

Mitchell

A Scottish Case Study

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

Dr Tyrone Bowes
4th August 2012

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 1,000 years ago one's direct medieval male ancestor, the first for example to call himself 'Mitchell' was living in close proximity to others with whom he was related but who assumed other surnames like Templeton and Logan. Given that 1,000 years have passed since surnames were adopted, there will be many descendants of these individuals some of whom will today undergo commercial ancestral DNA testing. Hence the surnames of one's medieval ancestor's neighbours will be reflected in today's DNA test results. Early 19th century census data shows that Scottish surnames could still be found concentrated in the Counties from which they originated. In this manner one can examine surname distribution maps (for the surnames that appear as a DNA match) and pinpoint a '**Genetic Homeland.**' The Genetic Homeland is the small area 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 from the identified location. The Case Study below will detail how I made sense of the test subject 'Mitchell's' Y-DNA results and will provide a checklist on how to proceed in identifying your own Genetic Homeland.

Notes of caution!

1. In Ireland each of the estimated 1,500 distinct Clans had a single founding ancestor, that's an estimated 1,500 Adam's from whom anyone with Irish ancestry can trace direct descent. But science has demonstrated that only 50% of individuals with a particular Irish surname will be related to the surnames founding ancestor, 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. Since Scotland adopted a similar Clan based society these scientific findings can be applied to Scotland and people with Scottish ancestry.
2. Often people are looking for their DNA results to trace back to a specific area. One must remember that the results reflect one's ancestor's neighbours from around 1,000 years ago. As a result, if your recent Scottish ancestor was originally an Anglo-Saxon settler, Viking raider, or 12th Century Norman your DNA results will reflect earlier English, Welsh and possibly Scandinavian origin. One must approach this process with an open mind!

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Interpreting the Y-DNA test results

To identify a Genetic Homeland one must first find the surnames that continually appear as genetic matches. These reoccurring surnames are less likely to be a result of non-paternal events (adoptions/infidelity) and reflect the surname of a medieval ancestors neighbour. Results for test subject ‘Mitchell’ are shown in **Table 1**.

SURNAMES THAT REOCCUR AS A GENETIC MATCH TO TEST SUBJECT MITCHELL FROM 37 MARKER Y-CHROMOSOME DNA TESTING

Test subject	37 Marker Y-DNA test									
	37 marker level					25 Marker level				
	exact	-1	-2	-3	-4	exact	-1	-2	-3	-4
Mitchell			Templeton (x8) Milligan/Miliken /Milican/Milican (x15)	Boyle (x2) Fallon/Falin (x2) Logan(x3)	Fitzhenry(x3) Wilson(x2) Green/Greer(x3) Taylor/Traior(x3) Cowan/McKown (x13) ¹ Shannon (x2) Black (x2) Glenn(x8) Hill (x3) Brannan(x2) MacDonald (x4) McHarg (x5) McTernan/McTiernan(x2) Doherty(Doriety) (x30) InskofInsoho(x2)		Johnston(x2) Smith(x9) ¹ MacAdams (x5) Skelly/Kelley/Kelly(x5)	Leonard(x2) Dalton/Daulton/Dolton (x31) Mullin/Mullins(x3) Dunn/Dunne(x8) Black (x2) Dowdy/Dowda/Dowd(x4) Kennedy(x2) McLaughlin(x2) McCalla/McCullough(x2) Morris(x2) McGeehan(x2) McGrew(x2) Stinson(x2) Graham (x2) McWilliams/Williams (x6) Lawson(x2) Fleming(x3) McCracken(x2) Boles(x2) Grierson(x4) Henley(x2) Roberts(x2) Woods(x2) Berry(x2) Mason(x2) Douglas(x2) Harron/Heron(x2) Stewart(x2) McClellan(x2) Branum(x2) Donohoe(x2) McGee(x3) Barron(x4) Amerson(x2) Rose/Atrose(x3)		

Table 1: Reoccurring surname matches for test subject Mitchell. Surnames appear at the point at which they first occur as a genetic match e.g. the first match to an individual called Templeton occurs at 35/37 markers although not all Templeton’s may match at that level. Figures in brackets represent the number of individuals with a particular surname who occur as a genetic match. Coloured font denotes the ethnicity associated with each surname; **Scottish** and **Irish**. Black font indicates surnames with multiple ethnic origins. Surnames in bold font also occur as a match at the 67 marker level. ¹The surname Cowan/McKown which occurs at the 37 marker level has often been anglicised to Smith (which occurs at the 25 marker level).

A Non-Paternal event?

The test subject Mr Mitchell is a genetic match to other ‘Mitchell’s’ but only at the 12 marker level. Only one of these Mitchell’s has tested beyond 12 markers but he did not subsequently appear as a match at the 67, 37, or 25 marker level. However, in the absence of the other Mitchell testing for 37 and 25 markers one cannot rule out Mr Mitchell being a close genetic match to him and having therefore retained the surname of the Mitchell ‘Adam’ who lived approximately 1000 years ago.

A clue with regard to the test subject having retaining the surname of the Mitchell Adam can be found by examining where the surnames of his closest genetic matches occur. If it can be shown that the Mitchell surname originates in the same location as his closest genetic matches it would support him having retained the surname.

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When one examines the 1881 surname distribution maps for Mitchell, Templeton, Milligan, and Logan (3 or more individuals with these surnames occur as his closest matches in Table 1) one sees a clear association among all these surnames with Scotland, see **Figure 1**. Within Scotland these surnames are associated particularly with the Southwest. Templeton is notable in being the only surname associated with a single geographical area in Ayrshire. Since Mitchell also localises in Ayrshire the likelihood is that Mr Mitchell has successfully retained the Mitchell surname.

WHERE DO THE SURNAMES THAT OCCUR AS THE CLOSEST GENETIC MATCHES ORIGINATE?

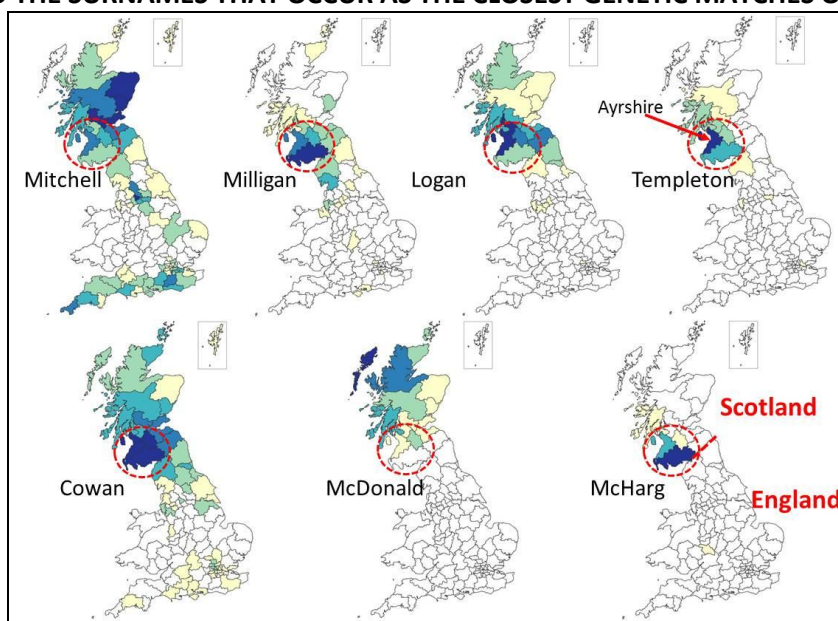


Figure 1: 1881 Surname distribution mapping of the test subject Mr Mitchell's closest genetic matches indicates a Scottish ancestral link. Although Mitchell may be of English or Scottish origin it does occur in the Scottish southwest where Logan, Templeton, and Milligan are concentrated. Templeton is unique in being associated with a single geographical area in Ayrshire (red arrow). The Scottish ancestral link is further strengthened by the distribution of Mr Mitchell's other closest genetic matches to Cowan, McDonald, and McHarg which are associated almost exclusively with Scotland.

Pinpointing the Scottish Mitchell Genetic Homeland

The method of using reoccurring surname matches as revealed by commercial ancestral Y-DNA testing to pinpoint a Genetic Homeland works by exploiting the link between the Y chromosome, surname, and land which are typically passed from father to son. In the absence of a link to the land the process will fail. Hence one must determine whether the Scottish Mitchell's had a link to the land by examining where farmers with this surname are found. The earlier in time that a link can be established the better as over time (particularly in the UK due to the industrial revolution) the link with the land is lost.

The surnames Milligan, Logan, Templeton, and McHarg are particularly notable in that they also occur as matches at the 67 marker level. By examining the number of farmers with these surnames in the Scottish southwest one sees a strong link with Ayrshire among the Mitchell, Templeton, and Logan farming communities, while

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McHarg and Milligan are associated further south with Wigtownshire and Dumfriesshire respectively, see **Figure 2**. The ancestral link to Ayrshire can be further explored by examining where in Ayrshire the Mitchell, Templeton, and Logan farmers lived, the area where these communities overlap will reveal the Mitchell Genetic Homeland, see **Figure 3**.

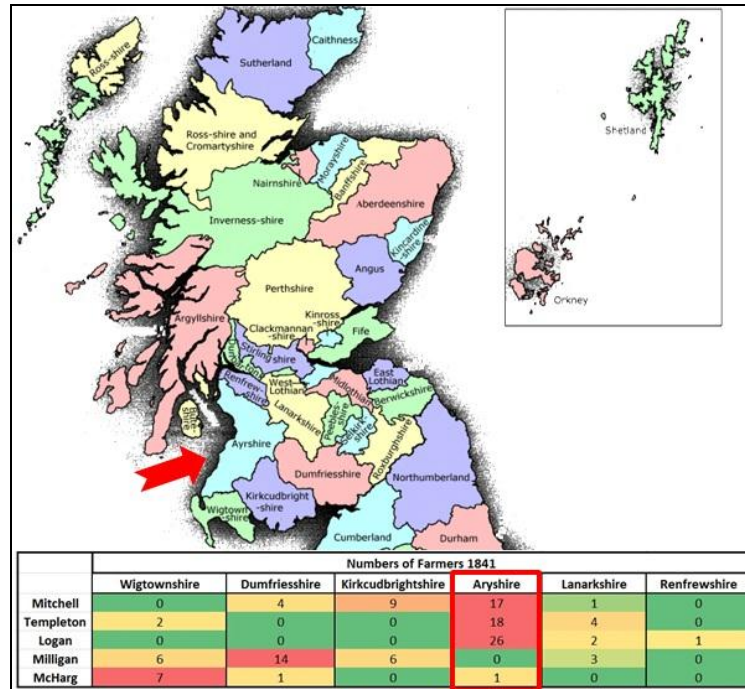


Figure 2: The 1841 Mitchell, Templeton, Logan, Milligan, and McHarg farming communities in southwest Scotland. Only the Mitchell, Templeton, and Logan farming communities localise in Ayrshire (red arrow), while Milligan and McHarg are found further south.

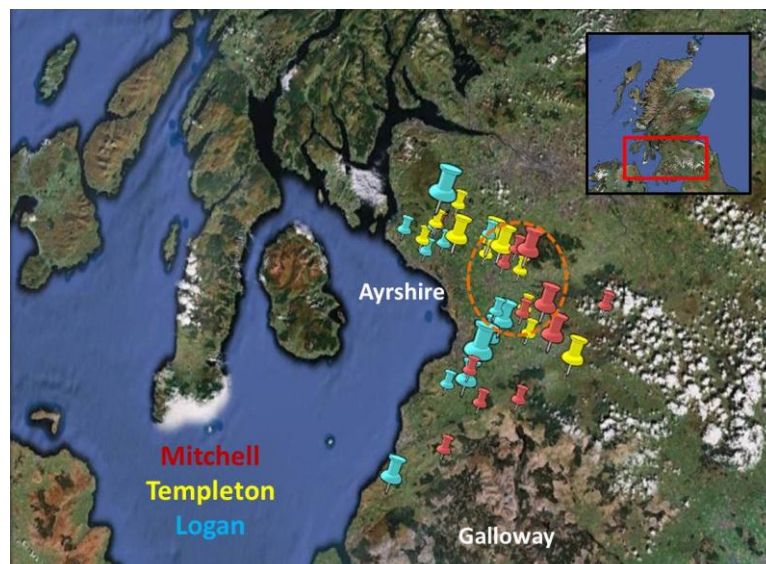


Figure 3: The Mitchell Genetic Homeland in central Ayrshire. Each pin represents an individual farmer. These farming communities overlap in central Ayrshire (orange broken circle) and it is within this area that the Mitchell Genetic Homeland is situated.

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The Mitchell Genetic Homeland evidence in its history and placenames

Evidence for one's ancestor's long association with an area can be found in its placenames. An examination of the area between Kilmarnock, Stair, and Cumnock (where the Mitchell's, Templeton, and Logan farming communities co-localise in 1841) did not reveal any placenames associated with the Mitchell surname. However there are numerous references to the Logan's and Templeton's, including Logan town, see **Figure 4**.

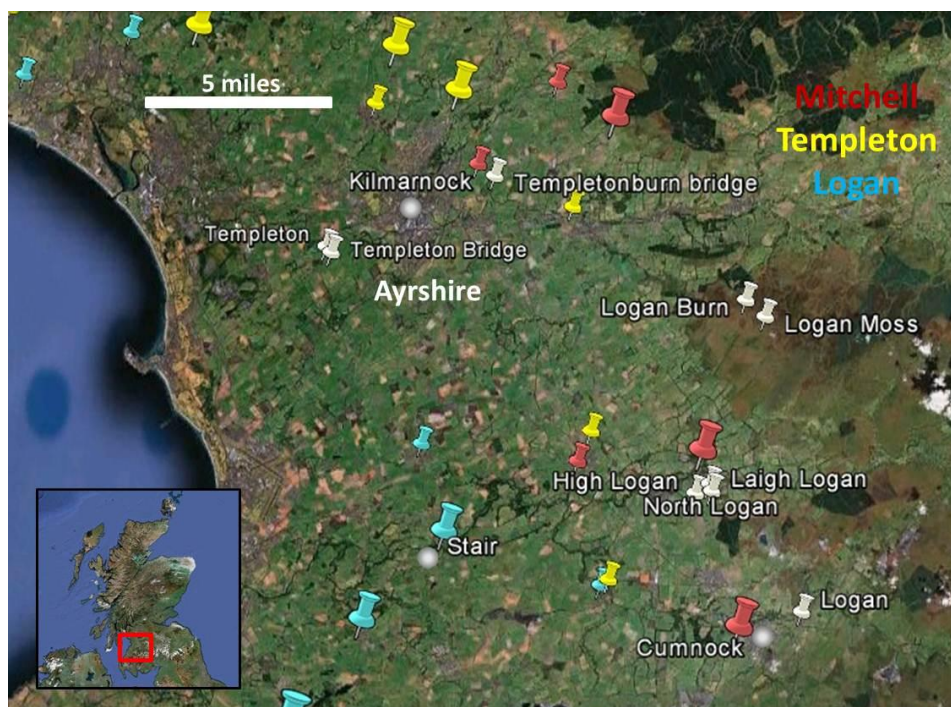


Figure 4: Placenames associated with Mr Mitchell's Genetic relatives. The Scottish 'Mitchell' Genetic Homeland is situated between the city of Kilmarnock, and the towns of Stair and Cumnock. Although no reference to the Mitchell's in the placenames (white pins) can be found, there are numerous references to the Templeton's surrounding Kilmarnock; Templeton, Templeton Bridge, and Templetonburn Bridge (a 'Burn is a watercourse). While to the south there are many placenames associated with the Logan's including Logan Burn, Logan Moss, High Logan, Laigh Logan, North Logan, and Logan town.

The Clan system in Scotland has been extensively recorded and documented and is beautifully illustrated in Bartholomew's Clan map. This map features the lands, or the areas of influence of the most prominent Clans in Scotland from around 500 years ago. Almost everyone with Scottish ancestry will be related to some of these prominent Clans and families. Although there is no mention of the Mitchell and Templeton families, the Logan's are shown in the area where the town that bears their name still stands, see **Figure 5**. In addition, to the south one finds MacAdam Clan territory (MacAdam features prominently as a reoccurring surname in Table 1).

The area between Kilmarnock, Stair and Cumnock is Mr Mitchell's Genetic Homeland. It is here that the Scottish Mitchell 'Adam' lived when he first picked his surname surrounded by relatives who chose other surnames like Templeton and Logan. It is here that his ancestors lived for possibly 100's of years, leaving their mark

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in the placenames and in the DNA of the current inhabitants, and it is where his distant ancestors still live.

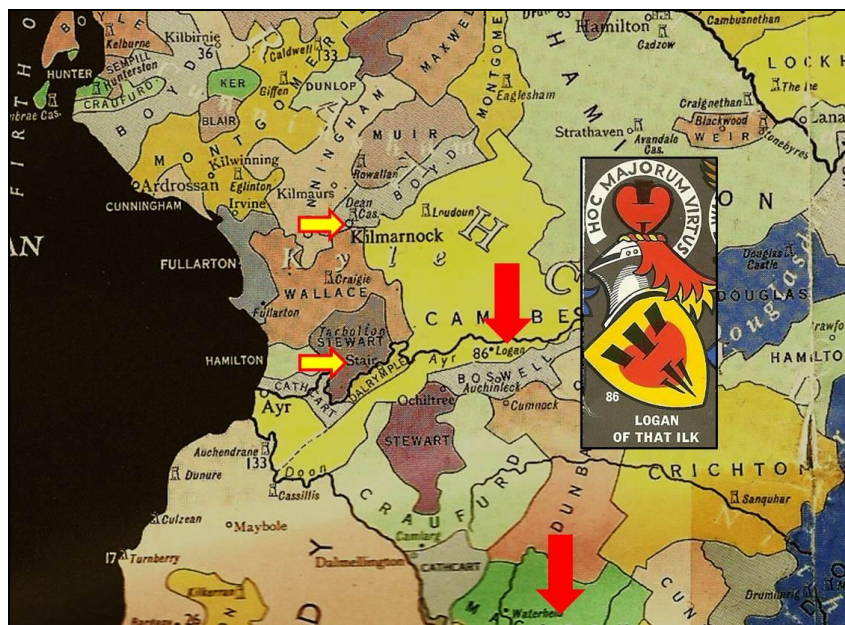


Figure 5: 15th Century Clan map of central Ayrshire in Scotland. There is no mention of Mitchell or Templeton, while Clan Logan (red arrow) is shown in the town that bears their name (close to Cumnock in figure 4). To the south can be found MacAdam territory (red arrow) a surname that features prominently as a genetic match in Table 1. Yellow arrows show the locations of Kilmarnock and Stair.

The Irish connection

If one looks closely at the reoccurring surnames in Table 1 there is an unexpected discovery. The closest matches at the 37 marker level are overwhelmingly Scottish in association but as one moves to more distant matches (from 37 to 25 marker level) which corresponds to a movement back in time and to a more distant shared ancestry one sees more and more Irish surnames creep into the table. These surnames cluster within the Northwest of Ireland where the 'Niall of the Nine hostages' haplotype reaches a maximum concentration, see **Figure 6**. This means that Mr Mitchell's ancestors migrated to southwest Scotland from Ireland.

The genetic evidence does fit with the historical records. The Gaels of Ireland did migrate to the southwest of Scotland sometime between the 8th and 10th Century (AD) and the area they settled became Galloway or 'the land of the Foreign Gael.' Since surnames were still evolving these 'foreign Gaels' as they spread north into Ayrshire and the territories of the ancient Britons and Anglo-Saxons chose new surnames like Templeton, Logan, and Mitchell. His ancestor's earlier presence in Galloway is reflected in his genetic matches to Milligan and McHarg which are both associated with Galloway (see Figure 2).

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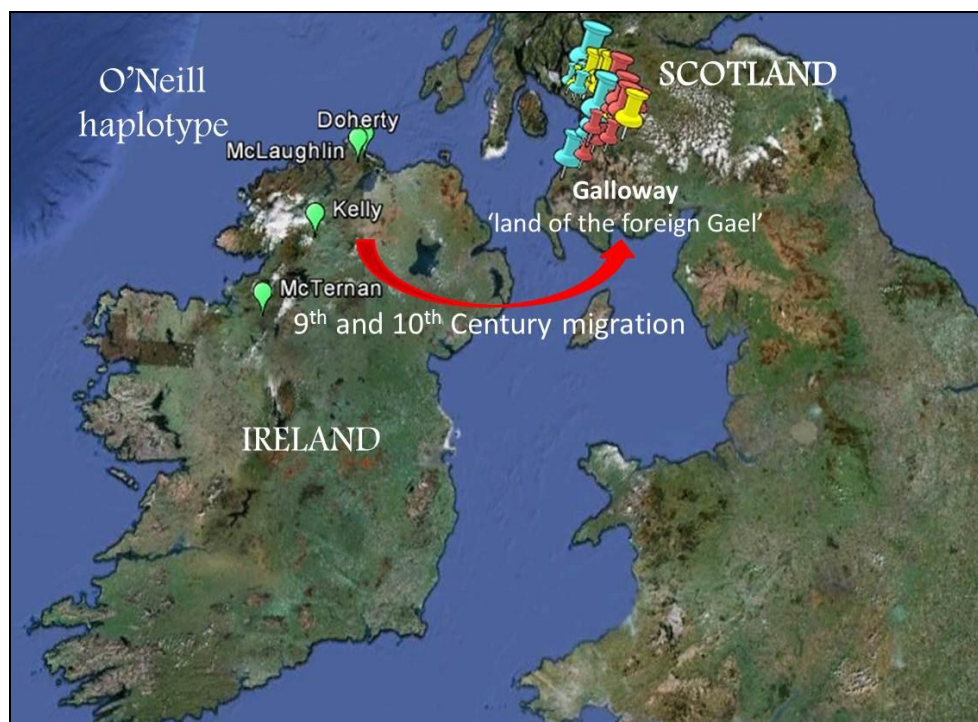


Figure 6: Galloway 'the land of the foreign Gael.' History records the settlement of the southwest area of Scotland by the Gaels of Ireland in possibly the 8th and 10th Century AD. The land they settled became Galloway which translates as the land of the foreign Gael and Mr Mitchell's DNA test results shows that his ancestors took part of this migration.

How to confirm the Mitchell Genetic Homeland

Confirmation of the Genetic Homeland would usually require the DNA testing of farmers with the Mitchell surname currently living in the area between Kilmarnock, Stair, and Cumnock. Mitchell is quite a common surname and there may well be a Mitchell farming community still residing in this area.

HAVE YOU HAD A Y-DNA TEST? THEN 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 80% success rate. If in the unlikely event that I cannot pinpoint your Genetic Homeland I will explain why and I will not charge you.

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 [Scottish Origenes homepage](#).
2. PublicProfiler World names database.
3. Census data (earlier the better).
4. Google Earth.
5. Scotland of Old, Clan Names Map.