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Pinpointing the GRAHAM Paternal Ancestral Genetic Homeland

A Scottish Case Study

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

Dr Tyrone Bowes
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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 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 'Graham' was living in close proximity to others with whom he was related but who inherited other surnames like Allison, Lyons and Morison. Given that 1,000 years have passed since paternally inherited surnames became common, 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.

Early 19th century census data demonstrates that Scottish surnames could still be found concentrated in the areas from which they originated. 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 ones '**Paternal Ancestral Genetic Homeland.**' The 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 ones 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. In Ireland each of the estimated 1,500 distinct surnames had a single founding ancestor, that's an estimated 1,500 Adams 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 typically reflect one's ancestor's neighbours from around 1,000 years ago. As a result, if one's Scottish ancestor was descended from an Anglo-Saxon settler, Viking raider, or 12th Century Norman one's DNA results will 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 genetic matches, see **Figure 1**. Those surnames, particularly one's that recur throughout one's Y-DNA results will typically reflect the surnames of one's medieval ancestor's neighbours. Genetically recurring surname matches for test subject 'Graham' are shown in **Figure 2**.

Genetic Distance	Name	Most Distant Ancestor	Y-DNA Haplogroup	Terminal SNP	Match Date
1	Graham	Robert Graham abt 1700 d1782 Bedford Co., VA	R-M269		9/18/2013
1	Grimes	Henry Graham, d. 1684, Hartford, CT	R-M269		8/19/2010
3	Finney	Robert Finney, b. 1630 and d. 1692	R-M269		11/28/2012
3	Finney	Robert Finney b. 1630	R-M269		8/24/2012
3	Grant Jr.	Matthew Patterson, b. 1720 and d. 1775	R-M269		4/21/2010
4	Finney	Robert Finney Sr., b. 1630 and d. 1692	R-M269		9/6/2012
4	Finney	Robert Finney, 1630-1692	R-M269		12/22/2010
4	Wright		R-M269		12/7/2010
4	Finney	Isaac B. Finney 1831 - 1874	R-M269		7/13/2010
4	Lyons	William Lyons, Abt. 1755, Ballyrashane, Ireland	R-M269		4/21/2010
4	Patterson		R-M269		4/21/2010
5	Lyons	Humberson Lyon 1690-1743	R-CTS6889	CTS6889	7/19/2014
5	McGaha	Joseph McGaha, b 1816 NC d 1879 Transylvania Co NC	R-M269		1/19/2014
5	Finney	Robert Finney, b. 1761, d. 1843	R-M269		12/3/2012
5	Finney	Robert Finney, b. 1630 and d. 1692	R-M269		8/24/2012
5	Morrison	John Morice b. about 1670, Menstrie, Clackmannan	R-M269		6/5/2012
5	Ellison	Robert Ellison b. abt 1697	R-M269		4/21/2010
5	Allison	Andrew Allison, b.c.1723,Ulster,Northern Ireland	R-M269	M269	4/21/2010
5	Ellison	John Elyson, 1585 Windyede Lannark Co. Scotland	R-M269	M269	4/21/2010
5	Mackey	Alexander Mackey, b. 1699, Ireland	R-CTS6889	CTS6889	4/21/2010
6	Warden	Thomas Warden	R-M269		8/24/2013
6	Finney	Robert Finney, b. 1630 and d. 1692	R-M269		11/6/2012

Figure 1: Snapshot of test subject Graham's genetic surname matches as revealed in the FTDNA database. The more YDNA markers two people share the more recent their shared paternal ancestor once lived. At the 67 marker level the test subject matched many different individuals. Some of these genetic matches share his Graham surname (red arrows). However many also have non-Graham surnames and some of those surnames like Finney (orange arrows), Allison/Ellison (blue arrows) and Lyons (green arrows) appear as recurring genetic matches. The shared paternal ancestor with these Finneys, Allison/Ellisons and Lyons lived prior to the appearance of surnames. These surnames arose among a tribal group of related males living in a specific location.

Test Subject	Haplogroup	YDNA Test Results						
		111 markers	67 Markers				37 Markers	
		-6	-1	-4	-5	-7	-3	-4
Graham	R-M269	Lyon (x4) Finnie(x8) ¹	Graham/Grimes(x5)	Patterson(x2) ²	Allison/Ellison(x13) Morison(x5)	Jamerson/Jamison(x2)	Wright (x2)	Johnston (x2)

Figure 2: Genetically recurring surname matches for test subject Graham as revealed in the FTDNA database. Surnames appear at the point at which they first occur as a genetic match e.g. the first match to an individual called Lyon occurs at 105/111 markers, although not all Lyons may match at that level. Figures in brackets represent the number of individuals with a particular surname who appear as a genetic match. Coloured font denotes the ethnicity associated with each surname; Scottish, black font indicates multiple associated ethnicities. ¹Members of the same close family recruited for YDNA testing and excluded from further analysis. ²Paterson appears as a recurring genetic match at the 25 marker level.

Upon commercial ancestral Y-DNA testing Mr Graham matched other individuals called Graham who tested independently, see **Figure 1** and **2**. This would indicate that the test subject is most likely directly descended from an Graham-Adam;

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literally the first male ('Adam') to take that surname who lived approximately 1000 years ago when paternally inherited surnames became common. Although Graham is a common surname associated with Scotland and England, a Scottish paternal ancestral link is supported by the test subject's closest recurring genetic matches which include the exclusively Scottish surnames Paterson, Jamieson and Morison, in addition to Scottish-associated surnames like Allison/Ellison, Lyons, Wright and Johnston, see **Figure 2**.

Since farmers in early census data concentrated in the area where a surname first appeared one can examine the distribution of Farmers called Graham and determine how many Scottish Graham Clans (or Families) existed. Early census data reveals 10 distinct clusters of Graham farmers; indicating the existence of potentially 10 unrelated Graham Clans, see **Figure 3** and **4**. Each Graham Clan was potentially founded by an unrelated Graham-Adam; one of whom the test subject may be genetically related to. It is Mr Graham's genetic surname matches revealed by his Y-DNA test results as a snapshot of his Scottish medieval male ancestors relatives/neighbours which can be used to pinpoint where his Graham ancestors once lived, or rather which of the 10 Graham Clans he is related to. This is because those surnames will have arisen among a group of related males living in a very specific location, plot where those surnames occur in early census data and one should reveal an area within Scotland that is common to all.

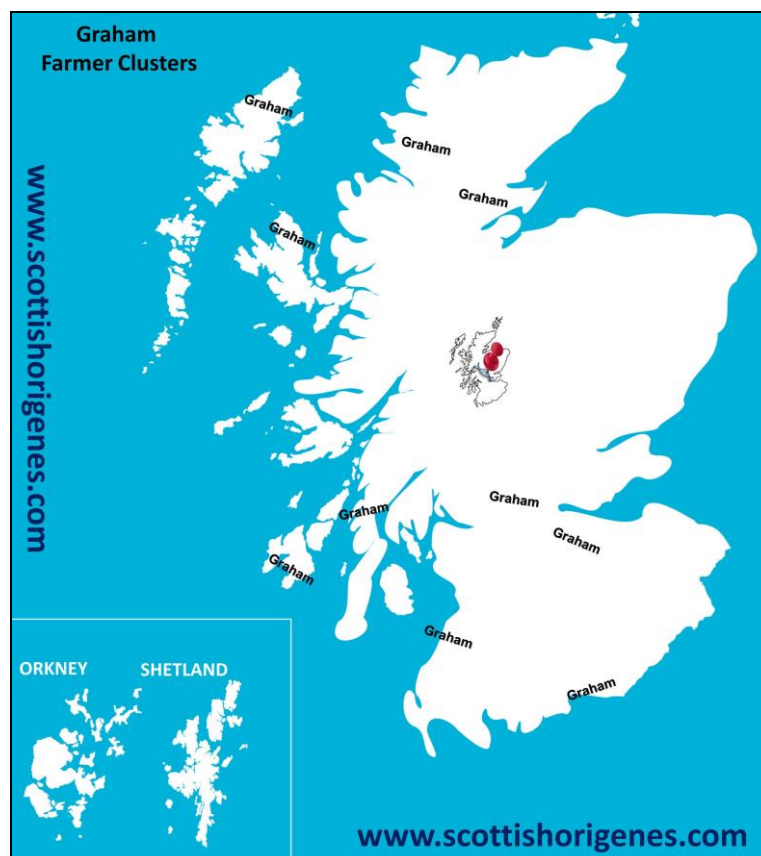


Figure 3: Scottish Grahams. By examining the distribution of farmers called Graham in early census data it reveals 10 clusters within Scotland. Since the test subject is most likely descended from a Scottish Graham-Adam his paternal ancestry is connected to one of these 10 groups of Grahams. Each surname has been placed on the map in the area where farmers with that surname concentrate in early census data.

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Figure 4: Scottish Graham castles and placenames. An examination of the Scottish Origenes databases reveals at least 15 castles or towerhouses (**left panel**) that are associated with the Graham surname. In addition there are many Graham placenames (**right panel**).

Pinpointing the Genetic Homeland

The method of using genetic surname matches as revealed by commercial ancestral Y-DNA testing to pinpoint a 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 amongst the farming community and since farmers in Scotland can still be found farming the land where their ancestor lived when he first inherited his surname, or where one's ancestor first settled within Scotland, one can plot where farmers with the surnames that appear in one's Y-DNA results cluster and identify an area common to all. This means for example that upon Y-DNA testing Grahams from Ross and Cromarty will be a genetic match to people with surnames like Aird, Monro, Kemp and MacKay; surnames associated with the far North of Scotland. While the Grahams from the Isle of Skye will have genetic matches to people called MacPhee, MacCowan and MacDonalds; surnames associated with the Western Isles of Scotland. Hence, it is Mr Graham's genetic matches which will reveal where his paternal Graham ancestors originated. An examination of Mr Graham's Y-DNA results reveals that the surnames Graham, Lyon, Allison, Morison, Jamieson, Paterson, Wright and Johnston appear as his closest Scottish-associated genetic surname matches, see **Figure 2**. Distribution mapping of farmers called Graham, Lyon, Allison, Morison, Jamieson, Paterson, Wright and Johnston reveals that these surnames are all associated with Lanarkshire in Central Scotland, see **Figure 5**.

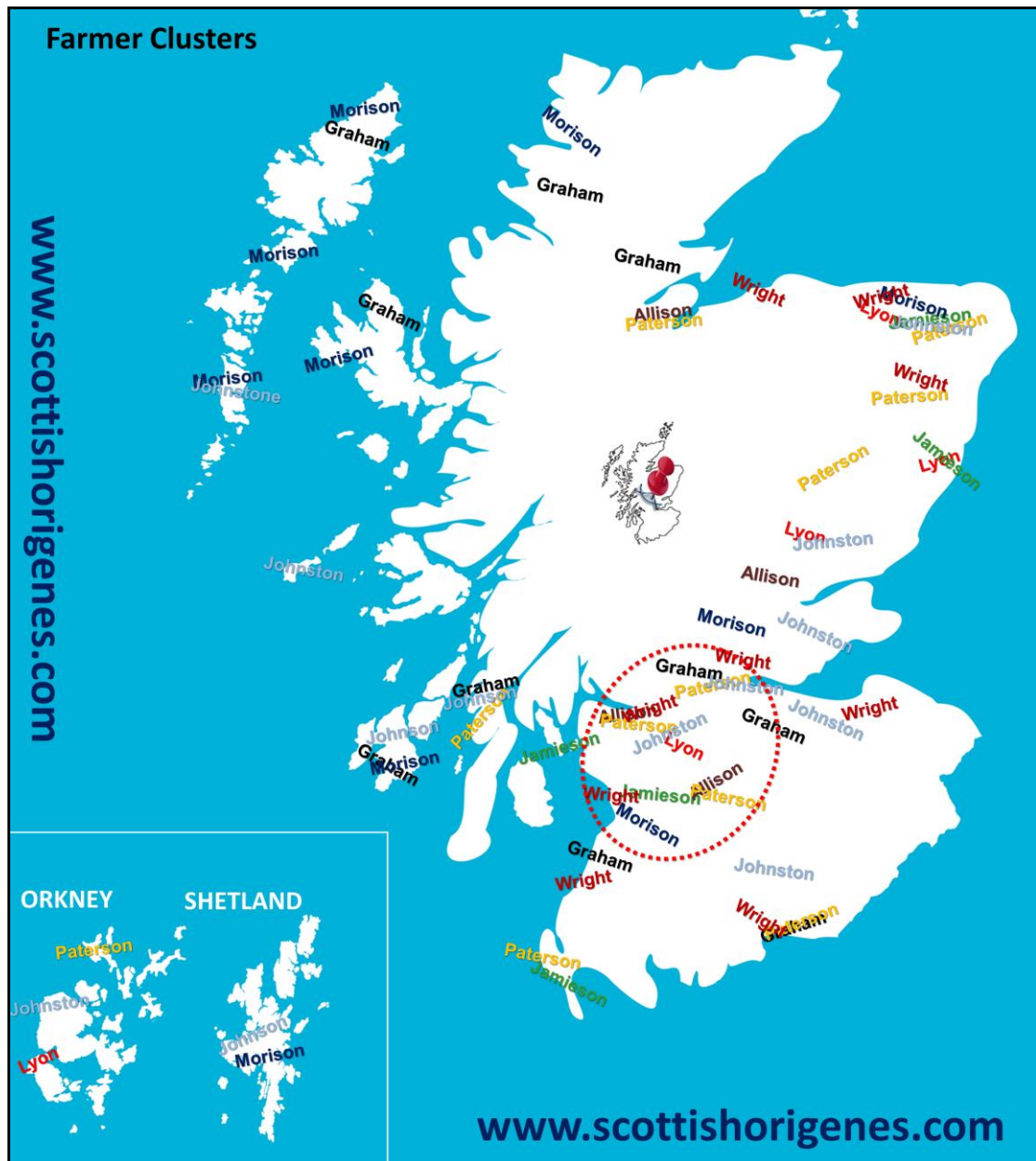


Figure 5: The Scottish Graham, Lyon, Allison, Morison, Jamieson, Paterson, Wright and Johnston farming communities are associated with Lanarkshire. The Graham, Lyon, Allison, Morison, Jamieson, Paterson, Wright and Johnston farming communities are associated with multiple locations within Scotland but crucially only occur together or in closest proximity to one another within Lanarkshire (**red broken circle**) in Central Scotland. Each surname has been placed on the map where farmers with that surname concentrated in early census data.

The Surnames of Lanarkshire

The Scottish Origenes Surnames and DNA Map of Scotland details where farmers with each surname concentrated in early census data. An examination of Lanarkshire as it appears on the Scottish Origenes Map reveals the nearest largest cluster of Graham farmers located in West Lothian, see **Figure 6**. However, it is to the west in neighbouring Lanarkshire and its bordering Counties where one finds **all** of the test subject's closest recurring genetic relatives as revealed by his YDNA results, see **Figure 6**. The test subject's closest Scottish-associated genetic surname matches

reveal a paternal ancestral connection link with an area of Lanarkshire that lies close to the modern City of Glasgow.

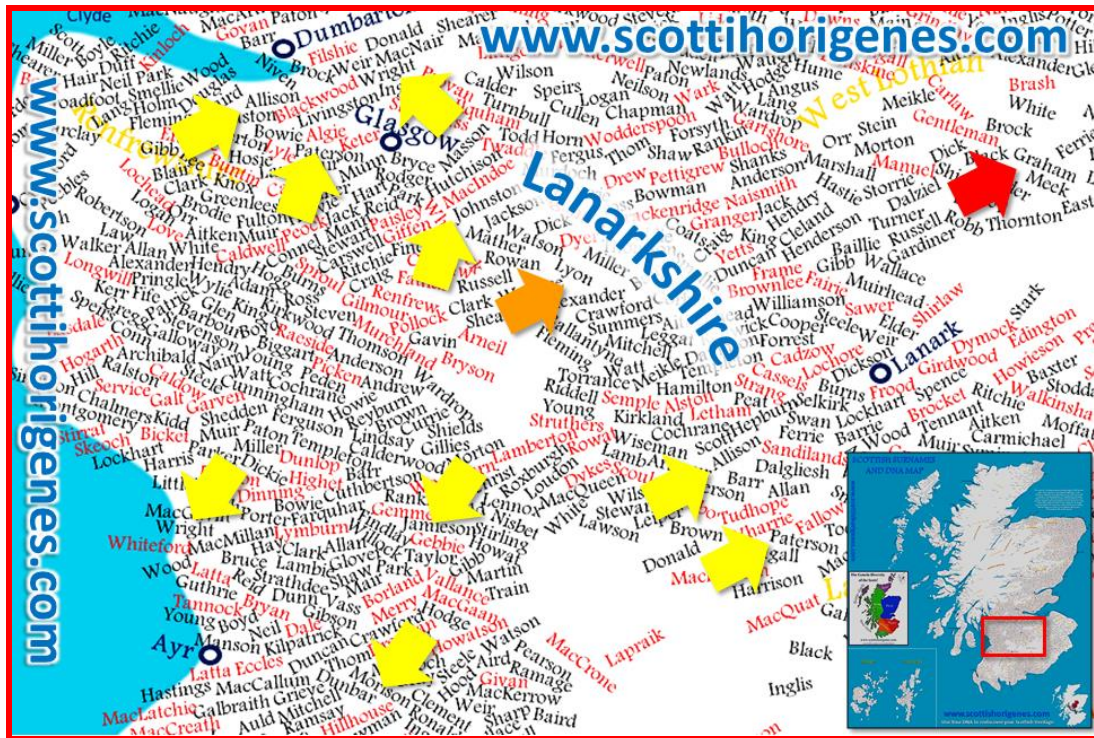


Figure 6: The Surnames of Lanarkshire. An examination of Lanarkshire as it appears on the Scottish Origenes Surnames and DNA map reveals the nearest largest concentration of Graham farmers (**red arrow**) in West Lothian. To the west one finds Lyons farmers (**orange arrow**) who appear as the test subject's closest and most frequent genetic match. It is also within Lanarkshire and its bordering Counties that one finds the surnames that appear amongst the test subject's closest genetic relatives (**yellow arrows**). Each surname has been placed on the map where farmers with that surname concentrated in early census data. Surnames in **red font** are associated with a single geographical area within Scotland.

The Clan Territories of North Lanarkshire

By examining the locations of the castles and towerhouses that are historically associated with a particular surname, it reveals that medieval Scotland was a patchwork of territories dominated by notable Clans and Families. Almost everyone with Scottish paternal ancestry will be genetically related to at least one of these prominent Clans or families that once ruled over one's paternal ancestral genetic homeland. An examination of the castles and towerhouses of North Lanarkshire reveals a diverse mix of Clans and Families of Ancient Briton, Anglo-Saxon, Picto-Gael and Norman origin, see **Figure 7**. The Grahams are associated with Mugdock castle in bordering Stirlingshire and the Clan Chief of the Grahams (based at Mugdock castle) was referred to as the Earl of Montrose, see **Figure 7**.

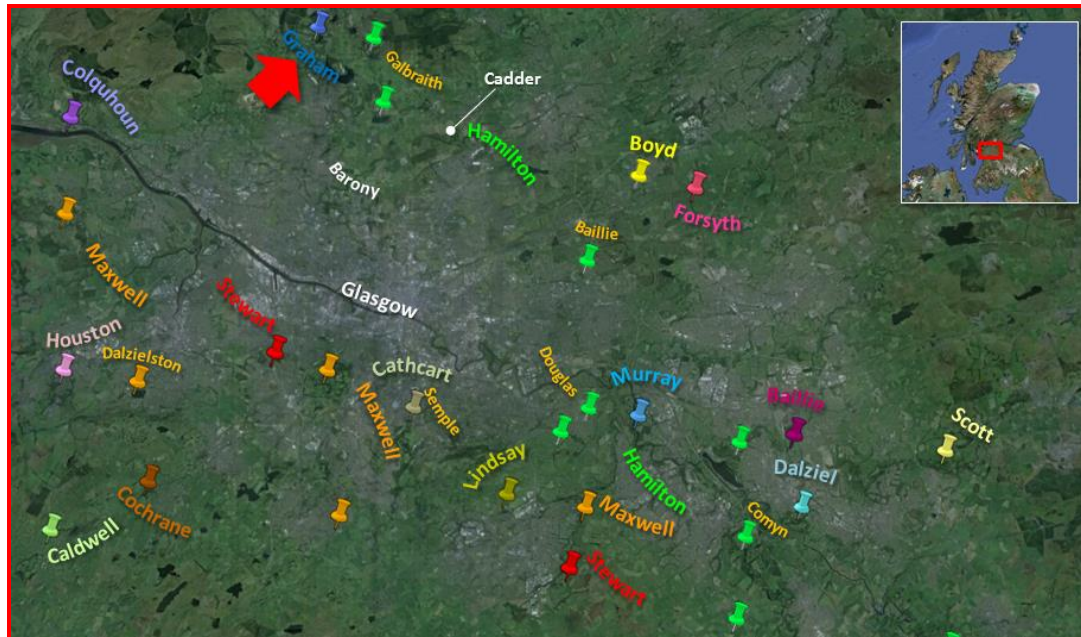


Figure 7: The principal Medieval Clans and Families of Lanarkshire. Lanarkshire was once dominated by a variety of Clans and Families of Ancient Briton, Anglo-Saxon and Norman origin. The Grahams (red arrow) were a notable Family with lands to the north of Glasgow.

Mr Graham's Paternal Ancestral Genetic Homeland

In early census data Graham farmers concentrate in the neighbouring parishes of Cadder and Barony in North Lanarkshire; and it is there that the test subject's paternal ancestral genetic homeland is to be found, see **Figure 8**. It was in that area that the test subject's direct male ancestor first inherited the 'Graham' surname. His ancestor lived surrounded by male relatives who inherited other surnames like Finnie, Lyons, Allison, Morison, Jamieson, Paterson, Wright and Johnston. Often when one's ancestors have been associated with an area for long enough they leave evidence of their ancestral links in the castles and placenames one finds there. The Grahams came to dominate much of the Lanarkshire and Stirlingshire borderlands becoming the Dukes of Montrose and have left evidence of their long historical and ancestral links with this area in the surviving Graham castle of Mugdock, and in placenames like 'Graham's Cairn,' see **Figure 9** and **10**. There also references to some of the test subject's genetic relatives in the surrounding placenames, see **Figure 8**. The Grahams of the Lanarkshire and Stirlingshire borderlands will undoubtedly have left evidence of their long ancestral links with this area in the history of this location, but also in the DNA of the areas current inhabitants.

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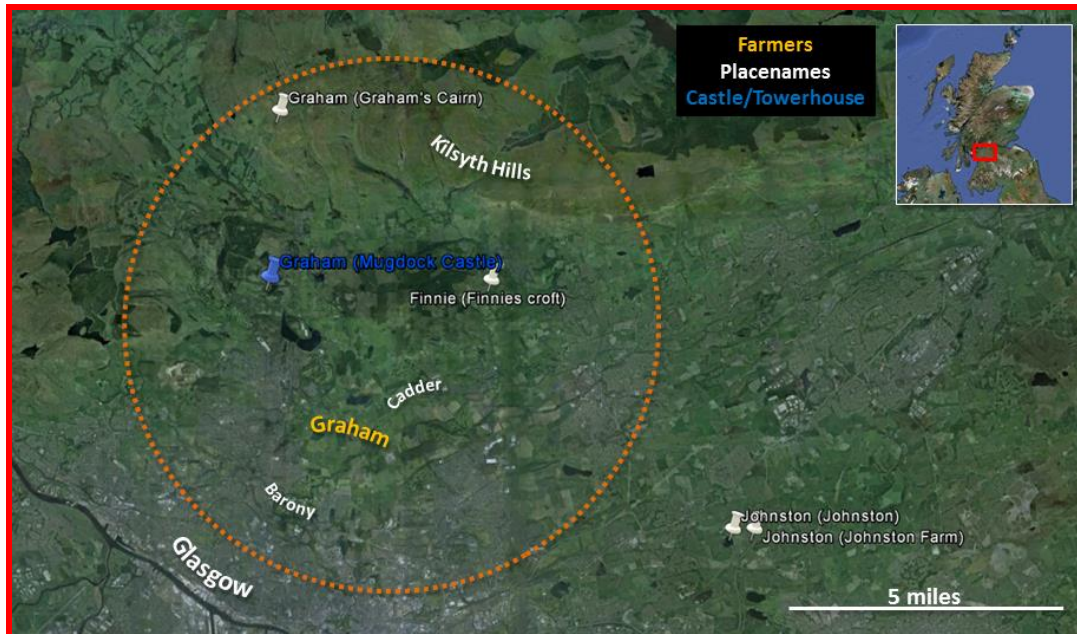


Figure 8: Mr Graham's Paternal Ancestral Genetic Homeland. The Graham farmers of Northeast Lanarkshire concentrate in the neighbouring parishes of Cadder and Barony, and it is there that the test subject's Paternal Ancestral Genetic Homeland (**orange broken circle**) is to be found. It was there that his paternal ancestor first inherited the Graham surname. His Graham ancestors lived surrounded by relatives who inherited other surnames like Finney, Allison, Lyon, Morison, Johnston, Paterson and Wright; some of whom have also left evidence of their long ancestral links with this area in the surrounding placenames and castles. The Grahams will also have left evidence of their long ancestral links with this area in its history, but also in the DNA of the areas current inhabitants.



Figure 9: Mugdock Castle seat of the Duke of Montrose (Hereditary Chief of Clan Graham).



Figure 10: View towards Graham's Cairn.

How to confirm the Graham Paternal Ancestral Genetic Homeland

Confirmation that Mr Graham's paternal ancestors originated from the parishes of Cadder and Barony will require the recruitment from that area of Graham farmers for commercial ancestral Y-DNA testing.

Contact Scottish Origenes or email tyronebowes@gmail.com for a FREE CONSULTATION on your DNA results or to find out what commercial ancestral test is suitable for you!