

Blood of the Dubliners



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Population genetics is very young but rapidly evolving discipline

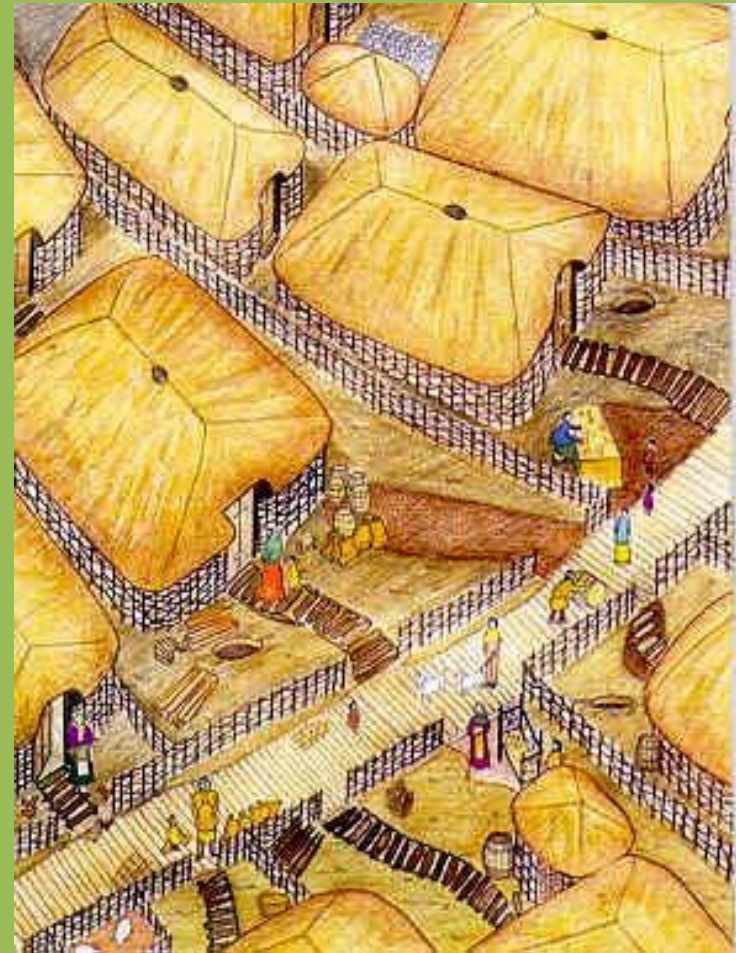
- Irish Times (Sept 7th 2010) – first full sequence of Irish genome (of single individual) published.
- A genome is ALL of body's inherited information.
- “Study of specifics help in questions of population formation but also may give interesting info for disease association studies. Genome studies in next generation will be looking for rare variants rather than typical.” (*European Journal of Human Genetics* 2012 20,203)



Work to date on population origins has looked at specific bits (DNA sequences): - haplotypes and haplogroups - rather than all inherited DNA info (or genome)

History and DNA studies; were Irish coastal towns populated by Vikings or by native Irish?

- Placenames: names of Irish coastal settlements indicate Viking origins
- History: leaders of Irish coastal settlements have Scandinavian names but are raided and taxed increasingly by Irishmen from mid 10th C on
- Archaeology: excavations of Irish coastal settlements indicate an Irish Sea version of Scandinavian culture
- DNA studies: 2006 study by TCD geneticists suggest a native Irish population who borrowed Viking cultural attributes **but that Ireland was not settled by many Viking colonists migrating from Scandinavia.**



B. McEvoy & D. Bradley, "Y-chromosomes and the extent of patrilineal ancestry in Irish surnames" *Human Genetics* 119 (2006), 212–19.

"L. Moore et al., "A Y chromosome signature of hegemony in Gaelic Ireland" *American Journal of Human Genetics* 78 (2006), 334-8

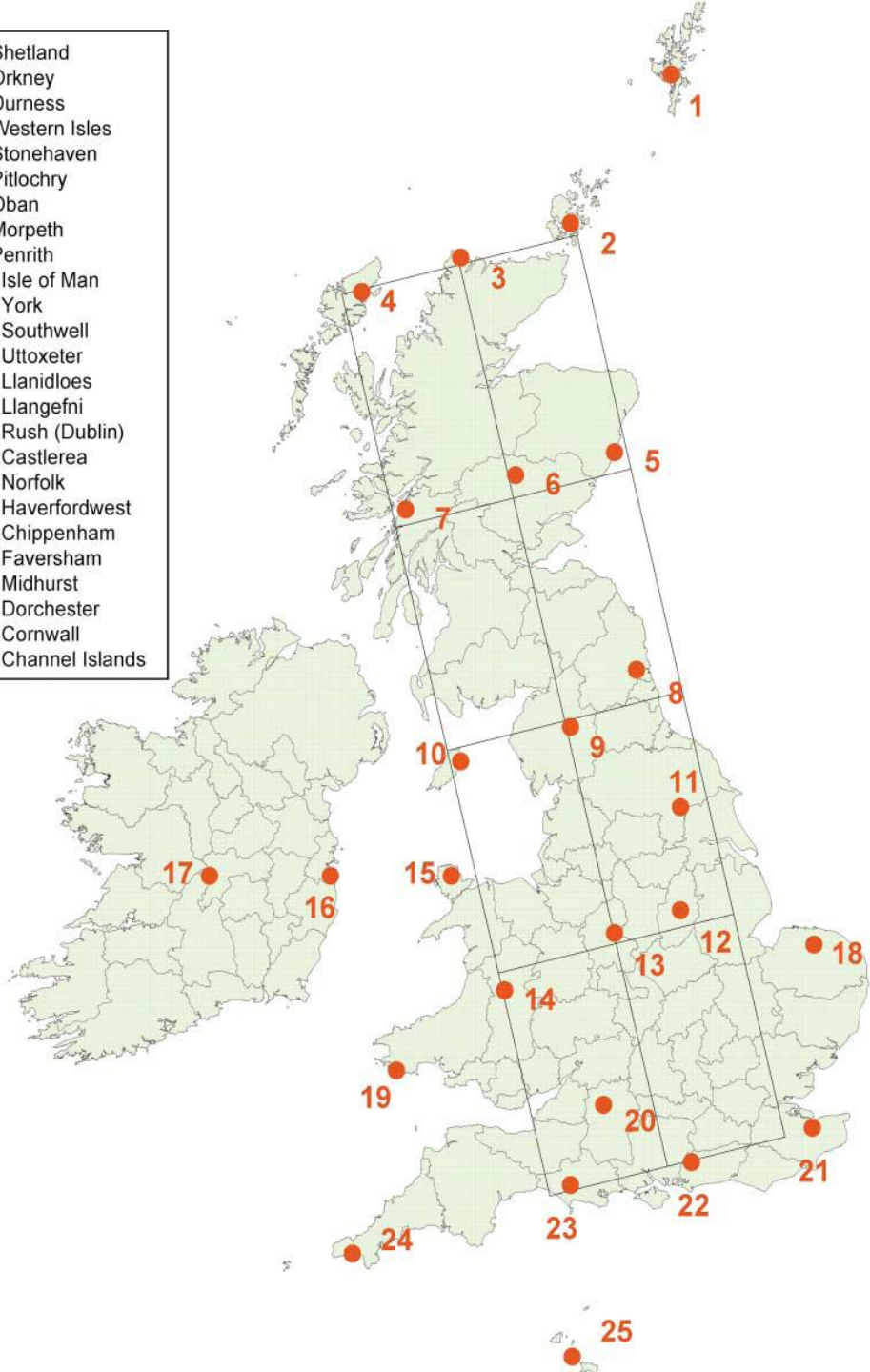
B. McEvoy, C. Brady, L. T Moore and D. G Bradley, "The scale and nature of Viking settlement in Ireland from Y-chromosome admixture analysis", *European Journal of Human Genetics* (2006) 14, 1288–1294.

McEvoy, B., K. Simms, & D. G. Bradley "Genetic Investigation of the Patrilineal Kinship Structure of Early Medieval Ireland", *American Journal of Physical Anthropology* 136 (2008), 415–22

Work by Trinity College Dublin (Department of Genetics) on the early surnames and remote ancestors of Irish families:

Vikings contribute relatively little to Irish population - "In 902 the Irish managed to expel the Vikings for a time. Consequently **there is no Scandinavian DNA legacy to speak of** since settlement was so sparse and temporary." (Moffat 2013, 212)

1. Shetland
2. Orkney
3. Durness
4. Western Isles
5. Stonehaven
6. Pitlochry
7. Oban
8. Morpeth
9. Penrith
10. Isle of Man
11. York
12. Southwell
13. Uttoxeter
14. Llanidloes
15. Llangefni
16. Rush (Dublin)
17. Castlerea
18. Norfolk
19. Haverfordwest
20. Chippenham
21. Faversham
22. Midhurst
23. Dorchester
24. Cornwall
25. Channel Islands



“A Y chromosome census of the British Isles” by Capelli et al. **Current Biology**, Vol. 13, 979–984, May 27, 2003,

“included two Irish samples, Castlerea and Rush (North of Dublin).

Rush: of 76 samples,

45% = R1xR1a1

41% = AMH+1

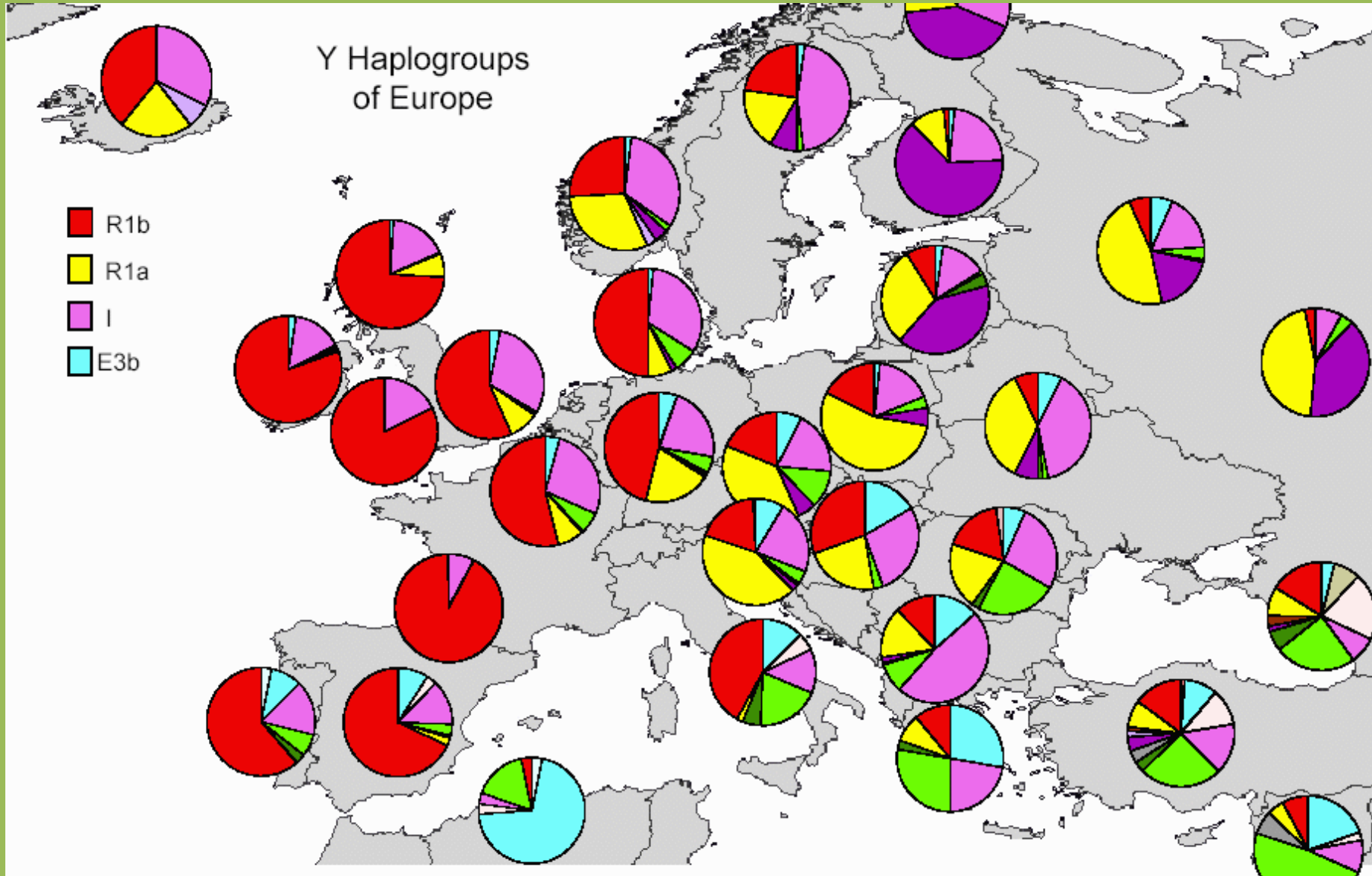
Castlerea: of 43 samples

37% = R1xR1a1

53% = AMH +1

“Rush appears to be shifted slightly toward the Norwegian pole”

Map of Y haplogroups of Europe in 2005

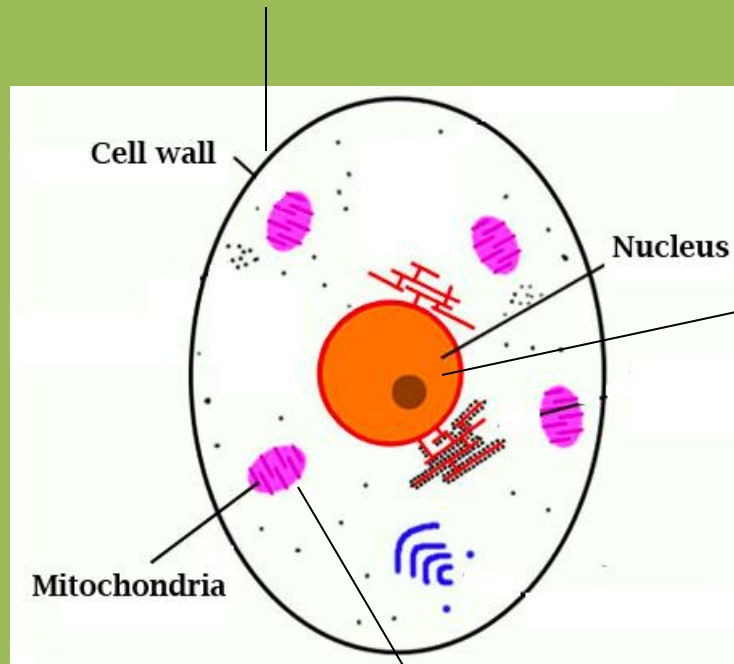


Research backdrop to study of Viking names in Ireland – McEvoy *et al* 2006

Findings:

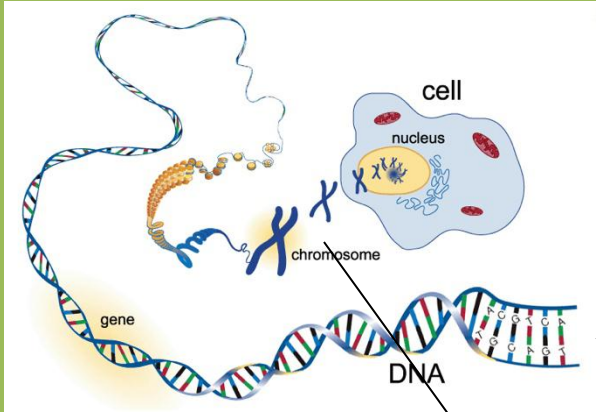
- 1) Surnames were first adopted in Ireland from ca. AD 900 to 1200, roughly coinciding with the period of Viking activity. During this time, **numerous Norse personal names (and nicknames) were introduced onto the island, which later passed into hereditary surnames** often by the prefixing of Mac or O', meaning 'son of' and 'grandson/descendent of', respectively. **Not every putative Norse surname must necessarily have been founded by a Norse male.** However, as a group, current bearers of these surnames have a prima facie link to Viking society and may be at least enriched for such ancestry.
- 2) Norse surnames were identified according to McLysaght, *Irish Families: Their Names, Arms and Origins* Dublin: Irish Academic Press, 1985 as the major general reference for individual Irish surname origins.

Research Methodology: investigation of human cell



- All true cells have a nucleus, that holds the main information.
- Most cells have mitochondria, that provide energy.

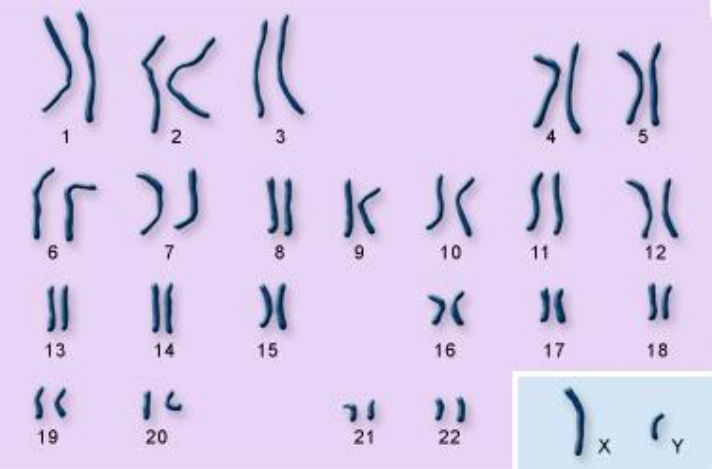
How does the nucleus store its information?



Inside the nucleus are structures called chromosomes.

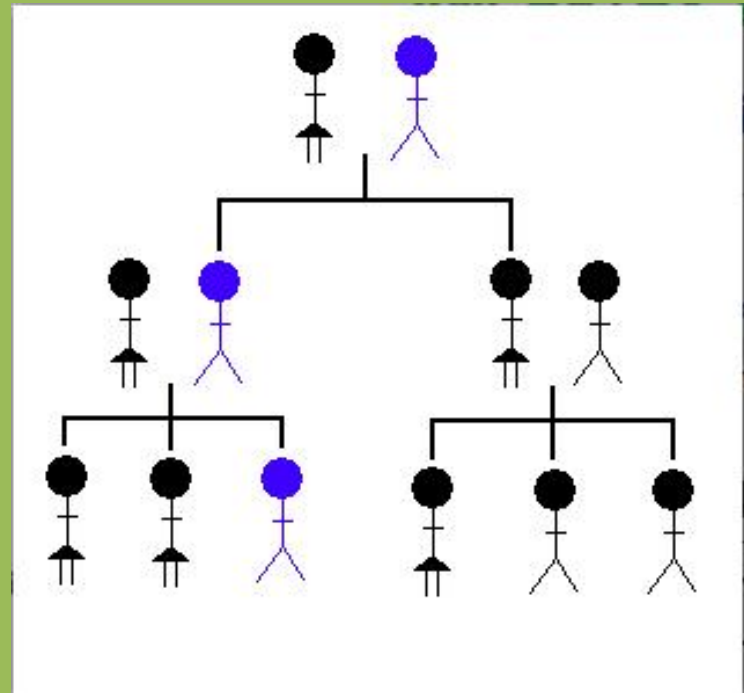


Each chromosome consists of two strands of DNA wound around each other



Chromosomes come in pairs which can mutate in offspring – except for the Y chromosome in pair 23 which transfers to **male** offspring without change

In the case of the Y chromosomes, these are inherited directly from your Dad. We believe that they very rarely mutate so, like surnames, they can tell us something about the ultimate origin of a family



However, as more research is done on population genetics, debate is beginning on rates of mutation of Y chromosomes. Earlier theories talked of an evolutionary mutation rate (Zhivotovsky et al. 2004) back to “time of most recent common ancestor” being of order of 1800 years ; a later paper (King and Jobling 2009) talk of calculations of order of 650 years”

Historical explanations offered by DNA publicists can be romantic rather than statistical : the 2011 case of the Scottish comedian, Fred Macaulay.

IN 2011 researchers found Fred Macaulay not Norse as assumed (Mac Aulaidh = son of Olaf) – when his results were analysed, he had R1b Eoganacht the genetic signal of a royal family who ruled the province of Munster in the ninth and tenth centuries. The slave market in Dublin would have put high price on a royal slave.

“Once he was put up for sale, Fred’s ancestor was almost certainly bought by a Viking lord from the Hebrides who was probably called Olaf or was from the household of Olaf. He then sailed back north with his new and prestigious acquisition. At some point the Irish slave had sex with a Macaulay woman and his DNA marker, Rib Eoganacht was insinuated into their lineage that way. It is the most plausible explanation and it appears to fit the facts. Fred Macaulay was delighted.” (Moffat 2013, 210)

Amlaoibh (Irish version of Scottish Aulaidh) as ancestral name amongst Irish families

- Of the most numerous personal names in Mac Fhirbisigh's 17th C *Great Book of Irish genealogies*, Amlaoibh is 61st most common with 74 examples (Ó Muraíle 2004 iv, 46)

Location of ***Meic Amhlaoibh*** as given by Giolla na Naomh ÓhUidhrín (who died in AD 1420):

“Far from generous Abhainn Ealla, westwards over smooth-wattled Gleann Salcháin, is a bright fair-clustered land without concealment, the land of the noble **Meic Amhlaoibh.**”

Gleann Salcháin lies in barony of Duhallow, Co. Cork and in territory of Eoganachta

Data set for Irish surnames of “Scandinavian” origin used in 2006

The sample population of 47 men came from 26 names thus including multiple representatives of some names as follows (number): **Arthur (2), Beirne (2), Bligh (1), Boland (3), Caskey (1), Coll (1), Coppinger (2), Doyle (4), Gohery (2), Hanrick (2), Harold (1), Hendrick (1), Higgins (2), Kells (2), Kettle (1), Loughlin (1), McGetrick (3), McLoughlin (3), Nelson (1), Norris (1), O’Higgins (1), Sugrue (2), Sweetnam (1), Thunder (1), Toner (3) and Tormey (3).**

NB! No Mac Aulaidh listed here despite frequent reference to Olaf/Amlaibh as name amongst Dublin Viking leadership

➤ “The proposed model of Viking migration is based not only on a Norse root for the surnames examined but also **requires that the personal names from whence these derived were largely restricted to Hiberno–Norse settlements. There is some evidence that they had a degree of popularity in a native Irish context** and if such exchange was common it may mean that Norse names had begun to become disassociated with Norse colonial societies by the time of widespread surname adoption. The original personal names/nicknames could also have been introduced through a Norse female or indeed any other nonpatrilineal ancestor leaving no Y-chromosome trace when these names eventually became incorporated into hereditary surnames.”

In other words, the approach of investigating only those whose surnames are putatively Norse in origin may be flawed since those names may, in fact, have been given to (genetically) native Irish

Test case of Loughlin: derived from Hiberno-Norse personal name *Lochlann*

Citations of Lochlann in Mac Fhirbishigh's Great Book of Irish Genealogies (ed. Ó Muraíle 2003)

Connachta Uí Bhriúin = 21 examples

Airgialla = 10

Síl Ír = 7 = **Ó Lochlainn of Corcu Modruad of Clare— ancestor = AI +983**

Dál Cais = 7

Northern Uí Néill = 6 = **Mac Lochlainn/Mág Lochlainn of Tyrone- ancestor = AU 1024**

Clann Fiachrach Fhir Mhara = 4

Connachta Uí Fhiachrach = 3

Uí Mhaine = 2

Eoganachta = 2

Laigin = 1

Gaill Lochlainn = 1 = Mac Léoid of Scotland and Ireland (MacLeod)

Southern Uí Néill = 1

Dublin Citizen Roll of c.AD 1200: approximately 1600 names

9 names with no other element

746 names with origins marked: *X de* (French)
+ 19 names with origins marked: *X of* (English)
+ 50 names with origins marked by adjective: *X ..us*

267 names with profession

210 names with 2nd noun: *X Y*

95 names with adjective specific to individual

296 names with patronymic marked: *X filius Y*

30 names with brother marked: *X frater Y*

15 names with descent marked: *X nepos Y*

7 names with relative marked: *X cognatus Y*

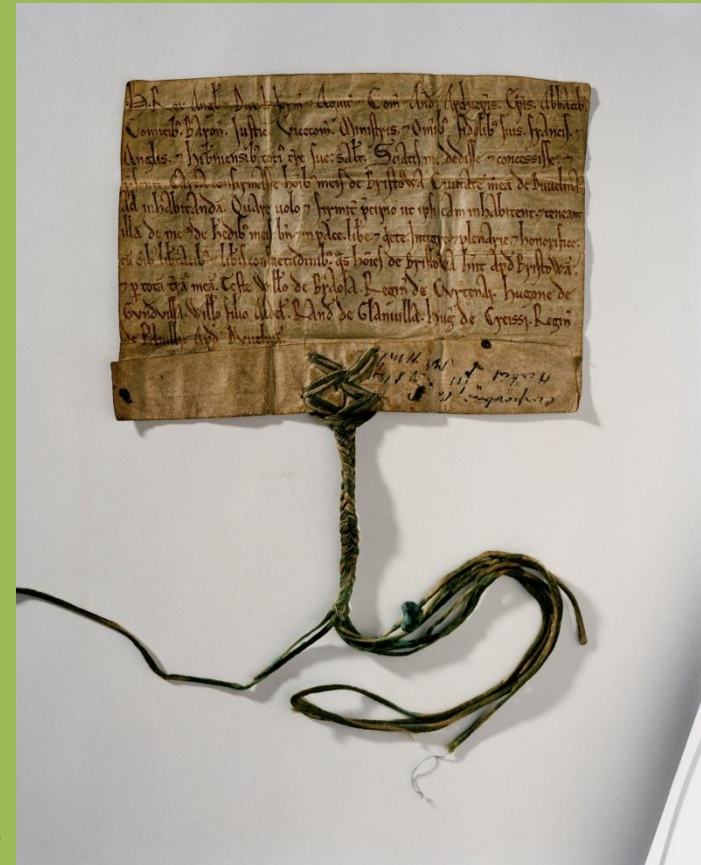
5 names with relative marked: *X gener Y*

3 names with patronymic and grandfather: *X filius Y filius Z*

1 name with Irish patronymic marked: *X mac Y*

1 name with Welsh patronymic marked: *X ap Y*

1 name with English/Norse patronymic marked : *Xson*



Multiple languages visible in list – except for Welsh

- Phillipus Unnithing = **Philip the ?patriot-**
(*niðingr* = Old Norse/Old English)
 - Bernardus balbus - **Bernard the Stammerer**
(*balbus* = Latin)
 - Willielmus curtageamba – **William the short-legged**
(*curtageamba* = French)
 - Finboga – **White bow(man)**
(*Boga*= Old Norse/Irish ; *Fin* = Irish)
 - Reginaldus utlag = **Reginald the outlaw**
(*Utlag* = Old Norse)
 - Radulfus chepman + Aluredus Kepa= **Radulph the peddlar + Alured the merchant**
(*Chýpman* & *cépa* = Old English)
 - Ricardus bonde = **Richard the householder**
(*Bónða*= Old English)
- Hugo Harang = **Hugo the Herring**
(*hareng* = French)
- Petrus *gille* - **Peter the lad**
Gille = Old Norse/Irish

Adjectives which became surnames

- 29 albus + + 6 albi + **Fin** de Hauerford (in Wales)
- 8 niger + 1 nigri (1 Niger = surname?)
- 5 Brun as surname
- 5 rufus + 1 red + 6 ruffus

- 5 longus + 4 longi

- 1 magnus + Baldewinus le mor + 3 bagge = surname?
- 2 paruus

- 2 superbus

- Hugo le yunger + 5 iuuenis

The same adjectives are found attached to names from 12th and 13th C Limerick .and in a mid twelfth century list of commemorated dead from an Irish foundation on the Continent.

Dublin Citizen Roll: Largest numbers of personal names = Germanic/French and Biblical

- 198 Willielm
- 122 Ricard
- 118 Iohannes/
- Johannes
- 117 Robert
- 107 Walter
- 89 Roger
- 59 Radulf
- 53 Hugo
- 41 Galfrid
- 40 Henric
- 43 Adam
- 33 *Osbert*
- 29 Nicholaus/Nicol
- 27 Iordan
- 27 Elias
- 26 Simon
- 23 Thomas/Tomas
- 21 Peter
- 20 Rodbert
- 19 Reginald
- 15 Alan + 3 Alin
- 16 Ace
- 15 Urs
- 12 Gillibert
- 16 Alexander
- 11 Bernard
- 11 Baldwin
- **10 Turstein/Turstin**
- 9 Ernald/Arnald
- 8 Randulfus
- 8 Laurent
- 8 Martin
- 8 Marc
- 8 *Godwin*
- 7 Warinus
- 7 Andrew
- 7 Mathias
- 6 *Edward*
- 6 Alured
- 6 Reiner
- 3 *Estmund*
- 5 Godafrid
- 5 Ailward
- 5 Vincentius

This fits with general pattern in Britain which saw rapid change from Anglo-Saxon and Norse names to Norman French names during the twelfth century.

Evidence of transition from Norse or English names to Norman names at Dublin in generation PRE 1200

- Nicholaus filius Aldredi
 - Willielmus filius Estmundi
 - Willielmus filius Eilric de Cultere
 - Daniel filius Wimundi
 - Robertus filius Ingelram
 - Radulfus filius Dunstani
 - Radulfus filius Godwini
 - Iordan filius Win
 - Walterus filius Edrici
 - Philippus filius Haraldi
 - Willielmus filius Godrich de Glaucestra
-
- Rodbertus filius Osberti diciuer -the poet
 - Iohannes filius Osberti diciuer – the poet



Dublin Citizen Roll: evidence of names of Hiberno-Norse origin

Petrus gille

Gillegod

Ricardus Gillemichel

Gillebrennus

Willekin Gillemichael

Gillamori Blathach

Gilla Isa,

Iarnfin filius Gilli

Duuenald

Gillafinean

Torsten utlag – the outlaw

Turstanus carpentarius

Johannes filius Arcaill

Turchel filius Ade

Turstin de Castello

Reignaldus le bindre

Filius Ade

Filius Turstein

Torkaill of Kardiff

Turstein carbus de Wigornia – charcoal maker from Worcester

Swein de kardif

Iuor de Cardif



Irish origins of late 12th C Dublin citizens:

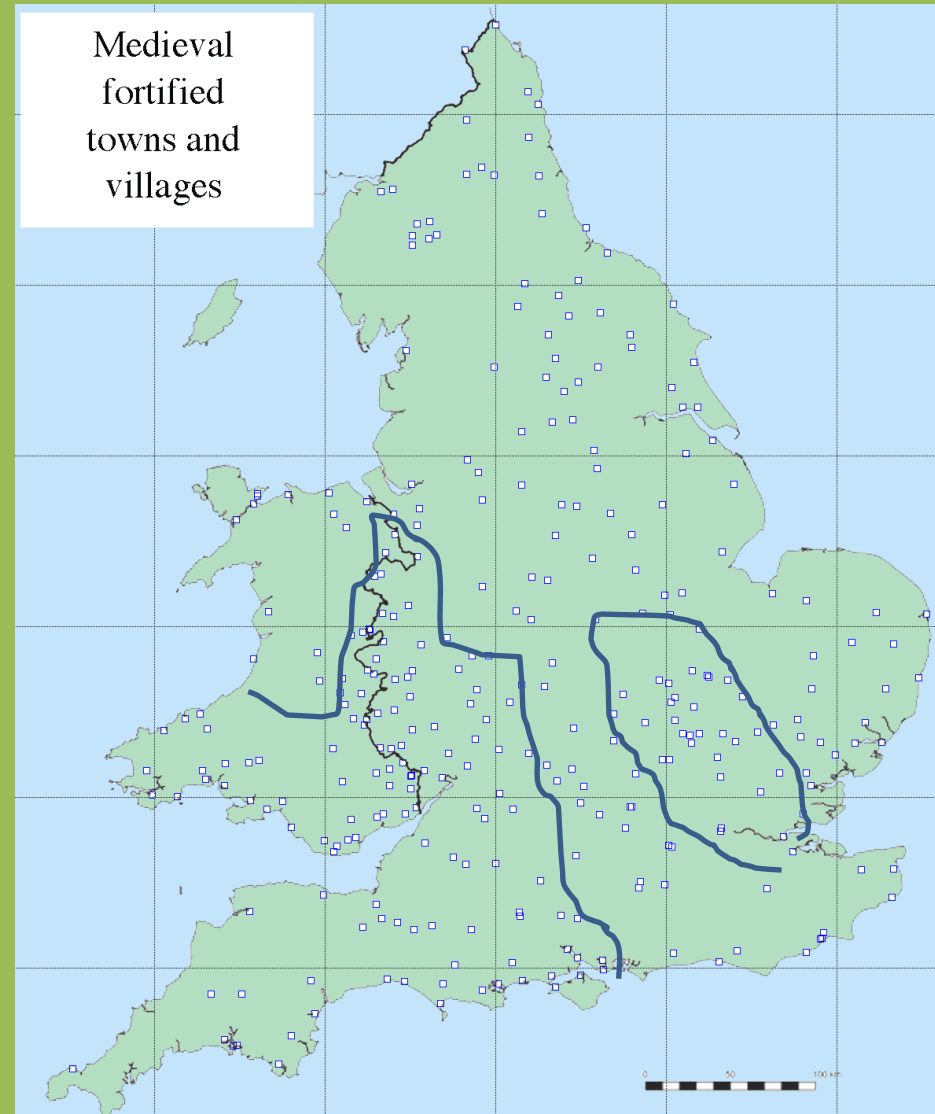
- 11 from Cork
- 4 from Castledermot
- 3 from Kildare, Dublin, Duleek, Trim, Killaloe
- 2 from Ulster, Munster, Naas, Clonard, Castleknock, Lismore, Leighlin
- 1 from Wicklow, Athy, Bray, Fore, Limerick, Derry, Drogheda, Carlingford, Galtrim, Donore, Fore, Lough Sewdy, Granard, Kilkenny and Wexford



Origins of Dublin citizens in order of frequency: **310 places of origin**

- 36 Cardiff
- 26 Worcester
- 26 Gloucester
- 18 Cornwall
- 19 London
- 13 Bedford
- 13 Exeter
- 12 Bristol
- 12 Northampton
- 11 Haverford West
- 8 Oxford
- 8 Striguil/Chepstow
- 7 Taunton
- 7 Cardigan
- 6 Warwick
- 6 Lichfield
- 5 Bodmin
- 5 York

NB! 207 places only mentioned once!



Implications of Dublin citizens roll of 1200

- There are people with Norse personal names; there are 7 people who are said to be “Northerners” (*norreis, noreis, Normanni*) and there are 2 people who are called Norse outlaws but no places of origin in Norway or Denmark are listed in Dublin roll.
- There are a handful of names from France (especially in the north-east) and perhaps 3 from Iberian peninsula.
- There seems to be a high % of late 12th C Dublin population which comes from western England and south Wales. The towns of these regions sent people in some numbers (especially Cardiff) but there is a very high percentage of individuals, who, originating in small settlements in a rural environment, apparently decide to come to Dublin on their own initiative and settle there to work.
- However **none** of these people, as recorded, appear to have had Welsh names or epithets attached to them.

Land of the free and home of the brave

- The question for historians is – did these people all come after the Cambro-Norman invasion of 1169? (8 people identified themselves as being from Strongbow's home base at Striguil/Chepstow). Or was the Dublin of Brian Boru (i.e. 150 years before invasion) also populated by people who originated in western England ?
- Because the fashion for naming people by Norman French names was so strong in Dublin, even people who describe themselves as originating in non-colonised parts of Ireland such as Killaloe have English and Norman names (e.g. Lambert).
- **. Personal names as such, therefore, are not necessarily a good guide to their ethnic identity. It is clear that Norse names could be used by native Irish while Norman and English names could be used of people who may well have been Irish. A DNA survey based solely on people with surnames of Norse extraction, therefore, is not a good guide to the original Scandinavian element in the medieval Irish population.**

Hiberno-Norse DNA – the TCD study of 2006:

European Journal of Human Genetics 14, 1288–1294

Sample population for study = of 47 men came from 26 surnames. Woulfe/de Bhulbh gives their Irish derivations as follows:

Arthur (2) < Artur
Beirne (2) < Broin
Bligh (1) < Blígr
Boland (3) < Bowland/Ó Beólláin
Caskey (1) < Mac Ascaidh
Coll (1) < Nicholas/Coll
Coppinger (2) < Kaupanger
Doyle (4) < Ó Dubhghaill
Gohery (2) < Ó Gothraidh < Gothfrith
Hanrick (2) < Ó hAnnraic
Harold (1) < Harold

Hendrick (1) < Macc Annraic
Higgins (2) & O'Higgins (1) < Ó hUiginn < *víking*
Kells (2) < Kettle (1) < Mac Coitil
Loughlin (1) < Ó Lochlainn
McGetrick (3) < Mag Shitric
McLoughlin (3) < Mag Lochlainn
Nelson (1) < Mac Neighill < Niall
Norris (1) < Noiréis
Sugrue (2) < O Siocfhradha < Sigefrith
Sweetnam (1) < Suatman
Thunder (1) < Ó Tórna, Tundar
Toner (3) < Ó Tomhraidh < Tomrar
Tormey (3) < Ó Tormaigh < Thormodr

“The proposed model of Viking migration is based not only on a Norse root for the surnames examined but also requires that the personal names from whence these derived were largely restricted to Hiberno–Norse settlements.” p.1293

6 -11 of surnames studied = in Dublin

Dublin City Roll – 1600 names (italics = questionable relevance)

Artur		NONE
Beirne (2) <Broin		NONE
Bligh (1) <Blígr		<i>Blida</i>
Boland (3) < Bowland/Ó Beólláin		NONE
Caskey (1) < Mac Ascaidh		NONE
Coll (1) < Nicholas/Coll		Willielmus Cole
Coppinger (2) < Kaupanger		<i>Boidin Copun</i>
Doyle (4) < Ó Dubhghaill		NONE
Gohery (2) < Ó Gothraidh <Gothfrith	12 individuals Godefrid =	from Swansea, Kildare, Exeter, Hascebruege
<u>Hanrick (2) < Ó hAnraic</u>		NONE
Hendrick (1) < Macc Anraic		NONE
Harold (1) < Harold		4 individuals Harold = Lancaster, Munster
Higgins (2) & O’Higgins (1) < Ó hUiginn < <i>viking</i>		2 individuals with second name ‘Viking’
Kells (2) < Kettle (1) < Mac Coitil		2 individuals called Ketell, Anketall
Loughlin (1) < Ó Lochlainn		NONE
McGetrick (3) < Mag Shitric		<i>Wichtriche</i>
McLoughlin (3) < Mag Lochlainn		NONE
Nelson (1) < Mac Neighill < Niall		<i>Henricus le Ueel</i>
Norris (1) < Noiréis		7 individuals described as Noreis, Norreis
Sugrue (2) < O Siocfhradha < Sigefrith		<i>Sigar</i>
Sweetnam (1) < Suatman		NONE
Thunder (1) < Ó Tórna, Tundar		NONE
Toner (3) < Ó Tomhraidh < Tomrar		NONE
Tormey (3) < Ó Tormaigh < Thormodr		NONE

Cross-disciplinary Studies of
Migration of Irish, Hiberno-Norse and other Gaelic-speaking populations in the Viking Age



- Interdisciplinary group formed initially in 2009 as project *Genes of the Gallgoídel*
www.vikingage.mic.ul.ie;
- **Follow-up project = *Linn na nGéinnte Éireannacha: Genes of Celts, Vikings and Normans*** which seeks to test TCD conclusions through regional studies of medieval populations within Ireland.
- Instead of looking at ‘putative Norse names’ on national basis, we decided to investigate families whose surnames were found in the townland names of Wexford, Limerick, Galway.

Comparing Wexford surnames embedded in Wexford townland names with Dublin citizen roll:

- **Rickard/Rackard** - 121 Ricardus + 1 Ricard + 1 Richard
- **Johns** – 88 Iohannes + 1 Iohenn + 19 Johannes
- **Jordan** - 27 Jordans
- **Stephen** - 15 Stephen & 1 Stefan
- **Allen** – 14 Alans
- **Cleary** – 11 clericus – Irish *clerech*
- **Welsh/Walsh** – 7 Walensis, Wallensis, Waleis, as well as many Welsh settlements
- **Browne** – 5 Brun Cardiff, Northampton (x 2)
- **Edwards** 5 examples – from Scot, London, Clonard
- **Redmond** – 2 *Remund*, 2 *Reimund* from Bodmin
- **Morris** – 4 Moricius + 2 Mauricius + 1 Moriz Welshman, from Barnstable, Chepstow
- **Lambert** 3 examples – from Killaloe
- **Harvey** – 2 examples Herui
- **Fisher** - 2 Piscator (fisherman)
- **Breen/ Bryan/Brian** – 2 Brian
- **Hore** – 2 examples *Ourei* – from Fishguard
- **Bardon/Bardin** – 1 Barde
- **Cullen** - Cullin filius Seafani
- **Petit/Pettit** – 1 parvus
- **Barron** – 2 *Barrys*
- **Boggan** – (from Norse *boga* – bow? Finboga) *Bodin*
- **Brazil** – Roger *bras*
- **Brennan** – *Gillibrenni*
- **Butler** – le Bot
- **Fardy**, - 1 *de Fardun*, 1 *Farthini*
- **Fitzharris/Harris**, 1 *Harers*, 1 *Sahar*
- **Fortune** *Forthouede*
- **Somer** - *sumer* from Ludlow
- **Turner** – 1 *turnur* (profession)
- **Whitty** - *Withe* from Abbeville

Conclusions

- The Dublin citizen roll of 1200 suggests that, as an early Irish walled town with Viking origins, it was a newly formed community with a high percentage of emigrants in the 12th C. (Given the similarity of names with those found elsewhere, this is also likely to be true of other contemporary walled towns such as Wexford.)
- These migrants were people coming together from Ireland, Wales, England, Scotland, some people from Northern Europe and relatively few migrating from the Continent.
- There seems to be evidence for a very strong tendency to favour Norman names at the end of the twelfth century even amongst people whose fathers had had English or Norse names.
- People with Norman or English names were found throughout Ireland in the twelfth century, even being linked to places like Killaloe in Co. Clare which was under native Irish rule at the time.
- Very few people were known by a single name. People were known by the location they came from, their father's name, their profession and adjectives and nicknames. How these various formula became surnames is still a matter for scholarly conjecture and requires more research.

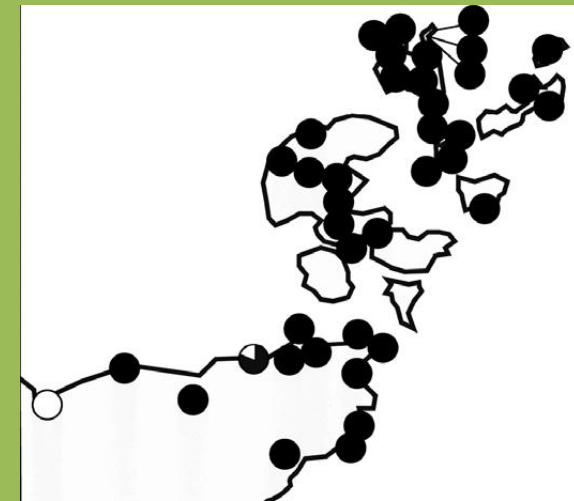
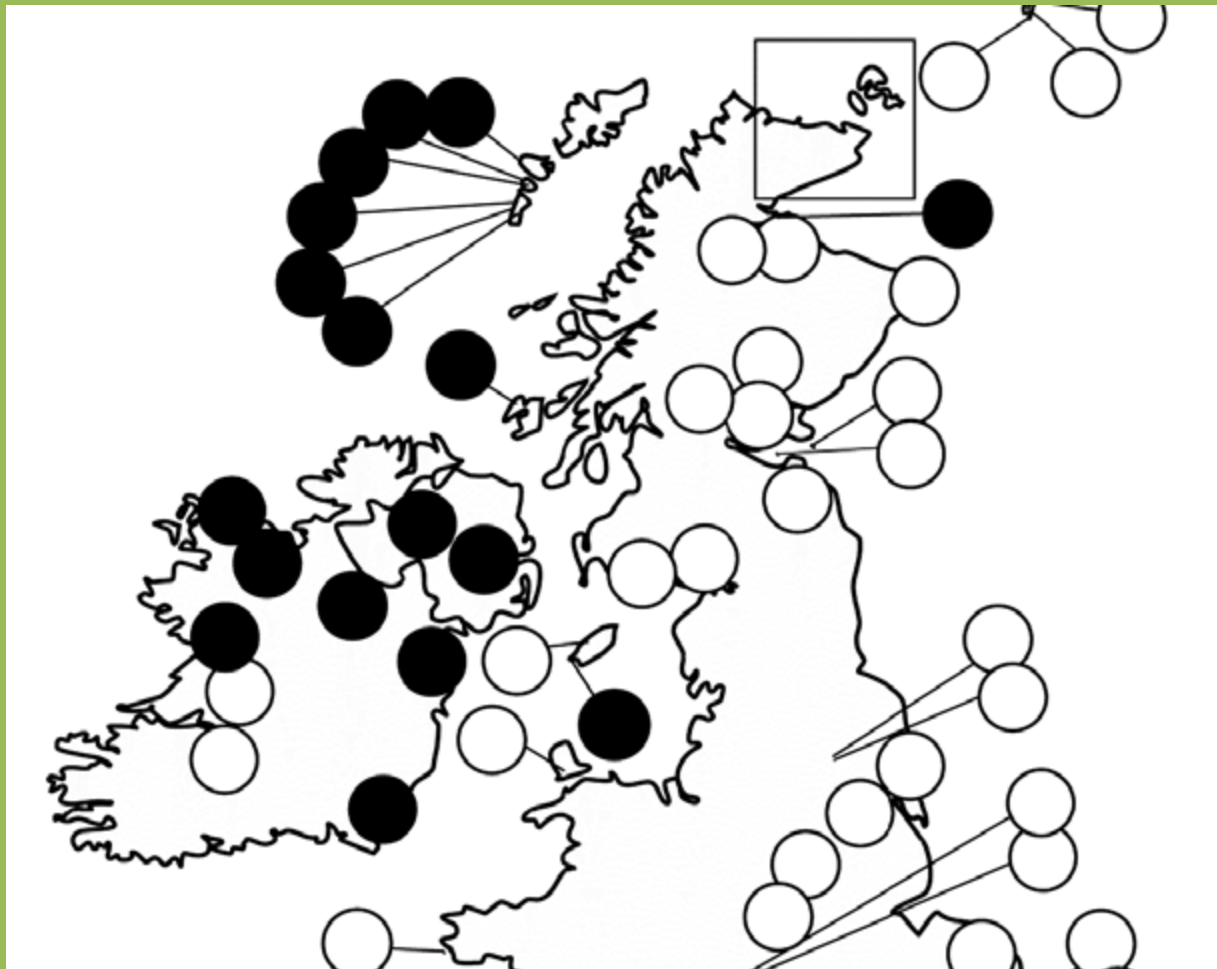
Implications for analysis of surnames in Linn na nGéinnte Eireannacha

- It seems clear that we cannot make the assumption that surnames based on English/Norman elements necessarily represent families who were genetically of such backgrounds although many were.
- Similarly, a study of name forms does not show a high % of ethnically Irish residents in the walled town of Dublin at end of 12th C but this may not reflect genetic realities.
- Of the 26 surnames studied to identify the genetic imprint of Vikings on the Irish population in 2006, at least 6 and possibly 11 were associated with a walled Hiberno-Norse city in the late twelfth century but that leaves something over 50% which show no such associations.
- Given the high numbers of Ricards, Jordans, Godefrids, Alans, Stephens, Johns and Edwards, we must expect that the DNA of individuals with such surnames will show multiple ancestors.

Addendum – the phylogeography of British and Irish housemice (Searle *et al*, *Proceedings of the Royal Society*, 2009

- The colonization history of the house mouse *Mus musculus* is inextricably linked to human movements – i.e. they spread in association with human travel.
- There is a major mtDNA lineage revealed by both RFLP and sequence analyses, which is restricted to the northern and western peripheries of the British Isles, and also occurs in Norway. This distribution of the ‘Orkney’ lineage fits well with the sphere of influence of the Norwegian Vikings and was probably generated through inadvertent transport by them.

Distribution of Orkney “lineage” of house mice



NB! No archeological traces of mice in Orkney in pre-Viking contexts

Conclusions of Searle *et al.*

- “It is our contention, therefore, that for the house mouse the Orkney mtDNA lineage represents a marker for Norwegian Viking influence.. House mice are a valuable proxy for Viking movements, as revealed through the studies of mtDNA.
- The combination in the Viking period of the spread of urbanization in northwestern Europe and the trade facilitated by sophisticated ships capable of travelling substantial distances and carrying large amounts of cargo make the Vikings ideal house mouse vectors. There is clear evidence from Viking age deposits in Iceland and Greenland that house mice were indeed transported on Viking ships (Nicholson *et al.* 2005).”

The blood of the Dubliners has still to be investigated in detail. The 2006 suggestion that relatively few Scandinavians settled in Ireland has still to be substantiated by further research and is apparently contradicted by more recent studies on mice. Future DNA studies of ancestral Dublin surnames must be linked to a detailed knowledge of the city's citizens as outlined in our historical documents.

