GRIERSON DNA UPDATE 1

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DNA Results

There are now many more test results available, together with some interesting deductions by interested people. The MacGregor sequence of results has expanded to about 225, including an increase in the group that Richard McGregor has defined as "Irish Connected". This definition should not be taken to mean of recent Irish birth, but rather is an attempt to differentiate between the various migrations between Ireland and Scotland. It is in this group that Richard placed my results, based on his reading of my haplotype.

What is a haplotype? I now have to become a bit more technical so that the next step in the process can be understood. In the first part of my preceding paper, I mentioned the significance of YDNA for our purposes. What I described there was that part of the Y chromosome which contains a set of what are called Short Tandem Repeats (STRs), and that set describes the haplotype of an individual. For some years, experts have tried to determine the next "layer" of genetic identification - the haplogroup - by estimating the relationship between closely matching haplotypes from statistical analysis of mutations. For genealogical purposes, you can consider the haplotype to be useful for estimating relationships over, say, hundreds of years. However, the haplogroup (which is a collection of many haplotypes all ultimately descending from a single individual) should be considered to deal with thousands, if not tens of thousands, of years. It therefore has the main function of assisting in describing population movements over long periods. But for us, there may be another aspect of our haplogroup which predates even the folk memory of our ancestors (see later).

Meanwhile, what of closer relatives? The Grierson haplotype I mentioned in the first report as not having had the same series of markers tested has now had more tests done. In Richard's words:
"The two Griersons 7874 and 33323 [that is, me and Arthur of the USA] are almost certainly directly related post surname adoption."
Arthur can trace his ancestry back to a William Grierson who lived in King St, Castle Douglas, about a generation after our Robert Grierson who died there in 1850. But we can't yet assume a close relationship. We don't know Arthur's haplogroup with certainty (see later).

Richard goes on to say about a group of McGregors with very similar genetic structures to ours:
" The same is true for Mc/MacGregors 4715, 2944, 17929 – a suggestion here of a second, smaller and more recent MacGregor surname origin which could bring in the Griersons too may give at least one reason for the persistent story of connection between Grierson and MacGregor."
However, none of these McGregors have been shown to fit into the same haplogroup as me, and so we will have to await further test results before we make any assumptions about our connection with McGregor.

The Haplogroup

For clarity, we now need to look at some more technical detail. It has recently become possible to test for haplogroups (as distinct from estimating them). Haplogroups are defined by (quoting McGregor again) Single Nucleotide Polymorphisms (SNPs), and other similar kinds of mutations, all of which come into the category of Unique Event Polymorphisms (UEPs). These kinds of mutations are very rare, and we presume that once they have happened, they are never reversed. So when a mutation has occurred during the conception of a male, it is assumed that all his descendant males will exactly match his haplogroup or one of its sub-clades - he is the father of a tribe, so to speak. It has been suggested that one way of looking at the relationship is that the haplogroup defines a branch of the human male tree, whilst the haplotypes are the multitude of leaves at the end of the branch. In this analogy, one can even say there are twigs of the haplogroup (called sub-clades), and science is still learning how to determine the differences between the twigs. The twigs are defined by whether, in testing, a laboratory can find SNPs. They are there, or they are not. So the test result is positive if they are there, negative if they are not. The process of discovery and definition continues, so this description might be out of date in a year or two.

Now, many males of that branch of the human race which tended to settle Western Europe after the last Ice Age have been found to conform to the haplogroup called R. This might represent an individual 20 or 30 thousand or more years ago from whom all these R type males descend. At some point, an individual with another SNP was born (he and his male descendants became R1s), and another who we call R2, and so on. Now within the R1s, there was, in time another SNP mutation, which we now identify as R1a. So by then, there were males walking the earth as R types, R1 types, and R1a types, as well as any other mutations down the R2 line. To cut a long story short, I have been tested as being of the R1b1c7 haplogroup, which means that I tested positive for seven known SNPs to put me into that sub-clade, and negative to nine other SNPs, which excluded me from other "twigs".

What do we know of R1b1c7? It was first identified by analysis of haplotypes, and only last year was a test developed which would identify it positively. It is very localised in two areas, NW Ireland, and SW Scotland. This suggests significant migration between those places. To quote selectively from the Family Tree DNA website:
"In late 2005 a research team from Trinity College Dublin published a report that identified this cluster [of haplotypes]..... The research team called this pattern the Irish Modal Haplotype, or IMH, and provocatively suggested that the haplotype was to be associated with the Ui Neill kings of Northern Ireland who descended from the fifth century warlord, Niall of the Nine Hostages. Since the haplotype is not in fact modal in Ireland – though a distinctive haplotype, it is a minor one – one should perhaps more properly call this pattern the Northwest Irish Variety of R1b1c. That recognizes the fact that it is most concentrated in Donegal (nearly 20 percent of the population) and nearby counties to the south and west (five to 10 percent). It is also found in Lowland Scotland and the Western Isles at a percentage that is hard to calculate but may also be in the five to 10 percent range."

Also: "Descent from Niall is quite possible and even likely for much of the Irish population in whom this pattern is found, but it is not necessarily the case that all who manifest this variety are direct descendants of Niall."

In another place, it is suggested that R1b1c7 is as young as possibly 2-3000 years. More work will doubtless refine this further.

Where Are We Now?

The discovery of the SNP which describes this sub-clade of R1b1c means that genealogists have another tool to help in differentiating between the same or similar haplotypes. I now have a list of a hundred or more very similar haplotypes, but with different surnames, and by identifying their haplogroup(s) I can exclude those not recently (ie, within a couple of millenia) related. I have also a list of similar surnames, some with similar haplotypes, but with many in very different haplogroups. For example, there are a large number of Greer haplotypes, both from Scotland and Ireland, that are clearly not related because they are in what can be said to be Scandinavian haplogroups. They probably descend from Viking invaders of 1000 years ago. There are Greers and a Grier who fit in the larger groups of R1b and R1b1, so they are related from further back, may have lived together, and may have adopted surnames together. But they are not related on the male side within the era of surnames.

Unfortunately, I have yet to find anybody with both the same or similar surname, and the same sub-clade of our haplogroup. If we descend from Niall, we are (so far) alone in that respect among the Griers. The challenge remains - Griers and Griersons, get out and get tested!

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