

Family Locket Genealogists

Scott April 2024 Research Project

Report to: Karen Boehme

31 October 2024

OBJECTIVE

Conduct DNA analysis and documentary research to discover the biological parents of Ellen Cecilia Scott, who was born 15 December 1860 in Marshalltown, Marshall, Iowa, and died 6 June 1943 in Hastings, Adams, Nebraska. Ellen was raised by John and Bridget Malone and married Bartholomew Kernan on 28 November 1878 in Ayr, Adams, Nebraska.

LIMITATIONS

- This project was limited to 30 hours for planning, research, analysis, and writing.
- At the generational distances involved in this study, DNA can provide direct evidence of shared ancestry but only indirect evidence of the specific relationships between matches.
- The DNA network graphs were restricted to the client's match lists from AncestryDNA (8-400 cM) and MyHeritage (40-400 cM), gathered by the client in spring 2023.
- Genealogical research of 19th-century Irish immigrants is challenged by inconsistent record keeping, significant record loss, and common immigrant illiteracy.¹

RESULTS SUMMARY

- Reviewed and assessed existing documentary evidence for Patrick Scott and Margaret Cox. Discovered newspaper retrospectives for Ellen Scott which generated new and conflicting clues for her early life while also confirming her Catholic religion. Located the Catholic parish record for Ellen's 1878 marriage to Bartholomew (Bart) Kernan, but it did not contain parent information. Conducted negative searches for Patrick Scott and Margaret Cox in newspapers, Catholic church records, and various local repositories in Iowa and Nebraska, contributing toward reasonably exhaustive research.
- Analyzed and verified the genetic work for Karen, her two sisters, and DNA matches descended from Ellen and Bart. Created DNA network graphs of the client's

¹ Jessica Morgan, "Tracing Your Irish Ancestors Part 1: Ask the Right Questions," 5 December 2020, *Family Locket* (<https://familylocket.com/tracing-your-irish-ancestors-part-1/>; accessed 24 April 2024).

AncestryDNA and MyHeritage matches, determining a small genetic footprint for Kernan and Scott lineages. Prepared a remodularized AncestryDNA network graph and detected subclusters connected to the Kernan lines, as well as subclusters predicted to relate to the Scott and Cox lineages.

- Conducted extensive pedigree triangulation and match ascendancy research to determine common ancestors for the subclusters. Established key localities among the ancestors of matches: Wabasha County, Minnesota; Gortnahoe parish, County Tipperary, Ireland; and Kilnoe and Tulla parishes, County Clare, Ireland. Identified candidates for Ellen's parents: Patrick Scott (1832-1913), likely born in Inchorourke, Gortnahoe parish, County Tipperary, son of Bryan Scott; and Margaret Cox (1838-), born in Ballynahinch, Kilnoe parish, County Clare, daughter of Maurice Cox and Mary Molony. Correlated the documentary evidence for these candidates to show alignment with the verifiable facts about Ellen's parents. Suggested further avenues of documentary and genetic research to confirm the emerging evidence for Ellen's parents.
- Analyzed the mitochondrial DNA results for Mary Ellen 3, a matrilineal descendant of Ellen, and corroborated an Ireland origin for Margaret Cox. Determined Mary Ellen 3 and her exact matches do not share autosomal DNA, lowering the priority for researching their lineages. Proposed matrilineal descendency research for Mary Molony to identify a candidate for mtDNA testing to compare with Mary Ellen 3's results.

BACKGROUND INFORMATION

The results of the client's prior research provided the starting point for this project: her Ancestry family tree; two Google folders from Research Like a Pro study group sessions; Airtable research logs; family pedigree charts; access to her AncestryDNA results and those for two sisters; access to the client's autosomal DNA and mitochondrial DNA results at other databases; and DNAGedcom files of her AncestryDNA and MyHeritage matches.

Documentary Background

The known documentary record for Ellen Cecilia Scott's parents comes only from a few records concerning Ellen. Initial analysis of these sources helped compile the following biographical information for her parents. Ellen's 1943 death certificate recorded them as Patrick Scott and Margaret Cox, both born in Ireland.² The informant was Ellen's daughter, Stella, who lived with her from Stella's birth in 1887 until Ellen's death in 1943. The Ireland birthplace corresponds with nearly every census enumeration for Ellen:³

1870 Both parents marked "of foreign birth"

² Nebraska State Department of Health, Division of Vital Statistics, Standard Certificate of Death, state file P 5671, entry for Ellen Cecilia Kernan, 6 June 1943, Hastings, Adams County, Nebraska; Nebraska Department of Health and Human Services, Lincoln, Nebraska; certified copy in client's files, obtained 2022.

³ "Public Member Trees," database, *Ancestry* (<http://www.ancestry.com>) : accessed 24 April 2024), "Loop - Kernan Family Tree," family tree by Karen Boehme, profile for Ellen Cecilia Scott.

- 1880** Both parents born in Ireland
- 1900** Both parents born in Ireland
- 1910** Both parents born in Ireland
- 1920** Both parents born in Ireland
- 1930** Both parents born in Iowa
- 1940** Census no longer recorded birthplaces of parents

Based on a preponderance of evidence from Ellen's records, Ireland was the most probable birthplace for both of her parents. The 1910 census bears particular weight since Ellen was widowed by that point, was the head of the family, and was likely the informant. The Iowa birthplace listed in 1930, by an unknown informant, is an outlier and is most likely incorrect. While Ellen was recorded in every US census of her lifetime, there is no known US enumeration for either of her parents.⁴ Similarly, there are no known US vital records, so possible US dates and places for their marriage or deaths remain unknown.

Authored Sources

The fullest account of Ellen's parents comes from a 1937 newspaper retrospective, a 1977 historical society article, and her 1943 obituary.⁵ These authored sources present a basic narrative for Ellen's early life, albeit with some inconsistencies. Ellen's mother died about 1862, when Ellen was 18 months old. Margaret—and possibly an infant sibling—reportedly drowned after being swept away during a flood in Marshalltown, Iowa. Patrick, a Burlington railroad construction worker, placed Ellen in the care of his supervisor John Malone's family. The Malones and Ellen lived in Omaha for a time. In 1873, Ellen, Patrick, and the Malones continued west to Adams County, Nebraska, where Ellen later married Irish immigrant Bartholomew (Bart) Kernan in 1878.⁶ Ellen was young when she saw her father for the last time.

⁴ "Public Member Trees," database, *Ancestry* (<http://www.ancestry.com> : accessed 24 April 2024), "Loop - Kernan Family Tree," family tree by Karen Boehme, profiles for Patrick Scott and Margaret Cox. See also Karen Boehme, RLP 8 Study Group 8, 2022, project folder, *Google Drive* (<https://drive.google.com/> : accessed 24 April 2024). See also Karen Boehme, RLP with DNA 5 Study Group, 2023, project folder, *Google Drive* (<https://drive.google.com/> : accessed 24 April 2024).

⁵ "Mother of 12, Looking Back at 77 Years, Can Recall Hastings as Pioneer Hamlet," *The Hastings Daily Tribune* (Hastings, Nebraska), 18 December 1937, p. 3b; database with images, *Newspapers.com* (<https://www.newspapers.com/article/the-hastings-daily-tribune/83753563/> : accessed 24 April 2024). See also Adams County Nebraska Historical Society, "The Irish of Adams County," *Historical News*, 10:3 (March 1977); digital edition, *Nebraska GenWeb* (<https://negenweb-net.usgenwebsites.org/NEAdams/irish.htm> : accessed 10 May 2024). See also "Mrs. Ellen Kernan Dies," *The Hastings Daily Tribune* (Hastings, Nebraska), 7 June 1943, p. 1b; database with images, *Newspapers.com* (<https://www.newspapers.com> : accessed 24 April 2024).

⁶ Note: Bart, Ellen and their children went by the surname Kernan, which is a variation of the Kiernan surname more commonly used in Ireland. Bart's father, also named Bartholomew, was documented with both surnames. This report will use the full given name and the Kiernan surname when referring to elder Bartholomew Kiernan, others in his generation, or earlier ancestors.

This narrative apparently derives from interviews with Ellen herself but some of it was secondary information told to her by others since she was so young when it transpired. Notably, these remembrances were documented late in Ellen's life, when memory fades for many people. These accounts have contradictions, and very little documentary evidence exists from her early years to substantiate it. Her presumed 1870 census enumeration as "Ellen Malone" with John and Bridget Malone in Omaha, Nebraska, corroborates her association with them; curiously, though, her listed birthplace was Illinois rather than Iowa.⁷ The civil record of her 1878 marriage to Bart—the earliest known record for which Ellen may have been the informant—stated she was born in Iowa.⁸ However, this is secondary information even if she supplied it. The marriage affidavit did not list her parents.

Family Recollections

Family recollections about Ellen's parents provide further unsourced, secondary information that conflicts with the abovementioned documents, especially for her mother, Margaret. Family members sometimes misremember facts about ancestors or make conjectures based on what little is known about them. About 1946, approximately three years after Ellen's death, her granddaughter, Sheila Kernan, compiled a pedigree chart from verbal family recollections.⁹ The pedigree chart recorded the following data about Ellen's parents—with conflicts, errors, and likely conjectures in red:

Mother: Margaret Fox

Birthplace: Hartford, Connecticut

Nationality: Irish

Year Died: 1862

Marriage Age: 20

Father: Patrick Scott

Birthplace: Ireland

Nationality: American

Marriage Age: 30

Education: g[rade school]

Age at Death: 70

In the 1980s, the client prepared a Patrick Scott-Margaret Fox family group sheet based on the 1946 pedigree chart, family recollections, and the 1977 historical society article

⁷ 1870 U.S. Census, Douglas County, Nebraska, population schedule, Omaha, p. 384A (stamped), p. 41 (penned), dwelling 330, family 351, John Malone; digital image, *Ancestry* (https://www.ancestry.com/imageviewer/collections/7163/images/4273886_00045 : accessed 24 April 2024); citing NARA microfilm publication M593, roll 829.

⁸ County Clerk, Adams County, Nebraska, marriage records, Book 1, 1872-1886, Bertholomew Kernan and Ella Scott, 28 November 1878; database with images, "Nebraska, U.S., Select County Marriage Records, 1855-1908," *Ancestry* (https://www.ancestry.com/imageviewer/collections/61335/images/47291_552462-00176 : accessed 24 April 2022); citing microfilmed records from Nebraska State Library and Archives and the Nebraska Historical Society, Lincoln, Nebraska.

⁹ Kernan-Bewley Pedigree Chart, typed document by Sheila Kernan, circa 1946, based on family recollections; copy in client's files, Hyde Park, Utah.

referenced above. The group sheet additionally suggested Patrick and Margaret were married in 1858 and stated Patrick's first given name may have been William, Winfield, or Winefield.¹⁰ There is no known documentary basis for the pedigree chart nor for the group sheet, and their informants were further removed from Ellen and her lifetime than her census and death certificate informants. The information from the contemporary census and death documents is more reliable. The less reliable information from these family records, however, will be kept in mind in this research phase.

DNA Background

Autosomal DNA (atDNA)

The client, Karen, has tested her autosomal DNA (atDNA) at AncestryDNA and 23andMe. She uploaded her raw atDNA data to MyHeritage, FamilyTreeDNA (FTDNA), GEDMatch, and Living DNA. While she has also tested her mitochondrial (mtDNA) at FTDNA, Karen is not a matrilineal descendant of Ellen, so those results do not apply for this objective. Karen also provided access to the atDNA results at AncestryDNA for two of her sisters, Paul 1 and Paul 2. Karen and her sisters are Ellen's great-granddaughters; thus, Patrick and Margaret were their 2nd great-grandparents.

Analyzing DNA matches between independent lines of descent from the research subjects isolates the target lineages and pinpoints the most effective matches to examine. Ideally, to identify Ellen's parents, it is most effective to test descendants of her siblings or identify matches who descend from those siblings. However, Ellen did not have known full siblings who survived to adulthood, so she was essentially an orphan of Irish immigrant parents. This presents a couple of challenges to genetic analysis:

- The test takers are not expected to have full third cousins (3C) who descend from Patrick and Margaret through other children than Ellen. There may be some half 3C if Patrick Scott remarried following Margaret's death and had children with another wife. See figure 1.
- Patrick and Margaret's parents and any siblings of theirs may not have migrated to the US. This means fourth to fifth cousins (4C-5C) from the Scott and Cox lines may have small representation in DNA databases typically dominated by US test takers.¹¹

¹⁰ Patrick Scott-Margaret Fox Group Sheet, document by Karen Boehme, 1980s, based on recollections of Sheila Kernan Loop and Gertrude McKenna Barry and the 1977 Adams County Historical Society article; in client's files, Hyde Park, Utah.

¹¹ Diane Southard, "DNA Testing | Finding Matches Outside the US," updated June 2022, *Your DNA Guide* (<https://www.yourdnaguide.com/ydgblog/finding-dna-matches-outside-the-us> : accessed 18 September 2024).

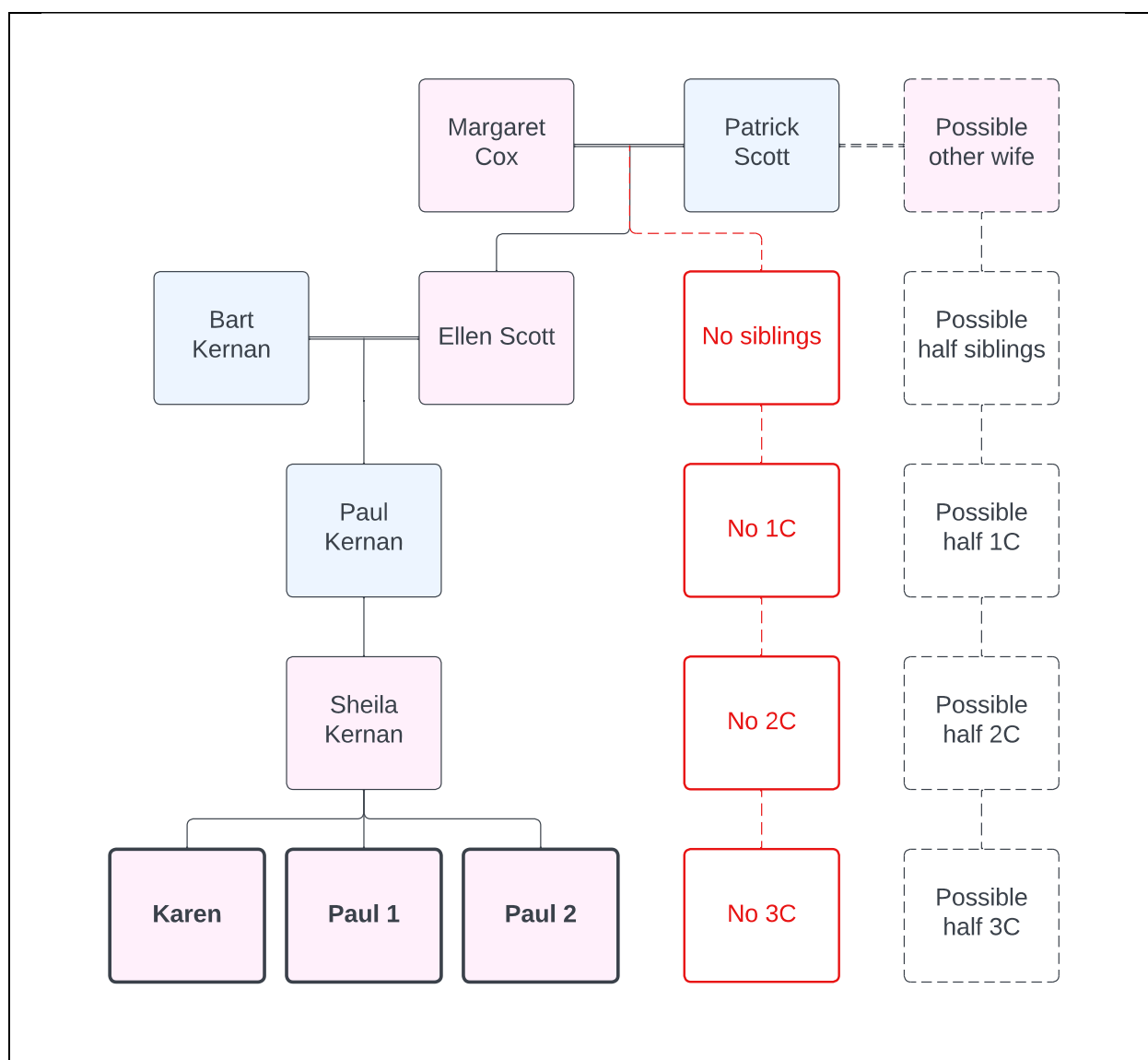


Figure 1. Pedigree chart depicting the three test takers' potential for 3C matches along Scott-Cox lines

In this project, analyzing DNA cousins from independent lines of descent from Ellen and Bart will reveal DNA evidence from both of their ancestral lineages. Matches identified as unique to the Kernan side will help filter out matches for Ellen's ancestry. Karen, Paul 1, and Paul 2's atDNA matches for this project include 14 key cousins descended down independent lines from Ellen and Bart: five second cousins (2C) down three independent lines, eight second cousins once removed (2C1R) down six independent lines, and one second cousin twice removed (2C2R) from one independent line. Figure 2 presents the pedigrees of these matches, the cM shared with each of the three sisters, and the pedigree of one mtDNA test taker, Mary Ellen 3.

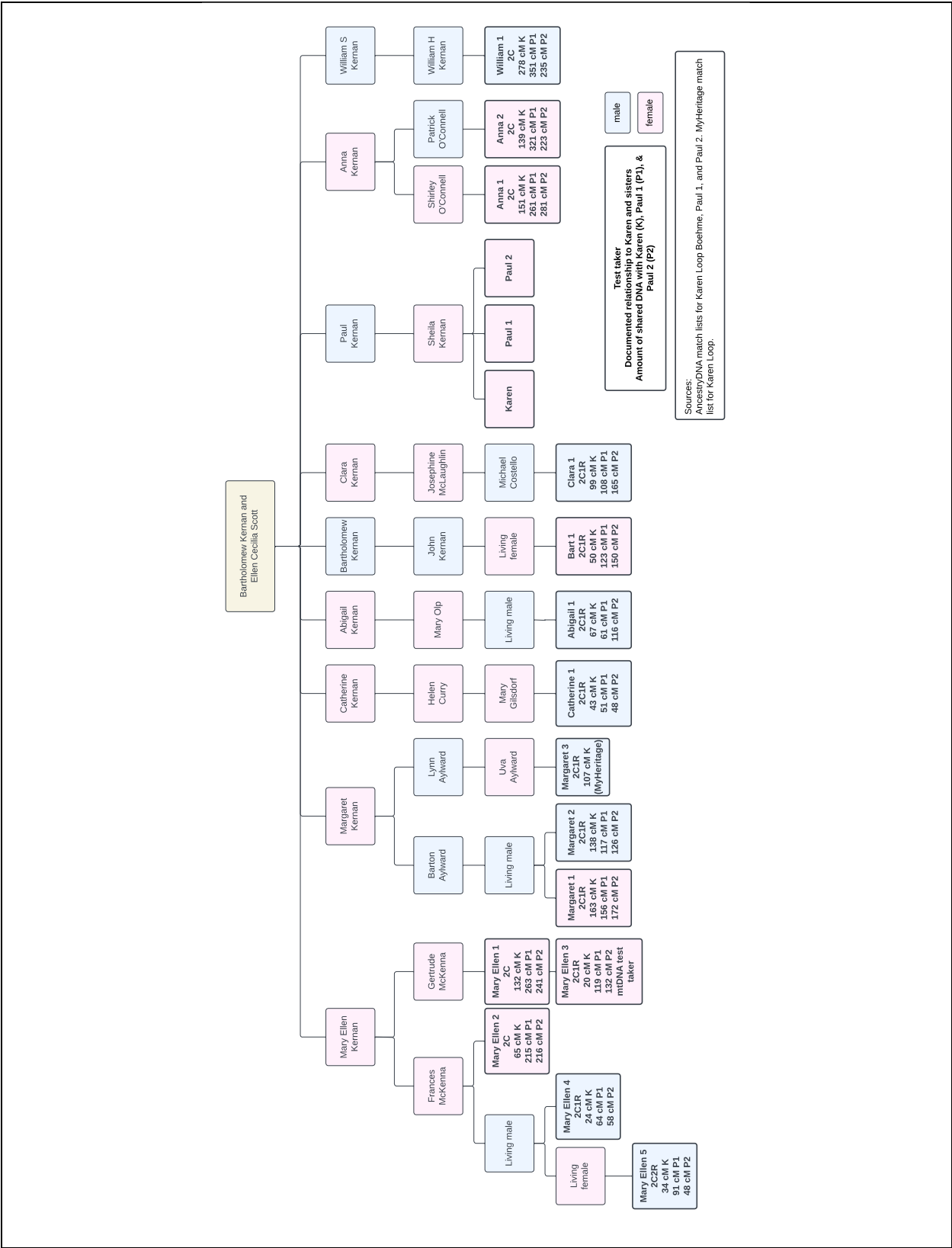


Figure 2. Pedigree chart for key DNA matches descended from Ellen and Bart

The Kernan Scott DNA Network Table, included as a separate PDF attachment to this report, analyzes the amounts of shared DNA between Karen, Paul 1, Paul 2, and these 14 matches.¹² AncestryDNA's Pro Tools now reports the shared cM between shared matches, a feature which enhanced the analysis of this genetic network. For each of the reported 114 matches, the table lists the centimorgan (cM) amount of shared DNA, the documented relationship, the range and mean value of cM observed for the given relationship, and the match's standard deviation (SD) status. Notably, match Margaret 3 has only one reported match. His test results are found only in the MyHeritage database where Karen is the only test taker whose atDNA has been uploaded.

When shared DNA is within one SD of the mean ($-1.0 \leq SD \leq 1.0$), this indicates the shared amount is near the average for the relationship. Being more than one standard deviation above (positive value) or below (negative value) the mean cM amount may signal that the relationship path between the two matches is different than expected and needs more analysis. Consideration of the aggregate standard deviation status for a genetic network helps assess the overall evidence for descent from the proposed common ancestors. If closer matches fall within one SD, this helps anchor the more distant cousin relationships that may deviate further from the mean.

As shown in the attachment, these Kernan-Scott cousins form a valid genetic network in line with their documented descent from both Bart and Ellen. Of 114 reported matches, 68 fall within one SD of the mean for the respective relationships, including every close relationship (sibling, aunt/uncle, great aunt, and 1C). The 31 matches below one SD of the mean are adequately balanced by the 15 matches above one SD of the mean for the relationship. Notably, Karen shared DNA with six of her 16 Kernan-Scott matches at levels well below the average. Of the three sisters, she shared the least DNA on average with the Kernan-Scott cousins. Karen may have inherited low amounts of Bart's or Ellen's genome. On average, people inherit 12.5% of each of their great-grandparent's genomes. However, due to recombination in gamete production, the actual inheritance from a great-grandparent can range anywhere from 4% to 23%.¹³

¹² Melanie Whitt, "Kernan Scott DNA Network Table," 28 September 2024, from DNA Match Details table in project base, *Airtable* (<https://airtable.com/> : accessed 28 September 2024).

¹³ ISOGG Wiki, "Autosomal DNA Statistics" (https://isogg.org/wiki/Autosomal_DNA_statistics : accessed 2 August 2024).

Mitochondrial DNA (mtDNA)

Prior to this research project, the client arranged for her 2C1R, Mary Ellen 3, to take a full sequence mtDNA test with FTDNA. Mary Ellen 3 is a matrilineal descendant from Ellen: **Ellen Scott Kernan > Mary Ellen Kernan McKenna > Gertrude McKenna Barry > Mary Ellen 1 > Mary Ellen 3**. Mary Ellen 3's kit was successfully processed, and her match lists are available for analysis in this research session. Mary Ellen 3 has four full-sequence mtDNA matches at a genetic distance of 0. At the researcher's request, Karen also arranged for Mary Ellen 3 to upload her raw atDNA data to FTDNA's database for comparison with mtDNA matches.

DOCUMENTARY FINDINGS AND ANALYSIS

The documentary record for Patrick Scott and Margaret Cox remains sparse. Research focused on newspapers, church records, probate records, land records, railroad histories, and local societies for their residences in Iowa and Nebraska. Key discoveries are highlighted below. See the research log accompanying this report for more details.

Newspapers

Extensive newspaper research in Iowa and Nebraska generated very little evidence for Patrick or Margaret. The only results possibly related to Patrick were mentions of a Patrick Scott in three "List of Letters" articles for the Marshalltown, Iowa, post office in September 1863, January 1864, and May 1864.¹⁴ As Patrick Scott is a common name, these hits may relate to a different person, or they could indicate Patrick Scott remained in Marshalltown through mid-1864 before possibly moving on to Omaha, Nebraska, with Ellen and the Malones. No articles were discovered for Margaret.

Three more retrospective articles about Ellen's life were discovered which have been attached to her profile in the client's Ancestry family tree.¹⁵ Attesting to the uncertainty

¹⁴ "List of Letters," entry for Patrick Scott, *Marshall County Times* (Marshalltown, Iowa), 23 September 1863, p. 2f; database with images, *Advantage Archives: Marshalltown Public Library* (<https://marshalltown.advantage-preservation.com/> : accessed 10 May 2024). See also "List of Letters," entry for Patrick Scott, *Marshall County Times* (Marshalltown, Iowa), 13 January 1864, p. 2f; database with images, *Advantage Archives: Marshalltown Public Library* (<https://marshalltown.advantage-preservation.com/> : accessed 10 May 2024). See also "List of Letters," entry for Patrick Scott, *Marshall County Times* (Marshalltown, Iowa), 1 June 1864, p. 2f; database with images, *Advantage Archives: Marshalltown Public Library* (<https://marshalltown.advantage-preservation.com/> : accessed 10 May 2024).

¹⁵ Daisy Bamford Rathbun, "Highlights in Our History," *The Hastings Democrat* (Hastings, Nebraska), 23 February 1933, p. 4d; database with images, *Newspapers.com* (https://www.newspapers.com/image/701237603/?clipping_id=147409856 : accessed 27 May 2024). See also "Mrs. Ellen Kernan was Pioneer of Catholic Action in Highland Area," *Southern Nebraska Register* (Lincoln, Nebraska), 8

surrounding Ellen's early life, the article "Hastings, Nebr.," published in *Our Sunday Visitor* on 3 March 1933, presented information that conflicts with the general narrative about her parents but also generated a new lead. The details from this article suggest Patrick may have left Ellen's life when she was very young:

- Ellen's mother died in Omaha, Nebraska, soon AFTER arriving with Patrick and Ellen, who was 2 years old.
- Patrick arranged for the Malones "to raise his child."
- Ellen was a student with "the Mercy Sisters" in Omaha.
- Ellen migrated to Hastings, Nebraska, with her "step parents" in 1873, but there was no mention of Patrick accompanying them.

Here, the place of Margaret's death was Omaha, not Marshalltown. Furthermore, this article suggests Patrick may have left Ellen's life when she was very young, possibly as early as 1862. Ellen's placement at school in Omaha with the Sisters of Mercy, a charitable order of Catholic nuns who ran institutions for the poor, supports her status as a young orphan reliant on the support of her religion and her adopted parents.¹⁶ The Sisters of Mercy first opened an orphanage and school in Omaha about 1864.¹⁷ Unfortunately, the senior archivist of the Sisters of Mercy in Omaha reviewed their collections and confirmed they do not have any known early school records.¹⁸ He sent some memoirs of a student there in the 1860s that will give the client a sense of what Ellen may have experienced as a student with the Sisters of Mercy.¹⁹

Church Records

The newly discovered newspaper retrospectives cemented Ellen's affiliation with the Catholic church. Requests were made at a number of Catholic parishes and archdioceses in

August 1941, p. 8d; database with images, *Newspapers.com* (https://www.newspapers.com/image/865543898/?match=1&clipping_id=148192295 : accessed 27 May 2024). See also "Hastings, Nebr.," *Our Sunday Visitor* (Omaha, Nebraska), 3 March 1933, p. 4b; database with images, *Newspapers.com* (https://www.newspapers.com/image/865272963/?clipping_id=148188437 : accessed 27 May 2024).

¹⁶ *Sisters of Mercy*, "Our History" (<https://www.sistersofmercy.org/about-us/our-history-mercy-heritage-center/> : accessed 24 June 2024)..

¹⁷ Monte Kniffen, Senior Archivist, Sisters of Mercy, Omaha, Nebraska, and researcher Melanie Whitt, phone call, 24 June 2024. See also Adam Fletcher Sasse, "Holy Angels," 13 April 2022, *North Omaha History* (<https://northomahahistory.com/2022/04/13/holy-angels/> : accessed 21 June 2024). See also *St. Frances Cabrini*, "Parish History" (<https://stcabriniomaha.org/welcome/parish-history/> : accessed 21 June 2024).

¹⁸ Monte Kniffen, Senior Archivist, Sisters of Mercy, Omaha, Nebraska, to researcher Melanie Whitt, 11 July 2024, email held privately, mbwgenealogy@gmail.com, Tualatin, Oregon.

¹⁹ Louise Burkley Leary, "School-day Recollections: Holy Angels, First Convent of Mercy school, etc." (s.n.: s.l.), circa 1925; digitized transcript copied in 1963 from original notes, received via email; citing Sisters of Mercy, Omaha, Nebraska, record 2013.04 Box 18 File 5. **Document 1**

Marshalltown, in Omaha, and in Adams County for any sacramental records (baptism, communion, marriage, or burial) of Ellen and her parents. Of the eight Catholic congregations contacted, one key parish has yet to respond despite multiple attempts—St. Francis Cabrini in Omaha.²⁰ Future research should follow up with their staff or hire an onsite researcher to examine their archives.

In all, only one record materialized: the 1878 record of Ellen's marriage to Bart within the collections of St. Cecilia's Catholic Church in Hastings, Nebraska.²¹ Unfortunately, the marriage record did not record the parents of the parties. A transcription and translation of their marriage record follows the image of it in figure 3.

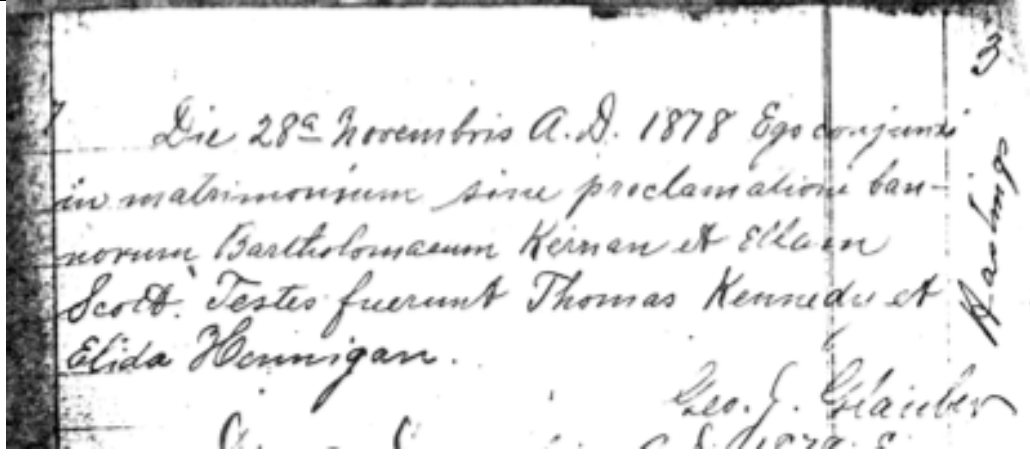
	
Transcription	Translation
<p>[Right side margin] Hastings</p> <p>Die 28a Novembris A.D. 1878 Ego conjunxi in matrimonium sine proclamatione ban-norum Bartholomaeum Kernan et Ellam Scott. Testes fuerunt Thomas Kennedy et Elida Hennigan.</p> <p style="text-align: right;">Geo. J. Glauber</p>	<p>[Right side margin] Hastings</p> <p>The 28th November A.D. 1878 I joined in marriage Bartholomew Kernan and Ella Scott with proclamation of banns. Witnesses were Thomas Kennedy and Elida Hennigan.</p> <p style="text-align: right;">Geo. J. Glauber</p>

Figure 3. Bart and Ellen's 1878 marriage record, St. Cecilia's Catholic Church, Adams County, Nebraska

²⁰ St. Frances Cabrini, "Parish History" (<https://stcabriniomaha.org/welcome/parish-history/> : accessed 21 June 2024).

²¹ St. Cecilia's Catholic Church (Hastings, Nebraska), Marriage Register, 1878, page 3, number 7, entry for Bartholomaeum Kernan and Ellam Scott, 28 November 1878; digital image emailed from *Adams County Historical Society*, Hastings, Nebraska; citing locally held copies of collection, "St. Cecilia's Catholic Church: Baptisms 1878-1896; Marriages 1878-1893; Confirmations 1878-1893." **Document 2**

DNA FINDINGS AND ANALYSIS

Autosomal DNA Network Graphs

Network graphs were created to analyze Karen's shared matches at AncestryDNA and MyHeritage. Network graphs are a way to illustrate genetic networks. The nodes in a network graph represent the test taker's DNA matches. The lines connecting the nodes indicate the two matches are also shared matches to each other. When many nodes all match each other, they are grouped into a cluster. Clustered matches likely share a common ancestor. Connections between clusters can indicate relationships between the common ancestors of those clusters. Due to varying amounts of inherited DNA, some clusters may have descendants from more than one generation (i.e., a test taker's great-grandfather and great-grandmother as well as the great-grandfather's parents). Larger nodes indicate a larger amount of shared cM with the test taker. Colors and numbers assigned to each cluster distinguish them for easy reference.

Locating the clusters in which Karen's key Kernan-Scott matches appear in the network graphs—as well as other clusters where they had shared matches with Karen—identified the key clusters associated with Ellen's and Bart's lineages. The next few figures display these relevant clusters in some of the AncestryDNA and MyHeritage network graphs created in this research session. These network graphs reflect the reported matches as of spring 2023 when the client gathered her match information using DNAGedcom. Her 2C, Mary Ellen 3, had not yet tested with AncestryDNA, so her results do not appear in the network graphs. Separate PDF versions of the network graphs that allow for zooming in on the names of matches will accompany this report.

AncestryDNA 20-400 cM

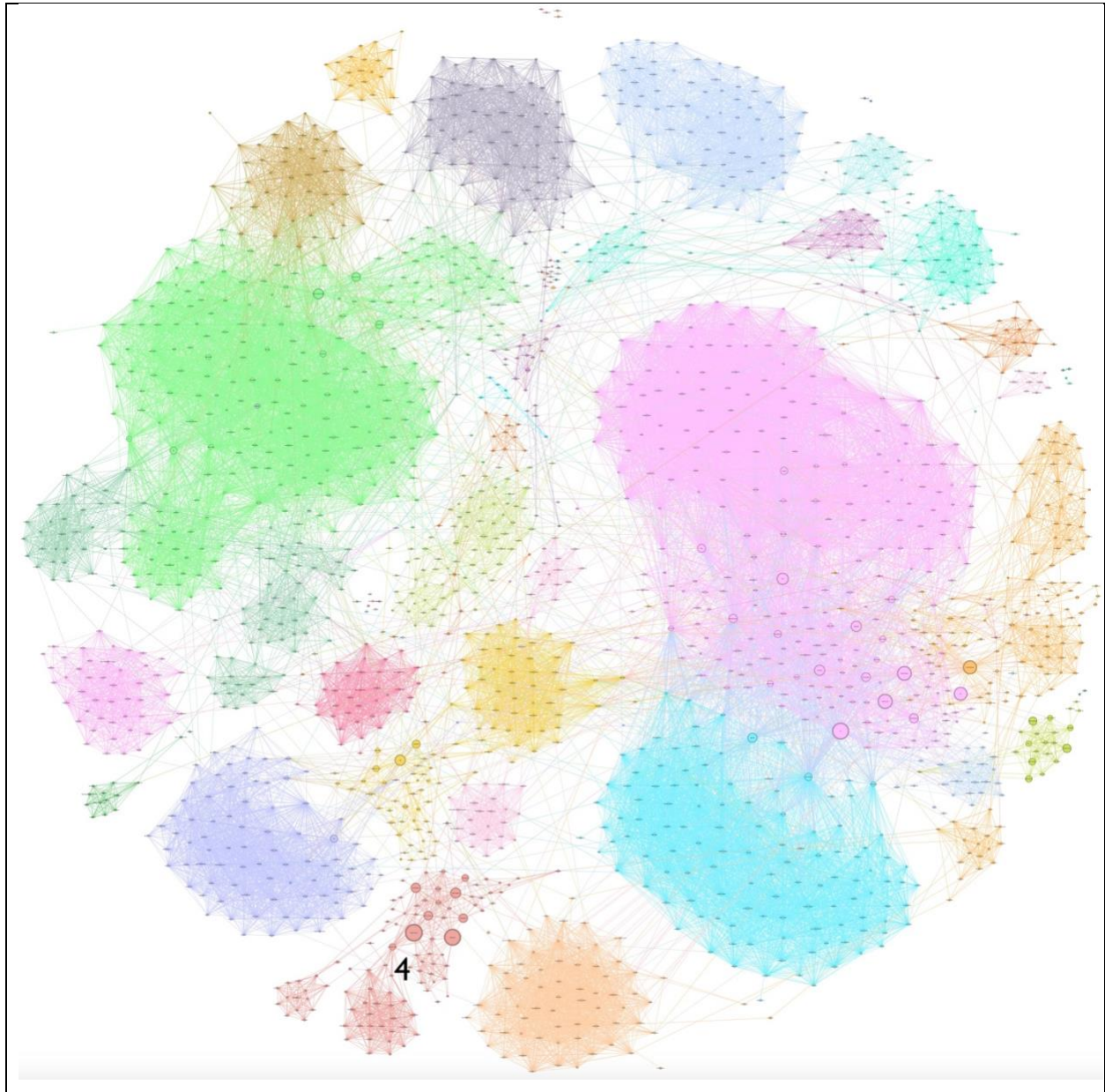


Figure 4. Karen's AncestryDNA Network Graph, 20-400 cM, with cluster 4 labeled

At first, a network graph was made for Karen's AncestryDNA matches from 20-400 cM (see figure 4).²² Analysis showed the following characteristics for the Kernan-Scott genetic evidence:

²² Melanie Whitt, "Network graph for Karen Boehme, 20-400 cM," *Gephi* (<https://gephi.org> : accessed 12 May 2024), *AncestryDNA* matches gathered by the client with *DNAGedcom*, Spring 2023.

- Each of Karen's key Kernan-Scott cousins, including all four of the 2C represented, were found in cluster 4 (the rose-colored cluster labeled in figure 4).
- None of the key matches, not even the four 2C, were strongly associated with any other clusters. Only one 2C, Mary Ellen 2, had a shared match in a different cluster. Her one shared match outside of cluster 4 was to one of Karen's paternal matches—evidence that Mary Ellen 2 and the paternal match share DNA along a different, distant lineage.
- Furthermore, a statistical evaluation of cluster 4's connections to the 25 other clusters in the graph revealed that only 9 of the clusters contained any matches who shared DNA with someone in cluster 4.²³ What's more, each of the 9 clusters was connected to cluster 4 by one single shared match. These are weak inter-cluster connections that are most likely the result of only random shared DNA along other lines, not common descent from Kernan or Scott ancestors.²⁴

Ideally, DNA network graphs feature additional clusters for the ancestors of each great-grandparent. Furthermore, a 2C commonly shows a robust connection to more than one cluster in a network graph since they are descended from both the great-grandfather's and the great-grandmother's lineages. This was not the case with Karen's Ancestry 20-400 cM network graph. Initial pedigree triangulation of matches in cluster 4 readily identified further descendants of Bart and Ellen, and also descendants of Bart's siblings and parents. However, no apparent Scott matches materialized in initial analysis. These preliminary findings may be due to several factors:

- Fewer potential testers due to small family sizes, especially in light of Ellen's only-child status. The client may have very few Scott matches, all of whom were grouped in the same cluster with the Kernan-Scott descendants and other Kernan matches.
- Less representation in DNA databases since the generation in question consisted of immigrants. Even the Kernan lineage appears only in cluster 4, with no secondary cluster for cousins descended independently from Bart's parents or grandparents.
- Low DNA testing rates among the existing descendants.
- Lack of separate clusters for each of the Kernan and Scott lines may partly also reflect the "endogam-ish" nature of native Irish populations.²⁵

²³ Melanie Whitt, "Gephi Cluster (3+ nodes) Spreadsheet Analysis Karen Boehme AncestryDNA 20-400cM," *Google Sheets*, 2 August 2024, in researcher's files.

²⁴ Nicole Dyer, "Creating Network Graphs with Gephi Part 5: Analyze the Network Graph > Calculate the Number of Connecting Edges," 28 October 2023, blog, *Family Locket* (<https://familylocket.com/creating-network-graphs-with-gephi-part-5-analyze-the-network-graph/>; accessed 2 August 2024).

²⁵ Heidi Mathis, "The Irish: Endogam-ish," 25 January 2023, blog, *Family Locket* (<https://familylocket.com/the-irish-endogam-ish/>; accessed 30 September 2024).

AncestryDNA 8-400 cM

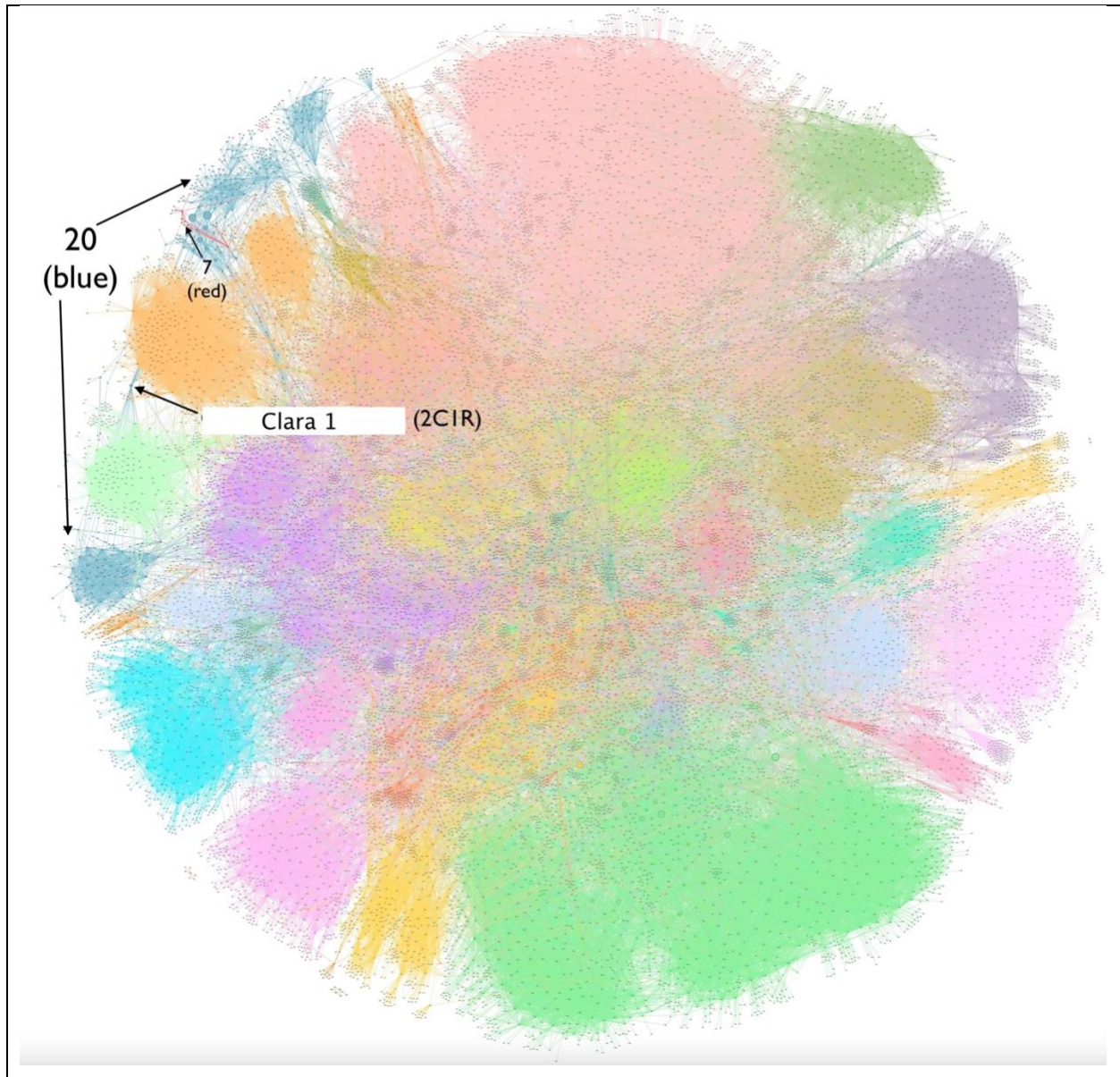


Figure 5. Karen's AncestryDNA Network Graph, 8-400 cM, with clusters 20 and 7 labeled

To maximize the genetic evidence for Ellen's ancestry in Karen's genome, a second network graph expanded her AncestryDNA matches to include those between 8 to 400 cM (see figure 5).²⁶ The following attributes of the expanded network graph are notable:

²⁶ Melanie Whitt, "Network graph for Karen Boehme, 8-400 cM," *Gephi* (<https://gephi.org> : accessed 14 May 2024), *AncestryDNA* matches gathered by the client with *DNAGedcom*, Spring 2023.

- This second graph also featured only one known cluster—cluster 20 colored blue in figure 5 above—related to Karen’s Kernan and Scott lines.
- Statistical analysis corroborated that cluster 20 showed no significant connection to any of the 36 other clusters in the 8-400 cM network graph.²⁷ In comparisons between cluster 20 and each of the other 36 clusters, there were no instances where more than 3% of the respective matches shared DNA. For all but one of the clusters, these shared matches are demonstrably due to random connections along other lineages. Only cluster 7 warrants future exploration for connection to the Kernan-Scott lines. Cluster 7 (shown in red in figure 5) is a small cluster of 19 distant matches between 8 to 22 cM of unknown origin.
- With just one sole cluster definitively associated with Ellen and Bart’s lineages, this extended network graph reinforces the possible impacts mentioned previously: small family sizes (especially Ellen’s), limited immigrant representation in databases, low testing rates, and/or evidence of interrelatedness.
- The Gephi algorithms arranged cluster 20 in two separate groupings joined by one shared match—Clara 1, a 2C1R. This hinted at the presence of distinct Scott and Kernan genetic networks within the cluster.

²⁷ Melanie Whitt, "Gephi Cluster Spreadsheet Analysis Karen Boehme AncestryDNA 8-400cM," *Google Sheets*, 4 August 2024, in researcher's files.

AncestryDNA 8-400 cM Kernan and Scott Subclusters

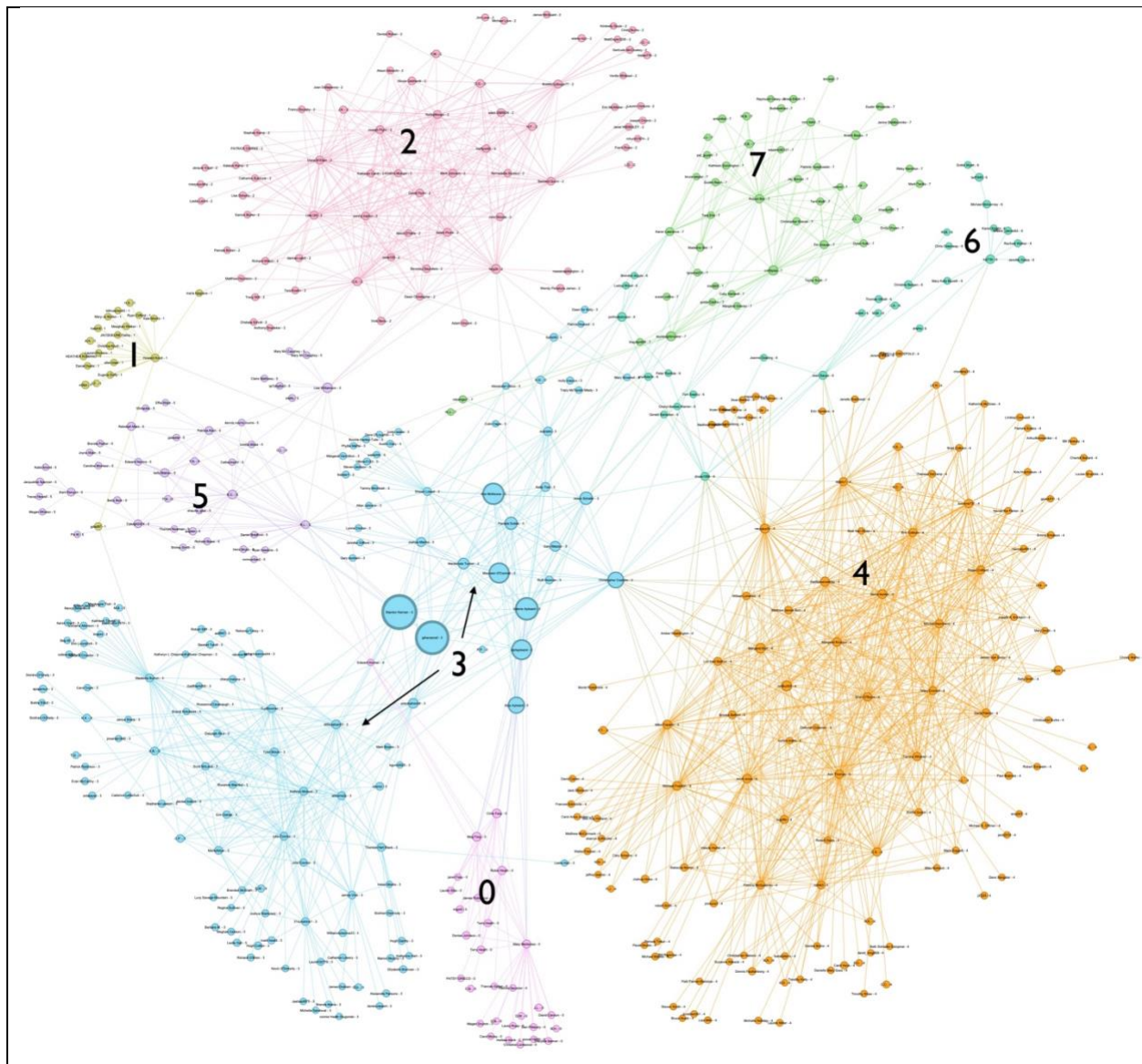


Figure 6. Karen's AncestryDNA Network Graph of Kernan and Scott subclusters within cluster 20

To separate the Kernan and Scott subclusters, cluster 20 (from figure 5) was isolated and re-modularized, resulting in a new network graph (see figure 6 above).²⁸ Set at a resolution of 1.0, the graph resulted in 8 communities for analysis. The next step was to determine the most recent common ancestors (MRCAs) for these subclusters, an effort that consumed a majority of the project hours. This phase proceeded by triangulating pedigrees, identifying matches through public information and social media, and researching the documentary record to build trees. In

²⁸ Melanie Whitt, "Kernan-Scott Subcluster Network graph for Karen Boehme, 8-400 cM," *Gephi* (<https://gephi.org> : accessed 14 May 2024), *AncestryDNA* matches gathered by the client with *DNAGedcom*, Spring 2023.

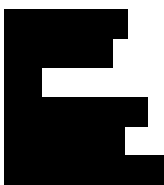
the majority of cases, cluster research of lateral lines was performed to unearth evidence of specific Irish origins. Several times, this resulted in successful connection of those lines back to parish records in Ireland.



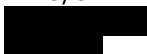


Table 1 summarizes some key findings made for the subclusters researched within the project timeframe. It lists the subclusters, identified matches, identified MRCAs, key dates/places for MRCAs, and notes. The genealogical sources supporting kinship back to the MRCAs presented in table 1 were documented in the matches' profiles and those of their relevant ancestors in the client's Loop-Kernan Family Tree at Ancestry.²⁹ Discoveries were recorded within her established tree or in floating branches, which can be attached to the main tree as more evidence for the kinship paths emerges. Additionally, the researched DNA matches were linked to their profiles in the tree for easy exploration.

²⁹ "Public Member Trees," database, *Ancestry* (<http://www.ancestry.com> : accessed 24 April 2024), "Loop - Kernan Family Tree," profiles for Kernan-Scott DNA matches, MRCAs, and intervening generations, built and sourced by researcher Melanie Whitt.

Table 1. Summary of Results from Subcluster Network Graph Analysis

Subcluster 3		
Matches	Shared MRCAs and Key Dates/Places	Notes
William 1 ██████████ Mary Ellen 5 ██████████ ██████████ Mary Ellen 4 Mary Ellen 3 Mary Ellen 2 ██████████ Margaret 1 Margaret 2 ██████████ Clara 1 Catherine 1 Bart 1 Anna 1 Anna 2 Abigail 1	Ellen Scott Born 1860 in Iowa (possibly Illinois) Died 1943 in Nebraska Bart Kernan Born 1853 in County Meath, Ireland Resided 1870 in Dodge County, Wisconsin Died 1902 in Nebraska	
██████████ ██████████ Possibly also: ██████████	Bartholomew Kiernan Born 1806 near Dublin, Ireland Died after 1880, likely in Dodge County, Wisconsin Mary Ann Byrne Born abt 1807 in Dunboyne, Meath, Ireland Died 1865 in Dunboyne, Meath, Ireland	

<p>Scott 3 Scott 1 Scott 2 Scott 4</p> <p>Two matches related to the above matches along the McGrath line? Lamey 1* E.M.*</p>	<p>Richard Edward Scott Born 1895 in West Albany, Wabasha, Minnesota Died 1961 in Danville, Vermilion, Illinois</p> <p>Mary Elizabeth McGrath Born 1899 in Plainville, Wabasha, Minnesota Died 1989 in Crown Point, Lake, Indiana</p> <p>Ascendancy research determined that Richard Scott was the grandson of a Patrick Scott and his wife Mary Ann Lane.</p> <p>Patrick Scott Born 1832 in Ireland Migrated to the US for the 2nd time by about 1864. [First migration was documented in a family letter, though the first migration date is unknown.] Died 1913 in Wabasha County, Minnesota</p> <p>Mary Ann Lane Born 1834 in County Cork, Ireland Died 1901 in Wabasha County, Minnesota</p> <p>Patrick and Mary Ann married after the 2nd time Patrick migrated to the US, around 1864, reportedly in Massachusetts</p>	<p>These four matches consist of Scott 1 and her three children. They are Karen's only known matches to descend from Patrick Scott and Mary Ann Lane. They are close relatives of shared matches Lamey 1* and his daughter, E.M.*, along the McGrath lineage. Emerging evidence suggests Karen more likely shares DNA with Lamey 1 along the Lamey* lineage. See Lamey (Leamy) entries in MRCAs for subclusters 4 and 6 below, as well as the Lamey pedigree featured in figure 8.</p> <p>Patrick Scott is a candidate to be Ellen's father, though more testing and research is required. Patrick's father was Bryan Scott, and the names of Patrick's siblings (and some of their descendants) were discussed in a family letter posted on Ancestry. Research in Irish civil registration, parish, and census collections confirmed kinship details from the family letter. See the section on Patrick Scott (1832-1913) below.</p> <p>Some other ascendancy research for Scott 1's lines was started. To date, no other lines have surname or specific geographic correlations. Conduct more ascendancy research, especially of the McGrath lines, in a future project.</p>
	<p>Eugene (Owen) O'Doherty Born abt 1810 in Dressoge, Tyrone, Ireland</p> <p>Susan Barrett Born Ireland</p>	<p>There are many connections between Scott 1, Scott 2, Scott 3, Scott 4, and these O'Doherty-Barrett matches.</p>







		No known surname or specific geographic correlations with Scotts or Kernans to date. More research required.
	<p>John R Simpson Born 1873 New Brunswick, Canada Died 1947 Canada</p> <p>Catherine Rose McCann Born 1872 Petersville, New Brunswick, Canada Died 1935 Canada</p>	Two more generations back for John's and Catherine's lines have been discovered. Catherine's parents were born in Ireland, but there are no known surname associations to date. There are no known surname/locality matches between John's lines and the research subjects'. Prioritize Catherine's lines in future research.
Subcluster 4		
Matches	Shared MRCAs and Key Dates/Places	Notes
 Kinney 1 Kinney 2 Kinney 3  Kinney 4  Kinney 5 Kinney 11 Kinney 9 Kinney 8 Kinney 10  Kinney 7	<p>Thomas Kinney (also Canny) Born about 1790s likely in County Clare, Ireland</p> <p>Mary Nash Born about 1790s likely in County Clare, Ireland</p> <p>Their children, Michael Kinney and Margaret Kinney Carmody, were born in County Clare, Ireland. Margaret was a resident of Knockahollow, County Clare, when she was married in 1836 in Kilnoe Parish, County Clare. Both siblings migrated to the United States, with stops in NY and PA before moving their families to Manitowoc County, Wisconsin, by 1860. Both of their families ended up north of there in nearby Door County, Wisconsin, by 1870-1880.</p>	<p>There were multiple marriages between the Kinney and Carmody lines. To date, the only Carmody lineages with DNA matches to the client are those connected to the Kinney lines. Conversely, several DNA matches descend from Kinney lines without Carmody connections. This indicates Thomas Kinney and wife Mary Nash are the most recent common ancestors shared with the client for this subcluster.</p> <p>This subcluster has many shared matches with subcluster 6 discussed below.</p>




<p>[REDACTED]</p>	<p>Frances Elizabeth Scott Born 1911 in Chicago, Illinois Died 1993 in Elkhart, Indiana</p> <p>Raymond Arthur Weiss Born 1910 in Cleveland, Ohio Died 1959 in Lake, Ohio</p> <p>Frances and Raymond married in 1931 in Cleveland, Ohio. They divorced by 1938.</p>	<p>These three matches consist of [REDACTED] and her two daughters. They are heavily interconnected with the Kinney subcluster discussed above but with no kinship path yet determined. [REDACTED] or one of her ancestors may have misattributed parentage.</p> <p>This Scott lineage was traced back to Frances' father, Harry Scott. To date, no direct evidence confirms his parents. There is no known Irish connection with his suspected parents. Scott is a common surname and may just be coincidental with Ellen. More research needed for Frances' Scott lines.</p> <p>No known Irish connection with the Weiss line. Ruled out Raymond's grandmother Caroline Tiernan (recorded once as Kernan) as a possible relation to the subject Kernans/Kiernans. Caroline was born in 1855, and her birth surname was Barney. She was the daughter of German immigrants to Ohio. When her mother remarried in 1861, she adopted the surname of her Irish immigrant stepfather, Arthur Tiernan. More research needed for all of Raymond Weiss' lines.</p>
<p>Lamey 2</p>	<p>John Lamey (Leamy) Born Ireland</p> <p>Mary Hogan Born Ireland</p> <p>Resided in Derrygarraff, Tulla Parish, County Clare, from at least 1830-1851 per children's baptism records.</p>	<p>While located in subcluster 4, [REDACTED] shares only one match to the Kinney network. She and Karen may actually share common descent from the Lamey family. Eight newer matches not found in the network graph also descend from Lamey lines. The Lamey surname is also connected to subcluster 6. See the Lamey pedigree</p>

		<p>featured in figure 8 and the discussion of subclusters 4 and 6 in a later section.</p> <p>The Lamey and Kinney MRCAs share common Irish origins. Tulla Parish is about 6 miles from Kilnoe Parish where some of the Kinney MRCAs have documented connections.</p> <p>Significantly, [REDACTED]'s Lamey ancestors resided in Wabasha County, Minnesota, the same county where Scott 1's great-grandparents, Patrick Scott and Mary Ann Lane, settled. Future research should focus on Irish immigrants in the county with Scott, Cox, Lamey, Maloney, or Kinney surnames.</p>
Subcluster 6		
Matches	Shared MRCAs and Key Dates/Places	Notes
Lamey 7 Lamey 8	<p>Patrick Leamy (Lamey) Born Ireland</p> <p>Margaret Bleach Born Ireland</p> <p>These MRCAs were determined by the posterity of their daughter Honora Leamy. Karen has DNA matches through children from each of Honora's two marriages.</p> <p>Honora Leamy (daughter of Patrick and Margaret) Born about 9 January 1840 in Caherhurley, County Clare, Ireland. She was baptized in Kilnoe Parish.</p> <p>Married Peter Collins, in neighboring Tulla Parish, County Clare, on 9 Feb 1870.</p>	<p>Patrick and Margaret's two descendants connect to Tulla and Kilnoe Parishes in County Clare, but not to Minnesota. Thus, this subcluster marks the re-emergence of the Lamey surname, but likely more distantly. Based on the geographic proximity of their families, the years when their children were born, and DNA matches among their descendants, it is hypothesized that John and Patrick were brothers. See the Lamey pedigree featured in figure 8.</p> <p>This subcluster is closely connected to the Kinney descendants in subcluster 4 (above). The exact kinship between them is yet to be determined. In future research, contact should be made with key match [REDACTED]</p>

	<p>Married Mathew Maloney 12 Nov 1874 in Bodyke, County Clare (2 miles from Kilnoe).</p> <p>Died 1901 in Brooklyn, New York City, New York</p>	<p>██████████ to determine both of his biological parents and trace them back to his predicted Lamey and/or Kinney ancestor(s).</p>
Subcluster 2		
Matches	Shared MRCAs and Key Dates/Places	Notes
██████████	<p>MRCAs are most likely the unknown parents of Bartholomew Kiernan (born 1806)—Kiernan and 3GGMA. This match comes through their predicted daughter, Margaret.</p> <p>Margaret Kiernan Born Ireland</p> <p>Owen Smyth Born Ireland</p> <p>Four of Margaret and Owen’s children were baptized in Dunboyne Parish, County Meath, Ireland between 1832-1852.</p>	<p>██████████ is a key match in subcluster 2. ██████████’s parents were born in Ireland, and he is a direct descendant of Margaret Kiernan, who is hypothesized to be a sibling of Bartholomew Kiernan born about 1806 (Bart’s father). In fact, a “Barth Kearnan” was a godparent at the 1832 baptism of Margaret’s daughter Mary Anne Smyth in Dunboyne Parish. There is correlation across surnames, residence, generational age, and naming patterns. Bartholomew, Margaret, and Peter (see subclusters 5 and 0) Kiernan all named one of their sons Bernard Bryan, a potential indication this was their shared father’s name. This kinship makes ██████████ a 4C1R to Karen.</p>
██████████ ██████████ ██████████ ██████████	<p>McKernan</p>	<p>These 5 matches are also found in subcluster 2, along with ██████████ (above). All have an ancestor by the surname McKernan, a variation of Kiernan/Kernan. Two of the five McKernan ancestors lived in Wisconsin.</p> <p>Other recurring surnames in this subcluster: Conley, Flynn, and Diffendale.</p>

Subcluster 7		
Matches	Shared MRCAs and Key Dates/Places	Notes
<p>[REDACTED]</p>	<p>Bartholomew Kiernan Born 1806 near Dublin, Ireland Died after 1880, likely in Dodge County, Wisconsin</p> <p>Mary Ann Byrne Born abt 1807 in Dunboyne, Meath, Ireland Died 1865 in Dunboyne, Meath, Ireland</p>	<p>[REDACTED] is a key match for subcluster 7. She is Karen's 3C1R and descends from Bartholomew Kiernan and Mary Ann Byrne's son, Thomas. Like his brother Bart (Ellen's husband), Thomas was born in Ireland, migrated to Wisconsin with the family, and ended up in Adams County, Nebraska, where he died.</p> <p>[REDACTED] shares both Kiernan and Byrne DNA with Karen, but she was grouped with subcluster 7 instead of subcluster 2 (which represents the Kiernan line). By logic, subcluster 7 likely represents Mary Ann Byrne's lineage. [REDACTED] probably inherited more Byrne DNA.</p>
<p>[REDACTED]</p> <p>Additional 4 matches with the surname Biel who also descend from Mary and Myron:</p> <p>[REDACTED]</p>	<p>Mary A Goodwin Born abt 1839 in Ireland Died 1910 in Dodge County, Wisconsin</p> <p>Myron O'Brien Born abt 1835 in New York Died 1883 in Columbia County, Wisconsin</p> <p>Mary and Myron married before 1859, likely in Wisconsin or New York.</p>	<p>Mary A Goodwin is the daughter of Thomas Goodwin and Jane Byrne (also Byrnes, Burns). Though Mary's baptism record cannot be found in the Dunboyne Parish records, the baptism records for two older brothers were. Also, Mary's younger sister Catherine Goodwin Kennedy's 1876 death record stated she was born in Meath, Ireland.</p> <p>These matches substantiate the likelihood this cluster's MRCAs are Mary Ann Byrne's parents and their more distant ancestors.</p>

Subcluster 5		
Matches	Shared MRCAs and Key Dates/Places	Notes
	<p>MRCAs are most likely the unknown parents of Bartholomew Kiernan (born 1806)—Kiernan and 3GGMA. This match comes through their predicted son, Peter.</p> <p>Peter Kiernan Born abt 1795 in Ireland Died 1881 in New Jersey, USA</p> <p>Jane Neill Born in Ireland Died 1894 in New Jersey, USA</p> <p>Peter and Jane married in 1827 in Dunboyne Parish, County Meath, Ireland, where at least four of their children were also baptized.</p>	<p>As with Margaret Kiernan Smyth, it is hypothesized that Peter was the brother of Bartholomew Kiernan born about 1806 (Bart’s father). This is based on Peter’s surname, estimated birth year, marriage place, and baptism location & names of his children. Furthermore, “Barth Kiernan and Mary Ann Byrne” were the godparents at the 1832 baptism of Peter and Jane’s daughter, also named Jane.</p> <p>This kinship path would make both  and   4C with Karen.</p> <p>As subcluster 5 is largely distinct from subcluster 2 (most likely Kiernan), this subcluster may relate to Bartholomew Kiernan’s unknown mother’s lineage.</p>
Subcluster 0		
Matches	Shared MRCAs and Key Dates/Places	Notes
	<p>MRCAs are most likely the unknown parents of Bartholomew Kiernan (born 1806)—Kiernan and 3GGMA. This match comes through their predicted son, Peter.</p> <p>Peter Kiernan Born abt 1795 in Ireland Died 1881 in New Jersey, USA</p> <p>Jane Neill</p>	<p> is a key match for subcluster 0. He also descended from Peter Kiernan and Jane Neill, and he is predicted to be Karen’s 4C1R. His placement in subcluster 0 may indicate that he inherited more DNA with the lineage of one of Bartholomew Kiernan’s unknown mother’s parents’ lineages.</p> <p>Because subcluster 0 seems to be associated with the Neill/O’Neill surname,</p>

	<p>Born in Ireland</p> <p>Died 1894 in New Jersey, USA</p> <p>Peter and Jane married in 1827 in Dunboyne Parish, County Meath, Ireland, where at least four of their children were also baptized.</p>	<p>it could also be an indication of multiple relationships between the Kiernans and Neills (see below).</p>
	<p>Catherine A O'Neill</p> <p>Born abt 1900 in Pennsylvania</p> <p>Died 1977 in Philadelphia, Pennsylvania</p> <p>Michael Francis Dougherty</p> <p>Born 1883 in Girardville, Schuylkill, Pennsylvania</p> <p>Died 1973 in Philadelphia, Pennsylvania</p>	<p>These four are shared matches to  (above) and have a MRCA with an O'Neill surname, a variation the Neill surname of Peter Kiernan's wife, Jane. This may indicate multiple relationships between the Kernans and Neills back in Dunboyne.</p> <p>Catherine A O'Neill's parents were John O'Neill and Mary McMenamin. More research is necessary to determine the path of kinship.</p> <p>Michael's parents were Charles Dougherty and Margaret Monaghan, both born in County Mayo, Ireland. Though the surname is similar to Eugene O'Doherty (a MRCA for subcluster 3), the Irish county of origin does not correlate. The kinship with Karen is more likely to be from his wife Catherine's lineage.</p>
Subcluster 1		
Matches	Shared MRCAs and Key Dates/Places	Notes
<p>5 Key matches for future pedigree triangulation:</p> 	<p>Not yet determined</p>	<p>The MRCAs for subcluster 1 have not yet been determined. It has one connection to subcluster 2 and two connections to subcluster 3, indications that subcluster 1 relates to the Kiernan side. However, it is possible that it may relate to the Scott side. Due to the general nature of low-level</p>

		endogamy among Irish populations, these few connections may be due to random shared lineages between Bart and Ellen. More research is needed.
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The subcluster network graph analysis and pedigree triangulation led to the following key takeaways, some of which are visualized in figure 7 (below):

- Subcluster 3 is primarily composed of Ellen and Bart’s descendants, but it features some Kiernan-Byrne descendants and other subgroups whose MRCAs need more research. These subgroups seem to relate more specifically to the Scott-Cox lineages and seem to merely be grouped with the Kernan-Scott descendants because of small family size and/or very few DNA test takers. In fact, one candidate for Patrick Scott was discovered in subcluster 3 research and will be discussed later.
- Matches in subclusters 2, 5, and 0 share descent from Bartholomew Kiernan’s parents. Subcluster 0 may also have separate association with a Neill line.
- Subcluster 1 appears to relate to the Kiernan line but needs more research to determine MRCAs.
- Subcluster 7 features matches who descend from Mary Ann Byrne’s parents.
- Subcluster 4 is predominantly composed of Kinney-Nash descendants. It is also interrelated with subcluster 6, perhaps through the Lamey surname.
- Subcluster 4 and 6 do not connect to any subclusters associated with the more distant Kiernan and Byrne lineages, only to subcluster 3 with the Kernan-Scott descendants. Thus, subclusters 4 and 6 appear to relate to Ellen’s lineage and will be discussed in a later section.

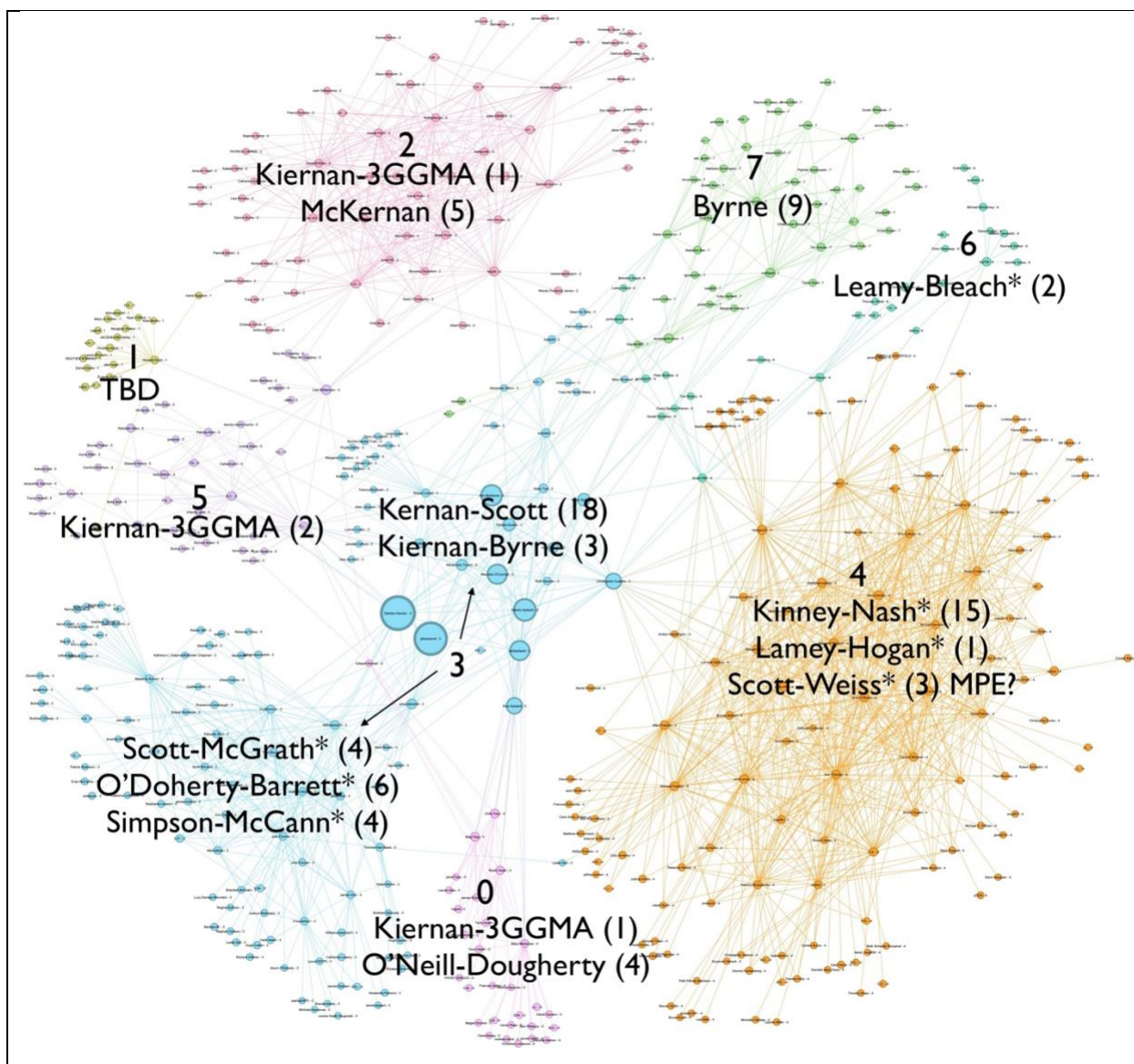


Figure 7. Network Graph of Kernan-Scott subclusters annotated with MRCAs and (# of matches). Asterisks indicate MRCAs predicted to associate with Scott or Cox lineages.

Candidate 2nd Great Grandfather: Patrick Scott (1832-1913)

Analysis of the network graph identified a candidate for Patrick Scott in the ancestry of the Scott-McGrath subgroup within subcluster 3. Karen, Paul 1, and Paul 2 each match Scott 1 and her three children between 18-23 cM. Scott 1's great-grandfather was a man named Patrick Scott. Her descent flows as follows: **Patrick Scott & Mary Ann Lane > Brian Bernard Scott & Anna McNulty > Richard Edward Scott & Mary Elizabeth McGrath > Scott 1**. If this same Patrick Scott is the client's 2nd great-grandfather, this would make Karen and Scott 1 half 2C1R. Their shared 23 cM of DNA falls a little lower than one standard deviation

from the mean—but within the observed cM range—for this relationship at DNA Painter’s Shared cM Project 4.0 Tool.³⁰ Also conceivable, the closely-associated Simpson-McCann and O’Doherty-Barrett subgroups in subcluster 3 may correspond to Scott 1’s Scott heritage. These possible Scott connections appear to embody attributes discussed earlier: limited DNA database representation, Irish interrelatedness, and few descendants.

Figure 8 depicts a pedigree chart for Karen and Scott 1 based on this half 2C1R relationship. The chart also presents the pedigree for their shared match, Lamey 1, and for Karen’s known matches with the Lamey family. In addition to Lamey 1 and Lamey 2 from the network graph, analysis discovered seven others who share descent with Karen from the John Lamey and Mary Hogan family. These seven matches were not found in the network graphs and are likely newer matches who tested after Karen gathered the match lists in spring 2023:

██████████ (Lamey 2’s daughter)	██████████ (Lamey 6’s son)
Lamey 4	Lamey 3
Lamey 5	██████████ (Lamey 3’s daughter)
Lamey 6	

Aside from Karen’s connection to both the Scott-McGrath subgroup and the Lamey descendants, Ancestry does not report shared DNA between the matches in these two networks. Lamey 1 seemingly represents an instance in which one match shares DNA with another match along a lineage unrelated to the reference test taker. It is predicted that Lamey 1 is a close match with Scott 1 and her children along their shared McGrath lineage while he and Karen share DNA through common descent from the Lamey family. Aside from Lamey 1 (and his daughter, E.M.), there are no other known DNA matches between Karen and independently-descended McGraths. Continued ascendancy research for the McGrath line in the future will help substantiate these findings.

³⁰ DNA Painter, “The Shared cM Project 4.0 tool v4: 23 cM” (<https://dnapainter.com/tools/sharedcmv4/23> : accessed 19 October 2024).

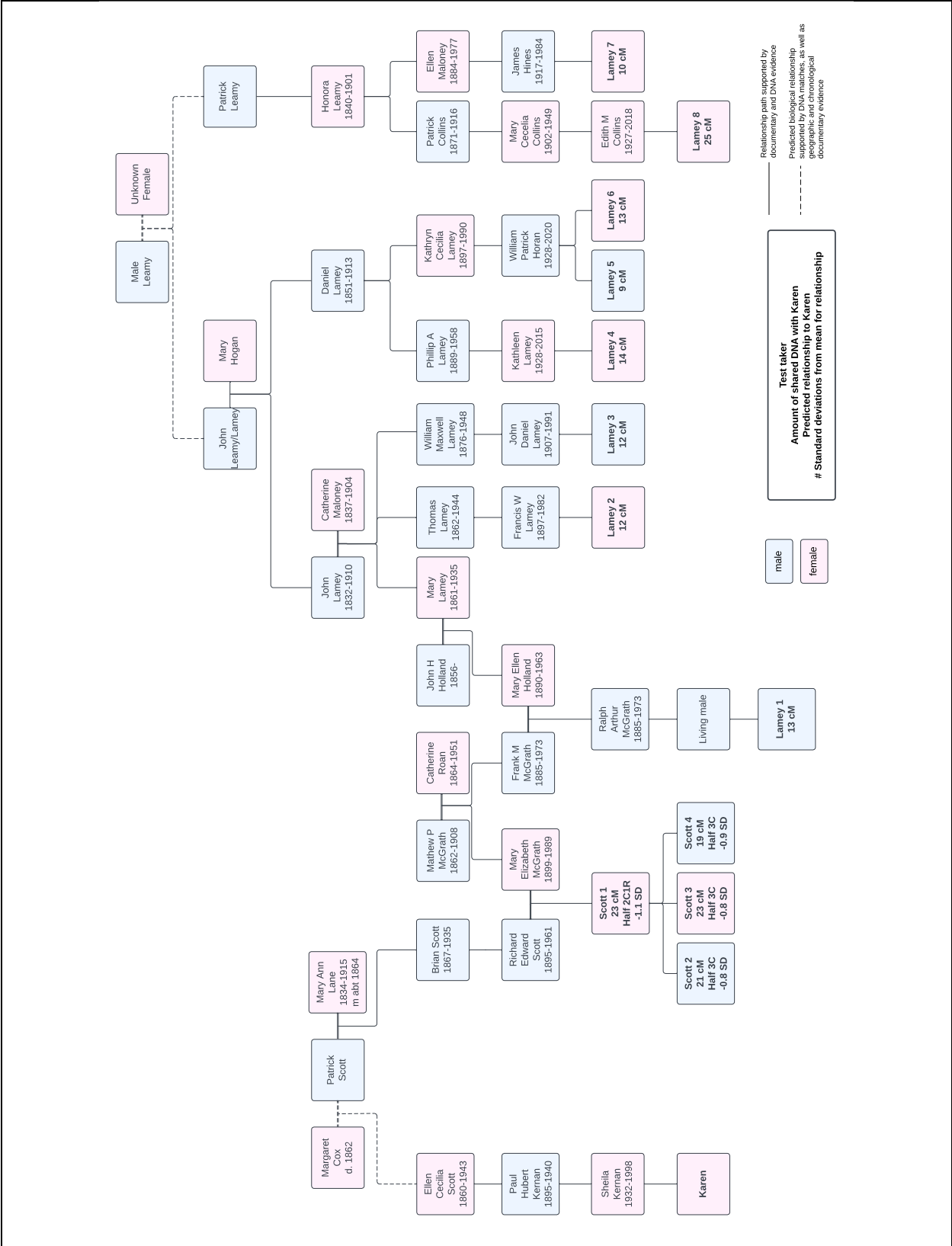


Figure 8. Pedigree chart for Karen, Scott 1, Lamey 1, and Lamey descendants

Documentary research for Patrick Scott (1832-1913) and his family generated a fair amount of evidence for his life and origins.³¹ A comparative timeline for the two Patrick Scotts is presented in table 2 below. It is based on reported facts for Ellen's parents and on documented evidence for Scott 1's great-grandparents. The table aligns the information chronologically. Based on the verifiable timeline data, it is possible for the two Patrick Scotts to be the same historic individual. A future project should include further documentary research for both men.

Table 2. Comparative Timeline for Two Patrick Scotts

Karen's Patrick Scott	Scott 1's Patrick Scott (1832-1913)
Bef. 1840: Birth in Ireland	1832: Birth in Ireland, likely in Inchorourke, Gortnahoe Parish, County Tipperary, where his siblings were born
	Early 1850s: First migration to US
1860: No known US census enumeration	1860: No known US census enumeration
Bef. Dec 1860: Marriage to Margaret Cox	
Dec 1860: Birth of their daughter Ellen	
Early 1860s: Railroad laborer	
1862: Margaret's death	
1862-Mid 1870s: Placed Ellen with Malones	By 1865: Second migration to US
1862-Mid 1870s: Disappeared from Ellen's life	By 1865: Marriage to Mary Ann Lane, reportedly in Massachusetts
Unknown dates: subsequent residences, marriage(s), and death	1865-1874: Birth of their 6 children in Minnesota
	1865-1900s: Farmer
	1913: Death in West Albany, Wabasha County, Minnesota

Testing other descendants of Patrick Scott and Mary Ann Lane would help evaluate the tests takers' hypothesized connection with Scott 1 and her children along the Scott lineage. Of Patrick and Mary Ann's six known children, only son Brian Bernard has documented posterity. Extensive identification of Brian's descendants was begun to identify living candidates for

³¹ "Public Member Trees," database, *Ancestry* (<https://www.ancestry.com/family-tree/person/tree/112012087/person/152402707935/facts>; accessed 24 April 2024), "Loop - Kernan Family Tree," profile for Patrick Scott and family, sourced by client and researcher Melanie Whitt. See also "Public Member Trees," database, *Ancestry* (<https://www.ancestry.com/family-tree/person/tree/112012087/person/152587979894/facts>; accessed 24 April 2024), "Loop - Kernan Family Tree," profiles for Patrick Scott (1832-1913), Mary Ann Lane, and family, sourced by researcher Melanie Whitt. Note: There is conflicting information for the marriage date for Patrick Scott and Mary Ann Lane. The 1900 US Census reported 1866 as the calculated marriage year. Their first son Richard was born in 1865, so it was likely before then. A user-submitted transcription of an unclear image of Mary's obituary, reportedly published in the *Wabasha County Herald*, stated they married in May 1861. A search of digitized *Wabasha County Herald* editions (and all Wabasha County newspapers) did not produce the original for closer examination. Likewise, a librarian with Wabasha Public Library could not locate Mary's obituary in the *Wabasha County Herald* or other newspapers in their collections. See the research log for more details.

targeted testing. This process could continue and invitations to test could be made in a future research phase.

Target testing cousins from lateral branches of this Patrick Scott's family could also be undertaken with some effort. Around 1883, Patrick's nephew, Bryan Bernard Scott (1858-1942), also migrated to the United States. Digitized copies of two 1901 letters Bryan wrote Patrick supplied names and relationships of family members back in County Tipperary, Ireland.³² Though Patrick's own death certificate did not reveal parent information, Bryan named Patrick's father as Bryan Scott.³³ Genealogical facts about the named Scott relatives have been verified by Irish civil registration, parish, and census records, all of which have been attached or uploaded to their profiles in the client's Ancestry family tree. Unfortunately, descendant research has shown that Bryan himself has no expected living posterity for any targeted testing. There are, however, expected living cousins in Ireland who descend from Patrick's brother, Richard Scott (1816-1900), through his children Johanna and Michael.³⁴

Subclusters 4 and 6: Cox lineages?

Subcluster 4 primarily consists of descendants of Thomas Kinney and Mary Nash of County Clare, Ireland. Figure 9 displays the pedigree chart for descendants of their daughter, Margaret, and of their son, Michael, who share DNA with the client. The Kinney siblings followed a similar step-migration to the US: New York to Pennsylvania to Manitowoc County, Wisconsin, by 1860. Between 1870-1880, these siblings' families settled further north in nearby Door County.³⁵

Though the Kiernan and Kinney clans both settled in Wisconsin, there is currently no indication they were associated with each other until the advent of Bart's and Ellen's descendants. Wisconsin was a primary destination for British and Irish settlers in the mid 19th

³² "Public Member Trees," database, *Ancestry* (<https://www.ancestry.com/family-tree/person/tree/112012087/person/152587987900/facts> : accessed 24 April 2024), "Loop - Kernan Family Tree," profile for Bryan Bernard Scott (1858-1942) and family members, sourced by researcher Melanie Whitt.

³³ State of Minnesota, Division of Vital Statistics, Certificate of Death, file 14788, entry for Patrick Scott, 11 December 1913, West Albany, Wabasha County, Minnesota; Gale Family Library, Minnesota People Records Search, Minnesota Historical Society (<https://www.mnhs.org/search/people> : accessed 9 September 2024); digital copy obtained 2024. **Document 3**

³⁴ "Public Member Trees," database, *Ancestry* (<https://www.ancestry.com/family-tree/person/tree/112012087/person/152587987888/facts> : accessed 24 April 2024), "Loop - Kernan Family Tree," profile for Richard Scott (1816-1900) and family members, sourced by researcher Melanie Whitt.

³⁵ "Public Member Trees," database, *Ancestry* (<https://www.ancestry.com/family-tree/person/tree/112012087/person/152581976009/facts> : accessed 24 April 2024), "Loop - Kernan Family Tree," profile for Margaret Kinney (1816-1901) and family members, sourced by researcher Melanie Whitt. See also "Public Member Trees," database, *Ancestry* (<https://www.ancestry.com/family-tree/person/tree/112012087/person/152582019177/facts> : accessed 24 April 2024), "Loop - Kernan Family Tree," profile for Michael Kinney (1817-1891) and family members, sourced by researcher Melanie Whitt.

century.³⁶ The respective Kiernan and Kinney locations in Dodge County and Door County lie about 175 miles apart. Their immigration timeframe differed, as did their Irish counties of origin.

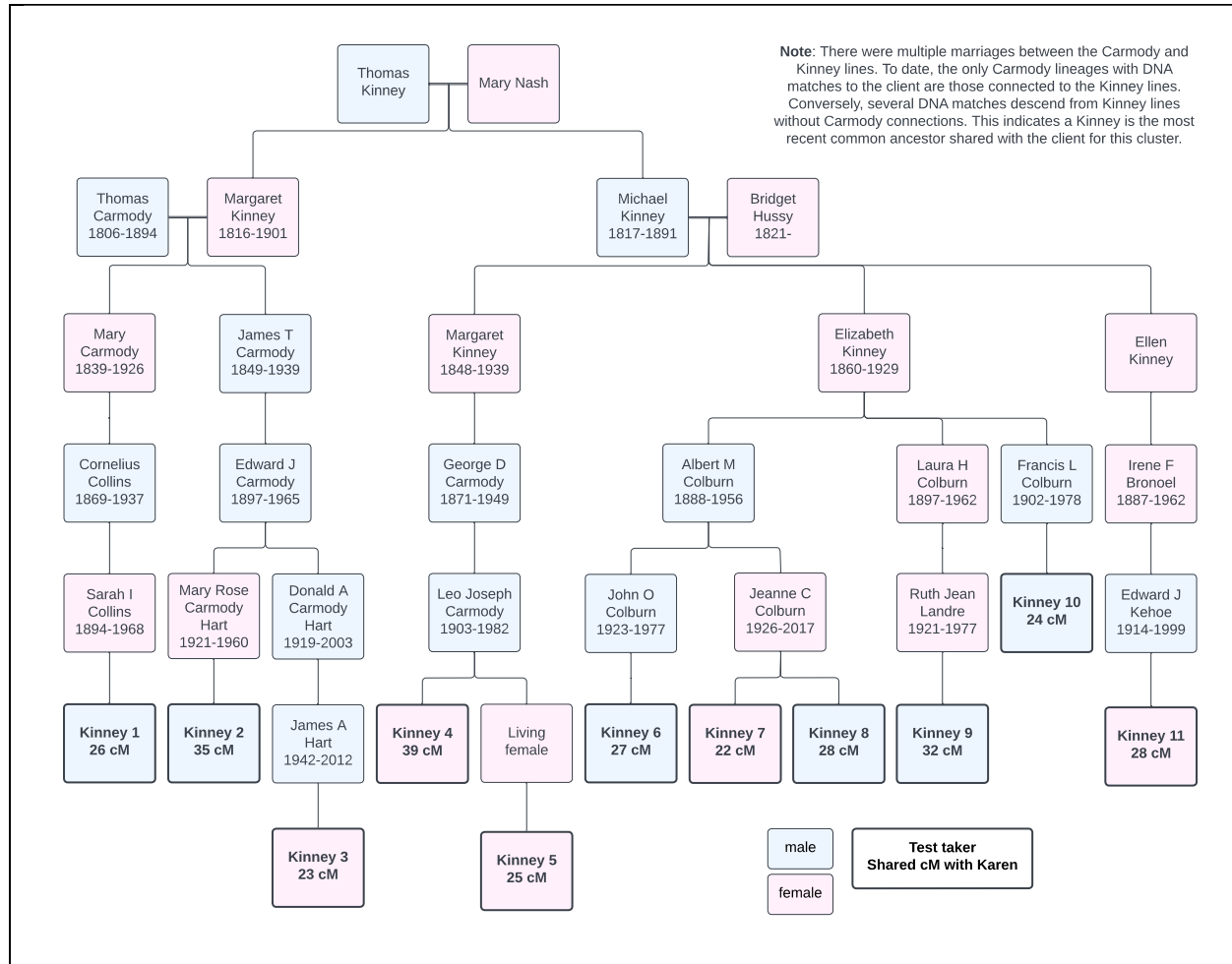


Figure 9. Pedigree chart for Kinney-Nash descendants sharing DNA with the client

The Lamey network discussed in the previous section (see figure 8) exhibits significant associations with the Kinney network in subcluster 4. First, there are multiple genetic connections between several matches in each network. Second, both networks originate from the same place in Ireland: the area immediately surrounding Kilnoe and Tulla parishes in County Clare. What's more, subclusters 4 and 6 may logically relate to Margaret Cox's lines:

- They do not connect to any of the Kiernan or Byrne subclusters.

³⁶ James Belich, *Replenishing the Earth: the Settler Revolution and the Rise of the Anglo-World, 1783-1939* (Oxford: Oxford University Press, 2009), p. 225-230.

- They only tie to subcluster 3 featuring Ellen and Bart's descendants, indicating correlation with Ellen's parents.
- Neither subcluster shares DNA with the matches in the predicted Scott subgroups in subcluster 3.

As mentioned before, the subcluster network graph did not reveal any genetic correlation between the Scott-McGrath subgroup and the Lamey descendants other than Lamey 1 who is both a McGrath and Lamey descendant. However, a geographic correlation stood out. John Lamey (1833-1910) and Catherine Maloney (1837-1904), the common ancestors for at least 6 Lamey matches, settled their family in Wabasha County, Minnesota, around 1862. This is the same county where Patrick Scott (1832-1913) and Mary Ann Lane settled with their family about three years later in 1865. Did Patrick choose to settle in this county when he returned to the US because the Lameys (relatives of his deceased first wife, Margaret) were already there? This indirect evidence spurred further inquiry into these families and localities.

Candidate 2nd Great-Grandmother: Margaret Cox (b. 1838)

Was Margaret Cox from Kilnoe parish, like her predicted Lamey and Kinney relatives? A quick search for her in Ancestry's "Ireland, Catholic Parish Registers, 1655-1915" collection returned exactly one hit in Kilnoe parish. Though more verification is necessary, the resulting record produces the strongest candidate for Ellen's mother to date. A baptism for Margaret, daughter of Maurice Cox and Mary Molony, of Ballynahinch, took place in Kilnoe parish on 1 May 1838 (see figure 10).³⁷ The godmother was Mary Cox. A Google map showing the location of Ballynahinch is presented in figure 11.³⁸

³⁷ "Ireland, Catholic Parish Registers, 1655-1915," Kilnoe Parish, Killaloe Diocese, County Clare, baptism register, 1832-1881, entry for Margaret Cox, 1 May 1838; database with images, *Ancestry* (https://www.ancestry.com/imageviewer/collections/61039/images/02477_01_0039 : accessed 15 September 2024), image 39 of 149; original images at National Library of Ireland, Dublin, Ireland. Note: A similar search for a Margaret Fox produced no relevant results. **Document 4**

³⁸ *Google Maps*, "Ballynahinch, Co. Clare, Ireland" (<https://maps.app.goo.gl/SYizbbKcR5KHH1Py9> : accessed 15 October 2024).

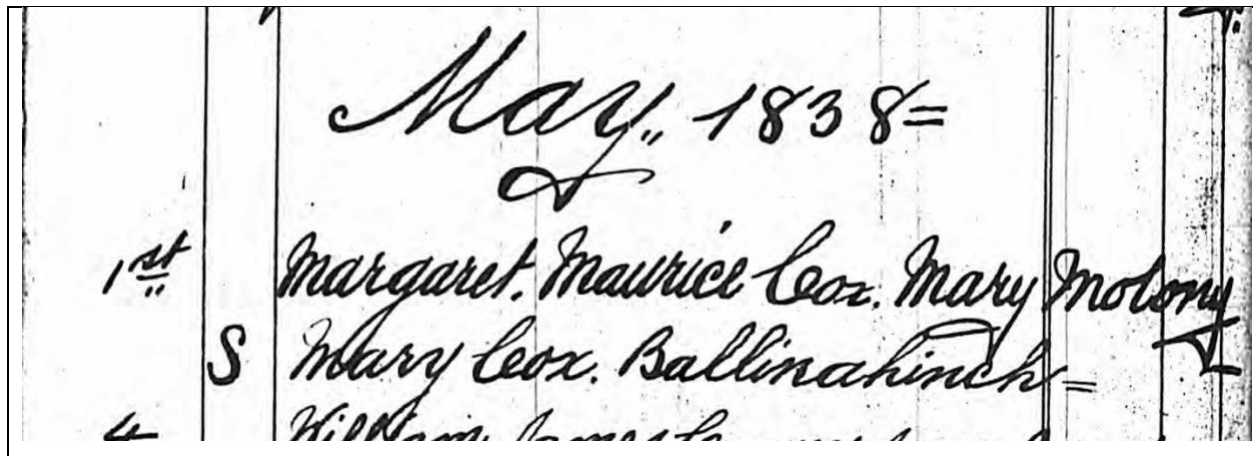


Figure 10. Possible baptismal record for Ellen's mother, Margaret Cox



Figure 11. Google Map showing Ballynahinch townland, Kilnoe Parish, and Tulla Parish in County Clare

While more research and analysis needs to be done, the record correlates in multiple ways with evidence for Margaret and Ellen:

- The baptism name matches that of Ellen's mother from her death certificate.
- Margaret's birth in 1838 is a reasonable fit for the mother of Ellen, born in 1860.
- Margaret's birth in Ireland corroborates the evidence from Ellen's documentary record.

- Margaret's baptism in Kilnoe parish parallels the origins of the common ancestors for the Lamey and Kinney genetic networks.
- The maiden name of the baby's mother, Mary Molony, is a spelling variation of the same maiden surname of Catherine Maloney, an ancestor of many of the client's Lamey DNA matches. Catherine was also from County Clare.³⁹
- Molony is also a variant spelling of Malone, the surname of Ellen's adopted parents, John J. Malone and his wife Bridget.

If the Margaret Cox from the baptism record was in fact Ellen's mother, this provides many new avenues of inquiry. Preliminary research for John Lamey and Catherine Maloney established their oldest child, Mary Lamey, was born in November 1861 in Illinois.⁴⁰ This is the same birthplace recorded for Ellen in her 1870 census enumeration with the Malones.⁴¹ This may indicate parallel step migration and may signal association in Illinois prior to Ellen's mother's death. Many questions remain for future research:

- Margaret Cox and Catherine Maloney were born about a year apart. Since Margaret's mother was a "Molony" and Catherine's father a "Maloney," were they cousins?
- Did Margaret Cox migrate to the US in tandem with Lamey, Maloney, and Kinney associates from her home parish?
- The hypothesized candidate for Ellen's father, Patrick Scott (1832-193), was from County Tipperary. Did he and the candidate Margaret Cox marry in the US, either in Illinois or further east? When did they marry?
- Did Ellen misremember her birthplace? Was it actually Marshall County, Illinois, and not Marshall County, Iowa?
- Where did the John Lamey family live in Illinois circa 1861?
- Were John and Bridget Malone relatives of Ellen's mother through Margaret Cox's maternal line?

³⁹ "Death Claims a Pioneer," obituary for Catherine (Maloney) Lamey, *Wabasha County Herald* (Wabasha, Minnesota), 13 October 1904, p. 5f; database with images, "Minnesota Digital Newspaper Hub," *Minnesota Historical Society* (https://newspapers.mnhs.org/jsp/PSImageViewer.jsp?doc_id=d43a5ec6-590e-43b7-b4ab-93b95604e90f%2F1HoYUO5A%2Fo4101301 : accessed 15 September 2024).

⁴⁰ 1870 U.S. Census, Wabasha County, Minnesota, population schedule, Watopa, p. 606B (stamped), p. 8 (penned), dwelling 50, family 49, John Lamy; digital image, *Ancestry* (<https://www.ancestry.com/discoveryui-content/view/19503938:7163> : accessed 24 September 2024); citing NARA microfilm publication M593, roll 717.

⁴¹ 1870 U.S. Census, Douglas County, Nebraska, population schedule, Omaha, p. 384A (stamped), p. 41 (penned), dwelling 330, family 351, John Malone; digital image, *Ancestry* (<https://www.ancestry.com/discoveryui-content/view/6674045:7163> : accessed 24 April 2024); citing NARA microfilm publication M593, roll 829.

MyHeritage 40-400 cM

Redacted due to many names of living DNA Matches labeled in graph

Figure 12. Karen's MyHeritage DNA Network Graph, 40-400 cM

The MyHeritage network graph, shown in figure 12, revealed very few relevant Kernan-Scott matches sharing 40 cM or more.⁴² Only Cluster 2 was directly known to pertain to the objective. It is composed of only two matches: Margaret 3 (a Kernan-Scott descendant) and [REDACTED] (a Byrne descendant). Cluster 3 may also be relevant due to Karen's one shared match there with [REDACTED]; however, it is anticipated the connection lies along the Kiernan-Byrne lineage.

The few matches at MyHeritage did not warrant extensive examination at this time. In a future research session, Paul 1's and Paul 2's raw AncestryDNA data (as well as those of independently-descended 2C) could be uploaded there to extend coverage of Ellen's genome in that database. Then MyHeritage matches down to 20 cM could be gathered to construct a more substantial network graph for analysis.

Scott-Cox DNA Project Website

A good goal for future genetic research is to increase coverage of Ellen's genome in the analysis.⁴³ In this research session, evaluation was restricted to the atDNA results of Karen and two of her sisters. As Ellen's great-grandchildren, each of them inherited only about 12.5% of her genome. As sisters, some of these segments were duplicated in their inherited chromosomes. Even though they are three test takers, they still only represent one branch of one descendant line from Ellen. This limits the chances of finding DNA matches relevant to identifying Ellen's parents. If analysis included the results of Ellen's posterity through independent lines of descent, this would more effectively increase the coverage of her genome in the databases and help substantiate her parents' identities.⁴⁴

⁴² Melanie Whitt, "MyHeritage Network graph for Karen Boehme, 40-400 cM," *Gephi* (<https://gephi.org> : accessed 14 May 2024), *MyHeritage* matches gathered by the client with *DNAGedcom*, Spring 2023.

⁴³ Paul Woodbury, "Covering Your Bases: Introduction to Autosomal DNA Coverage" *LegacyTree Genealogists* (<https://www.legacytree.com/blog/introduction-autosomal-dna-coverage> : accessed 15 September 2024).

⁴⁴ Paul Woodbury, "Crème de la crème: Targeted Autosomal DNA Testing to Isolate Pertinent Genetic Cousins," webinar, 6 May 2020, Legacy Family Tree Webinars (<https://familytreewebinars.com/webinar/creme-de-la-creme-targeted-autosomal-dna-testing-to-isolate-pertinent-genetic-cousins> : accessed 15 September 2024).

In a future phase of research, a Scott-Cox DNA Project website can be created to invite other descendants to share access to their DNA results. Effort should be made to recruit the client's second cousins who descend from Ellen and Bart. This will help isolate the genetic networks which belong to Ellen's and Bart's ancestral lines. A project website would summarize research findings, display pedigree charts of known and predicted Scott-Cox relationships, present anonymized versions of research reports, invite descendants from targeted lines to participate, and provide instructions for sharing access to DNA test results.

Mitochondrial DNA Analysis

MtDNA analysis can help determine whether two people descend from the same matrilineal ancestors and can help anchor atDNA results. However, mtDNA has limited application. For mtDNA exact matches with a genetic distance of 0 (GD 0), there is a 95% chance they share a common ancestor within the past 775 years.⁴⁵ Even as exact mtDNA matches, two test takers could be closely or quite distantly related. The actual relationship may predate the availability of documents in the genealogical era. This is especially the case with Ireland where there has been such record loss. An effective mtDNA strategy is to compare the atDNA of the test taker and exact mtDNA matches (GD 0).⁴⁶ If exact mtDNA matches also share atDNA, prioritize research into their lines, since they are the most likely matches to share a common ancestor within the genealogical timeframe.

Ellen's matrilineal descendant, Mary Ellen 3, is Karen's 2C1R. She had four exact, full sequence mtDNA matches at FTDNA—three of the whom had atDNA results in that database. Successful transfer of Mary Ellen 3's atDNA results to FTDNA revealed that Mary Ellen 3 does not share atDNA with any of those three test takers. The fourth exact mtDNA at FTDNA, Mito 4, confirmed she had her atDNA in the database at AncestryDNA. She was identified there, and she also does not share reported atDNA with Mary Ellen 3, Karen, or her sisters.⁴⁷

None of Mary Ellen 3's four mtDNA matches provide an immediate lineage expected to yield documentary information about Ellen's mother's family. However, all four of the exact mtDNA matches reported their earliest matrilineal ancestor originated in Ireland, correlating with the candidate Margaret Cox's birth in County Clare. It is still possible Mary Ellen 3 shares an identifiable common ancestor with any of these mtDNA matches, but they may relate as 3rd

⁴⁵ Blaine T. Bettinger, *The Family Tree Guide to DNA Testing and Genetic Genealogy*, 2nd ed., Kindle Edition (Cincinnati, Ohio : Family Tree Books, 2019), Chapter 6: Mitochondrial (mtDNA) Testing > Finding mtDNA Cousins.

⁴⁶ Your DNA Guide, Diahann Southard, "Understanding Mitochondrial DNA," posted 27 March 2024; video, YouTube (<https://www.youtube.com/watch?v=XXoJfYLYzg&t=13s> : accessed 1 July 2024).

⁴⁷ AncestryDNA, "[REDACTED]," member profile for Mito 4 (website redacted : accessed 19 August 2024).

or more distant cousins who do not share atDNA due to the random nature of recombination during meiosis.

Mito 4's matriline was traced back to her matrilineal Irish immigrant ancestor, Anna Devitt, who is also a brick wall ancestor.⁴⁸ Evidence for her Irish origins is scant: no parents listed in death record or obituary, no marriage record readily found, no known or suspected siblings, and no further records on FamilySearch. Though not a top priority, this same process can be repeated in future research for the three other exact matches in the FTDNA database. More effectively, research should focus on the identification and mtDNA testing of a matrilineal descendant of Mary Molony, mother of the candidate Margaret Cox. Those results could then be compared to Mary Ellen 3's for verification.

CONCLUSION

This research session made good progress in meeting the objective. Negative searches for Patrick Scott and Margaret Cox in newspapers, church records, and local repositories in Iowa and Nebraska may not have produced evidence of their identities but contributed toward reasonably exhaustive research. Discovered newspaper retrospectives generated clues for Ellen's early life and attested to the challenges of relying on memory and secondary sources. Analysis of the mtDNA results for Mary Ellen 3 corroborated an Ireland origin for Margaret. It also established that Mary Ellen 3's exact mtDNA matches do not share atDNA, lowering the priority for researching their lineages.

The most significant developments came through analysis of the client's atDNA network graphs. Extensive investigation of Karen's genetic networks for her Kernan-Scott lineages detected subclusters hypothesized to relate to each of Ellen Scott's parents. Subsequent documentary research identified candidates for Patrick Scott and Margaret Cox and pinpointed localities in Ireland and the US for further research. Correlation showed how the historical evidence for these candidates aligns with the verifiable facts about Ellen's parents.

These discoveries and hypotheses present challenges and opportunities for future research. The identified MRCAs for subclusters predicted for Ellen's lineages were late 18th or early 19th-century Irish residents or Irish immigrants to North America. In many cases, their exact kinship with the Scott and Cox families could not be immediately established for various

⁴⁸ "Public Member Trees," database, *Ancestry* (<https://www.ancestry.com/family-tree/person/tree/112012087/person/152602155785/facts> : accessed 24 April 2024), "Loop - Kernan Family Tree," profile for Anna Devitt (1837-1905) and family members, sourced by researcher Melanie Whitt.

reasons: inconsistent record keeping, record loss, limited record access, the effects of transoceanic migration on geo-genealogical ties, evidence of multiple relationships along these lineages, and numerous relationship paths possible at the low levels of DNA involved in this study. This session, however, was the first to deeply analyze the client's atDNA evidence, and the findings generated identifiable ancestral relationships and localities for further documentary research. They also set the genetic foundation for future DNA analysis that can expand to include the results of key matches and other testing candidates. Questions remain, but thanks to DNA, so do research possibilities.

SUGGESTIONS FOR FUTURE RESEARCH

Documentary

- Follow up with the non-responsive Catholic parishes in Omaha, Nebraska—especially St. Francis Cabrini—to discover sacramental records for Ellen or her parents. Hire an onsite researcher if necessary to examine the parish books for 1860-1873.
- Continue research for Patrick Scott (1832-1913) and wife Mary Ann Lane. Discover their marriage record, an original copy of Mary Ann's obituary, immigration records, and naturalization documents. Examine extant collections for Gortnahoe parish in County Tipperary, Ireland.
- Survey all Ireland-born residents with Cox and Scott surnames in Minnesota (especially Wabasha County) and Wisconsin. Conduct ascendancy and descendant research to uncover further association with Kinney or Lamey families.
- Trace Margaret Cox (1838-) in Ireland. Examine extant collections for Kilnoe and Tulla parishes in County Clare, Ireland. Focus on Cox, Molony, Kinney, and Lamey surnames. Seek out immigration records for her.
- Determine the possible residence of the Patrick Scott and John Lamey families in Illinois circa 1860. Survey all Ireland-born residents with surnames Cox, Scott, Lamey and Maloney enumerated in the 1860 US census in Illinois. Trace their ascendant and descendant lines to determine possible connections and identify living posterity for targeted DNA testing.
- Revisit newspaper research for Margaret Cox's death, circa 1862, in a flood with a focus in Marshall County in Illinois instead of the one in Iowa.
- Survey all Ireland-born residents with surnames Cox and Scott enumerated in the 1860 US census in Marshall County, Iowa. Trace their ascendant and descendant lines to determine possible connections and identify living posterity for targeted DNA testing.
- Conduct research for John Malone and wife Bridget. Discover Irish origins to determine a possible connection to Margaret Cox's family.

- Continue ascendancy research for Frances Elizabeth Scott. Search out the marriage record for Harry Scott and Pauline Sliwinski, circa 1910, in either Illinois or Indiana, for direct evidence of Harry's parents. Request access to leeanne737's DNA results to verify her genetic networks.
- Hire an onsite researcher to thoroughly search the Sisters of Mercy archives in Omaha, Nebraska.
- Hire an onsite researcher to examine the Chicago and North Western Railway Company records collection at the Newberry Library in Chicago, Illinois, in search of Patrick Scott's employment record.
<https://archives.newberry.org/repositories/2/resources/1170>

DNA

- Publish a DNA project website to invite known matches and potential test takers who descend through independent lines from Ellen and Bart to share their AncestryDNA test results. Make special effort to enlist the participation of the client's second cousins. Conduct further descendancy research to identify additional independently-descended cousins (preferably at the 2C level) to test their atDNA and share their results. This will increase coverage of Ellen's genome in the analysis and expand the identification of matches relevant to identifying her parents.
- Identify living descendants of Patrick Scott (1832-1913) or his siblings for targeted testing of their atDNA.
- Create and analyze a composite network graph for Karen and her tested 2C to identify key matches and determine most recent common ancestors (MRCAs) of relevant clusters. This will help confirm and/or expand the findings related to Ellen's parents. Gather match lists for Paul 1 and Paul 2 to create similar composite network graphs.
- Identify and test the mtDNA of a matrilineal descendant of Mary Molony, mother of the candidate Margaret Cox. Compare with Mary Ellen 3's results for verification.
- Continue analysis of the client's subcluster DNA network graph to further identify matches and determine the MRCAs of the subclusters in the Kernan-Scott cluster.
- Upload the raw AncestryDNA data for Paul 1, Paul 2, and other key 2C matches to MyHeritage. Construct DNA network graphs for their results and conduct pedigree triangulation to determine the MRCAs of relevant clusters in that database.
- Karen's mother inherited a full X-chromosome from Ellen, thus Karen likely received some of Ellen's x-chromosomal genome. Identify and analyze xDNA matches at FTDNA, 23andMe, and GEDmatch.
- Examine cluster 7's possible Kernan-Scott connection by building out and triangulating the pedigrees of its matches.

Thanks for allowing us to research your family! We look forward to continuing as desired.

MW / DE

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