## Using Clusters, Paintings, and Trees to Find Your Common Ancestor - Part 2 Patricia B. Coleman, PhD

In Part 1 we looked at MyHeritage cluster and matches that my second cousin, Trish¹ and I shared with a match I'm calling Joe Smith. Trish and my most recent common ancestors are our great grandparents, Thomas Byrnes and Bridget Fenton. Looking at the cluster in detail in part 1, we determined that the matches were on Joe's paternal Smith side, which is different than Joe and I had assumed. Matches Sue, Sarah, and Frank who are in the cluster all have surname Smith in their immediate family.

More on my Family - In 1955 my third cousin once removed published a book on the Descendants of William Fenton. William was my third great grandfather. Bridget Fenton was his granddaughter. Her parents were John Fenton and Johanna O'Brien. The book indicated that John and Johanna immigrated to the US shortly after Bridget was born. Now with so many resources online I found John and Johanna's marriage in Nov 1852, and Bridget's baptism in Sep 1853. I also found John and family in the 1860 US Federal census in Petersburg, VA.

FAN Club - Friends, associates and neighbors can help to learn more about a family. Looking at the witnesses at John and Johanna's wedding and the sponsors for Bridget's baptism, I noticed Johanna Coffee. The surname Coffee was family as I'd seen it in DNA matches tree. I looked at the same Catholic parish for others with surname Coffee and found that Catherine Coffee had married Michael Brien just a few years earlier. There might be some connection between Michael Brien and my Johanna O'Brien. Michael and Catherine had 8 children and their baptisms were on that same parish.

DNA Painter - Using the Cluster AutoPainter (CAP) I put the cluster HTML file into DNA Painter. Joe Smith, Sue and Sarah triangulate with Trish and me on chromosome 7. Sue, Frank and Sarah also triangulate with Trish and me on chromosome 8. For now I can label these segments as 'Smith segments' until I can come closer to finding our most recent common ancestor.

AutoKinship - On Genetic Affairs you can run AutoKinship for any site that gives the amount of centimorgan that matches share with each other. These sites are MyHeritage, 23andMe, and GEDmatch. I ran AutoKinship for cluster 1 that contains Joe Smith and added Trish who matched several people in cluster 1. Because I know the exact relationship between Trish and me, I used a WATO (What are the Odds) tree from DNA Painter to fix that relationship. Results indicated that Sue is likely a first cousin to Joe. Her son, Frank, would be first cousin once removed, and Sarah is likely a second cousin to Joe. I do not know how they are connected, as the trees that they have are not detailed enough to show that. Results also indicated that Joe was at our grandparents level. This is likely not correct, as Joe is about the same age as Trish and me. However, it's very likely that Joe also matches us on his mother's O'Brien line as well as matching us here on his paternal Smith line.

<sup>&</sup>lt;sup>1</sup> Trish has allowed me to user her real name and her shared DNA matches. All other names are psuedonames for living people.