F O R E W O R D

We continue to make progress with the Dalton International DNA Project (DIDP) that was officially launched in May 2003. At that time, the idea of single surname DNA projects was quite new and ours was one of the early projects to be established. We are celebrating our second decade of the Dalton DNA study, with 197 participants, and our project is still at the forefront of genealogical science.

The Dalton International DNA Project is administered at Family Tree DNA on behalf of the Dalton Genealogical Society.

We are assisted by Chris Pomery who has been chartered to analyze our results and present his conclusions back to the Society. Chris was among the early DNA pioneers, establishing a DNA project for his own Pomeroy family back in 2000. He has published two very informative books on DNA and family history; he lectures on the subject extensively and he has become a recognized authority on the topic. With a particular skill for bridging that gap between the raw results and the creation of something meaningful for family historians, he picks up where Family Tree DNA, our testing company, leaves off.

We are also aided by the Family Group Coordinators for the largest Genetic Families in our project: Melanie Crain manages the largest Family Group in our project, the "Virginia Daltons" of Genetic Family A; Michael F. Dalton coordinates the research for the "Eirann Daltons", or Genetic Family B; Michael Neale Dalton heads the "Carmarthenshire Daltons", or Genetic Family C; and Karen Dalton Preston manages the "Golden Vale Daltons", or Genetic Family D.

Our project also includes several smaller Genetic Families, which are in need of a coordinator. If you are a member of one of these other Family Groups, we would welcome your participation.

We would like to thank all of those who have come forward to be tested. It is your participation that helps our project to grow, and with your help, we hope to identify the ancient origins of our Dalton ancestors.

Karen Dalton Preston and Michael Neale Dalton
DIDP Co-Administrators

DALTON Family DNA/Genealogy Reconstruction Project

Following the new format created for the 2013 project report, this report is not divided into sections for each Genetic Family Group. Chris Pomery has suggested that we now have enough testee data to organize the testees by the geographic origins of the most distant documented ancestors. Accordingly, this report is divided into two sections. The first section shows the project members who have origins in the UK or Ireland; the second shows the members who have not yet identified a geographic location in the UK or Ireland. Accordingly, you will also see two "phylogenetic" charts; one for each major group.

Interpreting The Data

Only when the genetic families are established and the historical data is associated with each result can the **interpretation of the project's results** begin. This is a subjective process that one can try to make partially objective by using a calculation to estimate the number of generations to the common male ancestor for two given participants. This calculation endeavors to define the **Time to the Most Recent Common Ancestor** (TMRCA). However, the TMRCA calculation is only expressed in terms of the probability (ranging from 50% to 95%) that the answer given is the average of the range of possibilities consistent with the data.

While testing labs have derived some mutation rate data, they have not published it. Numerical calculations of the relatedness of two DNA test results therefore use an average mutation rate, and there is much debate among geneticists about what that average rate should be. The key point is that numerical calculations like the MRCA should be thought of only as an approximate guide. In particular, a small change in the average rate of mutation used in the calculation would produce significant differences in the overall results. So any TMRCA calculation cannot be expected to 'prove' a specific connection or to pinpoint in which particular generation, or generations, the common Dalton ancestor lived. The best that it can do is to confirm that the timeframe for such a connection is broadly feasible with at least one estimated timeframe using currently accepted variables.

Connections between the members of a genetic family can be shown graphically in a **phylogenetic chart**. This looks like a simplified family tree turned sideways so that the oldest ancestor is on the left-hand side of the chart instead of at the top. Bear in mind that the chart doesn't show the only possible way in which the DNA results can be expressed as a chart: what it shows is the most likely way as determined by the software generating it and the parameters set. It is best used as a guide to work out which other persons in the tree each DNA testee should be talking to in order to link their personal family trees together, though it cannot guarantee specific connections.

Unlinked Results

In any surname project there will be a significant number of participants who find that they are not linked to any genetic family. One reason why this may happen is that a Dalton ancestor may have acquired the surname for a specific reason, e.g. during the process of an inheritance whereby a man marrying a female Dalton was required to adopt her surname. More common reasons are where a non-Dalton man has fathered a boy by a Dalton woman and the child has grown up as a Dalton. It is often hard to pinpoint exactly when such an event happened, but in a surname project one can expect that a testee with a different DNA signature, and whose tree stems from the same geographical area as the members of a large genetic family, will turn out to have this kind of event somewhere along their male line ancestry.

Last Words

DNA testing is a tool for the family historian, a tool to help guide the documentary research process by suggesting links among presently unrelated people or trees, and to corroborate documentary research by confirming a shared genetic heritage. A DNA project advances by making hypotheses about DNA linkages and documented origins that are progressively refined through an iterative process of documentary research and selected DNA testing. At the end of this process, the family history that is created is the family tree as it is documented and the stories of the men and women in it, a history corroborated by their DNA results.

The Largest Genetic Families

The best source of information on the largest Genetic Families and their progress towards finding their common ancestor is the Family Group Coordinators themselves. What follows is a short update on the status of each of these genetic families from their coordinators.

Genetic Family A - the "Virginia Daltons"

With 58 members, Family Group A reveals detectable branches within its membership. These branches represent migratory patterns that were sometimes an enigma when based on paper documentation alone. The early 18th century settlement for this Dalton tree was Albemarle County, Virginia. The ancestral paper trail in Albemarle suggested some relatedness of the men who lived and departed from there, all going South or Southwest. But the same paper trail could not show how closely the men were related. Y-DNA tests have proven that all four Three destinations in the migration picture show a possible genetic variation for two of the three branches, and this confirms the importance of Y-DNA testing. The branches we can now follow genetically migrated to Pittsylvania County and Carroll County, Virginia, plus a branch that crossed the Appalachian Mountains and settled in the southeastern corner of Missouri. There are more "paper" branches, ones in Tennessee and Kentucky and others, which spread to different areas of the mid-South or mid-West. We lack either enough test results or family paper lines needed to determine the branches they represent.

-- *Melanie Crain*

Genetic Family A has not yet been linked to origins in the UK or Ireland, and is illustrated in the phylogenetic diagram in Chart 2 of this report.

Genetic Family B - the "Eirann Daltons"

The major piece of news for members of Group B is the discovery of a common ancestor from the 12th century. That ancestor is no less than Walter Dalton who is credited as being the founder of one of the two major Dalton lines in Ireland. He is linked by documentary evidence to William G. D'Alton in Australia who, in turn, is linked, by DNA, to all the members of Group B.

Whilst being a major advance in tracing the oldest known ancestor, it still leaves the individual members of the Group searching for the links between their own oldest known ancestors and also to their place in the tree from Walter in 1171 to William in 2013. The discovery is a major advance in understanding the Group B ancestral roots, as it means that the origin is in County Westmeath, Ireland, with Walter in 1171 and yet the documentary records of the existing members show ancestry (within the last 200 years) from many points in Ireland. This can be explained by the original family being successful and expanding into other counties (as is known) and also by the original family suffering from the Dispossessions and scattering. Certainly there are references on the web, which show family trees in continental Europe with Irish Dalton ancestry.

Records for Ireland are being updated on the web at an increasing pace and now would be a good time for group members to re-visit the web to make fresh searches for links. It may also be productive to make contact with European trees with a view to encouraging a member to join the Dalton International DNA Project.

-- *Michael F. Dalton*

Genetic Family B has been linked to origins in Ireland, and is illustrated in the phylogenetic diagram in Chart 1 of this report.

Genetic Family C - the "Carmarthenshire Daltons"

The members of this genetic family share a common founding ancestor (James Dalton b. 1650, d. 1721) within a relatively recent genealogically-relevant time frame. The documentary evidence derived from traditional family history research supports this hypothesis.

James was the son of Walter Dalton of Witney, Oxfordshire who fought with the Royalists at the Battle of Worcester in 1651. Following the Royalist defeat, Walter and his family fled to Wales and arrived in the village of Kidwelly in Carmarthenshire. The line of descent of Michael Neale Dalton is clearly documented through John Dalton, eldest son of James, b 1677 d 1724. The lines of descent of Rodney Garth Dalton, Edward Adams Dalton and Richard T. Dalton are clearly documented through James Ormonde Dalton, second son of James, b 1679 d 1729. Those for Thomas M Dalton and James Clark Dalton also come through James Ormonde Dalton, whose grandson, Thomas Dalton b. 1732, immigrated to America and is the forebearer of a large Dalton family stemming from his son, John Dalton b. 1763, who married Elizabeth Cooker. This family joined the Mormon Church and was closely associated with the pioneering work to colonize the Salt Lake Valley under the leadership of Brigham Young.

We know that Walter Dalton of Witney, b. 1603 d. 1666, was the son of another Walter Dalton, b. 1582 d. 1657, himself the son of the first Walter Dalton of Witney b. ca, 1552 d. 1619. It is believed that this family is descended from the Lancashire Dalton family recorded in Flower's Visitation of Yorkshire 1563-1564. This line commences with Sir Rychard Dalton of Byspham in Lancashyre, Knight b. ca. 1230. Much has been written in the DGS Journal about this line and its possible connection with the Walter Daltons of Witney, but the so-called missing link is still missing and remains unproven. Equally it is not disproved.

-- *Michael Neale Dalton*

Genetic Family C has been linked to origins in Wales, and is illustrated in the phylogenetic diagram in Chart 1 of this report.

Genetic Family D - the "Golden Vale Daltons"

The ancestors of the Group D Daltons are strung along the River Suir valley in southern Ireland, from County Limerick to County Waterford. The largest concentration of testees who have traced their origins back to a specific location in Ireland, are found in Limerick, Tipperary and Cork. This is in the "Golden Vale of Ivowen", from which our Genetic Family's name is derived.

Within our group, three members have traced their Daltons back to the 1700's. These are Eric Dalton, who traces his ancestors back to Michael Dalton of Glenbrohane, County Limerick in 1745, Terence Bernard Dalton, whose most distant Dalton ancestor is James Dalton of Carrick-on-Suir, County Tipperary in 1790 and William F. (Bill) Dalton, who traces his Daltons back to William Dalton, born in Thurles, County Tipperary in 1796.

Our DNA consultant, Chris Pomery has suggested that our next step is to link the various Dalton lines within Group D, using traditional genealogy research.

-- *Karen Dalton Preston*

Genetic Family D has been linked to origins in Ireland, and is illustrated in the phylogenetic diagram in Chart 1 of this report.