

WILLIAMSON NORSE VIKING HERITAGE

Dr. David K. Faux

Introduction: My mother's maiden name is WILLIAMSON. Her ancestors in the paternal line came from the Shetland Islands.

The Shetland Islands were settled by Norse Vikings beginning before 800 AD. There is no evidence that any of the original Pict occupiers of the Islands were still there when the Vikings arrived, and if they were there it appears the invaders may have "put them to the sword" since it is presumed that had some survived there would have at least been more than a handful of Celtic place names in all of the Islands. In addition, the Shetland Islands were staging areas for Norse Viking raids to Scotland, Ireland, the west coast of England, and the Isle of Mann. Some sort of peaceful coexistence of the Picts and the warlike Vikings in such a small area does not seem likely. In the year 1468 Norway deeded Shetland to Scotland, and soon Scots began arriving as lairds, merchants, clergy and generally assumed positions in the upper ranks of society - leaving the most of the original Norse settlers to tend to small farms known as crofts where they raised a small amount of grain, tended herds of sheep, fished, participated in whaling expeditions, and later large numbers, including great great grandfather Robert, joined the Merchant Navy.

When the Scots arrived they of course brought their customs, such as using established surnames such as Bruce, Stewart and Mowat which were passed on from father to son to the present day. The Norse, however, with a very few exceptions, used a patronymic naming practice where a William, son of James, would be known as William Jamieson. However, when William had children his sons would have the surname WILLIAMSON and the daughters would be known as William's daughter. By the turn of the 19th century most families of Norse descent adopted whatever surname was in use in the family at that time - and the name became a permanent surname just like Brown. This is what happened in our family since the father of Robert's father Gilbert Basil WILLIAMSON was William Matthewson, and the genealogy shows a number of surname changes (Thomason, Lawrenson, etc. until the late 1600s when the records go cold). So WILLIAMSON is an "Aboriginal Shetland" surname (ends in "son"). The first WILLIAMSON ancestor likely arrived at the time of the Norse Viking settlement about 800AD. The genealogical evidence suggested Norse descent, as did family tradition (I was told at family gatherings that we were not Scots, but Norwegians) - but what about the DNA evidence?

Since my grandfather Gilbert WILLIAMSON (whose grandfather Robert WILLIAMSON was born 1819 Gardie, Mid Yell, Island of Yell, Shetland) had passed away, I requested that one of my uncles (who would have the same Y chromosome as their father) supply a sample for DNA analysis. The results were not surprising.

Y Chromosome STR Testing - Haplotype: Initial testing of 37 Y-STR (short tandem repeat) markers allowed Family Tree DNA to predict that my uncle's Y-DNA haplogroup is R1a1 via a Y-SNP (single nucleotide polymorphism) marker known as M17 where there is a deletion of a single nucleotide base at this location. He had few Y-STR exact matches (more useful in genealogical time frame) in any of the standard databases in the world. One was in Western Norway, the other in Tibet for his haplotype within this haplogroup. In other

words it is a very rare signature. As to matches in the Family Tree DNA database to 37 markers, the matches are as follows:

34/37: A WILLIAMSON whose ancestor Robert was a first cousin of our Robert WILLIAMSON (born 1819); and two with the surname of BLANCE from Shetland. It is unknown at present how these Blances from Delting (but not the Island of Yell) link to our WILLIAMSONS but likely via a non – paternal event.

33/37: ROBERTSON from Shetland; STANDSKOG from Norway; EVENSEN from the Netherlands; HEGG from Norway.

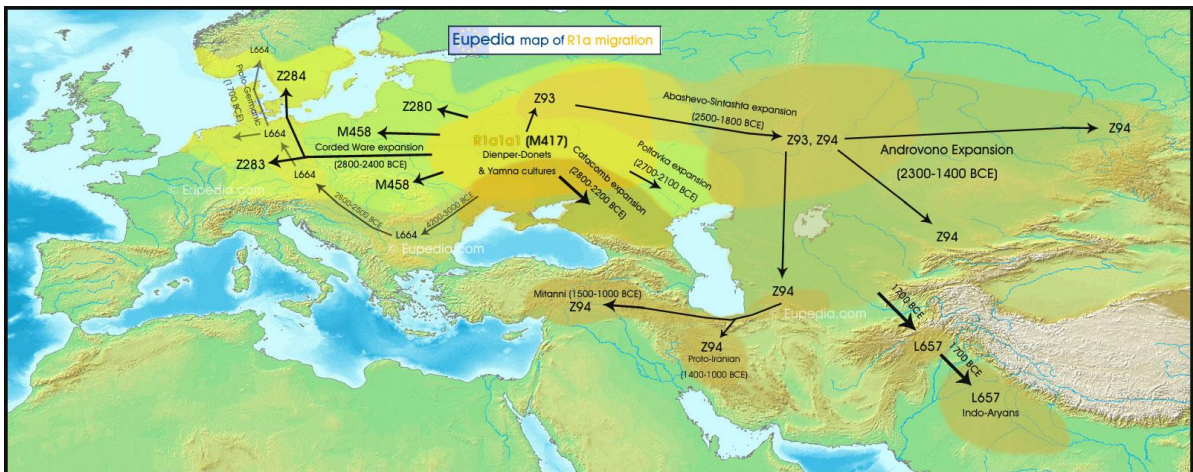
The results of the first 37 markers for Dale WILLIAMSON are shown below:

PANEL 1 (1-12)											
Marker	DYS393	DYS390	DYS19 **	DYS391	DYS385	DYS426	DYS388	DYS439	DYS389I	DYS392	DYS389II ***
Value	13	25	15	11	11-14	12	12	10	14	11	33

PANEL 2 (13-25)									
Marker	DYS458	DYS459	DYS455	DYS454	DYS447	DYS437	DYS448	DYS449	DYS464
Value	15	9-10	11	11	23	14	20	32	12-15-15-16

PANEL 3 (26-37)										
Marker	DYS460	Y-GATA-H4	YCAII	DYS456	DYS607	DYS576	DYS570	CDY	DYS442	DYS438
Value	11	12	19-20	16	17	17	18	33-37	12	11

Y Chromosome SNP Testing - Haplogroup: The “history” of R1a is shown in the Eupedia map below:



Migration map of haplogroup R1a from the Neolithic to the late Bronze Age (c. 1000 BCE)

After a trek over many years and many generations the WILLIAMSON ancestors, who spent many years in Kazakhstan bearing SNP (single nucleotide polymorphism) marker M17 / M198, migrated across the Russian steppes to what is today Sweden and Norway with the “Battle Axe Culture during the Copper or Bronze Age. R1a1–M198 is found in about 25% of Scandinavians from Norway and Sweden. The most important mutational SNP marker split appears to be Z283 (Baltic and Eastern Europe) and Z93 (Asia). Z284 is a derivative of Z283 so (prior to actual testing) it was predicted that since many of the

Norwegian samples are Z284 – in other words it predominates in the northern Scandinavian countries, this was the likely haplogroup of the WILLIAMSON ancestors. The man who would become the ancestor to our WILLIAMSONS appears to have ultimately settled among the fjords of Western Norway. Around the year 800 AD, with many of his kin and comrades, the WILLIAMSON ancestor left his homeland to seek his fortune (or at least a better life) in other lands, in this case the Shetland Islands.

In referring to studies by “citizen scientists” we jump light years ahead and to make a long story short, it is a virtual certainty that the WILLIAMSON Y is tagged with the marker Z284 which has the same haplotype pattern, and is found almost exclusively in Norwegians, or in areas which were settled by Norwegians (e.g., Iceland). While it will be necessary to test the WILLIAMSON Y to confirm this conclusion, I think for the moment we can stand on firm ground in making the link. Two of the better articles in this category is found [here](#) as well as [here](#).

Based on the above Lall et al. (2020) study, most of the Norwegian Y chromosomes which are found as likely Viking diaspora groups are found to be R1a-Z284. This is the prototypic SNP associated with Viking migrations to Britain (e.g., the Danelaw and Orkney).

Recently the author decided to have his uncle’s Y chromosome tested via Family Tree DNA’s “Big Y 700” test which is able to drill down to the most recent informative mutational SNP marker on a Y-chromosome – even beyond Z284. The results of this testing were unsurprising but offered a degree of specificity, particularly when combined with the most recent ancient DNA testing since 2015, allowing us to see where the WILLIAMSON Y-chromosome fit into the phylogenetic Y tree.

Results: It was “officially” confirmed that the WILLIAMSON Y is downstream of the Z284 marker seen commonly in Norway to this day. The placement on the phylogenetic tree, in haplogroup R-BY161189 below R-Z284, beginning with the terminal SNP:

R-BY161189>R-Y64062>R-YP4345>R-S6790R-S6789>R-YP704>R-CTS4179>R-L448>R-S5153>R-S5301>R-S4458>R-Z284

Part of the above is shown in chart form below with the number at the left representing the number of people sharing the SNP, the list of SNPs in the table are those shared by all who share the SNP on the left, and the number at the far right shows the number of countries represented by the SNP:



The results by country are listed below:

R-BY161189 – Scotland (2)

R-Y64062 – Norway (1)

R-YP4345 – Norway (2), Ireland (1), Scotland (1), Russian Federation (1), Ukraine (1)

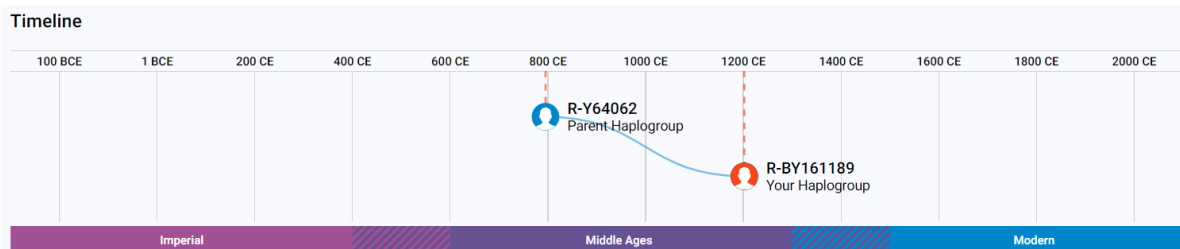
R-S6790 – Norway (1), Sweden (1)

R-CTS4179 – Norway (16), Sweden (11), Scotland (11), England (10), Ireland (4), Northern Ireland (4), Finland (2)

At least two of the 11 named matches are of Shetland descent: a Blance and an Irvine. The former was also R-BY161189, and the separation is only 5 private variants.

The data clearly shows that the haplogroups from R-BY161189 down are most associated with Norway and Sweden, with lesser amounts in the likely Viking diaspora countries such as Scotland, Ireland, Russian Federation, and Ukraine (all areas that history would lead us to suspect some Scandinavian genetic contribution).

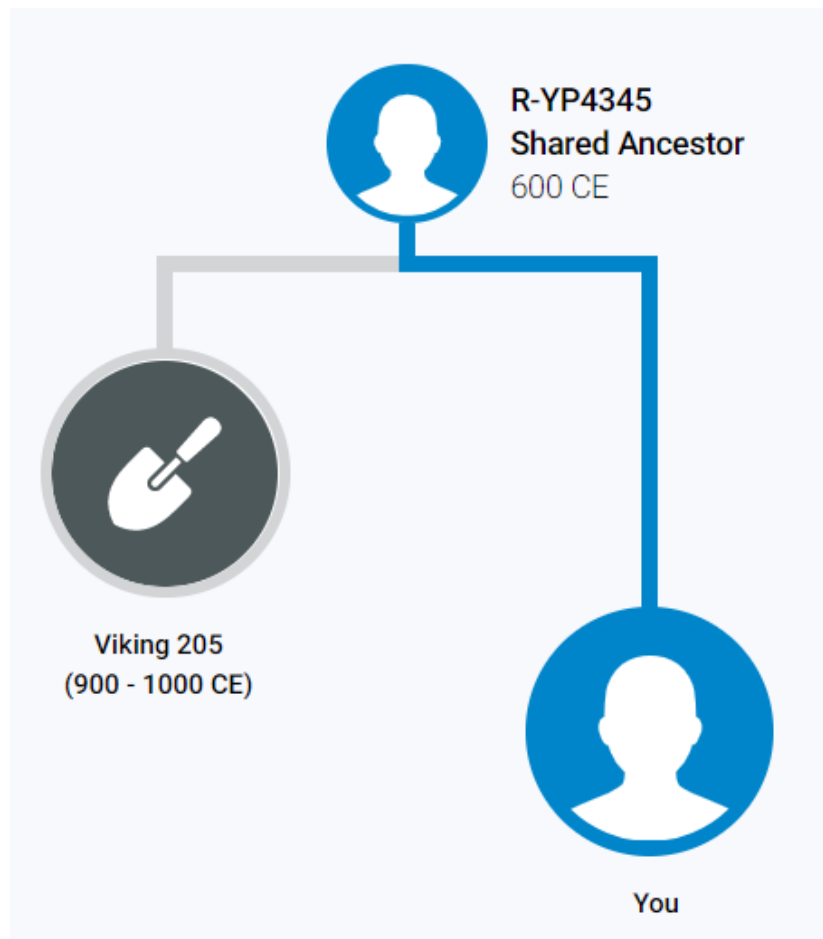
A timeline for the split of BY161189 from the ancestor R-Y64062 is shown below:



Therefore it seems that the branch that ended up in the Shetland Islands likely during Viking times is a direct descendant of Norwegian ancestors prior to 800 AD (this time is an

estimate).

The data from ancient DNA finds shows that to date the closest ancestor of R-BY161189 is a R-YP4345 individual buried in Deerness, Orkney, Scotland and is a member of the Orkney Viking group. Their shared ancestor is estimated to be from 600 AD.



Viking 205
900 - 1000 CE

Shared Ancestor
600 CE

You and Viking 205 share a common paternal line ancestor who lived around this time.

Viking 205 was a man who lived between 900 and 1000 CE during the **Viking Age** and was found in the region now known as **Deerness, Orkney, Scotland (Orkney)**.

He was associated with the **Viking Orkney** cultural group.

His direct maternal line belonged to mtDNA haplogroup H3.

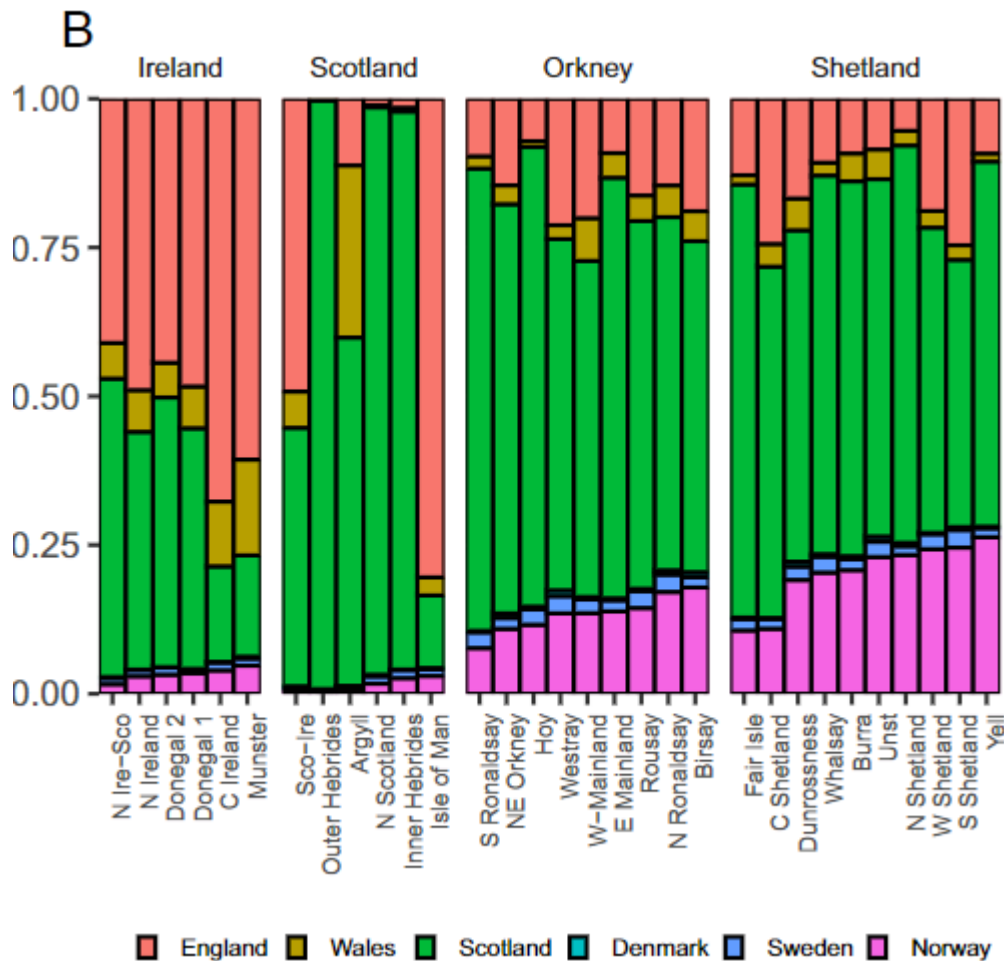
Reference: *VK205* from *Margaryan et al. 2020*

Phylogenetic Y-DNA analysis by FamilyTreeDNA. Ancient DNA samples are typically degraded and missing coverage, sometimes resulting in less specific haplogroup placements.

Other close matches are from Estonia, Iceland and Sweden. Further detailed information from this testing can be found [here](#).

In summary, the Y-chromosome testing strongly suggests that the WILLIAMSON ancestor came from Norway to the Shetland Islands, probably during Viking times since he was a udaler (crofter / fisherman) not a merchant or likely recent immigrant from Norway.

Norwegian Autosomal DNA Across Britain: Autosomal DNA testing involves exploring the 22 pairs of non – sex chromosomes, for example looking at the percentage of Norwegian or other geographical / ethnic ancestry in an individual or a population. A study supervised by well - known Orcadian population geneticist from the University of Edinburgh, Dr. James F. Wilson, provides specific percentages of Norwegian ancestry in various regions across the British Isles. The work, Gilbert et al., published in PNAS in 2019, is entitled, “*The genetic landscape of Scotland and the Isles*” (see [here](#)). The areas explored in this study included rather broad areas such as Northern Ireland, but also small regions including individual islands in Shetland, including Yell, as seen in the diagram below (Fig. 3, above study).



As can be seen above there is a very large across the landscape of Britain in terms of the amount of Norwegian ancestry seen in the autosomal findings for these areas – ranging from

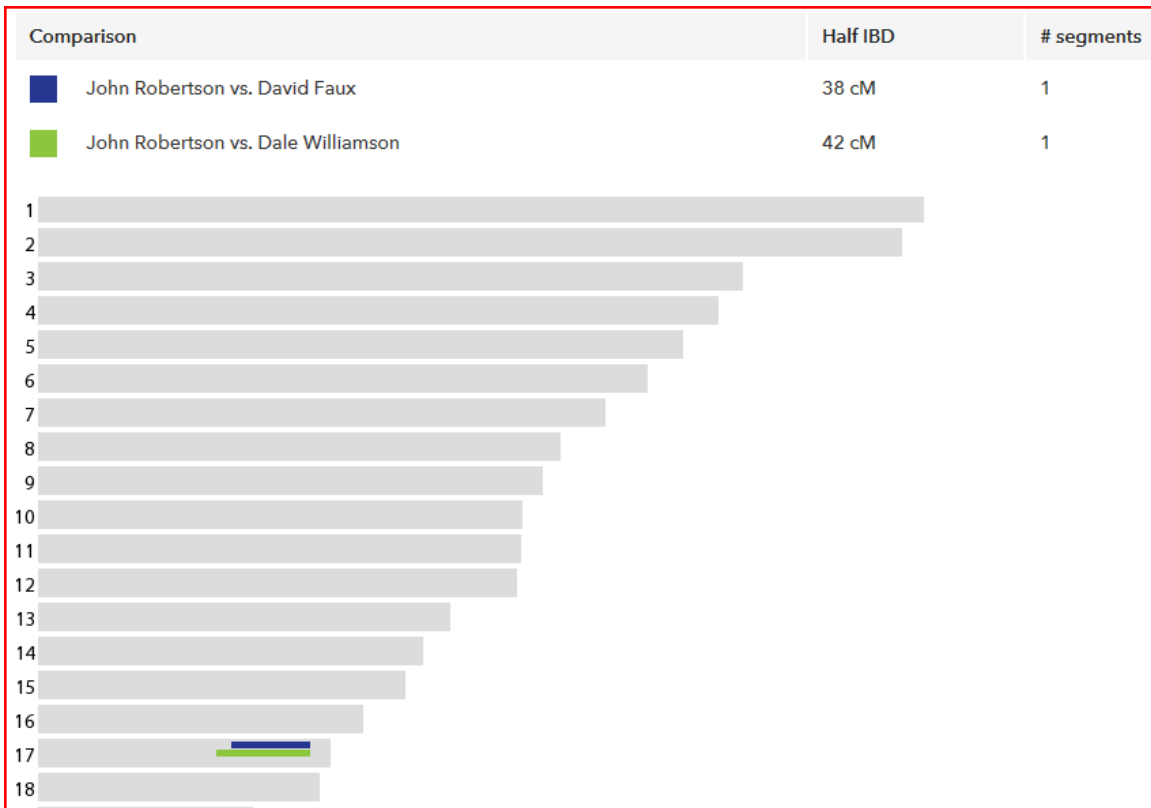
almost none in the Outer Hebrides to a very small percentage in the Isles of Man to the largest amounts which are found in Shetland with the island of Yell having the most Norwegian ancestry in all Britain (about 25%). This data makes it unsurprising to find that the WILLIAMSON ancestors (Robert WILLIAMSON appears to have been $\frac{3}{4}$ Norse and $\frac{1}{4}$ Scottish, based on the genealogy, and likely had a higher percentage of Norwegian ancestry than present-day residents of Yell.

Autosomal DNA - WILLIAMSON:

The present author has had his genome and that of his uncle Dale WILLIAMSON tested via 23andMe. The Y-chromosome findings confirms what has been found to date in relation to the WILLIAMSON Y being from the haplogroup R1a. What is new, and very interesting, is the data from the testing of the 22 autosomes (the Y and X chromosomes being the 23rd or sex chromosomes). Here we see matching segments between my uncle and myself (but not one of my first cousins, daughter of another uncle) with someone whose 4 grandparents were born in Shetland, and as well we all match a Norwegian in this specific region of Chromosome 17. Hence, we now have autosomal data from the 22 pairs of chromosomes as well as the Y chromosome to show how the WILLIAMSONs are descended from the Norse, as would be suggested based on their Shetland Island ancestry and paternal naming practices.

Here follows the data showing the “Norse autosomal link”. First a match on Chromosome 17 between David Faux and his uncle Dale WILLIAMSON with John Robertson whose grandparents were all born in Shetland. The genealogy between the two families shows that Dale and John are 4th cousins, and David and John are 4th cousins once removed. The ancestors in common are the great great great grandparents of Dale and John, William Matthewson and Isabella Spence both born Mid Yell, Shetland Islands via their children Gilbert Basil WILLIAMSON and Andrina Charlotte WILLIAMSON respectively.

Using the Advanced Ancestral Inheritance tool, In the chart below IBD stands for identical by descent, and cM is a measure of the size of the segment based on its probability of recombination at each meiosis.



The above chart gives a rough indication as to where the matching segments are found, but for more specifics the chart below will be of help.









Comparison	Chromosome	Start point	End point	Genetic distance	# SNPs
John Robertson vs. David Faux	17	54000000	76000000	37.7 cM	4562
John Robertson vs. Dale WILLIAMSON	17	50000000	76000000	42.3 cM	5521

Another measure of the size of the match is expressed in percentage of the genome. For Dale the match represents 0.57% and for David 0.51% of the genome (not shown here). The size is typical for a 3rd cousin, but could be from a far more distant cousin. Genetics gets very random, in terms of being able to predict a specific relationship based on the percentage, and the number of shared segments, after 2nd cousins. In the chart above, the span of the match is shown in terms of base pairs from the “q segment” of Chromosome 17 – which chromosome in total extends from zero to about 100 million megabytes in length.

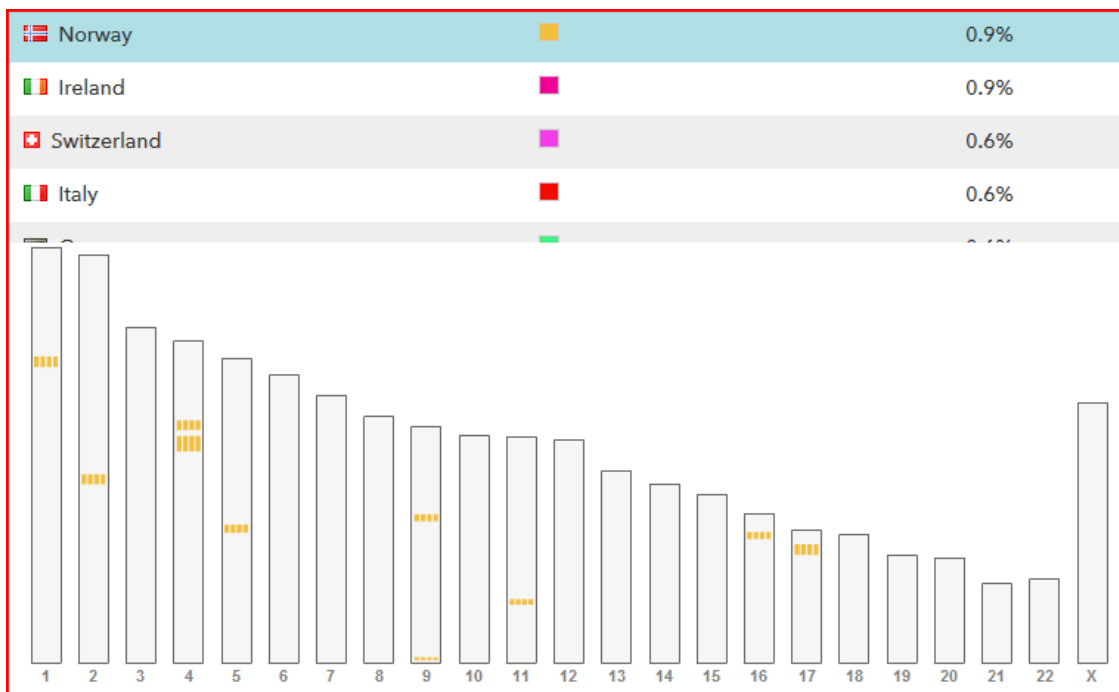
Other tools at 23andMe allow us to examine the match to see if anyone in their database of individuals who have identified that all 4 grandparents were born in the same country, matches John, Dale and David on this segment. The match would likely reflect not a

genealogical relationship within the last few hundred years, but more likely a more ancient but difficult to specify connection.

Dale WILLIAMSON: The Counties of Ancestry tool of 23andMe shows the following:

Country	Color	Percent of Dale Williamson's Genome Covered
 United Kingdom		5.7%
 Norway		0.9%
 Ireland		0.9%
 Switzerland		0.6%

This shows that out of the 23andMe database, which unfortunately does not include the specific number of individuals with 4 parents born in Norway, these represent 0.9% of the genome of Dale. Hence after the UK, his largest number of matches are from Norway and Ireland (a tie).











Above we see the specific location of the Norway matches across the genome of Dale, including the match on Chromosome 17. If more individuals of Shetland ancestry had tested, there would doubtless be more matches on the same chromosome between Dale, the Shetland descendant, and the person whose ancestry is all from Norway at least to the level of grandparents.

CVS Download:

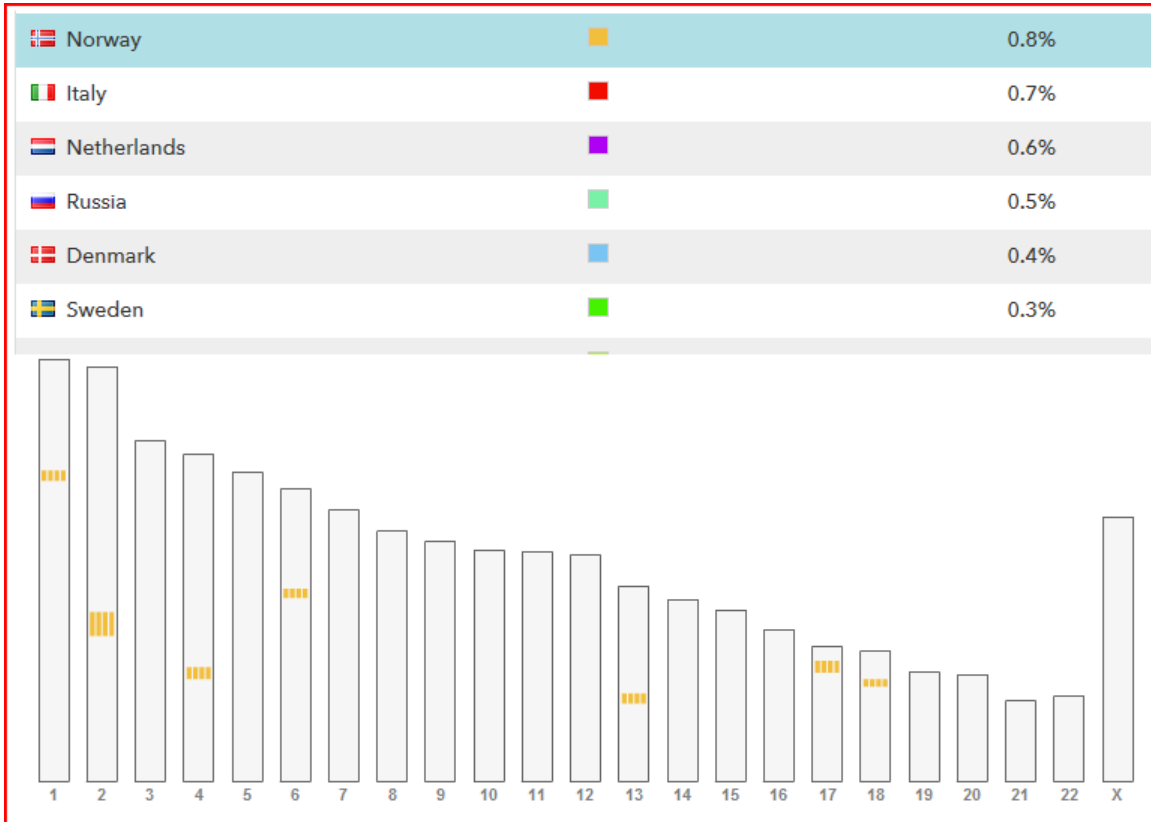
MatchName	MaternalG	MaternalG	PaternalGr	PaternalGr	MaternalG	MaternalG	PaternalGr	PaternalGr	Chromosome	SegmentS	SegmentE	SegmentL	SegmentLengthInCentiMorgans	
Lawrence	!Norway	Norway	Norway	Norway	FALSE	FALSE	FALSE	FALSE		17	64.4	70.9	6.5	11.6

Here it can be seen that the match with this person of Norwegian descent is from base pair 64,400,000 to 70,900,000. This is a large part of the WILLIAMSON match of 50,000,000 to 76,000,000 and all the more striking since our ancestor in common probably lived back in Viking times. False = answer to whether grandparent was Ashkenazi Jewish. What follows is the same data for:

David Faux:

Country	Color	Percent of David Faux's Genome Covered
 United Kingdom		6.0%
 Ireland		1.5%
 Germany		1.0%
 Norway		0.8%

Here we see that for David, his second most numerous matches, after the UK, are from Ireland, and the third are from Germany. The latter is consistent with the observation that David tends to have more and larger matches to descendants of his great great great Grandparents Henry Young and his wife Elizabeth Matilda Young, both Colonial Americans but largely of German ancestry (the surname Young was Jung in Colonial New York and New Jersey). So Norway is fourth on David's list compared to his uncles second.



The above chart shows the gold - coloured Norway matches for David. It is also noteworthy that after Norway we find the largest number of matches to those with 4 grandparents born in Italy, Netherlands, Russia, Denmark, and Sweden. The differences here between uncle and nephew probably stem from the fact that David's father was largely of East Anglian and Yorkshire (English) heritage. This area was in the Danelaw, and was heavily populated by Viking settlers, largely from what is today Denmark.

CVS Download:

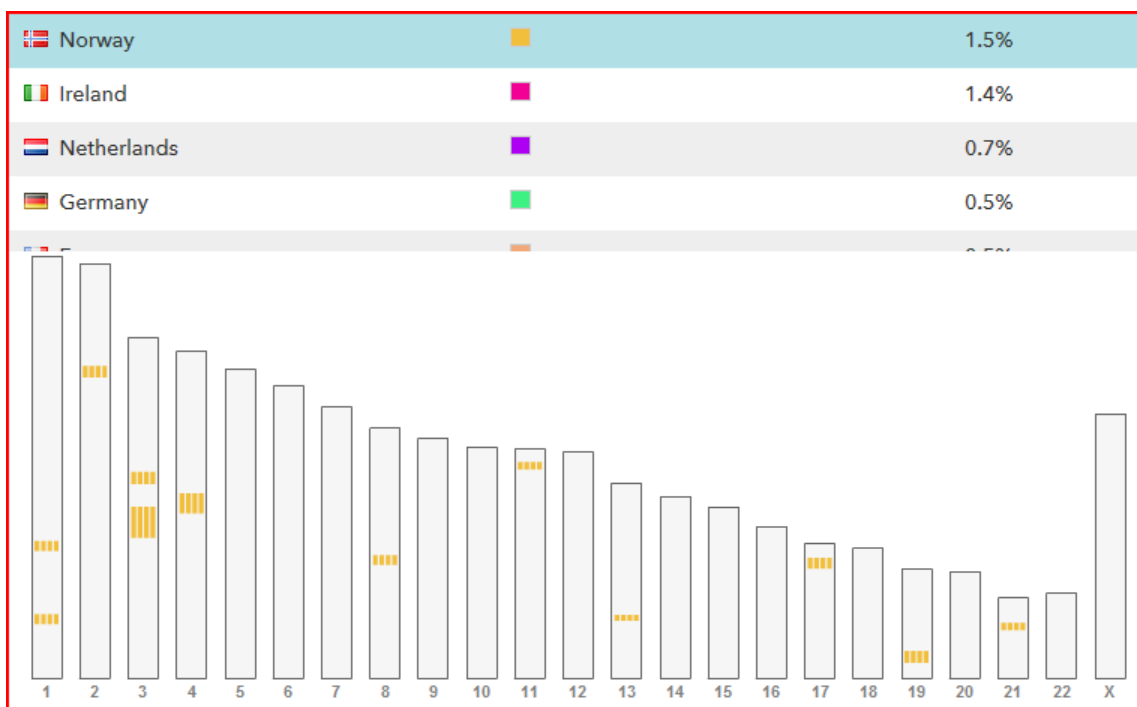
MatchName	MaternalG1	MaternalG2	PaternalG1	PaternalG2	MaternalG3	MaternalG4	PaternalG3	PaternalG4	Chromosome	SegmentS	SegmentE	SegmentL	SegmentLengthInCentiMorgans
80 Lawrence ;Norway	Norway	Norway	Norway	Norway	FALSE	FALSE	FALSE	FALSE	17	63.9	70.9	7	12.1

The above chart shows a segment only slightly smaller than that of his uncle in relation to the same person with 4 Norway born grandparents.

John Robertson:

Country	Color	Percent of John Robertson's Genome Covered
United Kingdom	Green	5.7%
Norway	Gold	1.5%
Ireland	Pink	1.4%
Netherlands	Purple	0.7%
Germany	Light Green	0.5%

John’s pattern of country by country matches here is much the same as we see for Dale, although the latter has less percentage of genome from Norway, 1.5% versus 0.9%. This is an interesting observation since Dale is only 1/8 Shetland descent, yet has over half as many Norway matches as John who is of 100% Shetland descent. If there was a separate category of Shetland Islands, doubtless John would see a much higher number of matches than Dale.



CVS Download:

MatchName	MaternalG1	MaternalG2	PaternalG1	PaternalG2	MaternalG3	MaternalG4	PaternalG3	PaternalG4	Chromosome	SegmentS	SegmentE	SegmentL	SegmentLengthInCentiMorgans
97 Lawrence :Norway	Norway	Norway	Norway	Norway	FALSE	FALSE	FALSE	FALSE	17	64.4	70.9	6.5	11.6

Here we see that John has the same match with Lawrence S. M. as does Dale, and almost identical to that of David. Again, we run into slight genetic anomalies – there being a very large random component to DNA inheritance. Although all three men have segments that end at precisely the same location, the beginning point shows that the match with David is slightly larger, and that the size of the match is slightly higher in David (6.5 Mb versus 7.0 Mb in length; 12.1 versus 11.6 cM). What is also of interest here is that all those from Shetland who share this Norse segment (including others who have more recently tested with other companies) are descendants of “The Eagle Bairn”. This Shetlandic “badge of honour” deserves its own article in a relevant genealogy study.

Summary: The data above including the Y-chromosome findings, as well as the autosomal DNA data, show that the WILLIAMSON family discussed here (as well as Faux and Robertson) have Norwegian Viking ancestry and DNA. The Shetland Islands were settled by Norse Vikings in the 9th Century or earlier, but after 1466, also by incomers from

Scotland. The genealogical records show that Robert WILLIAMSON of Yell, Shetland Islands (great great grandfather to the author) was $\frac{3}{4}$ Norse (descendants of the old Norn speaking Norwegian families) – including the Y-chromosome ancestor; and $\frac{1}{4}$ Scottish (descendants of Scottish incomers). The paper trail and the DNA findings are entirely consistent.

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