# Reoccurring Surname Matches from a Family Tree Y-DNA test can Pinpoint a Genetic Homeland







**Dr Tyrone Bowes** 



### Who am I?

- Dr Tyrone Bowes
   Biotechnologist, Senior Scientist at NUIG, Ireland (2004-2010) specialised in recombinant therapeutic antibodies
   Submitted Y-DNA test in 2004 to Family Tree DNA
   Discovered my personal 'Bowe's' Genetic Homeland in 2010
- ☐ Recruited a number of individuals for Y-DNA testing to demonstrate re-producibility
- ☐ Launched Irish Origenes 2011
- ☐ Launched Scottish and English Origenes in 2012
- ☐ Welsh Origenes (Dec 2012)



## The GENETIC HOMELAND

The Genetic Homeland is the area where your Ancestors lived for 100's if not
1000's of years.
It is where your direct male ancestor lived when he first picked his surname
(surrounded by relatives who picked other surnames).
It is the area where your ancestors left their mark in the <i>history</i> , <i>place-names</i> ,
monuments (e.g. castles) and in the DNA of that areas current inhabitants (the link
can be confirmed by Y-DNA testing of people from the pinpointed area)
The analytical method exploits the link between the Y chromosome, surname, and
land which are typically passed from father to son through the generations.
$\square$ Farmers (with a particular surname) can still be found farming land that their
ancestors had farmed hundreds of years ago.
I do not use DNA mutation rates to estimate a time frame but the appearance of
Surnames approximately 1000 years ago.
I rarely examine Haplogroups as these often precede the appearance of surnames by
sometimes many 1000's of years

## Family Tree DNA 'Y-DNA' results

37 M.	ARKERS - 108 MATCHES (T	'est subjec	t 'Jim Hart' living in th	e US)	Page: 1	<u>2                                    </u>
Steps	Name Name	1	Most Distant Ancestor	Y-DNA Haplogroup	Terminal SNP	Match Date
0	Hart	<u>₽</u> ¥Y-DNA67		v <del>=</del> 5		1/22/2008
0	Hart	₽ Y-DNA67	Josiah Hart , b. abt 1752, Beauford County, S.C.	R1b1a2a1a1b4	L21	2/4/2005
1	2 Vincent	₽ Y-DNA67		-		9/21/2011
1	Mr. Bryant		Private	Private	Private	7/6/2010
1	Hart		Miles Hart b.c1820 Union Co. SC	-		8/20/2008
1	2 r Hart	₽ Y-DNA67	William Hart 1817-	-		6/13/2006
2	Donaghue III		Edenderry, Offlay	R1b1a2a1a1b4h	L226	10/12/2010
2	Hogan	₽ Y-DNA67		<b>1</b> 20		6/29/2009
2	Hogan	<b>☑</b> ¥Y-DNA67	David Hogan, b 1773, d 1840	R1b1a2a1a1b4h	L226	1/26/2009
2	Kennedy	<b>⚠</b> ✓ Y-DNA37	Thomas Kennedy born 1814 in Ireland	R1b1a2a1a1b4h	L226	8/4/2008
2	<u> </u>	₽ Y-DNA67		-		9/20/2006
2	Donohoe	<b>⚠</b> ✓ Y-DNA111	Thomas Donohoe, Born, 1840, Edenderry, Co Off;aly	R1b1a2a1a1b4h	L226	4/7/2005
3	Grant	<b>☑</b> Y-DNA37		2		5/2/2012
3	Callahan	☑ Y-DNA37	Thomas P. Callahan, b. 1874 and d. 1937	-		2/24/2012
3	Brown	☑ Y-DNA37		-		11/10/2011
3	O'Donoghue	☑ Y-DNA67	John Donoghue Born abt 1800 in Knockane, Toomevara	R1b1a2a1a1b4h	L226	10/23/2011
3	Hogan r.	<u>■</u>	William james Hogan, b.1750 Yadkin Valley, Caldwel	-		9/13/2011
3	O'Mahony	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Private	Private	Private	6/10/2011

- How can one share ancestry with many different individuals with lots of different surnames?
- These surnames are a snapshot of your male ancestors neighbours when he picked his surname approximately 1000 years ago.

## Step1

## Identify where reoccurring surnames first appear

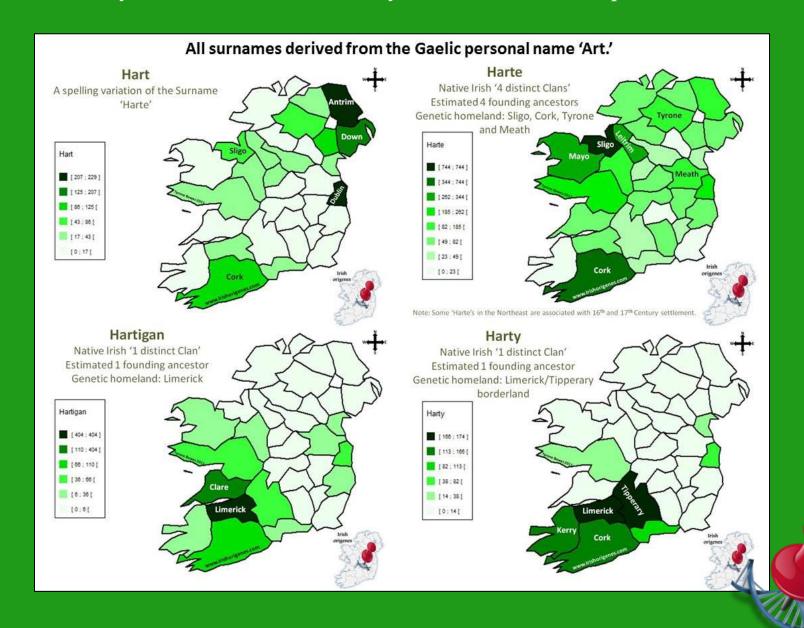
	37 Marker Y-DNA test													
			37 marker level	(A)	25 Marker level									
Test subject	exact	-1	-2	-3 -4		exact -1		-2						
Hart	Hart (Hartigan) x8	O'Brien (Bryan) (O'Briant) (Bryant) x32	Donohoe (O'Donaghue/O'Donoghue/Donahoo) x6 Hogan/Hogin (x18) Rennedy (x2) Callahan/Callaghan (x6)	Brown (x3) O'Mahony (x6) Casey (x5) Brooks (x2) Malone/Melone (x3)	Kelly (x8)	Thomas (x2) Wallace (x2)	Carey (x5) McHone (x2) McDonnell (x2) Noland (x3)* Crowe (x3) Dorcy/D'Arcy (x2)	Roach (x2) Slattery (x2) McCoy/Coy (x2) O'Connor/Connor (x2) Tierney (x2) O'Halloran (x2) Murphy/Murphey (x2) Keane/Kane (x2)						

#### Some surnames appear more frequently!

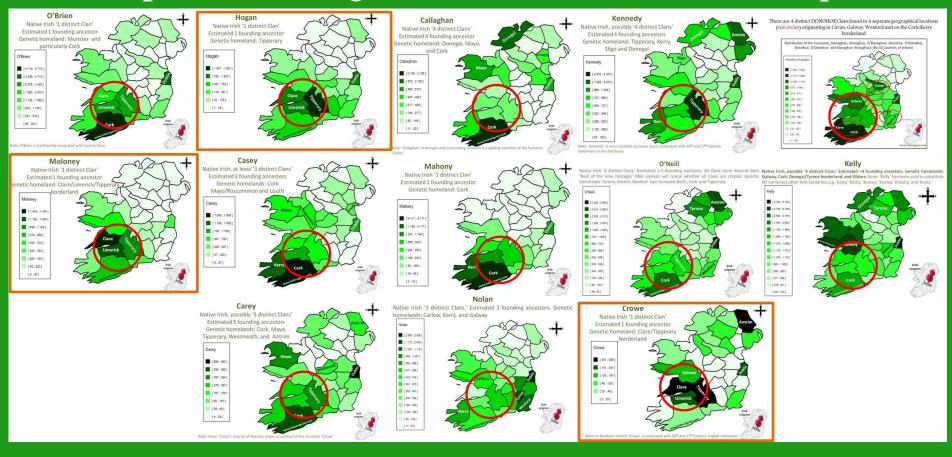
(a reoccurring surname is more likely to represent a surname of a medieval neighbour)



#### Problem: Many surnames like 'Hart' may have arisen in multiple different locations



## Step 2: Irish Origenes surname distribution maps



These reoccurring surname should localise to a single area (red circle)

One man one Clan Hypothesis

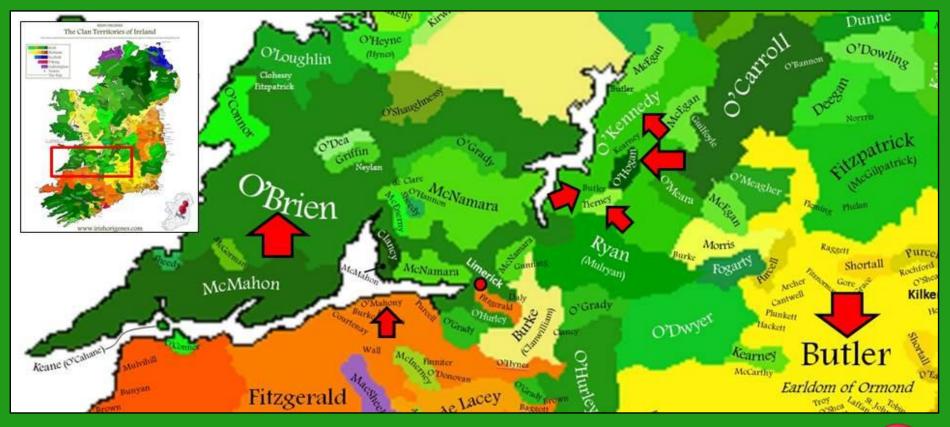
**STEP 3:** Stick pins on the identified (reoccurring) surnames in the areas where they occur on the Irish Origenes Surnames of Ireland Map!

This map shows where farmers with each surname cluster in 1911



See a pattern emerge to reveal your GENETIC HOMELAND!

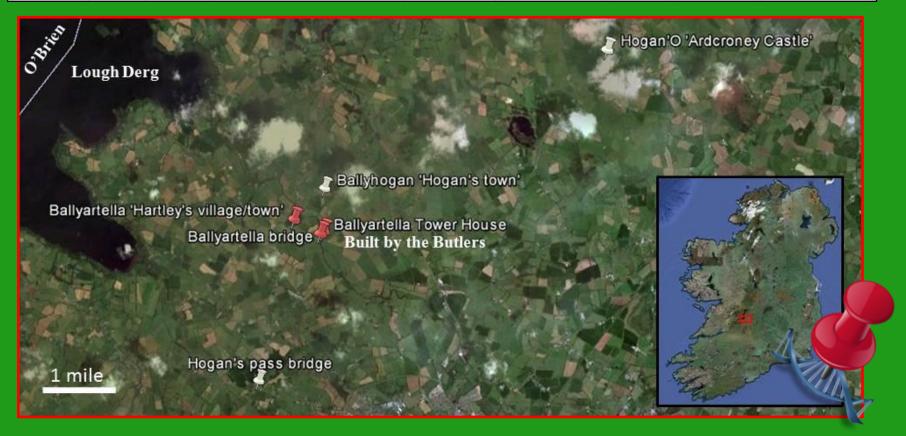
# **STEP 4:** View the DNA results in a historical context! Irish Origenes Clan Territories of Ireland Map



This Clan map was reconstructed based on the precise location and historical association to a particular Clan of nearly 1,400 castles in Ireland.

#### STEP 5: Examine Placenames

				37 Marker Y-D	DNA test			
			37 marker level		20	25 Marker le	evel	
Test subject	exact -1		-2	-3 -4		exact	-1	-2
Hart	Hart (Hartary) (Hartigan) x8	O'Brien (Bryan) (O'Briant) (Bryant) x32	Donohoe  (O'Donaghue/O'Donoghue/Donahoo) x6  Hogan/Hogin (x18)  Ko (x2)  Callana gnan (x6)	Brown (x3) O'Mahony (x6) Casey (x5) Brooks (x2) Malone/Melone (x3)	Davis (x2) McCraw/McGraw (x7)* Sweetman (x2) Littrell/literal (x4) McLain (x2) Kelly (x8) Butler (x13)  Nea	Thomas (x2) Wallace (x2)	Carey (x5) McHone (x2) McDonnell (x2) Noland (x3)* Crowe (x3) Dorcy/D'Arcy (x2)	Roach (x2) Slattery (x2) McCoy/Coy (x2) O'Connor/Connor (x2) Tierney (x2) O'Halloran (x2) Murphy/Murphey (x2) Keane/Kane (x2)



		37 Marker Y-DNA test												
			37 marker level		25 Marker le	evel								
Test subject	exact	-1	-2	-3 -4		exact -1		-2						
Hart	Hart (Hartary) (Hartigan) x8	O'Brien (Bryan) (O'Briant) (Bryant) x32	Donohoe (O'Donaghue/O'Donoghue/Donahoo) x6 Hogan/Hogin (x18) (x2) Callaha laghan (x6)	Brown (x3) O'Mahony (x6) Casey (x5) Brooks (x2) Malone/Melone (x3)	Kelly (x8)	Thomas (x2) Wallace (x2)	Carey (x5) McHone (x2) McDonnell (x2) Noland (x3)* Crowe (x3) Dorcy/D'Arcy (x2)	Roach (x2) Slattery (x2) McCoy/Coy (x2) O'Connor/Connor (x2) Tierney (x2) O'Halloran (x2) Murphy/Murphey (x2) Keane/Kane (x2)						



A townland or bally is a small geographical division of land used in Ireland.

There are currently 61,402 named townlands in Ireland, covering the whole island

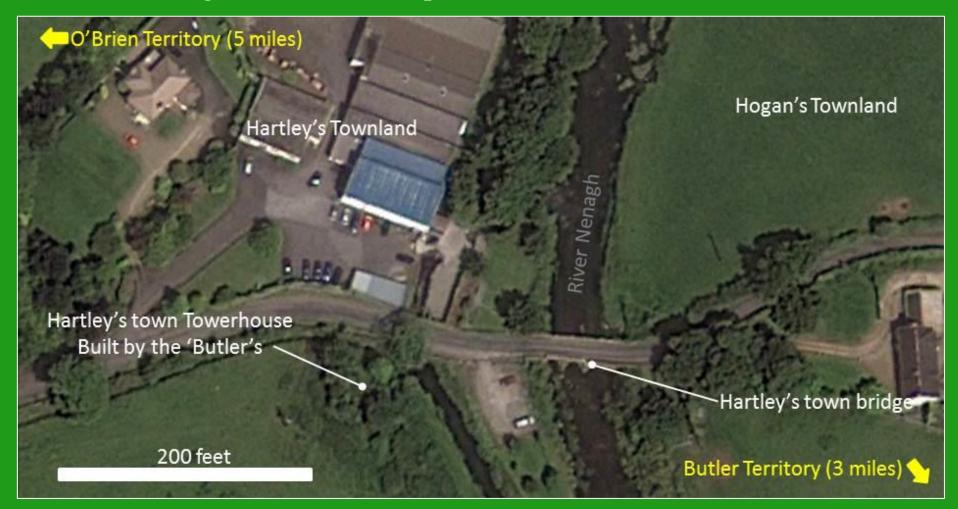
		37 Marker Y-DNA test												
		25 Marker le	evel											
Test subject	exact -1		-2	-3 -4		exact -1		-2						
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**Built by the Norman Butler family** 



Placenames associated with 3 of Mr Harte's most numerous and prominent genetic matches represented in this small area!



Mr Harte is recruiting 'Hart's' from this area for Y-DNA testing

## A Scottish Example!







From the Clan that dare not speak its name!



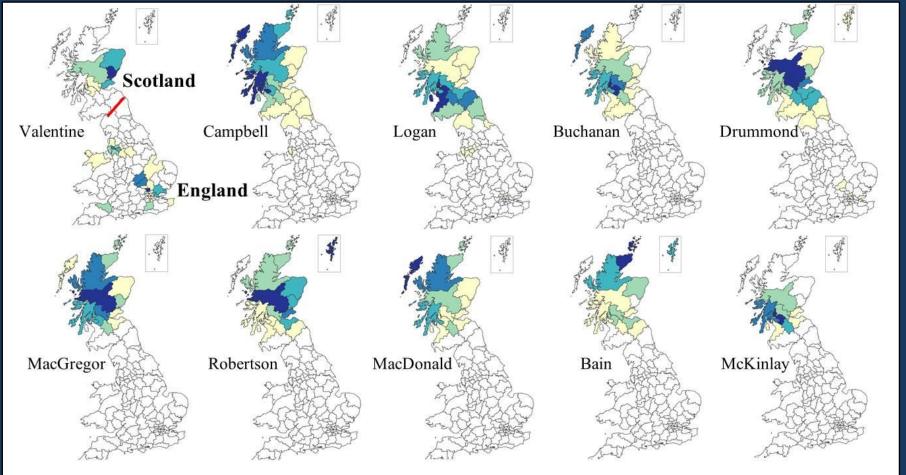


#### Mr Ross Valentine; born Aberdeenshire, Scotland

	37 Marker Y-DNA test											
		37 marker level										
Test subject	exact	-1	-2	-3	-4							
Valentine	Valentine(x3)	Campbell(x14) Logan(x10) Drummond(x4)	McGregor(x22) Buchanan(x23)	McDonald(x11) Robertson(x8)	Robinson(x6)  Bain(x3)  McKinlay/McKinley(x4)							

- ☐ The Valentine family have a well recorded family tree stretching back 300 years in the Scottish northeast.
- ☐ There is family lore of a link to Clan Lindsay!

#### Clear Scottish association amongst Mr Valentine's reoccurring surname matches!



#### But no DNA link to Clan Lindsay!

Great Britain family names map http://gbnames.publicprofiler.org/



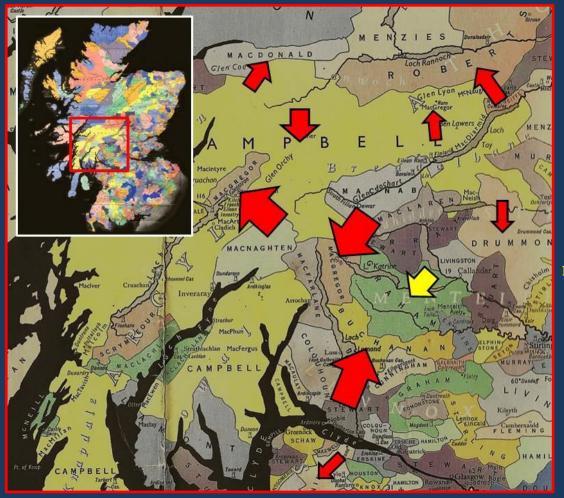
Mr Valentine's reoccurring surname matches all cluster to the west-central Highlands, while the Valentines localise in the Northeast?





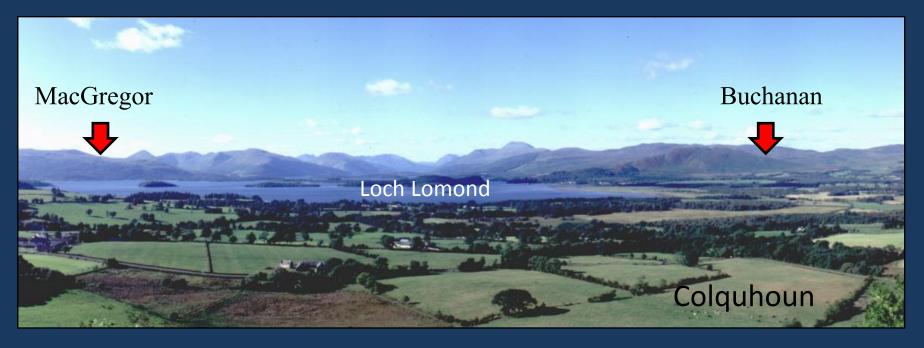


The Clan system in Scotland has been very well recorded and documented! Beautifully illustrated in Bartholomew's 15<sup>th</sup> Century Clan Map of Scotland



Graham appears as a reoccurring match at the 25 marker level





- Clan MacGregor were outlawed after slaughtering members of Clan Colquhoun (and innocent spectators) at the Battle of Fruin Glen in 1603.
- In 1603 the MacGregor surname was proclaimed 'altogidder abolished" and bearing the MacGregor name was punishable by death (80 Clan members were named and outlawed).
- ☐ In 1604 The Chief of the MacGregor's and 30 Clansmen were executed in Edinburgh
- ☐ In the 1600's the first Valentine appears in Scotland.
- Ross Valentine matches the current chief of the MacGregor's in 35/37 markers!
- In 2007 The Clan Gregor Society of Scotland agreed to accepts into full membership of the Society individuals with ANY surname who can show, through DNA testing, that they have a DNA signature which matches, at the accepted degrees of mutational difference, that of the main MacGregor DNA signature.

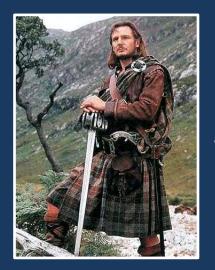
#### Putting a time frame to DNA mutation rates

	37 Marker Y-DNA test											
		37 marker level										
Test subject	exact	-1	-2	-3	-4							
Valentine	Valentine(x3)	Campbell(x14) Logan(x10) Drummond(x4)	McGregor(x22) Buchanan(x23)	McDonald(x11) Robertson(x8)	Robinson(x6) Bain(x3) McKinlay/McKinley(x4)							

Post 1603AD

Pre 1603AD

1 step mutation = 200 years?



Rob Roy MacGregor 1671-1734

'Campbell' (his mothers maiden name) is recorded as his surname on baptismal records



## An English Example!









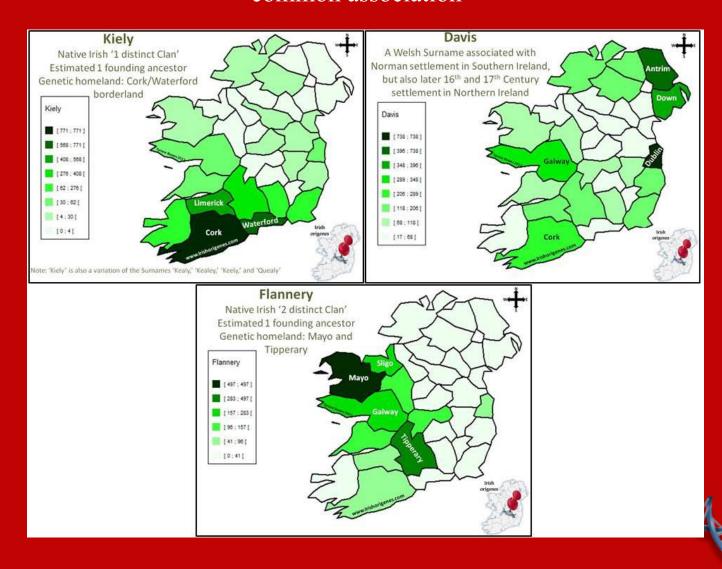
#### Mr Kiely! Lives in the US and has Irish ancestry

					37	Marker Y-	DNA test				
			3	7 marker lev	el	25 Marker level					
Test subject	exact	-1	-2	-3	-4	exact	-1	-2			
Section 16			10 10 10 10 10 10 10 10 10 10 10 10 10 1				The country that the commence of the Assistance	Graham(x3) Franklin (x15) Beatty(x3)			
Kiely	S	12	Kiely(x3)	Davis(x5)	Flannery/Flanery (x9)	12 <u>2</u> 1	Doty(x48) Dowty(x2) Doughty(x7)  Davenport (x20)	Thomas(x3)  Newton (x3)  Dalton(x4)  Stevens(x3)  MacGregor(x5)  Nicholson(x6)  Hodnett(x3)			

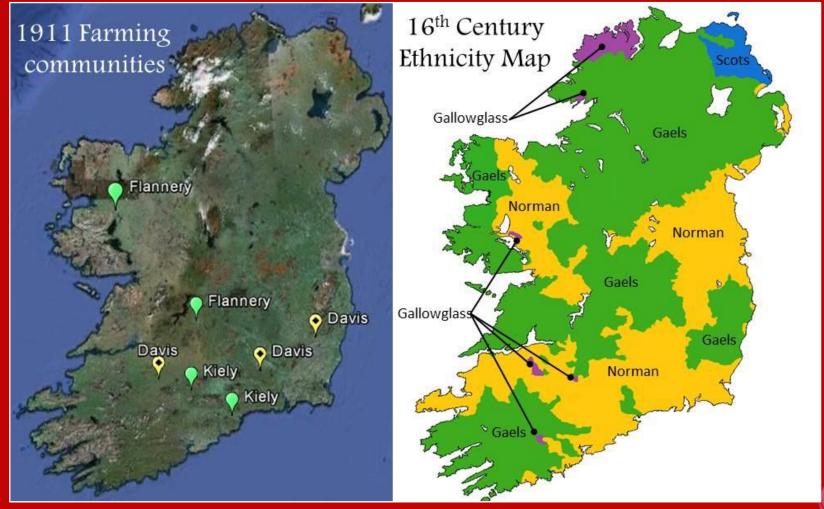
- ☐ Only 60% of people with Irish Ancestry are related to the pre-Christian Celtic tribes
- 40% will have Viking, Norman, Gallowglass or later Scots ancestry!



# Although Kiely, Davis, and Flannery are associated with Ireland there is no area of common association

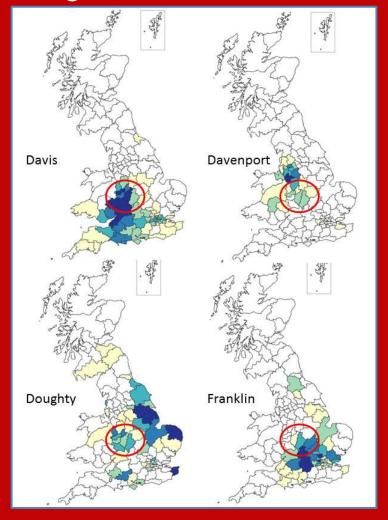


#### Mr Kiely's reoccurring surname matches do not cluster within Ireland!



The only thing they have in common is that they are associated with areas of Norman settlement!

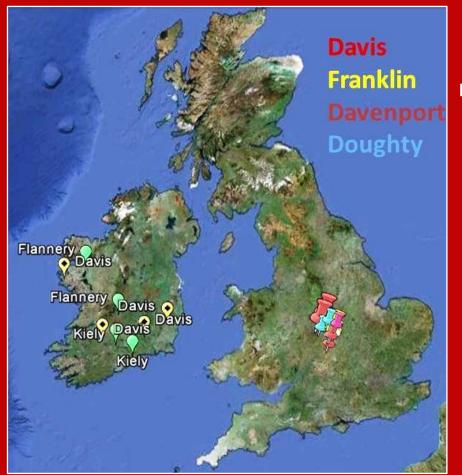
### Mr Kiely's reoccurring surname matches cluster within England!



Great Britain family names map http://gbnames.publicprofiler.org/

Davis, Davenport, Doughty, and Franklin share a common area of association!

					37	Marker Y-	DNA test			
	16	. 77	3	7 marker lev	el	25 Marker level				
Test subject	exact -1 -2 -3 -4		exact -1		-2					
Kiely	8	×4	Kiely(x3)	Davis(x5)	Flannery/Flanery (x9)	5 <u>2</u> 5	Doty(x48) Dowty(x2) Doughty(x7) Davenport (x20)	Graham(x3) Franklin (x15) Beatty(x3) Thomas(x3) Newton (x3) Dalton(x4) Stevens(x3) MacGregor(x5) Nicholson(x6) Hodnett(x3)		



Mr Kiely's most numerous reoccurring surname matches cluster in England!



#### Mr Kiely's Genetic Homeland is situated in England!



- Surnames became common in England after 1066AD
- Mr Kiely's ancestors (mostly likely called Davis) migrated to Ireland in 1169AD and at some point after that event the Kiely surname was adopted

### Putting a time frame to DNA mutation rates

		37 Marker Y-DNA test										
	37 marker level						25 Marker level					
Test subject	exact	-1	-2	-3	-4	exact	-1	-2				
								Graham(x3) Franklin (x15) Beatty(x3)				
Kiely	29	12	Kiely(x3)	Davis(x5)	Flannery/Flanery (x9)	12	Doty(x48) Dowty(x2) Doughty(x7)	Thomas(x3)				
							Davenport (x20)	Newton (x3) Dalton(x4) Stevens(x3) MacGregor(x5) Nicholson(x6) Hodnett(x3)				

Post 1169AD Normans arrived in Ireland Pre 1169AD

1 step mutation = 200 years?

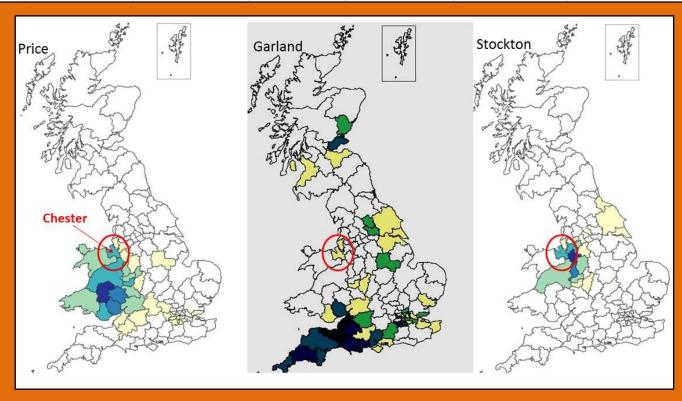


## Coming soon!



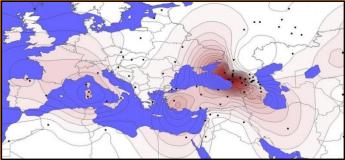
#### Mr O'Neal: Non Paternal Event (NPE) and unusual G2a3b1a haplogroup!

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



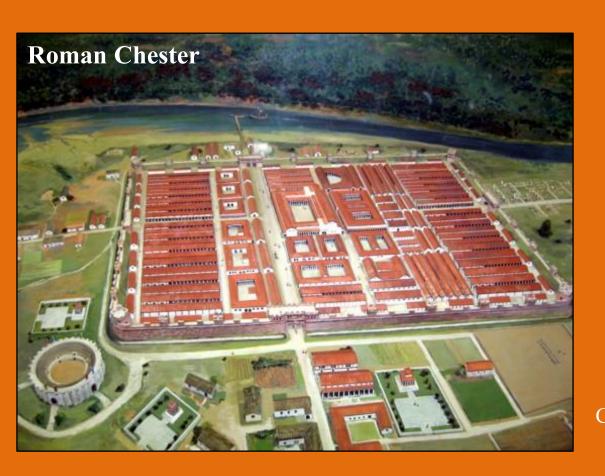
#### Mr O'Neal reoccurring surname matches cluster around Chester





http://ask.inwiki.org/Y-DNA\_maps: haplogroup G

# The Roman Legion built a Roman fort (Fortress of Diva) in Chester in 79AD It was occupied by the Legions for over 300 years





Chester's Grosvenor museum houses a large collection of tombstones that tell the stories of the men who came to Chester from all over the Roman Empire.

Did Mr O'Neal's direct paternal ancestor arrive with a Roman Legion and settle in Chester?



## In Summary



- Utilises reoccurring surname matches, link to the land (farmers), census data, place-names, and historical records
- The analytical method is crucially dependent on the *quality and quantity* of DNA matches!
- 80% success rate in Pinpointing a Genetic Homeland for customers coming to me!
- At present it works for those with an ancestral link to either the UK or Ireland
- The success rate will only get bigger as the Family Tree Y-DNA database ENLARGES!
- Problem: the database is US heavy and Ireland/UK light!



