dyers, wore heavy red petticoats and black gowns (2), stages of native dress development that the Connemara women still cling to.

In ancient Ireland wool was woven in its natural colour and then dyed (3). From the primary colours the dyer can blend any

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1. Climate of Ireland, p. 87.
2. J. C. Walker, Historical Memoirs of the Irish Bards, 1818, vol., II, p. 198.
3. A Social History of Ancient Ireland, Vol., II, p. 350.

other shade; hers is an art only acquired after a lifetime in the trade.

Carding. When the wool has been dyed and dried it is sent to a mill to be carded and spun. In the older method of carding the fibres were teased into fluffy masses by carding 'hands'. These were boards of convenient size, one being held flat with its wire teeth uppermost gripping the pad of wool, while a second plucked the wool into a soft lump. This and the subsequent processes in carding were done exactly as in ancient times (1). The mass of newly carded wool was then "Broken", and portions from each heap re-carded to assure as even a mixture as possible. After this the wool was rubbed deftly between the smooth surfaces of the cards or hands into rolls about a foot long. In early times it was smeared with butter to expedite this work and spinning, but when an order for genuine homespun is given to-day, sweet oil is used instead of butter as it does not gather so much dirt. The cheapest popular grease in olden days was the juice of the fern root which was extracted in June: this was also common in Sligo (2) and Tyrone (3) in the manufacture of homespun.

Carding is an expert's task and is done by the dyer whose colour sense permits her to mix the differently coloured wools to attain the desired tweed. When the production of homespun demanded a communal effort the tedious job of carding was done by six women. No matter how expert the women were the yarn was

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1. A. Social History of Ancient Ireland, Vol. II, p. 350.
2. Statistical Survey of Sligo, p. 709.
3. Statistical Survey of Tyrone, p. 141.

always streaked, so that to-day the wool is sent to a mill where the desired admixture of colours produces and evenly flecked yarn

Spinning. The first type of spinning machine of which ther is mention is the great hand spinning wheel, or "Muckle" wheel, as it was known is Scotland. This was a step above the primitive distaff, and spindle and whorl arrangement, as the spindle was now fixed in a bearing, and rotated by a band passing over a groove in the circumference of the whorl and round the large hand wheel. When this wheel was later discarded for the more compact treadle wheel its principal was used to build a machine (fig.17A) to feed the wool on to bobbins for the weaver.

While no account of the distaff is forthcoming it is possible the crofters used it until quite lately as it was common in the Scottish Highlands as late as 1780 (1).

When a homespun is required a spinner seats herself on a low stool at her small spinning wheel and, having twisted one of the coils of wool produced by carding into the spindle, works the treadle and feeds the machine by twisting the remaining coils into each other, to be wound onto a rotating spindle. The feeding is gradual, according to the thickness of yarn required. The cheapness of the factory product - 6d. per lb. - discourages home spinning.

It is improbable that barilla, kelp (1) wood, or vegetable ask such as peat (2) were used as lyes for the yarn by the crofter before weaving, owing to the scarcity of manures such as these detergents.

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1. Everday Life on an old Highland Farm, p. 10.
2. A. Young. A Tour in Ireland, 1780, vol. I, p. 278.
3. Climate of Ireland, p. 87.

Reeling. The yarn is removed from the spindle and wound round a wooden frame (fig. 17B, crann tocairte) to form hanks, which are then washed and rolled into balls. The oldest type of reel had wooden arms like the one shown, but rotated horizontally as it was on a vertical privot fixed on a block of wood. Patterson (1) attributed the origin of such technical terms as score, cut, and skein to the number to turns of yarn made on the reel.

The balls of wool are now wound on bobbins ready for the weaver. A bicycle wheel (fig. 17A) rotated by hand drives a belt to turn a spool. The axle of the spool is an iron spike holding the bobbin, on to which wool is fed from the ball lying in a container - a pot or can.

Weaving. The yarn which goes to form the warp is first fixed on a wooden framework in which are numerous nails or wooden pegs. Aroundd these it is wound in various colours, so arranged as to make up the required pattern. These threads which form the warp, are now rolled on the warp beam.

Two types of yarn go to make the cloth, the warp which turns runs lengthwise, and the weft which runs across. The warp is the stronger in order to stand the greater strain incurred during the process of weaving and to give greater strength to the material. Each end of the warp is passed through the eyes of the heddles in such a manner as to indicate the particular patternwhich is desired. Heddles are cords or wires which raise and lower the web to form the pattern.

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1. W. Patterson. Climate of Ireland, 1804, p. 80.

The weaver flings the shuttle, containing the bobbin of weft, from side to side with his right hand; with his left he swings the lay, which is a comb-like attachment, backwards and forwards to press the yarn tightly in its place. At the same time, both feet work the treadles which raise the heddles in turn thus raising the appropriate warp thread to form the weave.

The weaver, who was paid in earlier times by the number of bobbins used, or the number of yards of tweed produced, always works a loom producing 'single width' cloth (28 ins.), as a loom weaving 'double width' would be too large for his limited accomodation. His designs were usually the stereotyped creations of predecessors, but to-day, these are being implemented by designs supplied by wool factors and Gaeltarra Eireann. While the customary patterns are checks and herring-bones, considerable variation is introduced by subtle combinations of colour: it is in this regard that a weaver gives play to his individual craftmanship.

Scouring. When the cloth leaves the loom it has a loose open appearance and is tough and hard to the feel. In order to get a soft and close web, it is softened by the process known as scouring, a specialist's task in ancient times (1); in 19th., century Harris, where six women laboured it, it was called 'waulking' (2).

The cloth is washed in soapy water in order to remove any impurities which may have been picked up during the weaving

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1. A Social History of Ancient Ireland, Vol II, p. 354.
2. J. A. Hamilton. People of all Nation, Part 41, p. 4470.

process. While still damp it is laid out on a long table outside the cottage and pounded and beaten with the hand until the fibre is closely felted together. It is then dried, pressed and marketed.

Many weavers send the web to a Dublin factory for scouring and pressing, after which the cloth obtains a firmness and fine surface it previously lacked.

In early days the web of newly-woven tweed wasput into successive tubs of soapy water, tepid, warm and hot respectively, each containing almost a gallon of urine, and thoroughly trampled to assure fulling, fixation of colour, and the removal of grease. It is interesting to note that stale urine and ashes were used in Connaught as a hair bleach in the 17th. century (1). When scouring was done for a townland, a casing of doors was made (2) and the crofting men and women trampled the sodden mess in turn, to the accompaniment of suitable occupational airs: like all labour demanding a communal effort, this was a time of merrymaking.

In no crofter industry is the dichotomy between the sexes in the organisation of labour so well defined as in the production of homespun. In ancient Ireland men handled and sheared the sheep while the rest of the work, including weaving, was done by women: scouring however was done by men (3). In the present system, men treat the sheep and weave, all the other tasks being left to the women.

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1. Irish Life in the Seventeenth Century, Dunton's Letters, No. 2, p. 342.
2. Paddy the Cope, p. 13.
3. Irish Rural Life and Industry, p. 42.

In 1893 investigations into the state of the industry revealed that a serious decline had set in. The younger generation was not taking it up, the looms were antiquated and unserviceable, and streaking marred the native patterns. In order to counteract further deterioration new looms were introduced, provision was made for instruction and a prize system for good weaving was instituted (1). These activities are still engaged in by the Department of Lands and organisations formed to ensure a local market for the tweed. Through the Magee Grant the weaver in Dunlewey gets £60 and his learner £30 annually, while a teacher of the art gets £30.

The perpetuation of the art of hand-loom weaving is fraught with all the difficulties associated with the unequal rivalry between craftwork and factory product. But the prosperity of the market for hand-woven Donegal tweed is assured in face of the gradual mechanisation of kindred industries in Scotland. In the Hebrides the wooden hand-loom has been supplanted by a mechanical metal loom, which turns out twice the amount of cloth than the older type - but cloth of an inferior quality (2).

FISHING.

In the crofter districts along the western seaboard of Donegal, the land is the sole basis of livelihood, and, while fishing may be regarded to some extent as such, it is, generally speaking, an auxiliary of agriculture.

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1. Ireland Industrial and Agricultural, p. 396.
2. L. MacNeice. I crossed the Minch, 1938, p. 5.

Those crofters who do fish have land interests as well as sea-fishing ones, and, therefore, are limited by the exigencies of the cultivation of their land in the amount of fishing they carry on. The land is always the bigger attraction unless when the products of the sea are easily accessible and in obvious paying qualities. In the cases of the influx of herring into an estuary they turn into fishermen for the time being, but return to their usual work when the time of prosperity has passed. It was the recognition of this fact that resulted in the Board concentrating first of all on agriculture and then on fishing owing to the predominance of those depending on the former occupation.

The attractions of settlement on the seaboard were manifold, and while supplies of manure in the form of seaweed were important, the sea and estuaries as additional sources of food must also have been controlling influences in the distribution of population. In the Rosses, where the soil was impoverished, most of the coast dwellers were fishermen, depending on their curraghs and the weather for their food (1). While the Rosses fisher-crofter devoted most of his time to the sea, he allowed himself only enough time to cultivate a patch of potatoes and make his clothes (2). But this prosperity was short-lived in face of the growing opposition of organised fishing fleets from other parts of Ireland, notably Rush, and Gt. Britain, and the disorganisation due to theFamine. In 1846 the growing trade

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1. Historical Memoirs of the Irish Bards, 1818, vol.II, p. 201
2. Ibid.

with the hinterland was ruined because this social catastrophe not only pressed on the fishermen directly, but indirectly ruined their markets, and boats and gear were sold for meal for their families: emigration did the rest (1). The majority of the Donegal crofter fishermen went to Newfoundland where they introduced long-line fishing for the first time (2). In the summer of1846 the impending Famine had impoverished the fisherman so much that large quantities of fish rotted on the coast or were used as manure (3). Since emigration was greater from the interior parts of the country than on the coast, a demand for labour soon arose and encouraged some of the seaboard dwellers, chiefly fishermen, to seek employment as agricultural labourers on inland farms (4). So great a blow did fishing get that it would probably have died out as an industry, because the people had even lost the science of long-line fishing: the efforts of the Congested Districts Board revived it.

One great impediment ~~of~~ to theprosperity of fishing was the minute holdings which, besides being injurious in the many obvious ways already discussed, served to direct that concentration of energy necessary to successful fishing, and to encourage apathy, as the crofter was able to subsist on their produce without undue exertion. Wakefield remarked that a fisherman on the Essex coast looked on a holding as an encumbrance, and were he obliged to possess 3 or 4 acres, he would think ~~that~~

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1. 5th. Congested Districts Board Report, 1896, p. 162.
2. The Ireland of To-day, p. 314.
3. Landlord in Donegal, p. 83.
4. 5th. Report of Congested Districts Board, p. 162.

himself in a fair way of being ruined (1). This seems to have been the widespread opinion of those interested in the fishing-agricultural economy. In no case is this better enemplified than in Moray Firth, where the fishermen ceased to work the plots of land formerly cultivated by them, in order to devote themselves solely to fishing (2). The fishermen of Lochfyne gradually relinquished their crofts also and engaged successfully in fishing (3).

Until the advent of the Congested Districts Board in 1891, the prosecution of fishing on the West Donegal seaboard was neglected owing to the absence of suitable harbours and landing facilities, as well as the lack of organised marketing schemes. The Board's initial step was to develop the existing resources in the different centres and encourage crews to purchase boats and gear by issuing loans. Conjunctly with this, the necessary piers and curing sheds were erected and communications with the hinterland re-organised on a more economic basis. Scottish fishermen were brought across and taught the people how to work their gear and bait, and shoot and haul their lines (4) as fishing on a profitable basis was virtually unknown amongst them (5), owing to the decline in the industry during the previous half century.

In the late 18th. century the number of boats in the different ports along the coast had been slowly increasing (6) especially in the South where rents were paid with fish and

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6. A. Young. A Tour in Ireland, 1780, p. 207.
1. Statistical and Political Account of Ireland, p. 129.
2. H. M. Commission Report on Crofters and Cottars in the Highlands and Islands of Scotland, 1884, p. 59.
3. Ibid.
4. 5th. Congested Districts Report, 1896, p. 21
5. 27th. Congested Districts Report, 1920, p. 73.

yarn (1), but by 1802, the fishing industry had declined considerably, due, it was said, to the destruction of young fish (2) by fine meshed nets. Inthe winter of 1784-1785 the prosperity of the Rosses herring fishery, which produced £40,000, tempted Colonel Coyningham to build a new town, called Rutland, on Inismacdurn at a cost of £50,000, complete with dwellings and every accommodation for salting and curing fish, and roads to the markets on the mainland. Owing to drift sand and bad fishing the scheme declined until 1793, when the herring disappeared and the project failed altogether (3). The fish did not return again until 1830, and from that until 1834 was a period of great prosperity, the catch in the last year being close on £50,000. After this a decline again set in. Coyningham's effort resulted in a debacle that prohibited further investment on similar lines, which left the crofter with antiquated gear and curraghs, both of which were a hindrance to fishing, and much more so, as they were located in a society sceptical of all innovations.

The gradual development of a fishery industry is reflected in a change of fishing ground from inshore to deep sea, with a concurrent development in gear and increase in size of craft. The presence to-day of curraghs amongst the fishermen of Sheephaven is some indication of the static periods that the fishing industry underwent in the 19th. century. From 1834, until the inauguration of Congested Districts Board undertakings,

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1. A. Young. A. Tour inIreland, 1780, p. 207.
2. Statistical Survey of Co. Donegal, p. 71.
3. E. Wakefield. Statistical and Political Account of Ireland, 1812, p. 101.

there were no organised schemes for the promotion of fishing on the West Donegal coast.

In the last generation it was no uncommon thing for some member of every family living immediately on the coast to have an interest in a boat, and use lines throughout the year, with nets at the herring season. But the modern crofter's interest is concentrated more on the land than on the sea, owing to the danger of fishing from small boats, and the more profitable return from seasonal migration, and council employment. His predecessor eked out a meagre existence between bad farming and bad fishing: he exists to-day chiefly on bad farming and state subsidy.

Fishing on this seaboard resolves itself into two forms (a) that which occupies men thoughout the year: (b) seasonal work. Of the two the latter is the one the crofters concentrate on as it provides them with an occupation at a time when labour on the farm has ceased and, to those who have suitable nets, a quick return for a minimum amount of time at sea. Those engaged in fishing throughout the year form only 6% of the total fishermen in Donegal (1).

The part-time fishers of the west Donegal coast are, by the seasonal nature of their operation, weather conditions, and the impossibility of providing slips and piers in exposed positions, confined to fishing inshore. They are widely scattered their tasks are relatively small, and they are far from the big centres of population where markets exist for their catches. Their operations being intermittent, they

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1. Report of Coimisiun na Gaeltachta, 1925, p. 40.

cannot maintain regular supplies, and thus are unable to arrange for satisfactory transit terms. They are consequently compelled to seek a local market, which, because of the growing decline in the demand for fish, produces rather discouraging results.

The part-time fishermen are restricted to small sail-boats, curraghs, and yawls, because they must fish in local water where harbour facilities do not always exist. Even where such facilities do exist large boats with costly motor engines and expensive outfits of gear are not an economic investment for them.

Yawls and lifeboats are commonly used by these inshore fishermen, and are propelled with oars and fitted with sails. In such boats which carry a crew of four of five, fishing ~~boats which~~ is done with handlines for ling cod, hake, whiting, pollock, and other demersal fish, chiefly for local consumption. Cod, whiting, and pollock are fished near the mainland, while ling is fished upwards of three miles off-shore. The fishermen, who leave for their grounds on the ebb and return on the full tide late that evening, rarely fish with lines during calm weather as the take is best when the sea is choppy. When an island lies near the fishing ground meals are made there, the live peat being carried out in a bucket which provides some warmth to the crew and assures them of a warm meal. While the crofter-fisherman realises that a better catch is to be had at night, he prefers the small catch of the daytime to the risks of a night at sea in his open boat. Often they return with less than a dozen of a catch which is left in fresh water overnight and gutted the ~~The~~ following morning if the weather is fine

or else kept in the fresh water if the time is not suitable for drying out of doors. Fish for salting is always dried out of of doors on a rock or plank, as the flavour is enhanced by the open air.

While the general method of division is for each of the crew to have a share in the boat and its catch, the crofter-fisherman in the Rosses divides his catch in a way that has always been recognised there as being traditional. The catch - twenty fish, four big and sixteen small - is spread on the kitchen floor in heaps according to the number of the crew, suppose in this case four. One of the fishermen goes outside the door, which is then closed, or else round to a gable, and to the question "Who owns this share?" from someone inside, usually the oldest, he states a name. By this method all quarrelling is obviated as the man outside does not know which of the heaps is being indicated by the speaker. Furthermore, all the crew participate in making the heaps which are as equal as possible, being composed of four small, and one big fish.

A rope slung over the fire-place is a favourite place for a final drying before salting and storing in barrels to be consumed at home, or sold locally during the winter. This is unlike the Tory Islanders who pickle their catch of white fish in stone troughs on the shore and sell them on the mainland when necessary.

The crofter inshore fisherman rarely seeks the most valuable fish, plaice and sole. The sandy bays along the coast are rich in these and it is probably, owing to the absence of gear suitable for him, that he does not indulge in it

intensive fishing for 'primes': a fishing spear of the type used between Glenarm and Cushendall on the Antrim Coast would be an ideal innovation in seeking flat-fish in such bays.

The part-time fisherman is most busily engaged during the herring seasons, of which there are three:(a) beginning of the New Year till St. Brigid's Day (1st. Feb):(b) starts at beginning of May and lasts till end of July (c) from August till October. The autumn herring fishing season takes place later as one goes from Sheephaven south, being in the Rosses in October and Trawenagh Bay in November. But all local boats go North to the Downings on Sheephaven Bay for the summer fishing as the herring is plentiful there, and return in time to pursue occasional long line work for the winter.

Herring fishing used be at its best 200 years ago in winter, but theprosperous season is now autumn. Even as late as 1907 the autumn fishery was a failure while the peak season was in the new year. Similiar erratic movements took place in 1835 (1). The crofter is at a loss to account for the migrations, but opines that, after coming in to spawn, the herring goes out to sea to die, leaving the young to gradually mature. After a period spent in deep water, these return in the following season. The inexplicable cause of the movement, and his ignorance of the whereabouts of the herring after leaving the shore, are reflected in the apt comparison he draws between the migrations of birds - "The cuckoo comes, and goes" and the herring, - "The herring

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~~1. C. P. Farren. "Herring Fisheries off the Donegal Coast." Saorstat Eireann: Journal of Department of Agriculture, June, 1937, p. 362.~~

1. Appendix to the 4th. Report of the Royal Commission on Congestion in Ireland, 1907, p. 10.

comes,and goes". The crofters use drift nets,but often two boats will have a seine between them. When the catch is large the fish are brought in relays to the shore. Drift nets are much in use as they can be easily manipulated by a single boat working a bay, when the herring come far inshore in Autumn. Herring fishing on a big scale is done by cross-Channel boats and Knobbies which work the shoals ten to forty miles from shore (1), a distance that is out of reach of the crofter's sailing or rowing boat.

Fishing, like many other trades on this west coast, is tending to become more and more centred in the hands of selected groups: a tendency towards monopoly as in weaving, basket-making and building, is making itself felt, and in the case of fishing, may be attributable to the disinterestedness of the young generation who have alternative pursuits, and the impoverishment of long-shore fishing grounds by indiscriminate foreign trawling on sandy beds (2). It is no uncommon sight for the crofters to see a Spanish or French vessel going over their beds with a fine-meshed trawl. Whether trawling does affect spawning grounds is a disputable point (3) but the West Donegal crofter fisherman, like many other authorities (4) is convinced it does. The decline has been precipitated by another reason - the changed palate of the crofter: the presence of more easily procured substitutes for fish on his dietary may be accountable for this.

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1. G. P. Farran. "Herring Fisheries off the Donegal Coast". Saorstat Eireann: Journal of Department of Agriculture, June 1937, p. 262.
2. E.W.H. Holdsworth. Deep Sea Fishing and Fishery Boats,1874, p.44.
3. J.G. Bertram. The Harvest of the Sea, 1873, p. 220.
4. J. Travis Jenkins, The Herring and Herring Fishery, p. 143.

When new equipment is needed it is bought locally on the hire-purchase system, the expenses being defrayed by the herring catch, which is sold in the nearest town. When crofters supply factors in ports like Teelin, Killybegs, Dunfanaghy and Burtonport, their catches are graded into, small - mattie - matt full - large - largefull, and pickled for export to America Gt. Britain, and Germany: those pickled in Spring for Britain get a 'soft' or mild cure as they are for almost immediate consumption. Matje, or maiden herrings, which are without roe or milt, fetch a good price, but the most profitable is 'large full'.

The boats in general use among the crofters are those most suited to the coastline where they are located. Open fishing boats are general all along the coast because there are large stretches where decked boats could not be used in safety. In such localities only those open boats are kept as can be beached or landed at strands or creeks in the rocks. The most suitable of these for small scale fishing is the curragh, which is very seaworthy and, as it need not go far out to sea, accidents in handling it are rare. It can be launched with great ease in fairly good weather, though landing is difficult in rough weather if it has a good take of fish. A crew of three men frequently makes as much as the entire cost of a curragh in a night, so that the earnings of a fisherman are often much larger relatively than the earnings of a crew in a decked boat.

The favourite open boat is the Greencastle yawl, with sharp whale-boat bow and stern, which is used with such success in lobster fishing and, in May and June, drift-net fishing for salmon. These boats can use either one or two spirit sails in

a breeze, and are very seaworthy. Owing to the uncertain squally weather experienced on the coast many of the yawls have been decked, and a motor added which has enabled them not only to face rougher weather, but to engage in fishing farther out to sea, and use heavier gear such as longer drift and seine nets.

Like the herring fishery in coastal crofting districts in Scotland (1), lack of suitable transport and communication is a serious obstacle to prosperity, but here in Donegal the crofting communities have solved this problem by patronising a special port, which imports and exports goods for them. Due to the physical features which separate the county into a number of almost self-contained areas, communication between which is relatively difficult, a system of sea-borne traffic by means of chartered vessels has been developed (2), and in the co-operativ instinct thus engendered may well lie the future prosperity of the fisheries.

CURRAGHS.

Like everything else in the social life of the west Donegal peasant, the curragh is a product of its environment. This environment is remarkably uniform in the two curragh-centre on the north-west coast, Bunbeg and Sheephaven. Both have a characteristic bleakness and an exposure to Atlantic gales - gales that necessitate a craft of such a structure that it will ride the waves rather than go through them and, when properly handled, will be safe in the most stormy sea that would swamp a

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1. J. Gibb. "The Problem of the Highlands" The Geographical Magazine, May, 1938, p. 9.
2. Report of the Co. Donegal Transport Committee, 1934, p. 5.

wooden boat. Furthermore, the lightness of the craft and its ready response to the slightest flick of the oar make it an invaluable asset on an indented caost, where communication by sea is still of prime importance. It is from these curragh centres and the adjacent islands that crofters fish those shoals that come close to their homes, or gather seaweed for their holdings. In such exposed placed and under such severe conditions, the curragh has this advantage, that the crew alone are sufficient to lift it from the water and place it well out of reach of the heaviest sea.

Two types of curragh are to be found on the northewest coast, both centred on very sandy regions. The first is the Bunbeg curragh (fig. 19). The buildingof this type of curragh is concentrated on the important islands lying off the coast, Gola, Inishmeane, Owey, and Tory; Inishmeane is now the principal place for them. An occasional curragh-builder is found in Bunbeg district. These island centres also build the prowed or oared curragh which is more sea worthy than the paddle-curragh. The islanders retail those curraghs, which are no longer trustworthy on the sea, to ~~them~~ peasants on the mainland engaged on less perilous pursuits, for the sum of thirty shillings. Themost novel use these curraghs are put to on the mainland is for carrying peat on the inland loughs: they were used as far inland as Lough Veagh at the beginning of the last century (1) by poteen makers, who used a piece of peat to plug the holes in the skin. By using curraghs on Lough Fad, one and a half miles northwest of

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1. C. Olway. 80 years ago in Donegal, 1827, p. 23.

Crolly Station, in the townland of Derrynamansher, the people save themselves a considerable journey on foot over rough moorland between their peat banks and their homes. When the peat-season is ended, the curraghs are returned to the coast where they are used for fishing, travelling, or gathering seaweed.

The length of the Bunbeg curragh varies between ten and fourteen feet. The gunwales are of stout scantling and consist of two or three parts (fig. 19), straight side pieces 7½ ft. long 3½ ins. wide and 2 inches deep, and either one or two shoulder pieces, which are connected with trenails. A transom bar joining the after ends is now counter sunk, but in the older form was set on top.

When being constructed, the gunwale framework is inverted on the ground, and the holes for the lath ribs burned or made with an auger: the laths are strips of wood 2 ins., wide which have been cut out of a plank. In former times willow rods were fitted into these holes and bent across to form couples (1), which like the longitudinal stringers, were then tied with horse hair. Hill remarked that the curraghs in the Rosseshad a wikerwork bulwark 6 ins., deep woven round the frame just above the flooring, the whole structure being reinforced by laths running longitudinally (2). At this time the curragh on the mainland was more fully developed than that on the islands.

At the beginning of the 19th. century the Bunbeg curragh much resembled a coracle, being an oval basket covered with seal-

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1. British Coracles and Irish Curraghs, p. 163.
2. Facts from Gweedore, p. 26.

skin (1). On Tory fifty years later, Getty saw curraghs in course of construction and noted that the builder used draw "a fresh hide with the hair inside over the skeleton, and, being laced with thongs to the gunwale, became rigid as it contracted on drying. At present a cheap material is found in tarred canvas, manufactured from flax or hemp spun by the women, and which is considered of superior strength to ~~what is~~ tar. purchased at a warehouse --- to render the canvas secure it is made double and tarred, a layer of brown paper being inserted between the two portions (2). In these curraghs a wicker bulwark similar to that in the Bunbeg curragh was fashioned while the stern was straight. Since the islanders used oars or paddles in them, it follows that portable thwarts were used: when oars, two of a crew pulled a pair each, when paddles, they Knelt in "Indian" fashion (3).

The craft described by Stephens (4) is the ~~bull-nosed~~ last stage in the gradual evolution of the modern bull-nosed curragh. It shows no development above that described by Hill and seems to be the final stage in the evolution of the Bunbeg curragh, as it had then the round bow and straight stern (5). It was 9 ft., long, 3 ft. in beam, and 2 ft. deep and was constructed in the same manner as the modern curragh. The ~~oral~~ gunwale was laid down, and was perforated with holes into which stout willow ribs were inserted. Between these slighter twigs were interwoven to form a basketwork bulwark about 10 inches in

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1. J.C.Walker. Historical Memoirs of the Irish Bards, 1818, vol II, p. 201.
2. E. Getty. "The Island of Tory; its history and antiquity" Ulster Journal Arch 1, 1853, p. 32.
3. Ibid, p.33. 5. Ibid. p.33.
4. J. Stephens. South-West Donegal, 1872, p.63.

depth. The ribs were then brought together and, having been intertwined, were strengthened by laths crossing from stem to stern, and each cross fastened with horsehair. This frame-work was then covered with horse hide or tarred canvas. The modern curragh is covered with successive layers of tarred cloth, usually a flour-bag, or a potato bag, the finer cloth being reserved for the outside skin. In earlier times an intervening layer of tarred brown paper was inserted (1), but this is not done to-day.

Owing to its buoyancy the crew were constrained to sit on the floor, as a little pressure would have capsized it. They propelled it with oars, and when only one man was in it he knelt at the bow, and with alternate strokes from side to side, guided it.

Horsehair was an ideal binder in the absence of cord, as it swelled readily when damp and tightaned the junctions it bound: its natural oil acted as a preservative. Horse-hair bindings and horsehide 'skins' were in general use along the Clare coast (2) especially around Kilkee (3). It is now customary to insert a permanent seat and thole-pins for rowing, and so abolish the more arduous task of paddling. There are two types of paddle, the older (fig 21A) consisting of two pieces of wood joined by a metal ring or staple, the younger (fig. 21B), of a single piece of wood. Both are found on the islands and mainland but the

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1. Ordnance Survey Memoirs of Donegal, Box.22, Kilmacrenan.
2. E. Walkefield. Statistical and Political State of Ireland, 1 1812, vol. 1, p. 97.
3. J. Binns. Miseries and Beauties of Ireland, 1818, vol.II, p. 393.

latter is more common now. The new paddle is straight, about 5 ft. long, and has a blade 30 ins.long and 4½ ins. wide, tapering to a shaft 1½ ins. diameter. The two parts of the older paddle are so arranged that when joined with a staple it present an even curve in the end view. This gives it greater leverage and, as the paddler kneels at the bow, allows him more control over the curragh. It lacks the fine finish of the new paddle and has a shaft 2 ins. in diameter, joined to a blade 27 inches long and 6 wide. A spade is often a useful substitute.

When working, the paddler kneels in the bow and keeps his craft under control by an action which much resembles sculling, but it is very unlike it in body movement, position of arms, and circuitous movement of the paddle blade on each side of the bow alternately. The verb "paddle" is used for convenience, for the movement that propels a curragh is as much like paddling as sculling is like rowing. The intricate sweeps of the paddle are so skilful, so sure, that the curragh responds to every flick of the blade, breasts a wave (if broadside she would capsize), and makes straight for her destination. In the art of paddling the Bunbeg curragh the womenfolk emulate the men.

Every owner whose foreshore is not sandy builds himself a tiny harbour with a gravel-bottom, in order to ensure the safe launching and beaching of his curragh. Near his harbour (cuan) is a shelf, well above high water mark, on which the curragh is inverted to dry or be repaired. When upturned, it is secured by leaning rocks on the projecting partsof the gunwales and against the nose, as it is light enough to be disturbed and damaged by a fairly strong wind. A convenient way of repairing a leak is by melting the tar with a live turf-coal (beo), the breeze or a puff

of breath keeping the bec red.

The Bunbeg curragh is used solely for longshore work, principally lobster-fishing, gathering seaweed, and travelling from adjacent islands to the mainland. A considerable profit is made annually by lobster-fishing, because the curragh-owner has little or no expense in this pursuit, the pots being of semi-circular osiers fixed into a rectangular lath floor which is weighted with a layer of cement: the covering is uaually a piece of a discarded net. The profit in working lobster pots is generally greater than that from herring fishing, because there is no need for expensive gear, lobster fishing is never erratic, and there is a great disparity in labour cost between the two occupations.

In springtime the curraghs are used to cut deep-sea weed, which is brought to the mainland and sold to crofters who have either no foreshore, or no means of procuring weed.

Of greater importance than the Bunbeg curragh is the Sheephaven or Tory cared curragh (fig. 20). Of average length 16 ft., this craft is similar in general contour to those found along the Mayo, Clare, and Kerry coasts. While they vary in length from 15 to 20 feet the customary dimensions are 16 feet from stem to stern, with a stern 36 inches wide, which is about 2 inches narrower than the first thwart at the junction of the straight part of the gunwale and the shoulders. Unlike the Aran curraghs, or those on the Connemara coast, there is no junction block joining these parts, but a scarf joint fastened with a trenail. The tip of the prow is 28 inches above the ground while the depth amidships is 18 inches and at the stern 24 inches. It is this tilt towards the first thwart in conjunction with the

position of the seats, that tilts the prow when the craft is afloat and gives it an even balance.

The framework is of unpeeled hazelrods, which form couples on the bottom and are tied by cord where they cross the longitudinal laths which form the stringers. Rods form the skeleton of the stern, sides, and the prow, which is deeply U-shaped right to the nose.

The fore-ends of the shoulders are joined by a strong bar which keeps the upper framework in position, and also serves as a fixture for securing the curragh.

The oar, which is singular in being the exact length of the straight gunwale, is usually made of strips of ash 10 feet long. At the handle it is square in section, but about 2½ feet down the cross-section becomes circular, and gradually flattens towards the tip of the blade to $\frac{7}{8}$th. inches: the oar has a uniform width of 3 inches.

A bull 20 inches long, 6 to 8 inches wide, and 2 inches thick is nailed onto the rectangular shaft leaving a handle about 8 inches long. The hole in the bull for the thole pin is bored by an auger, and often by a hot iron, as the blackened edges indicate, in order to harden the surface of the aperture. When this hole becomes elongated through constant use, a strip of wood is nailed across to give steadiness, or else the bull is reversed and another hole bored.

A thole pin 5 inches long, protruding from a cleat covered by a strip of metal 2 feet long by 1 inch, to prevent chaffing, is the pivot on which the oar works. When fully immersed the blade of the oar is not more than 3 inches below the bottom of the curragh and describes a flat oval when in operation, the

idea of 'feathering' being precluded by the vertical thole-pin.

When drying, the curragh is either tilted on one side and supported by the bull as shown in fig. 20 or else overturned, the junction of the shoulders and horizontals of the gunwale, which are then off the ground, being supported by a few pieces of rock. As in the case of the Bunbeg curragh, the jutting portions of the gunwale at the transom permit of rocks being wedged there to secure it.

The greatest difference between the Sheephaven oared curragh and the Bunbeg paddle curragh is the high prow which is strongly sheared and enables it to go upwards of 3 miles out to sea. There is some doubt as to which of these curraghs is the earlier. Hornell (1) avers that the Bunbeg type is the older and adduces no reasons: this is a subject for discussion rather than postulation. A consideration of both curraghs closely associated with their historical and geographical environments, and not divorced from them, would seem to indicate that the modern paddle curragh is a retrograde step from the earliest type, the prowed curragh of Sheephaven.

The curragh is a relic of ancient times and was widely used as a means of communication not only between different parts of Ireland (2) but between Ireland and Gt. Britain. It was in a craft of this sort that Dunslan and two companions sailed from Ireland to Cornwall. Again, Adamnan relates how St. Cormac, a disciple of St. Columba, travelled in a hide-covered skiff (3),

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1. J. Hornell. British Coracles and Irish Curraghs, 1938, p. 161
2. A. S. Green. History of the Irish State to 1014, 1925, p.2.
3. History of the Irish State to 1014, p. 325.

whichhad a prow, and was propelled by oars and a sail, from 'Irrosdamnonia' to the Orkneys (1). While these vessels for long-distance travel, and battle, were of stout bull hide they were exceedingly light. The size of the vessel depended on the number of hides used, a two hide curragh being big enough for travel on the open sea, while a craft covered with a single hide was so small as to be easily carried by a man (2), much as the Welst do their coracles. It seems, therefore, that curraghs of different sizes were in use at thesame time, the craft of the private individual being adapted to suit his inshoreinterests, but lacking the qualities that were necessary if the craft was to be sea-worthy off-shore; chief among these were a prow and adequate size. That used by St. Brendan carried two spare hides and a quantity of butter for repairs, because butter was the necessary coating forthe hide if it were to be made waterproof (3). The framework of wooden ribs was supported by pillars 'in the usual way' (4).

The historical evidence testifies to a prowed curragh which was long enough to accomodate three or more of a crew and was propelled with oars, sails, or paddles, and probably a combination of any two of these. Independent of this historical evidence, the only type of craft that could be effective on the open sea and especially on an exposed coastline as these crofters live on, is a prowed one. When at sea the crew are careful to bring the prow to meet thewaves, and thus ensure that the bow received the first shock and lifts the craft

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1. O'Flaherty's Ogygia, 1793,p.122.
2. P. W. Joyce. A Social History of Ancient Ireland, 1903, p.424
3. O'Flaherty's Ogygia, 1793, p. 122
4. Ibid, p. 123.

safely. The bull-nosed type at Bunbeg is unsuited to open sea work and is never used for travelling in except on calm days. The islanders go to the mainland in launches, and confine their activities in the small curragh to long-shore line and lobster fishing. Notwithstanding that paddle curraghs were general in Tory, Getty remarked that oared curraghs with square sterns and sharp bows were the rule on the mainland opposite and that an old man told of curraghs he remembered there being pulled by six oars (1).

The most advanced type of curragh is found in Kerry, while further north to the Aran Islands, Clare coast, and up to Sheephaven the construction seems less developed. The Bunbeg curragh intrudes ~~itself~~ on this scheme and, because of its structural peculiarities, seems to be a retrogression from the prowed curragh due to adaptations effected in response to environmental influences.

HOUSING.

As in the other elements constituting the cultural background of the crofter, the salient housing features are influenced by the dictates of custom and environment.

The distribution of houses along the seaboard is to-day influenced chiefly by the convenience of the turf bank and the nearest road (fig.12), whereas the older types generally clustered in sequestered places, taking advantage of natural features and water supply. While the last factor may be considered peculiar, there is a decided lack of good water of any sort except in the south-east, the crofter depending generally for

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1. E. Getty. "The Island of Tory; its history and antiquities", p.33.

his supplies on drainage water from the bogland or a nearby mountain stream. The building culture as represented by the modern Donegal crofter's house (Plate 5) while having local variations, is a uniform development from the sod house of the last century.

In 19th. century Donegal the "huts" were one-roomed, and chimneyless, the fire occupying the middle of the floor (1), and were so small, 12 ft., by 13ft., (2) that they were built in a very short time (3). As no other accommodation was available, the livestock was kept in the 'lower' end of the home, the family living in the 'upper' part around the hearth without a division between the two areas. In houses of more recent construction, the area occupied by the family was separated by a drain from that of the cattle (fig.23), as well as by a partition formed of the dresser or some other article of furniture.

The general absence of windows may be accounted for by a current window tax, and the few who had them covered them with Sheepskin (4).

Owing to the abundance of building stone the houses were dry-stone work, as a mortar surfacing is a more recent development(5) and is still lacking in many old byres: but sod houses were also

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1. Historical Memoirs of the Irish Bards, Vol. II, p. 199
2. Paddy the Cope, p.80; the average area of one-roomed houses in in 19th. century Ireland was approximately 150 sq. ft: Miseries and Beauties of Ireland, Vol.I, p. 51; Ireland Today p. 36; An t-Oileanach, 134.
3. Facts from Gweedore, p. 36.
4. Facts from Gweedore, p. 20.
5. Ake Campbell. "Notes on the Irish House", Folkliv. 1937: 2/3 pp. 207 -234.

common as dwellings until the middle of the last century, "when the majority of the people in Donegal were housed in one roomed chimneyless houses built of sods or mud" (1). To-day, no evidence of these latter other than shelters for animals is to be found, but they were very common in the middle of the last century, as a tenant to a new cut on a mountain side started residence on his holding by constructing a temporary sod hut for himself and family (fig.24B), and thro ugh time, a drystone dwelling (2).

In 1883 there were 150,000 one-roomed mud or sod huts in Ireland (3) housing nearly 43% of the population and their live-stock (4). About this time the best class of dwelling observed in Connemara was either of drystone, or mud, rising generally to 6 ft., but with a rounded roof. There was no chimney, the smoke escaping through a hole in the thatch of mountain grass (5)

In Kerry the walls of sods were completed and then the windows and doors cut out in them with a spade (6)

Sod houses must have been considerably crude if a modern sod byre (boitheach) is any reflection of their general plan. These take advantage of natural features, using a rock, hillock, or any other shelter as a support to thestructure (fig.32). The walls are of sod almost 2ft., thick, raised to a height of 7 or 8 ft., and crossed by bog-fir sticks thatched with heather, which is

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1. 19th. Congested Districts Board Report, 1911, p. 9.
2. Landlord in Donegal, p. 39.
3. Ireland To-day. Evidence given before the Richmond Commission, by Prof. Baldwin, p.33.
4. The Devon Report, Vol.I, p. 126.
5. H. McManus. Sketches of the Irish Highlands, 1863, p.37.
6. K. Danaher. "Old House types in Oighreacht Ui Chonchubair". The Journal of the Royal Society of Antiquaries of Ireland, Vol. LXVIII, part 2, p. 232.

secured by ropes weighted with stones.

This type of byre is a continuation of the sod complex, but from examples noted around Crolly and Glenties, it appears to be a retrograde step from the permanent sod domicile, as the roof merely slopes from the entrance to the back and is thatched with heather overlying a covering of scraws laid on bog-fir sticks. Even parallel ridges of sods, backed by a rock, and covered with a strip of corrugated iron, still serve as a hen house.

The primitive house type was the one-roomed chimneyless dwelling in which both the family and the animals sought shelter, but the remaining old types are now used as byres (fig. 25). Unfortunately, none of the former remains, the last two in Donegal having been razed in 1938.

The tendency of housing the livestock with human beings has been attributed to a variety of causes, 'the cow keeps the house warm', 'it makes it easier to get a drop of milk', 'warmth increases the yield of milk', 'it helps to save the dung' (1) - but it is reasonable to expect here the influence of custom and environment. Thepractice could be condidered as a continuation of that of the older "fine" group, whose anxiety for the safety of the cattle from maurauders forced them to erect a rath, inside which both animals and humans found common safety.

Buildings tend to be simple in regions of difficulty and poverty and, in a damp climate of the type located here, the crofter would share the warmth of his home with his animals which were his greatest possession. Home to the crofter was probably what it used be in early times, a place to sleep in,

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1. E.E.Evans. "Donegal Survivals", Antiquity, June, 1939, p. 210.

other domestic activities being performed outside (1). But poverty must also have played a considerable part in regulating this arrangement, because as late as 1900 5/6 of Lord Dillon's tenants in Co. Mayo were living in one roomed houses with their cattle (2).

Generally speaking, the more recent one-roomed dwelling is small, that shown (fig.23), which has a room added to the hearth gable, being 23 ft., by 30 external dimensions, with a wall thickness of 2 ft: few crofter houses have walls less than this in thickness.

The location of crofter housing sites presents many interesting examples of the controlling factor of aspect: there is a great disparity between the population on the northern and southern shores of Gweebara Bay, the former having a southerly aspect while the latter lies in a cool shadow, and looks to the north. The disposition of the house is considerably influenced by the prevailing winds. The tendency is to erect the house with the lower gable to the southwest or west so as to present the smallest possible thatch surface to the wind, and as a further protection, the gable is usually raised (Plate 7) for this purpose. Houses in a townland show this common feature of the control of aspect, and are arranged as so many drumlins with either their backs or gables facing in the same direction. In many cases the back walls have no windows and it is only recently that many houses have had these inserted there.

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1. W.G.Wood-Martin. Traces of the Elder faiths of Ireland, Vol.I, 1902, p. 98.
2. 9th. Report of Congested Districts Board, 1900, p. 18.

This is by legislation

Aspect does not seem to influence the location of houses erected within the past few years (Plate 11), because they are generally perched on an eminence and are extremely draughty as a result. The older house took advantage of every available shelter - hillock, valley, and lee-side of hill - and in one case (fig.30) noted near Dunglow, a considerable amount of soil had been removed from a hillock to enable the house to fit in such a way, that, even though it was built on the lee-side of the height, its roof was completely unaffected by the west winds blowing on the other side.

A notable feature of the older dwelling is what may be called, its 'protective colouring', which is attributable to the material from which the house was constructed. The crofter's house, with its grey-brown thatch surmounting naturally hued stone, tends to melt into its surroundings, and, in forming a harmonious whole with them (Plates 9 and 10), is indiscernible from a short distance. The drystone work of the walls (Plate 12) is executed with the accumulated skill of generations, so that naturally shaped pieces of granite fit into the building scheme as neatly as schistose flags. This art is especially perfect at the corners of the house where a brick-like effect is produced if the stone is in any degree angular. Where possible, a naturally bedded rock is availed of as a wall support.

The outhouse for cattle, if not an annex to the main building, is generally added below the house, and not in front or behind to form a 'street'; the general absence of a 'street' is an especial feature of crofter house building, and is a reflection of the older custom of housing the animals 'below' the family under the same roof.

The development on the single roomed house is one with an extra room added to the hearth gable, chiefly because it saves labour and gets the full advantage of the fire: additions are rarely made on the west gable, a prohibition which is based on utility rather than on superstition: if the only necessary addition is a byre, it goes on the hearth gable because of the additional heat afforded (Plate 8). Modern houses, however, develop according to convenience, so that it is difficult to determine in many cases whether the extra room is an addition to a hearth gable or has been causedby a partition in a central chimney house. After the addition of successive rooms the crofter's dwelling takes on a low squat appearance, seems to lie as low as possible, and presents a small wind-surface.

This feature of crofting establishments is not confined only to Donegal: the black houses of the St. Kilda crofter were, beforethe migration of their owners to permanent residence on the mainland, barely 4 ft. above ground level, their walls and floors being sunken in the earth so as to reduce the area exposed to the wind to a minimum (1), and enable the menfolk to repair them (2). When built on a slope as the majority of the old houses are, the upper or hearth gable of the Donegal crofters house is often not more than 10 ft., high, the floor occupying the horizontal at the lowest level in the excavation made for the foundation in the hillside.

Walls are on the average 2 ft., thick and it is interesting

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1. C.F.Gordon Cumming. In the Hebrides, 1883, p. 329.
2. A. Carmichael. Carmina Gadelica, 1928, Vol.II. p. 305.

to note there are no recorded variations from this measurement. They are of drystone, coated inside and outside with mud and more recently mortar, the inner gaps in the stonework acting as conduits to carry moisture to the ground. In the old houses around Glencolumbkille an inner packing of blue clay was put down the middle of the walls. The modern house is now lime-washed on the outside, not because it makes the house look well, but because the lime prevents the growth of moss which encourages dampness. Limestone, rather than lime from shells is used, as the latter is too weak and is only suitable for internal washing.

The most important wall in the house is the hearth or 'upper' gable, because its position determined the direction in which the house increased. The lower gable, like the upper, is always a little higher than the thatch level, but the wind action on the thatch produces a bulging on the roof which strips the covering from the ridge (fig. 26E): where the protecting ridge up the gable is high enough (fig. 23A, Plates 7 and 13) ample protection is afforded. The structure along the top of both these walls is of flat stones tilted to shed the rain, about 9 ins. long 6 broad and 3 deep, whichare stepped to the apex of the gable where a last one acts as the gable finial. The protecting gable ridge is confined to the north coastal area and is not found south of Dunglow.

The entrance door has usually a thin flag as a lintel over a wooden frame (Plates 12, 13), and if a porch is added (Plate 13) it is certain that the occupier came from the eastern part of the county. Doors leading to the upper room are rarely on the right hand side of the fireplace, while those to a room in

the lower part of the house are generally in the middle of the lower gable. This wall isabsent in fig. 23, a sheeting partition having been erected to separate the living quarters from the byre. Thw owner of this house, the last of two bachelors, would ordinarly have had the byre converted into a living room if he had married.

Two doors opposite each other are a special feature of the crofter houses, and their names 'dorus na gaoithe' and 'dorus na fothana' - the door on which the wind blows, and the sheltered door, respectively - indicate the use to which they are put: each door is opened or closed accordingly as thewind is on it or not. If guts were to enter the kitchen, the smoke from a fire resting on the ground would soon make the atmosphere unbearable. It is by working this draught system that the crofter woman regulates her fireand aerates her home.

The migration of the fireplace from the middle of the floor to the gable wall and eventually into it, is one of the most interesting progressions associated withcrofter housing development. In it can be seen a reflection of the gradual evolution of sod hut, collateral with the improvement in roof construction and design. With the migration of the fire it follows that more room would be left for domestic duties and, instead of being used merely as a place for sleeping in, the house would develop into a social centre, with the fireplace now used as a focus not only for cooking, but also as a meeting place where ideas were matured and from which development was disemminated. The history of the hearth shows a gradual immurement from the time of the crofter's predecessor, when cooking was done in the open air, and later, on a fire in the middle of the floor, until to-day, when an almost

closed grate has been effected.

The fireplace (fig. 18A), which occupies a groove in the upper wall, is generally backed with stones smaller than those composing the gable proper. A breastwork above the fire protrudes 8 or 10 ins. from the wall as a casing for the chimney, and successive irregularities in it reflect the internal windings of the flue. The lower supporting shoulders project in a way that is reminiscent of the wooden balks that were at right angles to the gable and supported the smoke canopy in the old fireplace. A ledge running round the recess acts as a hob and shelf for soot. If the house is very old the recess for the fire is shallow and the stone breastwork quite deep, a reminder of the wooden or basketwork canopies which formerly covered the fire that burned against the gable. When this type of canopy was in use it was not uncommon to see a barrel or wicker framework as the chimney. Stone built chimneys, which were introduced here about 30 years ago, only became widespread throughout Ireland during the 19th. century (1). The wooden chimney (Plate 14), which is still common around the coastal stretch from Teelin to Glencolumbcille, is, since it is bound with straw ropes, a primary addition to the older chimneyless house. Instead of being an integral part of the construction the wooden chimney is merely set down on top of the chimney vent, and the scraws and thatch pulled up around it. This was how the barrel chimney was affixed in days gone by, a feature common also in the Hebrides (2). No houses have

1. Ake Campbell, "Notes on the Irish House", Folkliv, 2, 1938, p. 178.
2. In the Hebrides, p. 132.

great hobs on either side of thefireplace, but these become common once a connection is made with the east up the Finn valley

One of the most interesting features of the hearth is the poill an bhaic - two holes, one on each side of the fireplace. While the majority of houses have them located thus, a few have them actually in the wall at the back of the fire. Thepoill an bhaic average 8 ins., long, 6 ins., wide and the same deep. The western Norwegian peasant's house has also got this fireside feature and, when one considers the similarity of the climatic environments in which both are located, the necessity of a receptacle of this type, where contained articles such as tobacco salt, and snuff are assured of dryness becomes evident. This feature is duplicated in wall recesses of all sizes, which are actual building features and not the result of afterthought: these contain food or flour, but a recess with a glass door is always located in the left hand wall near the fire, and in it the clock is safe from dampness.

Two generations ago clocks were almost unknown among the crofters, so that thime was reckoned by the sun. The old people to-day can still judge the time in this way, or better still, by noting the height at which the tide stands. The latter method is more dependable than the former, because of the constancy of the tides in comparision with the uncertainty of the weather. The location of the clock aperture in the left-hand wall owes something to the old method of reckoning time by the sun, because it was in the left-hand or eastern wall that the solitary window was located and in which the door that was most often open - owing to the unfavourable aspect of the back of the house. Both door and window would give the longest view of the sun during the important

part of the day, the forenoon; this was especially so in winter.

Two methods of cooking are possible in a turf fire: first, by suspending the pot over the fire on a hook. Every house has one or two hooks of different length which can be moved up and down a chain hanging from an iron fixed bar in the chimney (fig. 21C). Pots containing porridge, or water for boiling, are thus suspended: the second method is by burying the pot in the fire and heaping turf coal around and on it: this is the manner in which 'soda Bread' is baked.

A notable absence in the crofter's domestic utensils is the griddle, due obviously, to the absence of an overhead support in early times when the fire was centrally positioned. The earliest substitute for it amongst the crofters was the gridiron for drying oaten bread and boxty. Before metal ones were used the cake of wet dough was laid against a stump, and later a tripod of bog fir.

This ovenless bread is common along the Atlantic seaboard of Western Europe where oats are a recognized culture crop (1).

The floor in modern crofter dwellings is of concrete, and few houses with mud floors and cobbled hearths remain. In old dwellings the floor has a gradual slope towards the door and, as in the modern floor, is everywhere higher than groundlevel outside (fig. 26A).

A singular feature in old houses that the houses of recent construction lack, is the wall-bed (cailleach - figs. 28 and 23, Plate 15). While etymologists attribute the name to a curtain (caille) hanging in front of the bed, the compound of "Cul", (back) and "teach" (house) is a possible synthesis. Like all

1. Sigurd Erixon "West European Connections and Cultural relation Folkliv, 2, 1938, pp. 151 - 2.

'alcove' features it is a typical example of a west European cultural form, which seemed originally to belong to lateral outbuilding architecture (1).

The wall-bed occupies a significant position in the arrangement of the kitchen, being either an extension on the gable hearth, (fig. 28A), or an inlet in a side wall (fig. 28B): in each case the bed is near the fire. In all old houses examined, the cailleach was part of the hearth gable, and from this one is led to the belief that desire for additional room and proximity to thefire were basic factors in its origin. While it is a feature of many houses built during the last 50 years, its absence as a particular feature in the oldest (Plates 9, 10, 16) indicates that is was not an essential feature in house construction. The cailleach is not an addition to thehouse but an integral part of it from the foundation, as the eave, and roof slope would not permit an annex after the completion of the house.

Campbell has pointed out (2) that the wall bed, which connects the crofter's house with the primitive black houses of Scotland, is distributed down the west coast of Ireland from north Donegal to Galway Bay, but not south of it. While the single cailleach only is found, a double one, 7 ft. wide was noted in the upper Finn valley near Fintown in 1938. The wall-bed is generally 6 ft., long and about 3½ ft., deep.

No feature of house construction shows the crofter's artistry and love of symmetry than the erection of the roof

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1. Sigurd Erixon, Folkliv, 1938, loc. cit. p. 170.
2. Ake Campbell, Folkliv, 1937, loc. cit. p. 233.

framework and thatching (Plates 5, 15). Unlike farmers in more favoured areas he is here limited in his choice of material for fashioning and covering the house. Nowadays the rafters are repaired with imported wood, but previously he had to depend on the bog timber which was admirably suited for the roof structure it was naturally preserved and was easily split. The principal parts of the roof are the couples (cuplai) which, running from the side walls, meet a tie-beam (maide snaidhm) to which they are fastened with one, two, or three wooden pegs, (pionna) 1½ins in diameter (fig. 29). An extra cruff-beam is generally, though not always added to strengthen the couples (fig. 26A). The length of the couple and the width of the tie-beam determine the slope of the roof: the former also fixes the length and width of the house. When the walls of the house have been raised to the required height, the couples and tie-beam are assembled at the correct angle on the ground, and then raised on to the stone-work. The inside part of the wall under the couple may then be completed (Glencolumbkille - fig. 26D) or the wall continued above the couple end (Rosses, Teelin - fig.26A; plate 12). Where the couple merely rests on the wall a stone breastwork 9 ins., wide and one foot high is built behind it, while its toe is 3 ins., from the edge of thewall so as to allow space for the sods (fig. 26D).

Purlins (taobhain), usually six in number, rest on the couples, and have their ends fixed on the gable hedges and supported by stones projecting from them (fig. 23A, plate 12). They are generally flat strips of bog-fir, which may either run the lengthof the house, or stretch only from gable to couple.

The two upper purlins are known as shoulder beams, (maidi

gualine), and fromthem to the ridge pole the rotundity of the roof is fashioned.

There are two methods of fixing the purlins to the couples: the first, and the modern method, is simply to nail them on: the second, and older method, is to fit in pegs inthe couples to support them. In many cases the lower pegs on the couples play a twofold part, as they not only perform their primary function of supporting the purlins, but are also so long, 8 ins., that they transfix the scraws and are their only support. All the fixtures in the roof structure are of wood which, because of the dampness swells, and tightens the joints.

The ridge pole (maide nullaigh), which rests on the tie-beam, is always thicker and stouter than the purlins as there is con - siderable pressure on it. It may rest on the tie-beam or else on wedges placed there to raise the ridge-pole in order to give the roof the required slope. These wedges are the only means the crofter has of correcting any miscalculation in the erection of the couples.

Minor rafters or bog-fir slivers, (creatacha, cleithti), about 36 ins., by 2 ins., lie on the purlins, and on these sods (scraithe) are spread. These were formerly cut with a knife, like a scythe blade, but today either an old scythe or a spade is used. As the sod is gradually cut, it is rolled on a spit of wood, freed of surplue soil, and left aside to dry until a sufficient number have been cut to cover the roof. These are taken singly and placed on the top of thewall and rolled up the creatacha, until the shoulder beam is reached, where the roll is placed temporarily. A companion sod on the opposite side isthen rolled up and it also placed on the shoulder-beam on its side. The

Sods are now regulated, care being taken that they are spread evenly on the laths, and fit in closely at the protecting gable ridge. When these precautions have been taken the first sods are rolled over the ridge pole and down the opposite side to the shoulder-beam on the opposite side, thereby forming an overlap between the two shoulder beams. In this case the sods ~~which~~ stretch from the tops of the walls to the beams on the other side of the roof.

There are two other methodsof laying the sods: (a) by placing three sods on the windward side, the top one overlapping the upper of two on the lee-side, but without an overlap at the ridge (1): (b) by placing two sods on each side of the roof, and a crowning one evenly on the ridge pole to overlap the upper ones on the sides of the roof, at the shoulder poles: in both cases the sods are about 5 ft., by 2 ft., by 1½ ins.

When the first layer of sods has been fixed up the roof a second one is laid in the same manner beside it but overlapping it by 8 ins. (fig. 31): in all crofter housing the sods overlap at their meeting places up and along the roof. They are always placed with the green side inwards, which allows the matted roots to hold the thatch, the only support it gets, excluding the ropes. In scollop thatching the roots are turned in and the thatch laid on the green side.

The dimensions of the sods vary in different localities with the method of placing them on the roof, and the size of the

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1. E. E. Evans "Donegal Survivals", Antiquity, June 1939, p.215.

roof to be covered. In Gweedore, Glenties, Ardara, Teelin, and Kilcar to mention a few centres, the sod running up the roof and measuring 10 to 12 ft., long, 1½ to 2 ft., broad, and 1 to 2 in. thick (fig.31), is used, while at Cloghan, Glenties, Knocfola, and Falcarragh the smaller sods are common. It seems that the length of thesod is also determined by the area available to the builder for cutting them, as well as the quality of the fibre in the sods: loose grassy turves are never used while turves with matted young heather roots binding them together are the rule.

As in the rest of thematerials usedin the building, the crofter is again constrained by his environment to use materials to hand when thatching. In this regard the seaboard may be divided into two parts (1) the coastal region where two thatches are used, bent grass in sandy areas, e.g. St. John's Pt., Traweenagh Bay, and the coastal margins of the Rosses, and (2) the hinterland of the immediate seaboard which is too far removed from bent grass areas, so that oat straw is the common thatch.

In order to remove grain, the straw, which is to be used for thatching, is gently beaten and not threshed, as this would break the stalks. It is then dippedin a copper sulphate solution which turns it a bright yellow and makes it last much longer. After this the straw is taken in sheafs to the house, - about 8 handfuls per sheaf - and in this way lifted onto the roof for the convenience of the thatchers. Two men often do a roof, one on each side, with their helpers on the ground supplying them with necessities, because a thatcher never leaves the roof unless for meals, or when his day is finished. He works always from the upper gable: in fig. 23, he started at the near gable and finished at the byre; in fig. 27C at the chimney;

in Plate 17, the far gable and end at the lower or byre gable. The straw is spread on in layers about 2 ft., wide up the roof to the ridge and, having done the same on the other side, a cap of straw is put over the ridge to overlap the highest layers on each side, much the same as the sods in fig. 26B. Like the placing of the sods, every successive layer overlaps an adjacent one. When the thatcher comes to the chimney, be it stone or wood, the straw is pulled well up round it and, when tying commences at the conclusion of the thatching, this part gets special attention.

The finishing touches may be put to the thatch as progress is gradually made along the roof, but generally (Plate 13), it is clipped and combed when the roof is completed. Having seen from the ground how the straw covers the roof, the thatcher corrects faults, and then proceeds to smooth it out, to comb the layers into one another, to remove ridges and runnels and, by skilfully clipping heavy parts, makes the surface appear as if it were a uniform straw mantle: this is the real testof his artistry, and is the part of the job that most hinders the completion of the roof, because the overlapping layers of thatch must be disturbed as little as possible.

The articles used in thatching are a crude comb made of a piece of wood of convenient size, about one foot long, containing wire teeth; and a pair of shears.

As an even balance is gradually obtained, the shaggy ears are clipped off, and when the roof has all been treated and the straws combed down to cast off the rain, tieing follows.

Other thatches that were once common were flax, barley, and rye, but these have now died out completely owing to their disappearance from the rotation. Flax was once a very popular

thatch along the whole west Donegal coast until the end of the last century, but the death of the cottage linen industry, as well as a cheap substitute in the newly introduced bent grass, resulted in its complete disappearance. Heather and rushes are still used on outhouses (Plate 9), but not on dwellings, the pith in the latter being retentive of moisture.

In winter time the crofter in Banagh slings extra ropes weighted with stones over his roof to act as an added precaution against an accident, but in spring these are removed. Themost novel binders of all along the immediate coast are disused fishing nets or wire netting (Plate 13). The Scottish fishing-crofter also puts his disused net to the same use (1).

When a crofter cannot afford straw-thatch he substitutes mountain grass (ciob), black sedge (ciob dhubh), or grass of Parnassus (Fionnan bán), all of which are cut and dried in autumn: the last is the most common of all, as a thatch of it stands for 7 years and the roof need be stripped only about ever 35 years. A bent grass roof lasts for 3 years.

When thatching with mountain grass, which is very easily worked with, the chief care is to see that it lies flat and is combed down to shed the rain. This thatch is used extensively in the Gweebara Bay coastal region where the crofters are averse to bent which tends to remain sodden after rain. Theonly objection to mountain grass or black sedge is the great difficulty entailed in gathering it. As it costs nothing, however, and

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1. J. A. Hamilton. People of All Nations, Part 41, p. 4483.

there are no restrictions on cutting it, it is very much in favour in the area mentioned and in the mountain valleys of Banagh, were oat straw is used to more advantage.

Bent, which is a common thatch all round the coast, especially in the Rosses, is rapidly dying out as thatching material owing to government restrictions on its use (vid.p. 12 ) and because it has to be purchased. It is cut in special areas, sheafed and stooked, just like corn, and delivered at 5/- a load on demand. Before putting on roof, it is shaken on the ground to remove any sand as this would encourage dampness. Because of its length, two longitudinal swaths of grass on each side and a crowning one over the ridge are sufficient to thatch a roof. Unlike straw, a thin scattering of grass with fibres lying horizontally is shaken over the combed thatch so as to allow the ropes to grip: in the case of bent and mountain grass, it is this light horizontal layer that keeps the thatch proper in position.

In the case of both grass and straw the thatch on the cailleach is a continuation of the fall of the roof (Plate 14), and is just slightly above the level of the roof thatch into which it gradually merges on each side in an even curve.

There are two methods of securing thatch - with scollops, and with ropes. Only one example of an attempt at scollops was noted at Dunglow (fig. 30). Here hazel rods were stuck irregularly into the roof without any attempt at pegging them into the underlying sod in the customary manner. Scollops are not in favour here as the crofters consider them unsafe in such an exposed coastline, roping being the only safe method. In the northern part of the coast therope end is first tied to a stone peg (bacan), and the rope ball thrown over the house to a person on the other side, who

assists in placing the line correctly with a rake head or hay fork, and, having done so, gives it a twist round the first bacan on his side, and returns the ball over the roof to the first thrower. The ball is thrown back and forth over the house, a turn being made round a bacan before every throw: in this way the thatch is secured. Theonly additional ropes are, one round the base of the chimney to secure the thatch there, and a second along the eaves and secured at the ends either by nails in the gables, or else by the more common peg (fig. 25A).

After a week or so, when the thatch has settled, the ropes are given a final tightening, and the pegs holding therope along the eaves given a twist to keep the lower layers firm. This part of the thatch protrudes over the walls (fig. 23 and Plate 7) and is not trimmed like straw.

The roping system in the southern districts ~~part~~ of the seaboard runs not only over the roof but along it as well. The bacain along the walls have counterparts in the nails that run along the gable tops. In this case the horizontal ropes are laid on first, as the thatch is at right angles to them, and the cross ropes last, to tighten them. The former are kept in position by giving nearly all the crossropes a twist round them (Plate 18). Unlike the crossropes in the north, a single cord joins each bacan. These ropes also hold the eave lath, but additional ones are thrown over the roof, separate from the binding ropes, to secure it. The eave thatch is always neatly trimmed even in grass thatching. An especial feature about this type of thatching is themanner in which it comes close to the gable edge, and in the case of mountain grass, actually comes over the gable (Plates 8, 19). Thepointed gable with its protecting ridge (Plate 17)

takes the place of this feature in the north.

The ropes used today are hempen cords purchased locally, or straw ropes twisted by a special instrument (cas sugain - Plate 20) which, when worked by experienced men (Plate 21) produces a thin straw rope that is the equal of any substitute. While one man turns the small handle, the bow at the top twists the straw fastened there. As the rope lengthens the twister moves away from the feeder until the required amount is prepared: it is then rolled into a ball for future use. An early type of rope used by Donegal crofters was of bog-fir (1), a wood which splits readily into strands for rope making. It was much prised as roping by the people in Clare (2), and Tyrone, where it was first beaten into small filaments before twisting (3).

The interior of a modern crofter's house has that simplicity and cleanliness that are connoted by lime-washed walls and scarcity of furniture. Generally speaking, the sole furniture is a table, a few chairs, a dresser with delph ware, the wall bed, and a few religious pictures. The clock is in its hole in the wall, while pots and similar domestic utensils litter the space between both doors. On the wall outside hangs a shallow home-made wicker dish which is in daily use for straining potatoes.

Formerly basins, buckets, and bowls were, like the piggin, fashioned of wood, but travelling tinkers introduced cheap tin ware that foreshadowed the disappearance of the wooden article.

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1. J. McParlan. Statistical Survey of Co. Donegal, 1802, p. 91.
2. J. Binns. The Miseries and Beauties of Ireland, 1837, Vol. II, p. 382.
3. E. Wakefield. Statistical and Political Account of Ireland, 1812, Vol. I, p. 751.

The arrangement of the furniture is an interesting feature of the kitchen. The only article that seems to be in its natural position is the wall bed, the table being awkwardly arranged along the wall between the door and window(fig.30), and the modern chairs striking an odd note near the fireplace or at the table. In the old kitchen (fig.23) there is no furniture, a common-place in old Irish houses (1), stools taking the place of chairs, and most important of all, no table. During the last century the crofter's dietary, as well as his fire in the middle of the floor, would indicate that a table was unneccessary in his domestic life. And even to-day this custom seems to be perpetuated in sitting the children at the fire with the wicker dish of potatoes, or in allowing all themembers of the family to eat from the dish resting on the table.

The only piece of furniture thatis not visible is the churn (fig. 11) as it is kept in a room out of danger. This small dash churn, which was so important in the days when transhumance was practised, is unlike the small pot-bellied one in Connemara. In earlier times this was held between the legs, just like a quern and dashed with the hand (2).

The inside of the walls are washed with lime made from shells, as it is whiter than limestone, and the roof daubed with tar as leakages occur. The floor to-day is invariably concrete but the older one was beaten earth, and always contained a little wooden block near the fireplace for standing pots on. The immediate

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1. Miseries and Beauties of Ireland, Vol I, p. 206.
2. Duntons Letters, No. 2. in MacLysaght's "17th. Century Ireland p.337.

precints of the hearth are flagged.

Domestic duties are performed outside as much as possible, the washing being done, as in the old days of the homespun, at a lake or river side, the women standing in their tubs and tramping the clothes. All cooking for livestock is done on open air fires built at a convenient distance from the house.

To-day, slate and corrugated iron are rapidly displacing thatch, so much so, that in the past 20 years in Ranafast and Derrynamansher, Lower Rosses, 96 out of nearly 100 thatched roofs have disappeared and slated or tiled ones taken their place. While the thatch has the dual advantages of beauty and snugness, it is unhygienic, highly inflammable, and troublesome.

Government loans are contributing to the disappearance of thatched houses as few crofters fail to avail themselves of financial help in improving their dwellings. This is a strange feature of the crofter temperament - the tendency to improve the house and not the land.

State help for building is given the crofters in two ways (a) a grant, (b) a loan: the grant for repairs to the house is free, but as it is always insufficient to complete it, a loan is borrowed from the state at a fixed interest. A £20 loan must be refunded at 11/8 semi-annually for 30 years, paid at the local fair. This was where rents were paid in days gone by. If a crofter is extending his house he has not only to purchase material, but also to pay a local builder 6/- a day to effect th necessary alterations. Neighbours always assist in building operations in order to speed the work and lower the cost, and in so doing, perpetuate the custom of old communal gatherings for wool shearing, and peat cutting.

PEAT.

Mention of the house demands reference to the method of lighting and heating. Every house has an oil lamp which is an innovation only since the beginning of the present century. Reed candles and dipped bog-fir splinters were universally used before this, the rushes being cut in autumn, dried and used as required. The skin of every rush was peeled off for two thirds it circumference, so that the pith and a fine strip of brown skin were left to be dipped in some sort of grease, seal or fish oil formerly, but lard and butter more recently. After this process the rush becomes slightly curved, so that it could be fixed into a split in a flat board which was laid on the window sill or wedged in a wall. Peeling rushes was disliked by children, as the work was both tedious and constant. Rushes shed a light that was slightly weaker than candle light, and lasted for approximately 12 minutes. They were used, "eight fists thick", in ancient Ireland (1), and later still aroused the interest of Fynes Moryson (2).

Working the turf bank is undoubtedly the most exacting of the crofter's occupations not only because of the uncertainty of the results but because of the high labour cost. The importance of peat in the crofting economy cannot be over-estimated, because it is intimately related with the fireplace, the centre of all domestic activities, and contributes towards the strengthening of the kinship bond by encouraging social groups.

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1. A. Social History of Ancient Ireland, p. 162.
2. H. Morley. Ireland under Elizabeth and James I, 1890, p.429.

Peat-cutting, once a communal event, is now done by three men, one using the spade, and theother two catching and spreading the sods alternately. The men engaged are usually neighbours who work on a reciprocation of labour system, the one being assisted at his bank to-day lending help to his neighbours at some other time.

When the sods are fairly dry they are turned soas to strengthen them for 'footing', when they are stood on end in conical formation to let the wind go through them and dry them completely. When 'wind' sufficiently, they are wheeled on a barrow to a sheltered spot and built into a stack, the outer sods on which are tilted to shed the rain.

The work in the peat bank is commenced in spring, the workers bringing their food and fire with them and remaining all day at their task. Since the progress depends absolutely on the weather, the final clamping is not completed until late June or early July. Other farming work now claims the crofter's attention, after which he brings the turf from the clamp on the bog and stacks it beside the house. Whenever good weather comes the people in whole townlands work at their peat banks.

The donkey and its side panniers (ciseain), as in Connemara, are never seen in Donegal, because the construction of the ciseain differs in both places. The Connemara ciseain has a lug woven into the rim, which allows it to be hung on a peg or hook in the wooden saddle, and a wicker door below, which can be opened by releasing a rod and so emptying the basket without taking it off the donkey's back. In Donegal, however, it is supported on the back by shoulder straps. This is the customary way in which the peat is brought from one place to another, few people

owning either horse or donkey.

Crofters living on the immediate coast have always a considerable distance to travel for their turf, while those on the islands have none at all and must purchase it on the mainland. The inland dweller however, has an abundance of fuel since he usually has a strip of mountain.

The growing scarcity of turf ~~is one which~~ will cause considerable hardship in the near future. The establishment of government undertakings for the production of briquettes not only gives employment, but also ensures a steady supply of fuel in districts now bare of peat through burning, in former times, and as the result of intensive cutting.

Few crofters to-day own their own bank, having to pay a neighbour instead, 5/- for a load of turf. As an alternative they may pay £1 or 30/- for a unit of work known as "obair an t-sleaghain" (the spade work), according to the distance of the bank from home. When obair and t-sleaghain is undertaken, the crofter clears the scraws from the surface of the part to be cut, and is then entitled to dig a strip of 70 turf spades long, seven sods wide, and two deep. Breast work is never done here, foot slaningbeing the practice.

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APPENDIX G.

Map showing Roads recommended for improvement, and referred to in paragraphs Nos. 98 - 101 at pages 29 - 30 of Report.

ORDNANCE SURVEY OF IRELAND


Roads, First Class ..... (Altitudes)
" Second Class .....
" Third Class .....
Railways ..... station
County Boundaries .....
Church .....

Prepared at the Ordnance Survey Office, Dublin, 1935.

Scale of Four Miles to One Inch. 1/253440

10 0 5 7 6 5 4 3 2 1 0 10 20 Miles

The Altitudes are given in Feet above the Low Water of Spring Tides in Dublin Bay, which is 21 Feet below a Mark on the base of Poolbeg Lighthouse.



Published by the Director General at the Ordnance Survey Office, Dublin. 1935.
Reduced from the One Inch Map.
Revised: 1859-1900.
Railways inserted to May 1918.

N.B. The representation on this map of a Road is no evidence of the existence of a right of way.