

DNA INSTALMENT SIX

COMMENTARY ABOUT DEVELOPMENTS

TOGETHER WITH SOME ANALYSIS OF THE GRIER, ETC. DNA CHART 1f

GENERAL

I have, in previous instalments, remarked upon the rate of change of knowledge in the business of DNA genealogy. There have been quantum leaps forward since my last instalment. It is of some use to review earlier positions so that we can assimilate the latest news. Some of this commentary should be read in conjunction with the Chart 1f attached.

1. Contrary to the belief systems of almost all American Greer/Griersons, and a large number of Irish and Australian descendants of the same names, there is now no doubt whatever that collectively, Griersons are not related to MacGregors by descent in the male line. I will explain this under the SNP TESTING side heading.
2. As alluded to in Instalment One, there is now no doubt that the part of the Grierson family most probably descending from the same ancestor as the Grierson of Lag family is closely related to a section of the Milligan family.
3. In spite of the received wisdom that "haplotype" deals with more recent changes in the genome and therefore is the most useful for determining familial relationships, in our family, with the recent advances, "haplogroup" results are very useful in that respect. For example (and see later), in the Chart, myself (7874) and member 117158 have 14/111 differences in our personal haplotypes and until recently would therefore be thought to be widely separated in respect of our Most Recent Common Ancestor (MRCA). SNP testing has changed that line of thought.
4. The so-called "Niall" connection is now largely discounted as being what amounted to a sales pitch by earlier authors. The age of the SNP titled M222 is significantly greater than the time interval since the legendary (and possibly imaginary) Niall. Some argue for an MRCA in Ireland about the time of the supposed Niall due to a "bottleneck", but I don't accept that reasoning on the basis of the distinctively different Grierson modal.
5. Leaving aside the few unexplained uses of the Greer surname by males descending from other distinct haplogroups (I-M223, G, J, and E, mostly occurring as single members so far), it is clear that there are three distinct haplogroups almost equally represented in the study. My deduction is that the "Viking" (haplogroup I-M253) segment represents the descendants of invaders in one of several incursions into the British Isles between 800-1100 AD, and that those descendants remained in

the tribal affiliation of their mothers, thus eventually adopting the surname Greer. Because they mostly became Greers (as distinct from Griersons), I assume that mostly this outcome was in Ireland. However, it is not possible to identify whether they were actually Griersons who migrated to Ireland and dropped the son suffix. There is at least one Scottish Grierson who is I-M253, the Viking indicator.

6. If the foregoing is accepted, then there are, in tribal terms, two major groups of Grierson/Greers. The Scots group is predominantly in the haplogroup M222, and the other is in the haplogroup DF13, and by surname usage is almost all Irish in ancestry. There can be no male line ancestral connection between these groups for thousands of years.

7. Although the highlighting of the various mutations in the DF13 segment (see Chart) tends to bring out what are undoubtedly family relationships, it is not possible to accurately identify them with certainty because the members of the project appear, almost to a man, to have given up on the use of DNA as a genealogical tool. The exception is member 345404, but unfortunately his haplotype is almost unique in the study. I speculate that many of these members lost interest when they discovered that they had no MacGregor connection in DNA terms.

8. The earlier discussed hypothesis about descent from an individual who lived in the 14th Century, which was derived from similarities in haplotype within the M222 cohort, is now being confirmed by advances in SNP testing. The identification by me of the "Nith" clade within the general M222 cohort is supported by recent discoveries of SNPs downstream of M222.

SNP TESTING

In Note 1 above I refer to the alleged historic MacGregor connection. With the rapid advance of genealogical genetics, it is now found that the mainstream MacGregors, including the Rob Roy branch, have a particular identifying SNP mutation known as S690, thought to be from Gregor, founder of the clan. Nobody in my project carries that mutation, and hence, nobody can descend from a mainstream MacGregor ancestor. There are associated SNPs, such as S691 and S695 that might flow from an earlier split in the ancestors to the MacGregors, but again, we don't see them at all in our project. These advances in knowledge do, however, have a significant impact on our family.

One very significant advance in the science has occurred since the writing of Instalment Five. That is the availability of so called Next-Generation Sequencing (NGS) in which notionally the whole of the YDNA genome is tested for SNPs. I say notionally because there are unreliable areas within the genome, and different companies have their own views about some discovered SNPs. Nevertheless, many new SNPs have been accepted into the science, and much expanded genetic "trees" have been developed. An example can be found at Alex Williamson's *The Big Tree* at <http://ytree.net/> . My NGS outcome can be seen in the section headed P312>L21>DF13>DF49 by clicking on that page and then searching (Find) for Grierson. There you will see that there may be 30 SNPs below (younger than) M222, and also that these identifications are allowing family groups to be identified. We are close to achieving our aim of using DNA to identify recent family groups, thus

allowing for correlation of family trees. Unfortunately, NGS testing is still rather expensive, and that is limiting the availability of data.

As well as the SNPs you will see listed on that page of The Big Tree, there are so-called "private" SNPs not shown. The process of deciding where in the phylogenetic tree one particular SNP exists uses a methodology of discovering whether individuals coming from a particular baseline - say, having been identified as carriers of the M222 SNP - also carry newly discovered SNPs. Let us say that half carry a new SNP, and half don't. We have thereby established a branch point in our tree, and within each branch we look for other dis-similarities, thereby establishing new branch points. However, in The Big Tree you will see blocks of SNPs that have not been separated. This simply indicates that a branch point has not been established because everybody tested so far as carrying a younger SNP also carries all of those shown, and therefore we cannot estimate their exact phylogenetic position. As more results come in, we will be able to further refine the tree.

Now if we can't find other people with certain SNPs, they become known as "private" SNPs, and they probably define a family group. Only two Griersons (see note 3 above) have taken NGS testing so far. Although we can't identify any paper trail connecting us, and our earliest known family locations are relatively separated, we have a number of SNPs not known at this time to be carried by anybody else. So far as we know, therefore, they are our Grierson identifiers, and we await further results to confirm this hypothesis. We each also carry SNPs of our own that presumably have developed since our forefathers went their separate ways, and finding others who also carry these SNPs will give us closer family.

In the Chart 1f, you will see that various members are reported as carrying SNPs such as FGC4133, FGC4134, and FGC4125. As best we know, these have a father/son sequence in the order shown. These results reflect testing choices rather than divisions in the DNA tree, plus the fact that FGC4125 is only available for testing through NGS (but we are hopeful that it will become available, if not through Family Tree DNA, then through one of the more adventurous companies that offer SNP testing). But of all people NGS tested, two Griersons and one Milligan are the only carriers of that SNP. Further to that, of all people NGS tested, only Milligans and Griersons carry the grandfather of 4125, FGC 4133. The conclusion to be drawn here is that the time when the use of surnames was beginning to be the norm coincided with the time at which the SNP FGC4134 was born. Two project members who do not carry the Grier/son name, but have long been accepted as part of our family, have independently been tested for FGC4134, the son of 4133, with positive outcomes. Our assumption is that they represent adoptions and the like from pioneering days in North America, rather than reflecting different surname adoption in medieval Scotland. We have earlier determined from historic documentation that the Grierson/Milligan split was about the middle of the 14th Century. So, from the standpoint of determining what individual SNPs to test for, as best we know at this time, FGC4134 proves that you are a Grierson or a Milligan, and FGC4125 further refines that. To separate Grierson and Milligan in FGC4125, a check of DYS444, the Grierson identifier in a haplotype, seems to differentiate. The Grierson family has DYS444=13, the sole Milligan has DYS444=12, which is the ancestral reading.

FURTHER READING

I have, in earlier reports, mentioned Alan Milliken of Scotland. He, together with Susan Milligan, are the drivers of the Milligan/Milliken research. Alan has enormous knowledge of that part of Scotland from which the Grierson family emerged, probably around 1360 AD. As descendants of McRath ap Molegan, it is not clear how and why the Grierson name (spelt Greresonne in an early document) was chosen, but Alan has found a clue in the now extremely rare name MacCrere once found in Galloway. That name could be Anglicised to Crereson, and a choice of pronunciation could bring us to our name. That is, of course, speculation. But to find out more about the middle ages in SW Scotland, go to Alan's newsletter, the Regarde Bien, at:

<http://regarde-bien.com/dnastudies.html> for DNA information, and:

http://freepages.genealogy.rootsweb.ancestry.com/~alanmilliken/regarde_bien/1.html where under *The McRaths of Laught* you will find much information about early Griersons. It should be understood that we are not claiming descent from Gilbert Grierson of Ard, but from his father Duncan or an earlier ancestor. However, I am sure that one other Grierson in the project descends from Gilbert, and hence is likely to be the closest known male relative of the Lag family.

J D (David) Grierson
grierson@melbpc.org.au
Melbourne
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