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Case Study
Pinpointing the McGurk Irish Paternal Ancestral Genetic Homelands

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INTRODUCTION

A simple painless commercial ancestral Y chromosome DNA test will potentially provide one with the names of many hundreds of individuals with whom one shares a common male ancestor, but what often perplexes people is how one can match lots of individuals with many different surnames? The answer is quite simple. Roughly 1,000 years ago, one's direct medieval male ancestor, the first for example to call himself 'McGurk' was living near others with whom he was related but who inherited other surnames like McCrory, McElvenny, and Hegarty. Given that 1,000 years have passed since paternally inherited surnames were first adopted, there will be many descendants of those individuals some of whom will today undergo commercial ancestral Y-DNA testing. Hence the surnames of one's medieval ancestor's neighbours will be revealed in today's Y-DNA test results.

Surnames in Ireland can still be found concentrated in the areas where they first appeared, or in the area where one's ancestors first settled. One can therefore use census data to determine the origin of the surnames that appear in one's Y-DNA results, identifying an area common to all, and reveal one's '**Paternal Ancestral Genetic Homeland**.' The paternal ancestral genetic homeland is the small area (usually within a 5-mile radius) where one's ancestors lived for hundreds if not thousands of years. It is the area where one's ancestor first inherited his surname, surrounded by relatives who inherited others. It is the area where one's ancestors left their mark in its placenames, its history, and in the DNA of its current inhabitants. Since modern science can pinpoint a paternal ancestral genetic homeland, it can also be used to confirm it by DNA testing individuals from the pinpointed area.

Notes of caution!

1. Each of the estimated 1,500 unique Irish surnames had a single founding ancestor, which is an estimated 1,500 'Adams' from whom anyone with Irish paternal ancestry (and with one of those unique surnames) can trace direct descent. But science has demonstrated that only 50% of individuals with a unique Irish surname will be related to their surnames founding ancestor (*the surname-Adam*), the other 50% of males will have an association that has arisen due to 'non-paternal events,' usually a result of adoptions or maternal transfer of the surname.
2. Often people are looking for their DNA results to trace back to a specific area. One must remember that the results typically reflect one's ancestor's neighbours from around 1,000 years ago. As a result, if one's Irish paternal ancestor was descended from a Viking raider, Norman, or Plantation settler, then one's Y-DNA results may reflect earlier English, Welsh, French, and possibly Scandinavian origin. One must approach this process with an open mind!

Interpreting the Y-DNA test results

To pinpoint a paternal ancestral genetic homeland, one must first identify the surnames that appear as one's closest genetic matches upon commercial ancestral Y-DNA testing. Those surnames, particularly those that recur among one's closest genetic matches, will reflect the surnames of one's ancestral neighbours. Mr McGurk's closest and most frequent genetic surname matches as revealed by commercial ancestral Y-DNA STR and SNP testing are revealed in **Figures 1, 2** and **3**.

111 Y-DNA STR Marker Matches

Last Name	Match Date	Markers Tested	Genetic Distance	Big Y STR Differences	Y-DNA Haplogroup	Paternal Country of Origin	Earliest Known Ancestor
MCGUIRK	June 29 2018	1 to 500	6	8 of 506	R-BY168456	Ireland	Edward McGuirk, Cleveland OH, mid 1800s
Bradner	June 10 2018	1 to 500	7	11 of 525	R-BY168456	Ireland	Joseph Bradner 1807 Oldboleys, Wicklow Ireland
Gafford	February 16 2020	1 to 111	7	Not Available	R-S673	Ireland	Patrick Henry Gafford b 1846 Ireland d 1878 Texas
McGurk	May 13 2018	1 to 500	7	4 of 507	R-BY50692	Ireland	Francis McGurk, 1793-1878
McGuirk	July 11 2018	1 to 700	8	9 of 572	R-BY168456	Ireland	McGuirk Wicklow Ireland
McGuyrt	March 27 2019	1 to 700	8	7 of 596	R-FGC49724	USA	John G. McGuirt
McGurk	September 16 2021	1 to 700	9	Not Available	R-M269	Unknown Origin	

67 Y-DNA STR Marker Matches

Last Name	Match Date	Markers Tested	Genetic Distance	Big Y STR Differences	Y-DNA Haplogroup	Paternal Country of Origin	Earliest Known Ancestor
MCGUIRK	July 19 2014	1 to 500	3	8 of 506	R-BY168456	Ireland	Edward McGuirk, Cleveland OH, mid 1800s
Bradner	July 19 2014	1 to 500	3	11 of 525	R-BY168456	Ireland	Joseph Bradner 1807 Oldboleys, Wicklow Ireland
McGurk	May 13 2018	1 to 500	3	4 of 507	R-BY50692	Ireland	Francis McGurk, 1793-1878
Bradner	July 19 2014	1 to 67	3	Not Available	R-M269	Ireland	
MCGUIRK	July 19 2014	1 to 67	4	Not Available	R-M269	Ireland	Edward McGuirk, Cleveland OH, mid 1800s
Laughlin	June 26 2019	1 to 67	4	Not Available	R-M269	Unknown Origin	Ralph Bradner
McGuirk	July 19 2014	1 to 700	5	9 of 572	R-BY168456	Ireland	McGuirk Wicklow Ireland
Gafford	February 16 2020	1 to 111	5	Not Available	R-S673	Ireland	Patrick Henry Gafford b 1846 Ireland d 1878 Texas
McGurk	September 16 2021	1 to 700	6	Not Available	R-M269	Unknown Origin	
McGuyrt	March 27 2019	1 to 700	6	7 of 596	R-FGC49724	USA	John G. McGuirt
Harrison	July 19 2014	1 to 67	7	Not Available	R-M269	Unknown Origin	William Harrison B 1730 D about 1800 NC or VA
Abbott	January 13 2021	1 to 111	7	Not Available	R-M269	Unknown Origin	

Figure 1: *Snapshot of test subject McGurk's closest genetic surname matches as revealed in a Y-DNA STR database. The more Y-DNA STR markers two people share, the more recent their shared paternal ancestor once lived. The test subject's closest genetic surname matches are* ***NOT RANDOM****; they are dominated by others named McGurk, McGuirk, and McGuyrt (**red arrows**). Highlighted font indicates each surnames associated ethnicity, or the location of an earliest paternal ancestor; Irish/Ireland, Irish-associated.*

Figure 2: *Block display of Mr McGurk's closest SNP matches. While Y-DNA STRs are prone to replication or deletion with each generation, SNPs are far more permanent mutations. SNP testing offers an accurate glimpse of the precise chronological development of surnames among a tribal group of related males. SNP testing reveals that the McGurk (**red arrows**), McIlvenny/McIlvenna (**yellow arrows**), Haggarty/Hegarty (**green arrow**), and McRory (**purple arrows**) surnames arose among an R-M222^{+ve} (**black box, top**) tribal group of related Irish males living in a specific part of Ireland.*

Recurring SNP Matches			
Surname	Frequency	Surname	Frequency
Doherty/Daugherty/Docherty/Dougherty/O'Doherty/O'Dogherty	31	Murphy	4
Millegan/Millican/Milligan/Milliken/Millikin/Mullican/Mullikin	25	Murray	4
McConaghy/McConahey/McConathy/McConaughy/McConchie/McConkey/McConnachie/McConnaughey/McConnaughhay	11	Stewart/Stuart	4
Reilly/Riley	8	Clark	3
McCord	7	Collins	3
molloy/Malloy	7	Cosby	3
O'Brien/Bryan/Bryant	7	Gilmer/Gilmore	3
Roberson/Robertson	7	Graham	3
Campbell/Kimpel/McCampbell	6	Harvey	3
Ewing	6	Heaney	3
Byrne/Burns/Byrnes	5	Maley/O'Malley	3
Duncan	5	McAnally	3
Kelley/Kelly	5	McBride	3
McGuirk/McGuirt/McGurk/McGuyrt	5	McIlvaney/McIlveen/McIlvenna	3
Alexander	4	McKee	3
Cannon	4	McLaughlin	3
Dunn	4	McMonigal/McMonigle	3
Johnson/Johnston	4	Moore	3
Kennedy	4	O'Connor	3
Devitt/McDevitt	4	McReynolds/Reynolds	3
McGee/Magee	4	Strain	3
Mullen/Mullins	4		

Figure 3: *Mr McGurks recurring SNP genetic surname matches reveal a paternal ancestral link with Ireland. Y-DNA SNP testing revealed 587 paternal genetic relatives, 233 of whom had surnames that recur 3 times or more (detailed). Those surnames are* ***NOT RANDOM*** *and are dominated in frequency by Irish-associated surnames which confirms a paternal ancestral origin within Ireland. Highlighted font indicates ethnicity; Irish, Scottish, Irish-associated.*

Upon commercial ancestral Y-DNA testing the test subject matched others named McGurk, McGuirk, McGuirt, and McGuyrt who tested independently, see **Figures 1, 2** and **3.** This indicates that the test subject is directly descended from a 'McGurk-Adam,' literally the first male (Adam) to take that surname who lived approximately 1,000 years ago. McGurk is a surname associated exclusively with Ireland, and the dominance of Irish surnames among the test subject's closest Y-DNA genetic matches confirms that his paternal ancestry is connected to Ireland. More specific SNP testing confirmed that the test subject carried the Irish paternal R-M222 genetic marker and revealed that his most recent ancestry is linked with a selected number of Irish surnames, see **Figure 2**. The presence of both Irish and Scottish surnames among the test subject's recurring SNP matches is not uncommon, and merely reflects the close shared ancestry among the Irish and Scots, the result of movements of people back and forth over millennia.

The McGurk and McGuirk Surnames in Ireland

The 1911 census of Ireland revealed approximately 2,000 individuals named McGurk and McGuirk. Those individuals were not scattered uniformly throughout Ireland but concentrated within specific Irish counties, see **Figure 4**. Since surnames arose in an agricultural society, farmers with each surname can still be found concentrated in the area where their surname first appeared, or in the areas where one's ancestors first settled. Distribution mapping of Irish farmers named McGurk and McGuirk reveals them concentrated in 3 distinct locations, see **Figure 5**. This indicates that there were at least 3 geographically distinct clans within Ireland that could have given rise to the test subject's 'McGurk' surname. Each clan was potentially founded by a genetically distinct Adam (although some may be related and arose due to migration). Since the test subject has the McGurk surname, plus a Y-DNA revealed Irish origin, and Y-DNA matches to others with similar surnames; his paternal ancestry is linked with one of three Irish locations.

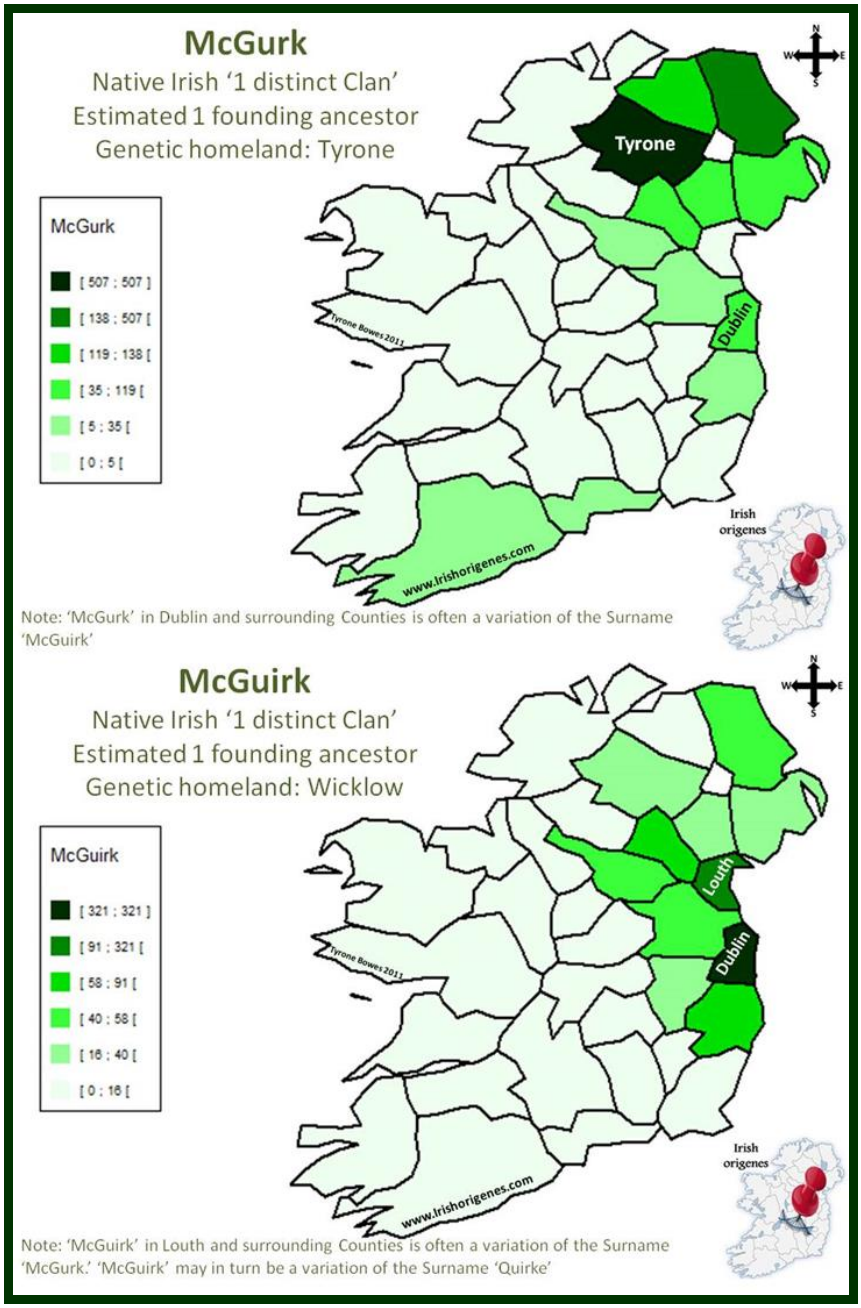

Figure 4: *Distribution mapping of the McGurk and McGuirk surnames in Ireland. An examination of the distribution of all individuals McGurk and McGuirk in 1911 reveals that they are not distributed evenly throughout Ireland but concentrate in specific Irish Counties.*

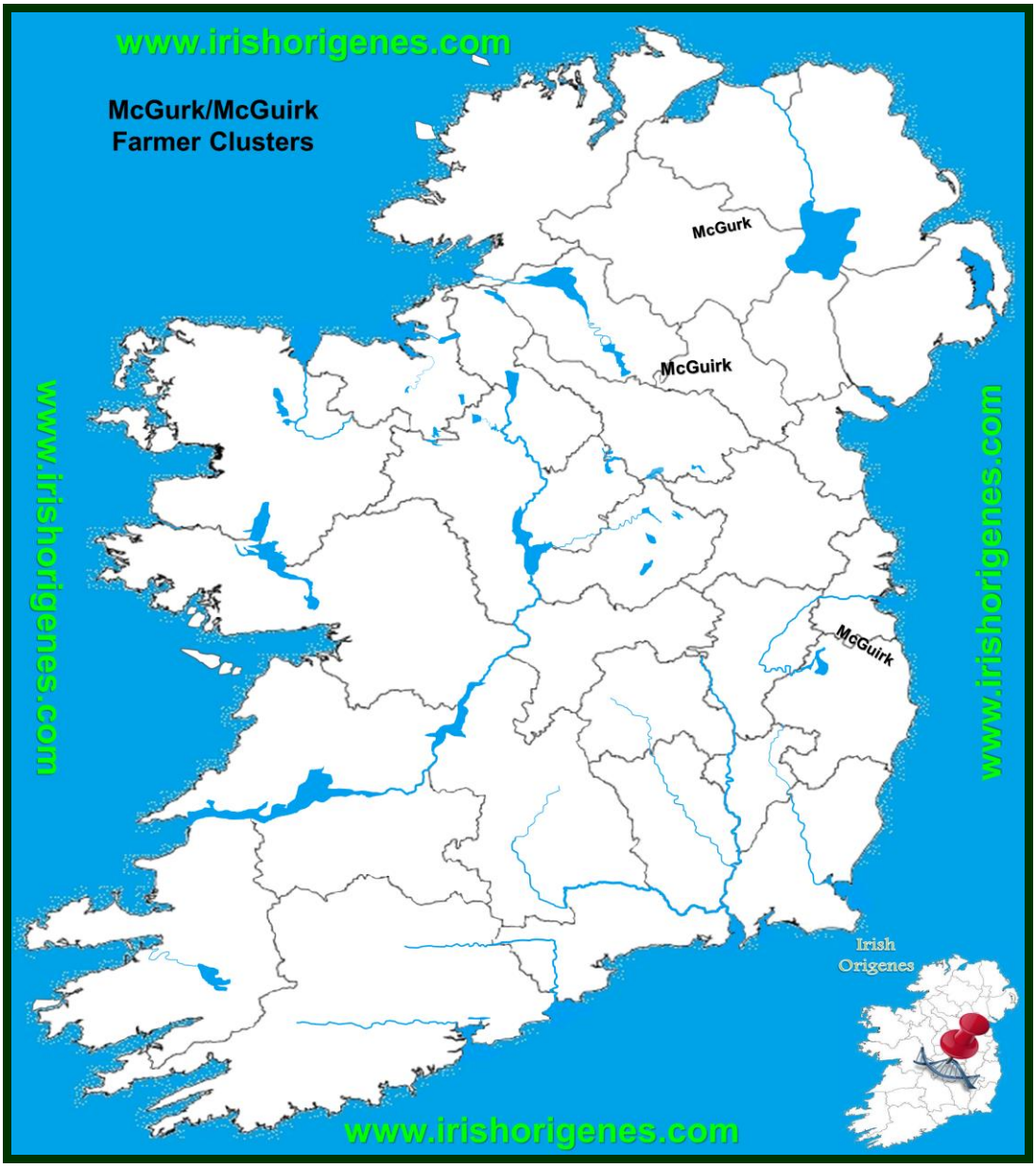

Figure 5: *The McGurk and McGuirk farming communities. An examination of the distribution of farmers named McGurk and McGuirk reveals 3 geographically distinct groups. Each group may represent an unrelated clan, each potentially founded by an unrelated and genetically distinct Adam. Since Y-DNA testing reveals that the test subject's paternal ancestry is linked with a McGurk-Adam; his paternal ancestry is linked to one of these three locations within Ireland. Each surname is positioned in the location where farmers with that surname concentrated in early census data. The most common spelling is detailed in each location.*

A most recent Paternal Ancestral link with Mid-Ulster

The method of using genetic surname matches as revealed by commercial ancestral Y-DNA testing to pinpoint one's paternal ancestral genetic homeland works by exploiting the link between the Y chromosome, surname, and land which are typically passed from father to son through the generations. In the absence of a link to the land the process becomes more challenging. The link with the land is greatest among the farming community, and since farmers in Ireland can still be found farming the lands where their ancestor lived when he first inherited his surname, or where one's ancestor first settled within Ireland, one can plot where farmers with

the surnames that appear in one's Y-DNA results originate and identify an area common to all. This means, for example, that upon Y-DNA testing a McGuirk from County Monaghan will be a Y-DNA genetic match to males with surnames like McKenna, McDaniel and Creighan; surnames associated with Southern Ulster. In contrast, a McGuirk from County Wicklow will be a Y-DNA genetic match to males with surnames like Byrne, O'Toole, and Kavanagh; surnames associated Southeast Ireland.

SNP testing reveals that the test subject's most recent paternal ancestry is intricately linked with the McGurk, McIlvenny/McIlvenna, Haggarty/Hegarty, and McRory surnames which arose among related males an estimated 425 years ago, see **Figure 2**. Overlay mapping of the McGurk/McGuirk, McIlvenna/McElvenny/McElvaney, Hegarty, and MacCrory/McGrory farming communities reveals that they only occur together within Ulster in the north of Ireland, see **Figure 6**. An examination of Mid-Ulster as it appears on the Irish Origenes Medieval Surnames of Ireland map reveals the McGurks of County Tyrone surrounded by many of the surnames that appear among the test subject's closest and most frequent SNP genetic matches, see **Figures 3** and **7**. Y-DNA testing reveals that the test subject's McGurk paternal ancestor was living in County Tyrone approximately 425 years ago.

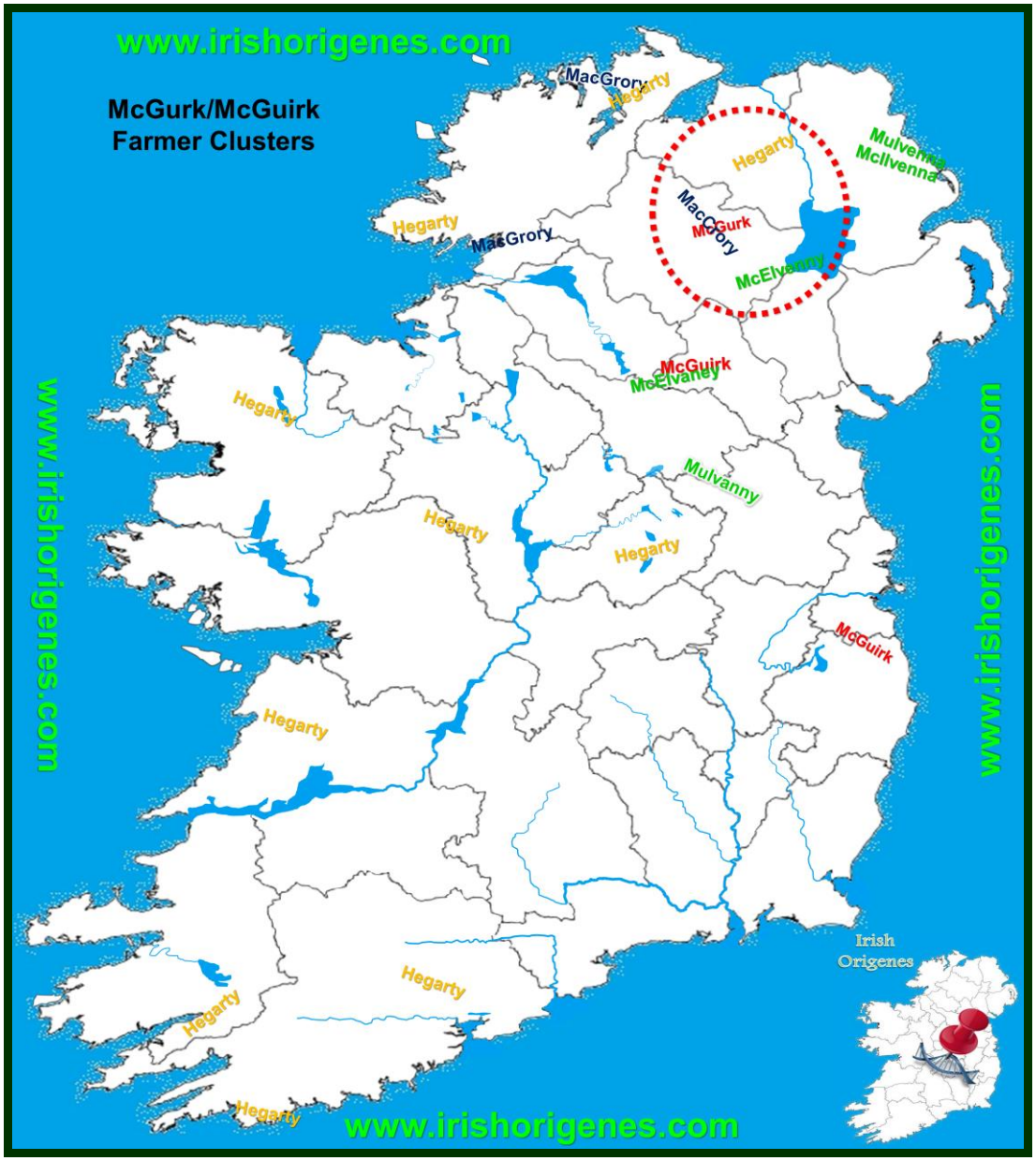

Figure 6: *Overlay mapping reveals a most recent paternal ancestral link with Mid-Ulster. The McGurk, McIlvenny/McIlvenna, Haggarty/Hegarty, and McRory surnames appear among the test subject's closest Y-DNA SNP matches. Overlaying mapping of the McGurk/McGuirk, McIlvenna/McElvenny/McElvaney, Hegarty, and MacCrory/McGrory farming communities reveals that they only occur together within Ulster in the north of Ireland (**red broken circle**). These Y-DNA genetically matching surnames arose among a tribal group of Gaelic Irish (R-M222) males living in County Tyrone and its borderlands approximately 425 years ago. Each surname is positioned in the area where farmers with that surname concentrate in early census data. The most common spelling is detailed in each location.*

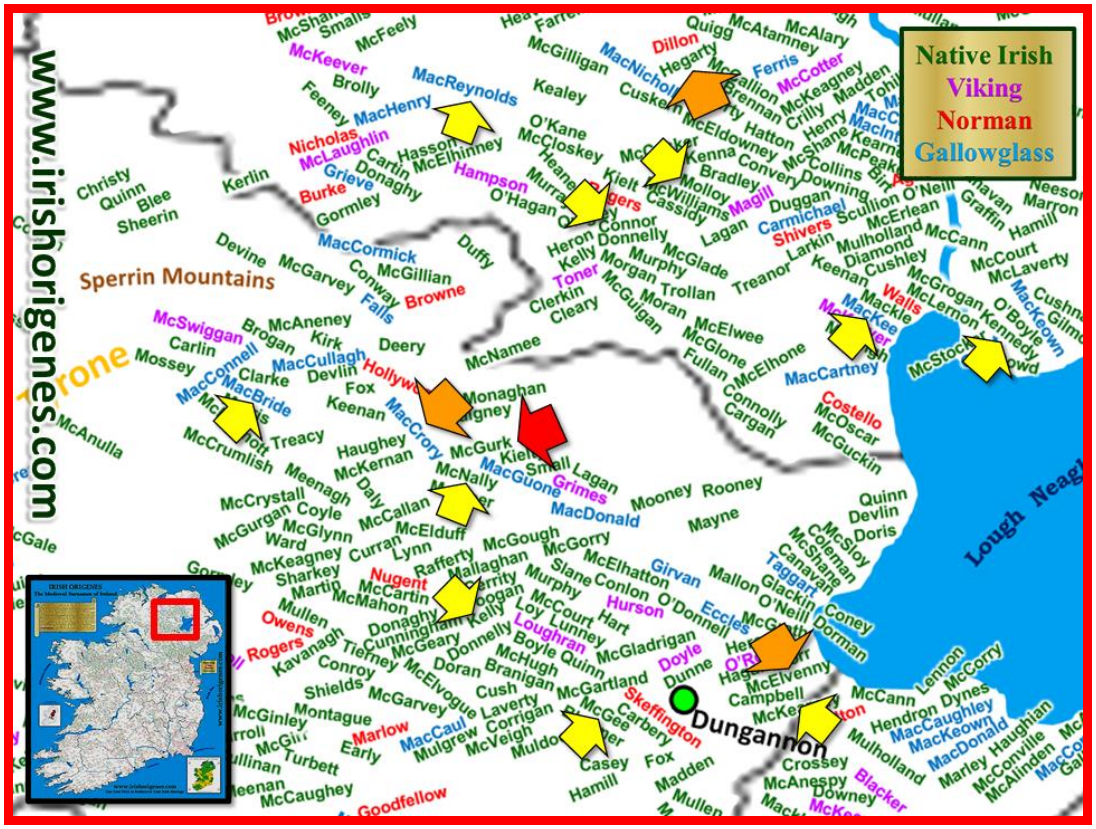

Figure 7: *The Pre-Plantation surnames of Mid-Ulster. An examination of the Pre-Plantation surnames associated with Mid-Ulster (as it appears on the New 2nd edition of the Irish Origenes Surnames map) reveals the McGurk surname (**red arrow**) in County Tyrone surrounded by surnames that appear as his close (**orange arrows**) or more distant (**yellow arrows**) recurring SNP matches. Each surname is positioned in the location where farmers with each surname concentrate in early census data. The most common spelling is detailed in each location.*

The Clan Territories of Mid-Ulster

By the 14th and 15th Centuries Ireland was a patchwork of territories which were dominated by over 400 of the most notable Irish clans and Norman families. The Irish Origenes Clan Territories of Ireland Map was reconstructed based on the location of castles and towerhouses and their known historical link to a particular clan or family. Commercial ancestral Y-DNA testing and research at Irish Origenes has revealed that one will often exhibit shared paternal ancestry with one or more of the prominent clans or families that once ruled over one's paternal ancestral genetic homeland. An examination of Mid-Ulster as it appears on the clan map, reveals an area dominated by Irish clans, see **Figure 8**. The most notable Ulster clan were the O'Neills whose failed rebellion and exodus during the 'Flight of the Earls' initiated the Plantation of Ulster, an event that saw the arrival of thousands of Scottish and English settlers, see **Figures 8** and **9**. It was the displacement cause by the arrival of these settlers which results in the test subject's ancestor leaving County Tyrone to settle in County Wicklow where his earliest paternal McGurk ancestor is recorded.

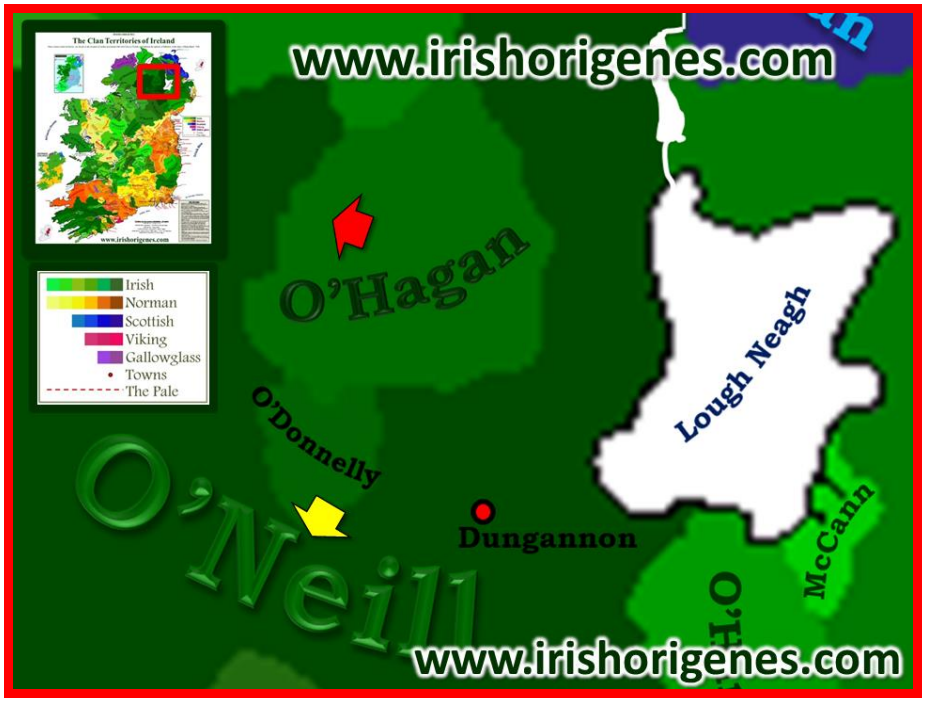

Figure 8: *The Clan territories of Mid-Ulster. An examination of Mid-Ulster as revealed by the Irish Origenes Clan Territories map reveals and area dominated by Irish clans. The test subject's McGurks (**red arrow**) lived on the lands dominated by the O'Hagans, the chief of whom exercised the hereditary right of inaugurating the O'Neill (**yellow arrow**) as king of Ulster. The defeat and exodus of the O'Neills led to the Plantation of Ulster and the displacement of the test subject's McGurk ancestor. The Clan territories map was reconstructed based on castle locations and their historically associated clans and families.*

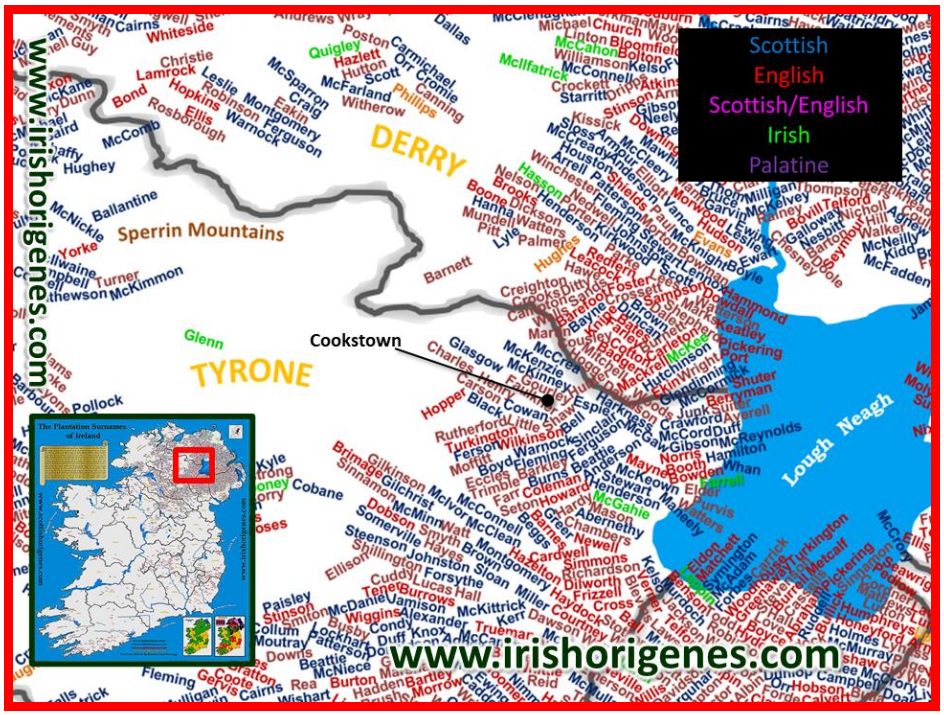

Figure 9: *The Plantation Surnames of Mid-Ulster. The Plantation of Ulster saw the arrival of Scottish and English settlers on land forfeited by Gaelic Irish chieftains. The displacement of the native Gaelic Irish resulted in the test subject's McGurk ancestor settling in County Wicklow where his earliest paternal ancestor is recorded. Each surname is positioned in the location where Protestant farmers (male, heads of household) with each surname are recorded in early census data. The most common spelling is detailed in each location.*

Mr McGurk's Most Recent Irish Paternal Ancestral Genetic Homeland

Early census data reveals that the 'McGurks' concentrate in the farmland that lies just west of Cookstown in County Tyrone; and it is there that the test subject's most recent Irish Paternal Ancestral Genetic Homeland is to be found, see **Figure 10.** It was there that the test subject's Gaelic Irish R-M222 paternal ancestor first took the 'McGurk' surname an estimated 425 years ago, surrounded by relatives who would take other surnames like McCrory, Hegarty, and McElvenny. When one's ancestors and their genetic relatives have lived in an area for a long time, one will often find historical monuments, townlands or local placenames that are associated with them. To the east of Cookstown, just south of the village named 'The Loop' one finds the townland of 'Bally*gurk*,' see **Figures 10** and **11**. Townlands are Ireland's smallest geographical unit of land division, many of which pre-date the Norman arrival in 1169AD and are named after the clans and families that lived there. 'Ballygurk' marks the precise origin of the test subject's paternal McGurk ancestors prior to the upheaval of the Ulster Plantation that began in 1610AD. The test subject's paternal ancestors will undoubtedly have left evidence of their ancestral links with this area in its history, and in the DNA of the current inhabitants.

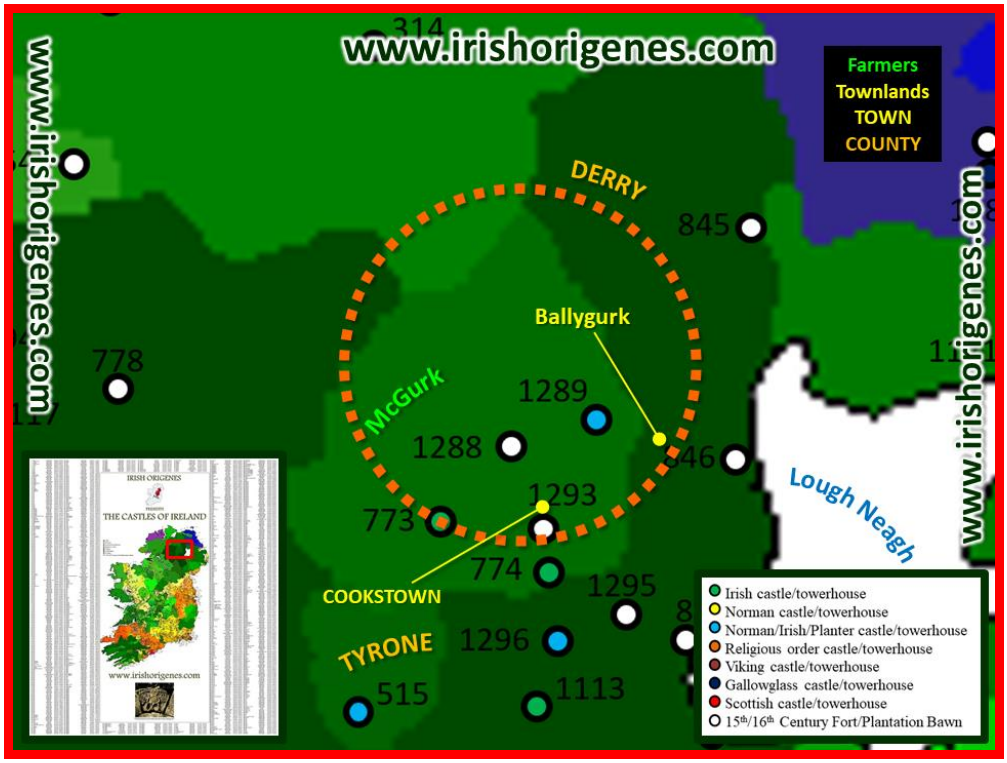

Figure 10: *Mr McGurk's most recent Irish Paternal Ancestral Genetic Homeland. Early census data reveals that farmers named McGurk concentrate in the farmland that lies to the north of Cookstown in County Tyrone; and It was there that his Gaelic Irish paternal ancestor lived when he first acquired the McGurk surname an estimated 425 years ago (**orange broken circle**). His founding McGurk-Adam lived among Gaelic Irish males with whom he shared common ancestry but who crucially acquired other surnames like McCrory, Hegarty, and McElvenny. An examination of the surrounding area reveals the townland of 'Ballygurk.' The test subject's paternal ancestors will undoubtedly have left evidence of their ancestral links with this area in its history, and in the DNA of its current inhabitants.*

Figure 11: *Ballygurk townland just south of 'The Loop' in County Derry/Londonderry.*

The Expansion of R-M222^{+ve} Inishowen Males throughout Ireland and Scotland

'Vikings,' 'Foreign Helpers,' and 'Raiders from across the Sea'

The test subject carries the Irish R-M222 paternal genetic marker. That marker/mutation appeared in a single male who lived in the far northwest of Ireland approximately 1,800 years ago. This marker reveals that Mr. McGurk's paternal ancestors lived near, or on, the Inishowen peninsula in the far northwest of Ireland until around 800 years ago. Commercial ancestral Y-DNA testing and extensive Y-DNA Case Studies at Irish Origenes have revealed areas within the northern half of Ireland where R-M222^{+ve} males predominate in the local population, notably in Ulster, the Irish Midlands, and along Irelands west coast (Moy River valley and Galway Bay), see **Figure 12**. Clues as to why some of these R-M222^{+ve} Gaels left Inishowen and began colonising throughout Ireland and Scotland can be found in their origin; Donegal (*Dún na nGall* '**base or fort of the Foreigner**') and their descriptive surnames which they took with them like Gallagher (*Ó Gallchobhair* meaning '**Foreign helper**') who upon settling along the west coast of Ireland acquired new surnames like Higgins (*O'hUigin* meaning '**Viking**') and Halloran (*O'hAllmhurain* meaning '**Pirate** or **Stranger from overseas**'). Modern DNA science indicates that during the appearance of surnames (800AD onwards) the R-M222^{+ve} Gaels of Inishowen had formed an alliance with Scandinavian 'Vikings,' and that Christian-Gael and Heathen-Gall (*Gall = foreigner*) had together raided and colonised throughout Ireland and beyond. In support of this Viking-Inishowen connection, research at Irish Origenes has uncovered three individuals with recent Donegal ancestry but with Scandinavian Y-DNA: clear evidence of Scandinavian contact with Inishowen, see **Figure 12**.

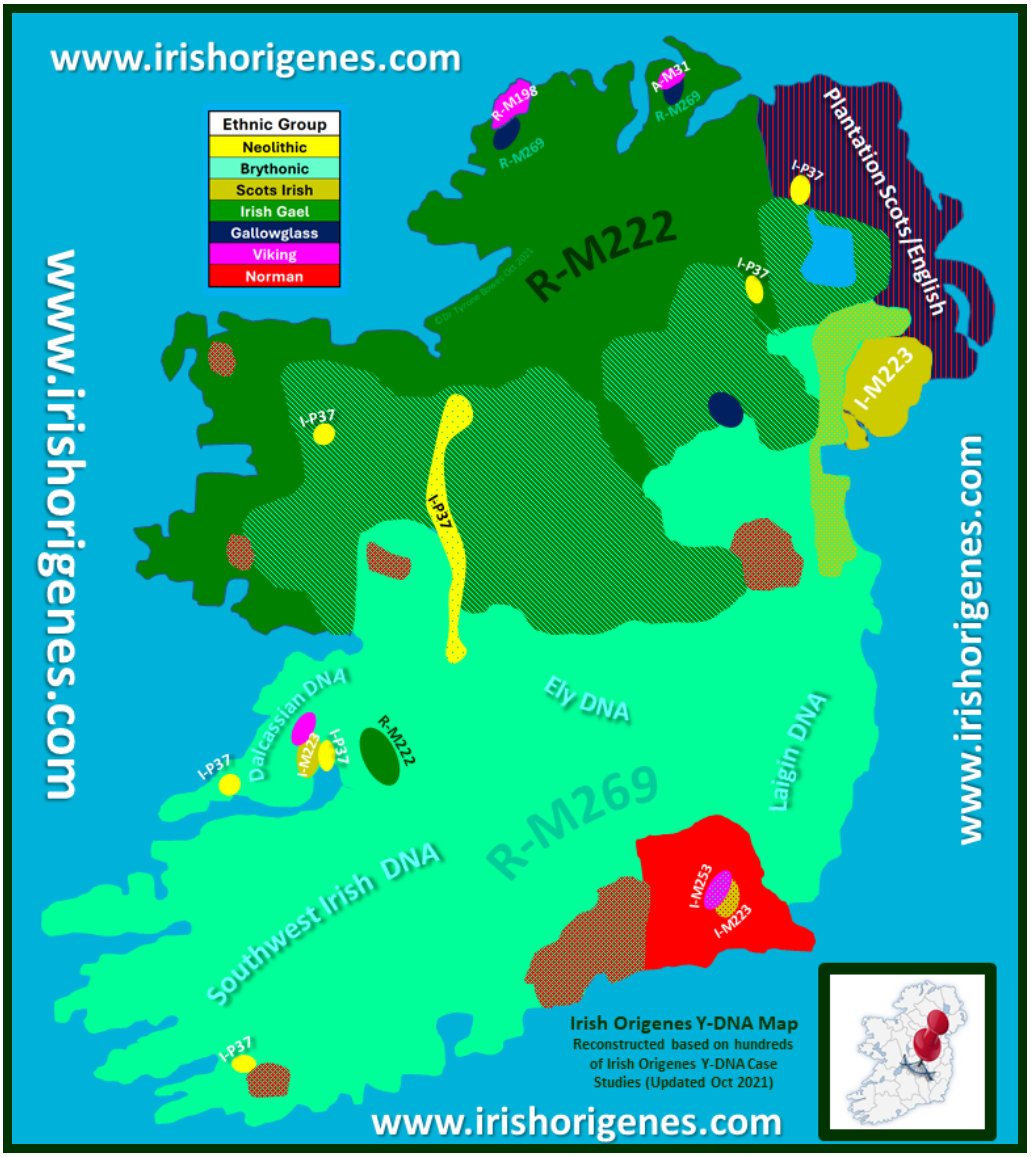

Figure 12: *The Irish Origenes Y-DNA Map of Ireland. Research at Irish Origenes reveals that R-M222 Gael/Gaulish Y-DNA Case Studies dominate the northern half of Ireland, while 50% of Viking Case Studies are linked with Donegal in Northwest Ireland.*

The Dohertys, McLaughlins and McGees that often feature prominently among R-M222 Y-DNA results reach their highest concentration in, or close to the Inishowen peninsula, see **Figures 3** and **13**. In fact, the territory of the Dohertys, who dominate the genetic matches of R-M222^{+ve} males incorporated much of Inishowen together with the historic centre of 'Grianan of Aileach' where the R-M222 marker reaches its highest concentration in Ireland, see **Figure 14**. Conquest beyond Inishowen would literally allow one's ancestors to '*make a name for themselves*,' and what the DNA reveals is an explosion of newly acquired surnames among the Inishowen R-M222^{+ve} Gaelic Irish Conquerors.

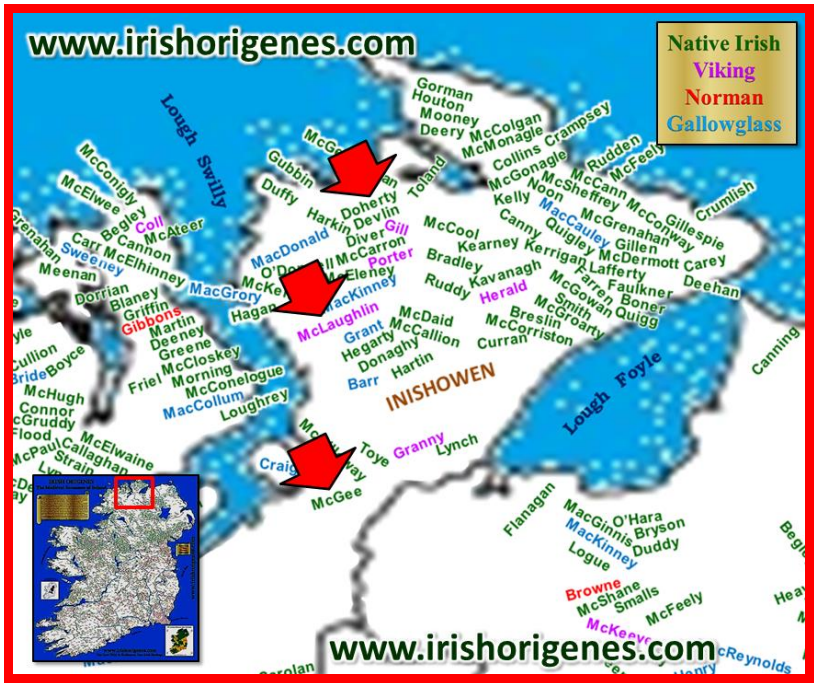

Figure 13: *The Surnames of Inishowen in Donegal in Northwest Ireland. The test subject's paternal ancestor lived in Northwest Ireland prior to his arrival within Mid-Ulster. An examination of Inishowen surnames reveals the Dohertys, McGees, and McLaughins (**red arrows**) that dominate the genetic matches of males that carry the R-M222 marker. Each surname is positioned in the location where farmers with each surname concentrate in early census data. The most common spelling is detailed in each location.*

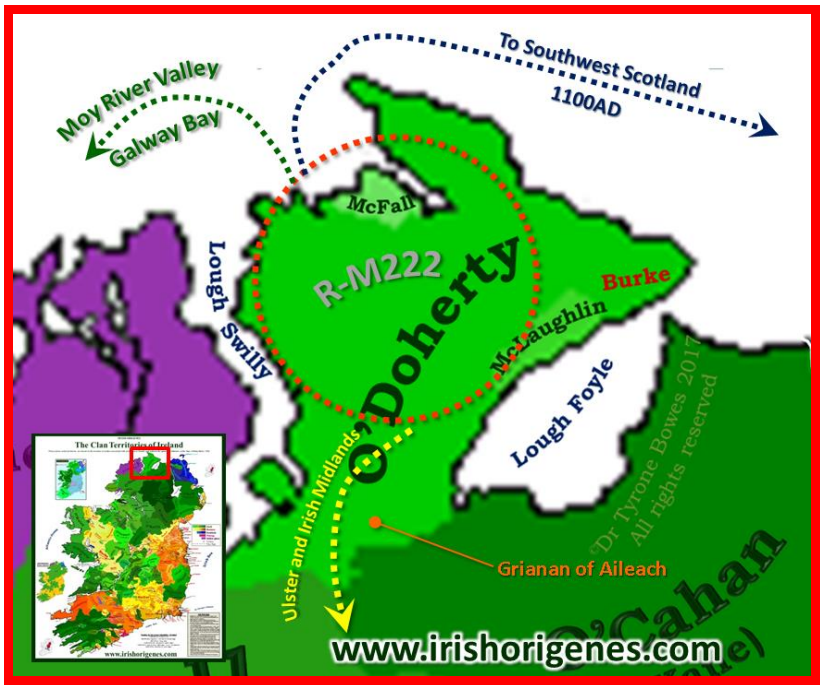

Figure 14: *The Clan Territories of Inishowen. An examination of the Irish Clan territories map reveals that the R-M222^{+ve} Dohertys and McLaughlins ruled almost the entire Inishowen peninsula. The R-M222 ancestral homeland is marked by the historic centre known as 'Grianan of Aileach.' R-M222^{+ve} males later participated in the Conquest of Southwest Scotland led by the Viking King of Norway 'Magnus Barelegs' in about 1100AD. Many of the descendants of these Conquering Irish Gaels returned to Ireland as English-speaking Lowlander Protestant Scots during the Plantation of Ulster that began in 1610AD.*

Refugees from Gaul

The test subject's Y-DNA results reveal a deeper Central European 'Celtic' origin. Research at Irish and Scottish Origenes has revealed that the Roman Conquest of Gaul in the 1st Century BC propelled Gaulish refugees into Britain and Ireland. The Y-DNA results reveal that the test subject's paternal ancestors sought refuge from Roman Conquest in the remote northwest corner of Ireland approximately 1,900 years ago. Although Great Britain takes its name from the 'Celtic' Brythonic tribes that began colonising the island from Central Europe in around 800BC. It was the distant cousins of the Ancient Britons; the 'Gauls/Gaels,' who, ousted by the Romans from their homeland in Central Europe, would carve out new territories for themselves in Ireland and Scotland, and would eventually come to dominate the modern identity of the Irish and Scottish nations.

How to confirm a pinpointed 'Paternal Ancestral Genetic Homeland'

One must keep in mind that this is a scientific approach to identifying a paternal ancestral origin, and that the connection to an identified area can be confirmed by Y-DNA testing males with a particular surname from the identified area. Confirmation of the paternal ancestral link with County Tyrone will require the recruitment of farmers named McGurk from that area for Y-DNA testing.

Contact Dr Tyrone Bowes at Irish Origenes for a free consultation on your DNA results tyronebowes@gmail.com