

Case Study

Pinpointing the O'NEAL

Genetic Homeland

www.irishorigenes.com



A handwritten signature in black ink, appearing to read 'Tyrone Bowes'.

Dr Tyrone Bowes
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INTRODUCTION

A commercial 37 marker 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 many individuals with different surnames? The answer is quite simple. Roughly 1,200 years ago one's direct medieval male ancestor, the first for example to call himself 'O'Neill' was living in close proximity to others with whom he was related but who assumed other surnames like Kearney and O'Dwyer. Jump forward 1,200 years and there will be many descendants of those individual some of whom will today undergo ancestral DNA testing. Hence the surnames of one's medieval ancestor's neighbours are reflected in today's DNA test results.

However, sometimes the link between the surname and the Y chromosome is broken due to 'non-paternal events' (NPEs) like adoptions and infidelity. But since these events usually occur between Clans and families living in close proximity; these NPEs will still reflect one's ancestor's neighbours and shed light on where they lived. In Ireland surnames can still be found concentrated in the County from which they originate. In this manner one can examine the individual [surname distribution maps](#) on the Irish Origenes website for the surnames that reoccur as genetic matches from DNA testing and pinpoint a '**Genetic Homeland.**' The Genetic Homeland is the very 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 ancestors left their mark in the placenames of that area and in the DNA of its current inhabitants. Since modern science can pinpoint a Genetic Homeland it can also be used to confirm it by DNA testing individuals recruited from the identified area. This Case Study details how I used the test subject 'O'Neal's' Y-DNA results to pinpoint his Genetic Homeland. At the end of the report is a checklist on how to pinpoint your own Genetic Homeland.

Notes of caution!

1. In Ireland each of the estimated 1,500 distinct Clans have a single founding ancestor, that's an estimated 1,500 Adam's from whom one can trace direct ancestry. But science has demonstrated that only 50% of individuals with a particular Irish surname will be related to the surnames founding ancestor (a surname 'Adam'), the other 50% of people will have an association that has arisen as a result of what are called 'non-paternal events' usually a result of adoptions or infidelity.
2. Often people are looking for their DNA results to trace back to a specific area. One must remember that the DNA results reflect one's ancestor's neighbours from around 1,200 years ago. As a result if your recent Irish ancestors were originally 9th Century Viking raiders, 11th Century conquering Normans, or 16th Century Planters, your DNA results will reflect earlier English, Scottish, Welsh, and possibly Scandinavian origin. I have estimated that only 60% of those with Irish ancestry are related to the pre-Christian Celtic tribes of Ireland. One must approach this process with an open mind!

Pinpointing the GENETIC HOMELAND

To identify one's Genetic Homeland one must first find the surnames that continually appear as genetic matches. These reoccurring surnames reflect one's ancestor's neighbours from the time when surnames became common. Results for test subject O'Neal are shown in **Table 1**.

SURNAMES THAT REOCCUR AS A GENETIC MATCH FOR TEST SUBJECT O'NEAL FROM Y- DNA37 TESTING

Test subject	37 Marker Y-DNA test					
	37 marker level					12 Marker level
	exact	-1	-2	-3	-4	exact
O'Neal	-	Price(x4)	-	-	Garland(x2)	Stockton(x15)

Table 1: Reoccurring surname matches for test subject O'Neal. Each surname appears at the earliest point at which it occurs as a DNA match, for example the first match with a Price occurs at 36 of 37 markers but not all Price's will match at this level. In brackets are the numbers of different individuals that occur as a match. Coloured fond indicates the ethnicity associated with each surname; Irish, Welsh, English.

Upon DNA testing Mr O'Neal did not match other O'Neill's (of which O'Neal is a spelling variant) and this implies that his association with the 'O'Neill' surname is a result of a non-paternal event (NPE). O'Neill is of Irish origin but there are no reoccurring matches to individuals with Irish surnames in Table 1. When one examines the distribution throughout the UK in 1881 for the surnames Price, Garland, and Stockton (as identified in Table 1) a common area of association is evident, see **Figure 1**. Stockton is unique amongst these surnames as it is associated with a single geographical location within county Chester. Garland and Price are also associated with this area and this means that a common ancestor to all 3 surnames lived within the Chester area prior to the appearance of surnames, which in England is usually associated with the arrival of the Normans in 1066AD.

Land, like the Y chromosome and surname is typically passed from father to son and since farmers can still be found farming the land of their ancestors one can examine where the farming communities associated with each surname existed and see if they overlap. Not all surnames in the UK have a link to the land and the link to the land is more fragile in the UK due to the early industrial revolution. One must therefore examine the 1841 census which is regarded as the first complete census of the UK. The 1841 census does indeed confirm a Price, Garland, and Stockton farming community within the Chester area, see **Figure 2**.

WHERE DO THE PRICE, GARLAND, AND STOCKTON SURNAMES ORIGINATE?

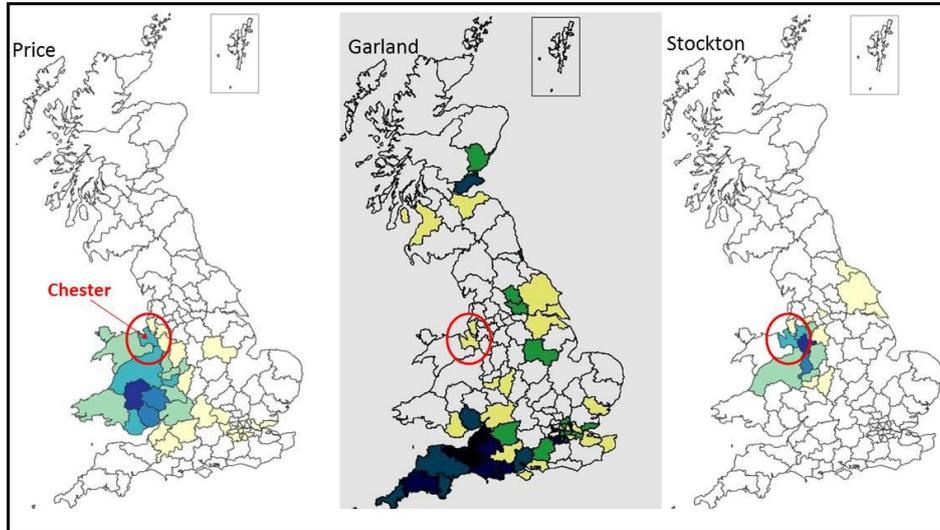


Figure 1: Surname distribution maps for Mr O'Neal's genetic matches show a common area of association within the UK. The surnames Price, Garland, and Stockton are all associated in 1881 with County Chester (red circle). Stockton is unique in that it appears to be associated with a single geographical area.

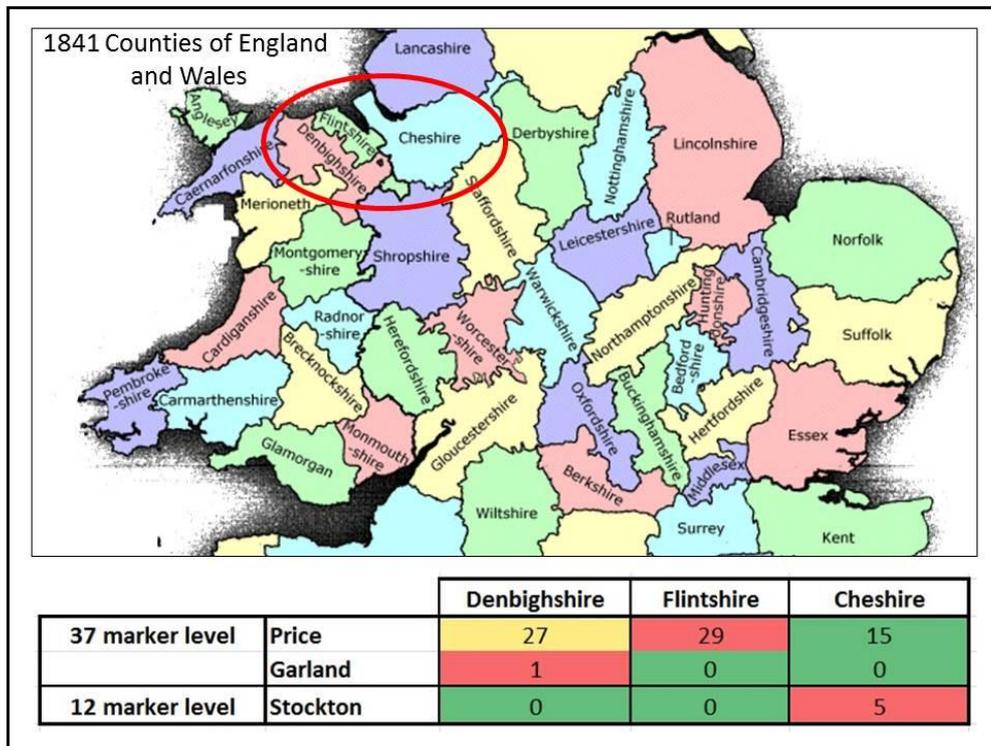


Figure 2: The Price, Garland, and Stockton farming community in the Chester area in 1841. The County of Chester (in 1881) was encompassed by the old counties of Denbighshire, Flintshire, and Cheshire (red circle) and farmers with the surnames Price, Garland, and Stockton could be found in that area in 1841.

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When one plots where farmers with the surname Price (Mr O'Neal's closest genetic matches) occur in 1841 in the area known as Chester (encompassed by Flintshire, Dendighshire and Chesire in 1841) one sees them cluster around the mouth of the Dee estuary close to Chester town around the English and Welsh border, see **Figure 3**. There are no O'Neill/O'Neal's recorded in 1841 in the Chester area and so the NPE must have occurred elsewhere!

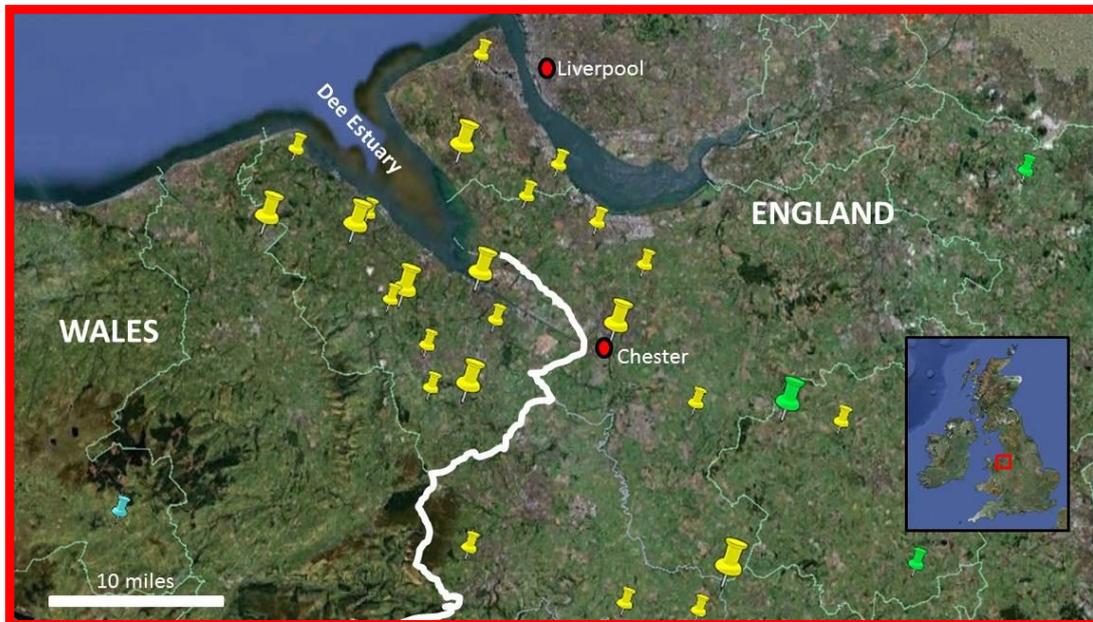


Figure 3: Mr O'Neal's Genetic Homeland is situated around the Dee Estuary on the Wales/England border. In 1841 the Price (yellow pins), Garland (blue pin), and Stockton (green pins) farming communities were associated with the northern border between England and Wales. The Price farming community of Chester clusters around the Dee estuary.

The link with Ireland

Price is Mr O'Neal's closest reoccurring genetic match indicating that an individual called 'Price' was the most likely source of the NPE. The surname O'Neal (O'Neill) is associated with Gaelic Irish ancestry, while the surname Price when found in Ireland may be associated with either Norman (12th Century) or later (16th and 17th Century) Planter settlement. In 1911 there were approximately 1,600 people with the surname Price in Ireland, half of whom were Catholics who are overwhelmingly associated with Norman settlement in southern Ireland. This indicates that for anyone with a genetic link to the Price surname in Ireland there is a 50% chance that those ancestors arrived either with the Normans (in Southern Ireland) or with later 16th and 17th Century Planters in Northern Ireland. This is reflected in a North-South divide in the distribution of the Price surname throughout Ireland in 1911, see **Figure 4**.

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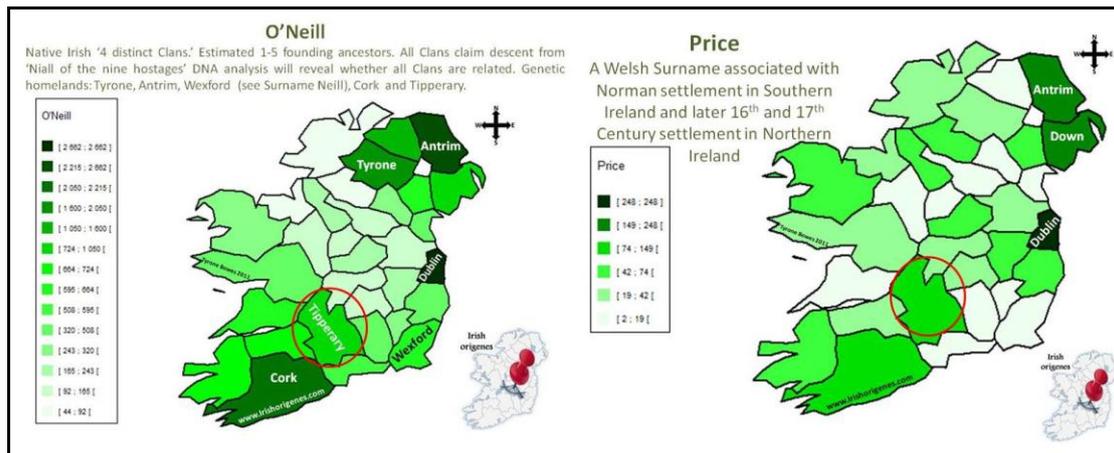


Figure 4: The O'Neill and Price surnames in Ireland. There are a number of different O'Neill Clans found in separate locations including Tipperary (red circle). The surname Price when found in Ireland can be of either Norman or later Planter origin. Both surnames are associated with Tipperary in southern Ireland.

The O'Neill and Price surnames are associated with Ireland which would indicate that the NPE occurred there. If the NPE occurred in Northern Ireland then pinpointing an associated location is much more difficult given the more scattered settlement of Price settlers and the fact that O'Neill is such a common surname in that area.

In contrast the southern Irish 'Price' have a much longer association with Ireland which is reflected in a townland called 'Price's lot' in County Tipperary, see **Figure 5**. There are also a number of distinct O'Neill clans found in southern Ireland, one of which is also associated with County Tipperary, and who like the Norman Price, have left evidence of their association in a townland that bears their name; Ballyneill.

A small number of farmers called Price could still be found in the Tipperary townlands of Kilballyhemikin and Barnane in 1911. Within Kilballyhemikin townland there were 10 farmers; 3 called Price and 1 called O'Neill. This is clear evidence that the Irish O'Neill's and Norman Price have lived in close proximity for hundreds of years and given their co-existence within this townland this could be the origin of the NPE in Mr O'Neal's ancestry.

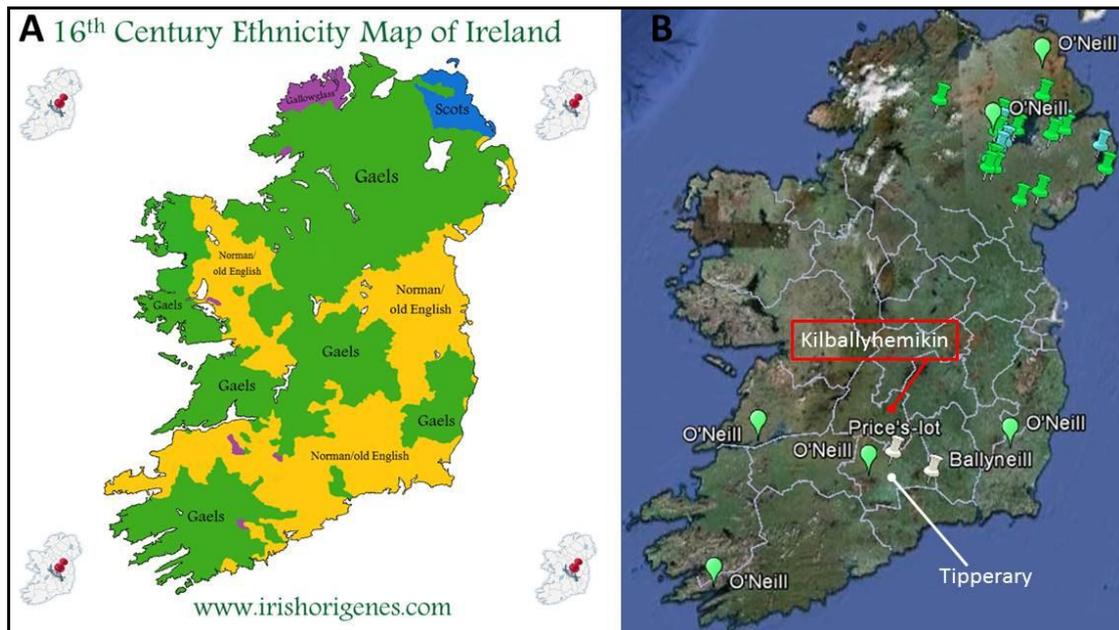


Figure 5: Coexistence of the O'Neill and Price farming communities within County Tipperary. Medieval Ireland was divided into Gaelic Irish (**panel A; green areas**) and the Norman areas (**panel A; yellow areas**). Only the Tipperary O'Neill's (**green balloon symbols represent clusters of O'Neill farmers**) were found within the Norman area; **Panel B**. The Tipperary Price and O'Neill's have both left evidence of their presence in townlands that bear their name; Price's lot and Ballyneill (white pins). It is also within Tipperary in Kilballyhemikin that one finds both Price and O'Neill farmers living side by side in 1911. **Green pins** show the location of O'Neill castles.

How to confirm a pinpointed 'Genetic Homeland'

To confirm the Dee estuary as the Genetic Homeland of Mr O'Neal will require the DNA testing of farmers with the surname Price living in that area. To confirm the Norman-Price as the source of the NPE in southern Ireland will require the recruitment for DNA testing of farmers called Price currently living in County Tipperary.

CHECK LIST FOR DISCOVERING YOUR OWN GENETIC HOMELAND

1. First you must order a Y-DNA37 test from Family Tree DNA. To order follow the 'are you a warrior' link from the [Irish Origenes](http://www.irishorigenes.com) homepage.
2. [Irish Origenes Surnames database](http://www.irishorigenes.com/surnames)
3. [Irish Origenes Surnames map](http://www.irishorigenes.com/map) Stick a pin on your Surname and on the Surnames of your genetic matches (as revealed by DNA testing) to discover your Genetic Homeland.
4. Google Earth.

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5. [Irish Origenes Clan Territories Map](#). This map details the territories of over 400 of the most prominent Irish Clans and Norman families and is based on the location of nearly 1,500 castles and their known historical association to these Clans/Families.
6. [Irish Origenes Castles of Ireland Map](#). This map details the names and precise location of nearly 1,500 castles in Ireland. Input the co-ordinates into Google Earth and view the castles on street view.
7. Your Genetic Homeland can be confirmed by recruiting male volunteers with the Surname of interest from the identified area for Y-DNA37 testing.

ALTERNATIVELY ORDER YOUR OWN CASE STUDY BY CONTACTING ME DIRECTLY tyronebowes@gmail.com

The consultation for your own Case Study is free. At present there is an 86% success rate. If in the unlikely event that I cannot pinpoint your Genetic Homeland I will explain why and I will not charge you.

Every successful Case Study customer also receives an Irish Origenes Surnames of Ireland, Clan territories of Ireland, and the Castles of Ireland map.