

DNA Martha Colony Lynn

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DATE: 1 November 2023
REPORT TO: File
ASSIGNMENT: Provide DNA confirmation of Martha Colony Lynn's parents
LONG-TERM GOAL: Help differentiate Jesse Hammett DNA

Research Question

Provide DNA confirmation that Martha Colony Lynn, born 5 March 1886 in Calico Rock, Izard, Arkansas, is the daughter of James Pickering Lynn and Rachael Matilda Hammett. James and Rachel are first cousins. James was born 13 September 1846 in DeKalb, Alabama and Rachel was born August 1845 in Alabama.

Background

While there is a robust paper trail that provides good identification of Martha and her parents, there is a need to confirm with DNA results. One reason for the need is the complexity of the Lynn and Hammett lines a few generations back. First, as already mentioned, James and Rachel are first cousins. This connection skews the DNA results making some autosomal matches appear to come from closer generations. The second issue is that, especially for the Hammett's, the paper trail indicates that individuals have no connection while the DNA results suggest connections. Starting in the middle, without a known base, makes the evaluation of those conflicting pieces of evidence much harder. Therefore, to help provide a strong base as to who is who, this report starts at the basic beginning, a grandparent.

Proposed Biological Tree

The Proposed Biological Tree (PBT) is the descendancy chart that lists the descendants of the Most Recent Common Ancestor (MRCA). This is the typical work product produced by genealogists for generations.¹ It requires careful research and an evaluation of the available records. For this report the individuals in the PBT are the descendants of James Pickering Lynn and Rachael Hammett.

* © David Grawrock. The author is a Certified Genealogist® and a retired high-tech computer architect.
All URL's active as of 1 November 2023.

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¹ Pun intended.

Misattributed Parental Event ²

A Misattributed Parental Event (MPE) occurs when an expected parent, in the PBT, is not the biological parent. Using DNA helps to identify the correct biological parents. DNA also helps to identify an MPE that assigns a child to the right overall family but used the wrong sibling. I.e., assigning a child to Bob when the real parent was his brother Charles.

Paper Trail

Individual Vitals

Martha Colony Lynn was born on 26 March 1886 in Calico Rock, Izard, Arkansas.³ Martha died on 1 June 1946 in Los Angeles, Los Angeles, California.⁴

Marriage details

Martha married Louis Emory Parker 31 March 1910 in Le Flore, Oklahoma.⁵ There is a discrepancy in the marriage record. The record states that Louis is nineteen and Martha is eighteen. Both are incorrect. Louis is eighteen [Aug 1891] and Martha is twenty-four [March 1886].⁶ They will continue to lie regarding Martha's age until the 1940 census, when she gives out her actual age.⁷ The rationale to lie seems to be to make Martha near the same age as Louis.

While there is a still born child born in 1911, that child arrives, supposedly, in April which is thirteen months after the wedding.⁸

² Additional description of the MPE is in the appendix section **Misattributed Parental Event**

³ Department of Public Health, California, Certificate of Death, District 1801, Registrar's No 9491, Martha C Parker, 1 June 1946; imaged in "California, County Birth and Death Records, 1800-1994," database with images, *FamilySearch* (<https://www.familysearch.org/ark:/61903/3:1:3QS7-L9SV-PHJV>), digital film 005599902 > image 479 of 2809; citing California State Archives, Sacramento.

⁴ Department of Public Health, California, Certificate of Death, District 1801, Registrar's No 9491, Martha C Parker, 1 June 1946.

⁵ Leflore County (Oklahoma), "Marriage Record, Dec. 1908-Dec 1910," Volume 2, page 329 (stamped), marriage record, Louis Parker – Martha Lynn, recorded 4 April 1910; imaged in "Marriage records, 1897-1930," *FamilySearch* (<https://www.familysearch.org/ark:/61903/3:1:9Q97-Y339-Q9PR>), digital film 004532563 > image 555 of 961; citing Le Flore County Courthouse, Poteau, Oklahoma.

⁶ 1900 U.S. census, Arkansas, Izard, Union Township, population schedule, SD 2, ED 159, sheet 12A (penned), dwelling 188, family 193, line 13, James Lynn [household]; imaged in "United States Census, 1900," *FamilySearch* (<https://www.familysearch.org/ark:/61903/3:1:S3HY-XC7Q-5RZ>), digital film 004120031 > image 23 of 28; citing NARA series T623, roll 62.

⁷ 1940 U.S. census, Arizona, Maricopa, Supervisorial District 3, population schedule, SD 2, ED 7-156, sheet 7B (penned), dwelling 156, line 43, Martha Parker and family; imaged in "United States Census, 1940," *FamilySearch* (<https://www.familysearch.org/ark:/61903/3:1:3QS7-89M1-GS6D>), digital film 005461865 > image 14 of 32; citing NARA series T627.

⁸ Personal knowledge of Thomas Talmon Parker, son of Louis and Martha. Thomas told these stories many times prior to his death. Interview dates not recorded as the family was not creating sourced genealogy when Tom told the family the stories.

In the 1940 census, Martha and Lewis describe their marriage status differently. Martha claimed to be a widow and Lewis claimed a divorce [they did not live in the same household].⁹

Oral confirmation

Thomas Talmon Parker, a son of Martha, was an amateur genealogist.¹⁰ He worked for years compiling his genealogy. Tom's records confirm Martha's parents, marriage, children, and death.¹¹

Parental proof

Father James Pickering Lynn, Mother Rachael Matilda Hammett. There is no birth certificate [birth registration starts in 1914]. The 1900 census enumerates Martha with her parents and identifies her as a daughter.¹² The death certificate, with Martha's daughter as the informant, lists the same parents.¹³

DNA and Cousins

Higher Centimorgan (cM) Values

DNA testing returns a measurement of the amount of shared DNA segments in a value known as centimorgans. Typically, first cousins share about 12.5% of their DNA, which translates to, roughly, 880 cM. However, when their parents are first cousins, the shared DNA can be as high as 25%, or roughly 1700 cM. This is because the first cousins have inherited DNA from the same ancestors through both their mother and father.

Closer Predictions

The higher match strength continues for each subsequent generation. Second cousins, expected to share about 6.25%, can share as high as 12.5%. The current algorithms employed by the testing companies do not consider the possibility of relatives marrying each other. With the increase in

⁹ Martha: 1940 U.S. census, Arizona, Maricopa, Supervisorial District 3, population schedule, SD 2, ED 7-156, sheet 7B (penned), dwelling 156, line 43, Martha Parker and family; imaged in "United States Census, 1940," FamilySearch (<https://www.familysearch.org/ark:/61903/3:1:3QS7-89M1-GS6D>), digital film 005461865 > image 14 of 32; citing NARA series T627. Louis: 1940 U.S. census, California, Fresno, Township 3, population schedule, SD 9, ED 10-45, sheet 8B (penned), dwelling 629, line 58, Louis Parker and family; imaged in "United States Census, 1940," FamilySearch (<https://www.familysearch.org/ark:/61903/3:1:3QSQ-G9MT-W23V>), digital film 005455028 > image 16 of 24; citing NARA series T627.

¹⁰ Thomas Talmon Parker, Louis Emory Parker – Martha Colony Lynn Family Charts, Group Sheets, and research details; privately held, Sherrill Lynn Parker [address for private use] Ivins, Utah, 2020. Entire archive of material passed to Sherrill. The archive contains a mix of professional reports to unsourced notes on paper. Tom and his wife, Kathleen Davis, could treat a hypothesis as fact. On the Parker – Lynn family group, Tom recorded events related to his own parents and siblings. Maintaining correspondence with some of his siblings until his death. The information, therefore, on this family group is extremely reliable.

¹¹ Thomas Talmon Parker, Louis Emory Parker – Martha Colony Lynn Family Charts, Group Sheets, and research details.

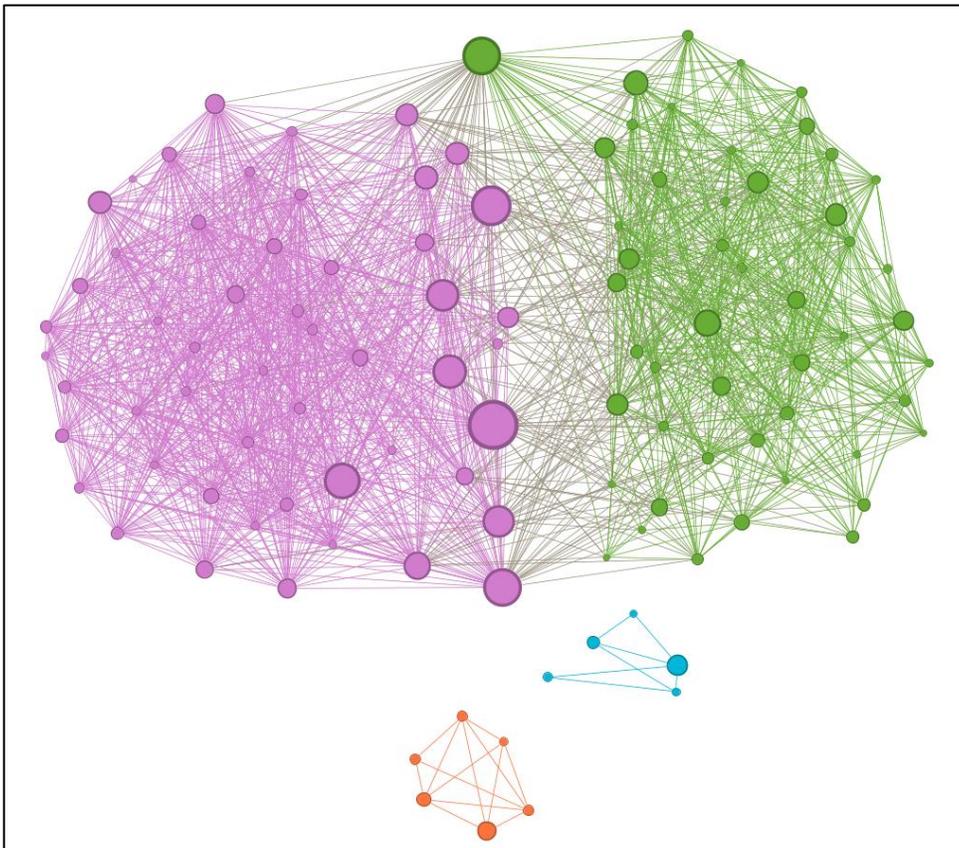
¹² 1900 U.S. census, Arkansas, IZARD, Union Township, population schedule, SD 2, ED 159, sheet 12A (penned), dwelling 188, family 193, line 13, James Lynn [household]; imaged in "United States Census, 1900," FamilySearch (<https://www.familysearch.org/ark:/61903/3:1:S3HY-XC7Q-5RZ>), digital film 004120031 > image 23 of 28; citing NARA series T623, roll 62.

¹³ Department of Public Health, California, Certificate of Death, District 1801, Registrar's No 9491, Martha C Parker, 1 June 1946.

Leeds Method

The Leeds Method is a technique for analyzing autosomal DNA matches to group them by which grandparent or great-grandparent provided the shared DNA segment. Dana Leeds developed this method to simplify and categorize DNA matches, especially when many matches are available and there's no immediate knowledge of how each match is related.¹⁵

After performing the Leeds procedure, one should have four different groups, each one representing a different set of great grandparents. If there are cousin marriages the resulting Leeds output will not show four groups, but three with one of the groups having many shared linkages.



The figure displays a Leeds chart generated by analyzing the network graph in Gephi from the Ancestry matches of tester 1.¹⁶ While there should be four separate groups, there are only three with the big one showing the interrelated connections between two subgroups. Stated another way the network graph indicates the presence of a cousin marriage in the family tree.

Figure 2 Leeds Network Graph

¹⁵ Dana Leeds, "Leeds Method," *DanaLeeds.com* (<https://www.danaleeds.com/the-leeds-method/>).

¹⁶ Gephi description in

DNA Analysis

Proposed Biological Table

The PBT shows those children of James and Rachel where descendants have atDNA tests results available at Ancestry. This report only utilizes the largest match for each descendant. Table 1 does indicate the complete number of matches for each of James's children.

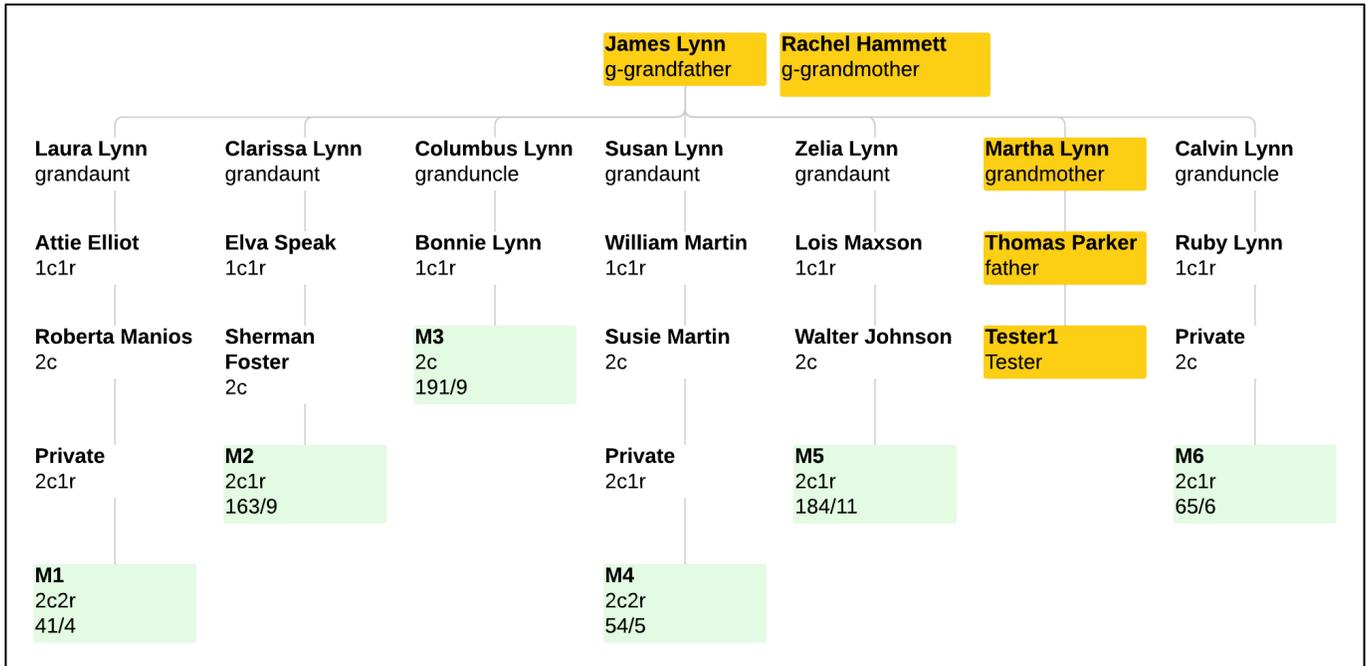


Figure 3 James Lynn PBT

DNA Match Table ¹⁷

The following table shows the matches and their relationship to the tester.

Table 1 DNA Match Strength

NAME	RELATIONSHIP	CM RANGE	AVG	1 SD	ACTUAL CM	SEGMENTS	WITHIN RANGE	WITHIN 1 SD
LAURA LYNN (2 MATCHES)								
M1	2c2r	0-244	71	29-113	41	4	Y	Y
CLARISSA LYNN (2 MATCHES)								
M2	2c1r	14-353	122	63-181	163	9	Y	Y
COLUMBUS LYNN (3 MATCHES)								
M3	2c	41-592	229	143-315	191	9	Y	Y
SUSAN LYNN (9 MATCHES)								
M4	2c2r	0-244	71	29-113	54	5	Y	Y
ZELIA LYNN (2 MATCHES)								
M5	2c1r	14-353	122	63-181	184	11	Y	N
MARTHA COLONY LYNN (22 MATCHES)								
Tester1	-							
Tester2	-							
CALVIN LYNN (1 MATCH)								
M6	2c1r	14-353	122	63-181	65	6	Y	Y
Ancestry, "Tester1's [name redacted] DNA Matches," www.ancestry.com , [match names redacted], reviewed 1 November 2023.								

Strength Analysis

All six matches fit within the expected ranges for the proposed relationship. Five of the matches fit within one standard deviation of the average. The only match outside a standard deviation is a larger match and just barely above the deviation limit.

The shared DNA amongst the matches is consistent with the PBT and there are no discrepancies. The DNA therefore provides strong evidence that the PBT, as currently proposed, is correct.

¹⁷ Column and row descriptions at

Match Table in the appendix.

Proof Argument

Facts

- Martha Colony Lynn was born on 26 March 1886 in Calico Rock, Izard, Arkansas.¹⁸
 - Arkansas did not issue birth certificates in 1886.
- Martha enumerated with her parents, James Pickering Lynn and Rachael Matilda Hammett, in 1900.¹⁹
- James and Rachel had thirteen children.²⁰
- Seven of the thirteen children have descendants who have taken the atDNA test.²¹
- The shared DNA amounts are consistent with the expected amounts based on the proposed relationships.²²
- Oral tradition amongst the descendants was that James and Rachel were Martha's parents.²³

Argument

There are documentary sources to support the relationships in the PBT [Appendix A]. The shared DNA amongst the matches supports the relationships in the PBT [Table 1 DNA Match Strength]. The number of matches, along with their shared cM, discounts the possibility of an MPE amongst the children of James and Rachel in the PBT.

The conclusion of this report is that Martha Colony Lynn's parents are James Pickering Lynn and Rachael Hammett. Additionally, the other six children that have DNA matches are from the same parents, James and Rachael.²⁴

¹⁸ Department of Public Health, California, Certificate of Death, District 1801, Registrar's No 9491, Martha C Parker, 1 June 1946.

¹⁹ 1900 U.S. census, Arkansas, Izard, Union Township, ED 159, sheet 12A, line 13, James Lynn [household].

²⁰ See Appendix A for each citation.

²¹ See **Error! Reference source not found.** for names and citations.

²² See Table 1 DNA Match Strength for details.

²³ Thomas Talmon Parker, Louis Emory Parker – Martha Colony Lynn Family Charts, Group Sheets, and research details.

²⁴ The six are: Laura, Clarissa, Columbus, Susan, Zella, and Calvin.

Appendix A – Line Validations

James Pickering Lynn

James Pickering Lynn was born on 13 September 1840 in Alabama.²⁵ No birth certificate possible as birth registration started in 1885.²⁶ James died 16 December 1924 in Porum, Muskogee, Oklahoma.²⁷ James married his first cousin, Rachael Matilda Hammett around 1870 Etowah, Alabama.²⁸ James and Rachel are the root couple for this report. Those children where there are DNA matches to descendants, have a D in the left column.

Known children of James Pickering Lynn and Rachel Matilda Hammett

- +D [1](#) i. LAURA ANNIE LYNN was born on 11 July 1867 in DeKalb, Alabama. Laura died on 11 January 1929 in Calico Rock, IZARD, Arkansas. Laura married John Miller Elliot around 1889 in Arkansas.²⁹
- + [2](#) ii. WILLIAM H LYNN was born 1871 and died
- + [3](#) iii. JAMES M LYNN was born 1873 and died
- +D [4](#) iv. CLARISSA MATILDA LYNN was born on 20 May 1877 in Arkansas.³⁰ Clarissa died on 14 April 1948 and burial occurred in Mount Calm Cemetery, Viola, Fulton, Arkansas.³¹ Clarissa married Thomas A Speak on 29 December 1907 in Creswell, IZARD, Arkansas.³² Clarissa was thirty and Thomas sixty-four.
- + [5](#) v. MARY E LYNN was born 1877 and died 1919
- +D [6](#) vi. COLUMBUS CLAY LYNN was born 1878 and died 1954
- +D [7](#) vii. SUSAN LYNN was born 1879 and died

²⁵ 1900 U.S. census, Arkansas, IZARD, Union Township, population schedule, SD 2, ED 159, sheet 12A (penned), dwelling 188, family 193, line 13, James Lynn and family; imaged in "United States Census, 1900," FamilySearch (<https://www.familysearch.org/ark:/61903/3:1:S3HY-XC7Q-5RZ>), digital film 004120031 > image 23 of 28; citing NARA series T623, roll 62. Date on original headstone only indicates 1840, no month or day. New headstone includes 13 September.

²⁶ Assuming DeKalb County as the birthplace, DeKalb starts registering births in 1885 per: "DeKalb County, Alabama Genealogy," FamilySearch, wiki (https://www.familysearch.org/wiki/en/DeKalb_County,_Alabama_Genealogy : 09:22, 17 November 2021).

²⁷ Find A Grave, crowd sourced database and images (CSD) (<https://www.findagrave.com/memorial/9123825/james-pickering-lynn>), memorial 9123825, James Pickering Lynn (1840-1924), Hi Early Cemetery, McIntosh County, Oklahoma, maintained by "Aislin" (contributor 46535342); gravestone photographs by "Aislin". Crowd sourced databases have a wide variety of information and accuracy. Care is necessary when accepting information that is unsourced or transcribed. FindAGrave memorials on many pages include pictures of headstones to validate included dates.

²⁸ 1900 U.S. census, Arkansas, IZARD, Union Township, sheet 12A, line 13, James Lynn and family. Married for thirty years according to census.

²⁹ Find A Grave, CSD (<https://www.findagrave.com/memorial/49063682/clarissa-matilda-foster>), memorial 48975378, Annie Lynn Elliott, Staggs Cemetery, Calico Rock, IZARD, Arkansas, maintained by "Arkieologist" (contributor 47246586) , gravestone photograph by "Vera Reeves" (contributor 47073384).

³⁰ 1900 U.S. census, Arkansas, IZARD, Union Township, sheet 12A, dwelling 188, family 193, line 13, James Lynn and family.

³¹ Find A Grave, CSD (<https://www.findagrave.com/memorial/49063682/clarissa-matilda-foster>), memorial 49063682, Clarissa Matilda Linn Foster, Mount Calm Cemetery, Viola, Fulton, Arkansas, created by "Dwayne Peterson", gravestone photograph by "Genafer Cantrell Foree".

³² IZARD County Clerk (Arkansas), "Marriage Record IZARD County," [unnamed volume], page 6 (stamped), T.A. Speak and C. M. Lynn, 24 December 1907; imaged in "Arkansas, County Marriages, 1837-1957," FamilySearch (<https://www.familysearch.org/ark:/61903/3:1:S3HT-6QL3-2M5>), digital film 004326292 > image 427 of 755.

- + [8](#) viii. NETTIE LEE LYNN was born 1881 and died 1936
- +D [9](#) ix. ZELLA MAY LYNN was born 1882 and died 1929
- + [10](#) x. LUKE W LYNN was born 1884 and died 1922
- +D [11](#) xi. MARTHA COLONY LYNN was born 1886 and died 1946
- +D [12](#) xii. CALVIN MATTHEW LYNN was born 1889 and died 1960

1. **Laura Annie² Lynn** was born on 11 July 1867 in DeKalb, Alabama. Laura died on 11 January 1929 in Calico Rock, Izard, Arkansas. Laura married John Miller Elliot around 1889 in Arkansas.³³

Attie L Elliot was born on 2 September 1903 in Calico Rock, Izard, Arkansas. Attie died on 26 October 1979 in Tulsa, Tulsa, Oklahoma. Attie married Jesse Manios on 3 July 1926 in Izard, Arkansas.

Roberta J Manios was born on 20 January 1932 in Calico Rock, Izard, Arkansas. Roberta died on 26 January 2016 in Pryor, Mayes, Oklahoma. She married Jack G Childers 11 October 1947 in Tulsa, Tulsa, Oklahoma.³⁴

M1's parent is still living but is a child of Roberta.

M1 is a 2c2r, sharing 41 cM on 4 segments.

2. **William H² Lynn**

3. **James M² Lynn**

4. **Clarissa Matilda² Lynn** was born on 20 May 1877 in Arkansas.³⁵ Clarissa died on 14 April 1948 and burial occurred in Mount Calm Cemetery, Viola, Fulton, Arkansas.³⁶ Clarissa married Thomas Asbury Speak on 29 December 1907 in Izard, Arkansas.³⁷

³³ Find A Grave, CSD (<https://www.findagrave.com/memorial/49063682/clarissa-matilda-foster>), memorial 48975378, Annie Lynn Elliott, Staggs Cemetery, Calico Rock, Izard, Arkansas, maintained by "Arkieologist" (contributor 47246586) , gravestone photograph by "Vera Reeves" (contributor 47073384).

³⁴ Stephens-Key, "Roberta J. Childers," *stephens-key.com* (<https://www.stephens-key.com/obituaries/Roberta-J-Childers?obId=737285#/obituaryInfo>).

³⁵ 1900 U.S. census, Arkansas, Izard, Union Township, sheet 12A, dwelling 188, family 193, line 13, James Lynn and family.

³⁶ Find A Grave, crowd sourced database and images (CSD) (<https://www.findagrave.com/memorial/49063682/clarissa-matilda-foster>), memorial 49063682, Clarissa Matilda Linn Foster, Mount Calm Cemetery, Viola, Fulton, Arkansas, created by "Dwayne Peterson", gravestone photograph by "Genifer Cantrell Foree".

³⁷ Izard County (Arkansas), "Marriage Record: Izard County [volume identifier unreadable]," marriage license, p. 6, T A Speak to C M Lynn, issued 24 December 1907; imaged in "Arkansas, County Marriages, 1837-1957," *FamilySearch* (<https://www.familysearch.org/ark:/61903/1:1:NMK1-D5P>), digital folder 004326292 > image 427 of 755; citing Izard County Court House, Melbourne, Izard, Arkansas.

Elva Etta Speak was born on 29 November 1908 in Howell, Missouri and died on 6 July 1976.³⁸ Elva married Raymon Foster on 25 March 1923 in Calico Rock, Izard, Arkansas.³⁹

Sherman Fizer Foster was born on 10 September 1922 and died on 30 January 1978.⁴⁰ Sherman married Gayle Meyers 5 February 1951 in Fulton, Arkansas.⁴¹

M2 is a child of Sherman and Gayle. 2c1r sharing 163 cM over 9 segments.

5. Mary E² Lynn (

6. **Columbus Clay² Lynn** was born on 11 September 1878 in Calico Rock, Izard, Arkansas. He died on 27 August 1954 in Porum, Muskogee, Oklahoma. He married Cora Bell Martin around 1902 in Izard, Arkansas.⁴²

Bonnie Treva Lynn was born on 4 September 1924 in Porum, Muskogee, Oklahoma. Bonnie died on 3 February 1992 in Fort Smith, Sebastian, Arkansas. Bonnie married Carl Olzo Clark on 24 July 1943 in Eufaula, McIntosh, Oklahoma.⁴³ The 1930 census enumerated Bonnie with her parents.⁴⁴

M3 is a child of Carl Clark and Bonnie Treva Lynn. 2c sharing 191 cM over 9 segments.

7. **Susan² Lynn** was born around 1880 in Alabama. Susan died on 27 August 1956 in Nevada, Arkansas. Susan married Clayton Martin on 7 July 1895 in Baxter, Arkansas.⁴⁵

³⁸ Find A Grave, CSD (<https://www.findagrave.com/memorial/53957030/elva-etta-willard>), memorial 53957030, Elva Etta Speaks Willard (1908-1976), Oak Lawn Cemetery, West Plains, Howell, Missouri, created by "Vicki Hoopes", gravestone photograph by "Pamela".

³⁹ Izard County Clerk (Arkansas), [binding unreadable], 1919-1925, marriage records, p. 400 (stamped), Raymond Foster and Elvia Speak, 24 March 1923; imaged in "Arkansas, County Marriages, 1837-1957," *FamilySearch* (<https://www.familysearch.org/ark:/61903/3:1:S3HT-DTM3-9Q6>), digital film 004326294 > image 287 of 604.

⁴⁰ Find A Grave, CSD (<https://www.findagrave.com/memorial/53956989/sherman-fizer-foster>), memorial 53956989, Bonnie T Clark (1924-1992), Coleman Cemetery, Porum, Muskogee, Oklahoma, maintained by "Delores Shoemake", gravestone photograph by "Chris J".

⁴¹ Fulton County (Arkansas), "Marriage Record: Fulton County: [vol] S, marriage license, p. 22, Sherman Foster and Gayle Meyers, issued 5 February 1951; imaged in "Arkansas, County Marriages, 1837-1957," *FamilySearch* (<https://www.familysearch.org/ark:/61903/1:1:NMGH-QYT>), digital folder 004326354_002_M9ZN-56K > image 42 of 355; citing Fulton County Courthouse, Salem, Arkansas.

⁴² Find A Grave, CSD (<https://www.findagrave.com/memorial/14654417/columbus-clay-lynn>), memorial 14654417, Columbus Clay "Dick" Lynn (1878-1954), Coleman Cemetery, Porum, Muskogee, Oklahoma, maintained by "Delores Shoemake" (contributor 48263643), gravestone photograph by "Patricia Wilbert" (contributor 46790338).

⁴³ Find A Grave, CSD (<https://www.findagrave.com/memorial/33158534/bonnie-t-clark>), memorial 33158534, Bonnie T Clark (1924-1992), Coleman Cemetery, Porum, Muskogee, Oklahoma, maintained by "Delores Shoemake" (contributor 48263643), gravestone photograph by "Cookie" (contributor 149068633).

⁴⁴ 1930 U.S. Census, Oklahoma, Muskogee, Porum, ED 51-50, sheet 4B, line 73, dwelling 74, family 81, C C Lynn [household]; imaged at *FamilySearch* (<https://www.familysearch.org/ark:/61903/1:1:XCWJ-ZQ9>), digital folder 004950092 > image 1178 of 1190; citing NARA T626.

⁴⁵ Baxter County (Arkansas), "Marriage Record: Vol B: Baxter County," marriage license, p. 22, Clayton Martin and Susan Linn, issued 6 July 1895; imaged in "Arkansas, County Marriages, 1837-1957," *FamilySearch* (<https://www.familysearch.org/ark:/61903/1:1:NMK3-1HM>), digital folder > image 40 of 727; citing Baxter County Courthouse, Mountain Home, Baxter, Arkansas.

William Thomas Martin was born April 1897 in Arkansas. William died on 16 March 1991 in Farmersville, Tulare, California.⁴⁶ William married Mary Yeager on 22 March 1914 in Hughes, Oklahoma.⁴⁷ The 1900 census enumerated William with his parents.⁴⁸ Mary Yeager is the sister to Maude Yeager who married Calvin Lynn.

Susie A Martin was born 7 February 1928 in Stewart, Oklahoma. Susie died on 2 February 2013 in Mountain Pine, Garland, Arkansas.⁴⁹ Susie married Lester Lee Campbell on 29 June 1951 in Desha, Arkansas.

M4 is a grandchild of Susie. 2c2r sharing 54 cM over 5 segments.

8. Nettie Lee² Lynn

9. **Zella May² Lynn** was born on 1 July 1882 in Izard, Arkansas. Zella died February 1929 in Porum, Muskogee, Oklahoma.⁵⁰ Zella married Herbert A Maxon on 2 January 1916 at Zella's home in Porum, Muskogee, Oklahoma.⁵¹

Lois Zelma Maxson was born on 25 February 1917 in Porum, Muskogee, Oklahoma. Lois died on 13 March 2002 in Westville, Adair, Oklahoma.⁵² Lois married William Walter Johnson on 20 October 1935 in Briartown, Muskogee, Oklahoma.⁵³

Walter Allen Johnson was born on 2 July 1940 in Santa Rosa, Guadalupe, New Mexico. Walter died on 15 January 2007 in Fayetteville, Washington, Arkansas. Walter married Ellen L Phipps on 2 February 1961 in Burlington, Skagit, Washington.

⁴⁶ Find A Grave, CSD (<https://www.findagrave.com/memorial/33101562/martin>), memorial 33101562, William Thomas Martin (1895-1991), Deep Creek Cemetery, Farmersville, Tulare, California, maintained by "Timothy Shortnacy" (contributor 46522664), gravestone photograph by "Timothy Shortnacy" (contributor 46522664).

⁴⁷ Hughes County (Oklahoma), Marriage Record 4 [from film cover not filmed], marriage license, p. 178, W M Martin and Mary Yeager, issued 21 March 1914; imaged in "Oklahoma, County Marriages, 1890-1995," *FamilySearch* (<https://www.familysearch.org/ark:/61903/1:1:XVL1-FX6>), digital folder 004532870 > image 1056 of 1482;

⁴⁸ 1900 U.S. Census, Arkansas, Izard, Claiborne, ED 159, sheet 4B, line 93, dwelling 73, family 74, Clayton Martin [household]; imaged at *FamilySearch* (<https://www.familysearch.org/ark:/61903/1:1:M3F4-8YW>), digital folder 004120031 > image 205 of 833; citing NARA T623.

⁴⁹ Find A Grave, CSD (<https://www.findagrave.com/memorial/73536896/susie-ann-campbell>), memorial 73536896, Susie Ann Campbell (1928-2013), Kelso Cemetery, Kelso, Desha County, Arkansas, maintained by "Whitfield" (contributor 47786265), gravestone photograph by "V Moss-Flesher" (contributor 46961880).

⁵⁰ Find A Grave, CSD (<https://www.findagrave.com/memorial/147640579/zelia-l-maxon>), memorial 147640579, Zelia L "May" Lynn Maxon (1882-1929), Coleman Cemetery, Porum, Muskogee, Oklahoma, maintained by "Delores Shoemake" (contributor 48263643).

⁵¹ Muskogee County (Oklahoma), "Marriage Record: [vol] 11: Nov. 26, 1915-Aug 28, 1916," marriage license, p. 89, Herbert A Maxon and Zella Lynn, issued 30 December 1915; imaged in "Oklahoma, County Marriages, 1890-1995," *FamilySearch* (<https://www.familysearch.org/ark:/61903/1:1:QVP6-H6Z6>), digital folder 004708244 > image 83 of 694; citing Muskogee County Courthouse, Muskogee, Oklahoma.

⁵² "United States, Social Security Numerical Identification Files (NUMIDENT), 1936-2007", database, *FamilySearch* (<https://www.familysearch.org/ark:/61903/1:1:6K76-RY1X>), Lois Zelma Johnson, 13 March 2002.

⁵³ Muskogee County (Oklahoma), "Marriage Record: [vol] 38: June 6, 1935-May 6, 1936," marriage license, p. 247, Bill Johnson and Lois Maxon, issued 19 October 1935; imaged in "Oklahoma, County Marriages, 1890-1995," *FamilySearch* (<https://www.familysearch.org/ark:/61903/1:1:QVP6-ZHWZ>), digital folder 004708265 > image 185 of 830; citing Muskogee County Courthouse, Muskogee, Oklahoma.

M5 is a child of Walter. 2c1r sharing 184 cM over 11 segments.

10. **Luke W² Lynn**

11. **Martha Colony² Lynn**

Thomas Talmon Parker was born on 19 July 1926 in Heavener, Le Flore, Oklahoma.⁵⁴ Thomas died on 18 December 2009 in Portland, Multnomah, Oregon.⁵⁵ Thomas married Kathleen Gladys Davis on 7 April 1951 in Los Angeles, Los Angeles, California.

Tester1 and tester2 are children of Thomas.

12. **Calvin Matthew² Lynn** was born on 8 November 1889 in Calico Rock, Izard, Arkansas. Calvin died on 28 March 1960 in Alpaugh, Tulare, California. Calvin married Maude Melinda Yeager on 20 April 1913 in Hughes, Oklahoma. Maude is a sister to Mary Jane Yeager who married William Thomas Martin.

Ruby Lynn was born on 30 March 1926 in Stuart, Hughes, Oklahoma. Ruby died on 2 April 1980 in Taylor, Iowa. Ruby married Delbert Arthur Madison on 10 May 1945 in

M6 is the grandchild of Ruby. 2c1r sharing 65 cM over 6 segments.

⁵⁴ Oklahoma, Department of Health, delayed certificate of birth, state number 1250-190, Thomas Talmon Parker, birthdate 19 July 1926, issued 13 January 1953; photocopy delivered to Sherrill Parker, Thomas's daughter, in the 1980's, held in Grawrock Archives, Ivins, Utah, scan of photocopy uploaded to *FamilySearch*, 16 October 2019 (<https://www.familysearch.org/photos/artifacts/95702809>).

⁵⁵ "United States Social Security Death Index," database, *FamilySearch* (<https://familysearch.org/ark:/61903/1:1:JTKH-NYC>), Thomas Talmon Parker, 18 December 2009; citing U.S. Social Security Administration, Death Master File, database (Alexandria, Virginia: National Technical Information Service, ongoing).

Appendix B - DNA Explanations

Gephi Graphs

Generically, a network graph displays a set of nodes and how the nodes connect to each other. A Facebook network graph shows a set of Facebook users, the nodes, and when the two users are friends a line, or edge, indicates they are friends. Those users with lots of friends, have lots of edges. When friends share friends, the resulting graph shows a cluster of nodes, all with interconnecting edges.

A DNA genetic network graph works the same way. The nodes are individuals the tester matches with, and the edges are when two matches also match each other. When nodes cluster together the implication is that the nodes share a common ancestor. When a node has many edges, then the individual matches many other matches. For example, the node for the testers mother likely has many connections, hence lots of edges. A node representing a far distant cousin may only have a couple of edges.

Colors

The colors on a Gephi graph indicate a statistical grouping, known as a modularity. On graphs with many nodes, the modularity likely represents a common line. On graphs where the underlying nodes and edges use segment and/or triangulations, a modularity may indicate a shared segment or triangulated segment. There is no meaning to the color palette as the program generates the colors assigned to a modularity through a random process.

Node circle size

The node size is determined by the shared cM value, the larger the circle, the larger the shared cM value. The size is relative to the largest shared cM value. Details for an individual graph are in the Gephi file.

Independent Validation

Independent validation occurs when a DNA match has multiple validated lines of descendants from a targeted ancestor.

Match Table*Table 2 Match Table Description*

NAME	RELATIONSHIP	CM RANGE	AVG	1 SD	ACTUAL CM	SEGMENTS	WITHIN RANGE	WITHIN 1 SD
PBT ENTRY1 (5 MATCHES)								
Match 1	5c	0-117	25	7-43	38	1	Y	Y
PBT ENTRY2 (15 MATCHES)								
Match 2	5c	0-117	25	7-43	53	2	Y	N
PBT ENTRY3 (1 MATCH)								
Match 3	5c1r	0-80	21	6-36	9	1	Y	Y
Citation.								

The match table provides a description of the matches and how they relate to a test taker. If the table is describing multiple test takers, there will be an additional column to indicate, for each row, the identity of the tester.

Column Labels

- Name
 - The name, or identifier, from the testing site. Given the name, a search within the matches should allow for reviewing the match details.
- Relationship
 - The calculated relationship between the tester and the match using the PBT.
- cM range
 - Using the indicated relationship, what is the expected range according to DNAPainter.
- Avg
 - Using the indicated relationship, what is the expected average amount of cM according to DNAPainter.
- 1 SD
 - Using the indicated relationship, what is one standard deviation from the average according to DNAPainter.
 - In statistics, the standard deviation is a measure of the amount of variation or dispersion of a set of values. As calculated by DNAPainter for the relationships, it provides an indication of how close to the norm the shared cM is.
 - If the actual cM value is within one standard deviation, then there is nothing suspicious regarding the amount of the indicated relationship.

- If the actual cM value is greater than one standard deviation, then there may be nothing suspicious as the shared cM is just a bit of an outlier or it may be an indication that the relationship is not as per the PBT but potentially a generation or two closer.
- If the actual cM value is less than one standard deviation, then there may be nothing suspicious as the shared cM is just a bit of an outlier or it may be an indication that the relations is not as per the PBT but potentially a generation or more farther away.
- Actual cM
 - The amount of shared cM between the tester and the match.
- Segments
 - The number of shared segments between the tester and the match.
- Within Range
 - If the shared cM is within the range for the indicated relationship.
- Within 1 SD
 - If the shared cM is within one standard deviation of the average.
 - Y for within one SD
 - – for lower than one SD
 - + for greater than one SD

Rows

- Named Row
 - Row which contains the name of the PBT entry the following rows will related to.
 - The number of matches is an Ancestry calculation. ThruLines provides the number.
- Match row
 - Contains the details as per the column descriptions.

Misattributed Parental Event

A Misattributed Parental Event (MPE) occurs when an expected parent, in the PBT, is not the biological parent. There are three cases of MPE, the father is wrong, the mother is wrong, or both are wrong. In the MPE context there is a difference in the types of wrong. Wrong could mean totally unrelated, adoption for instance, or wrong generation, as in grandparents raising a grandchild as their own.

Non-familial MPE

A non-familial MPE occurs when there is an unrelated parent or parents. With a non-familial MPE the expected DNA from the PBT is not present, biologically the individual belongs in some other tree.

Familial MPE

A familial MPE occurs when there is a relationship between the biological parents and the listed parents. For example, when grandparents raise a grandchild as their own child, the child does have DNA segments from their grandparents, but at a generation farther back and they have DNA from the parent unrelated to the grandparents. While easy to distinguish when dealing with close relations to the test taker, the difference is much harder to detect when researching 3rd or 4th grandparents and their offspring.

MPE Chances

The International Society of Genetic Genealogy (ISOGG) Wiki states:

The studies of Bellis et al. and Anderson, and the remarks attributed to Jobling, suggest an emerging consensus that for families where paternity has not been an issue, paternity tests are showing average illegitimacy rates in the order of 2%. However for families where paternity is disputed the average rates may approach 30%. Presumably disputed paternity is relatively uncommon in such tests, as Bellis suggests a median rate of 3.7%.⁵⁶

The chances of an MPE are cumulative, that is the more generations between the tester and the MRCA, the higher the chance an MPE affects the PBT. Using the 2% rate, then after five generations there is a 10% chance of an MPE.⁵⁷

Shared cM

Absent an MPE, siblings share on average 2600 cM⁵⁸. If the MPE is a different father or mother, the siblings share only half that amount or around 1800 cM. In the cases where there is a familial adoption, i.e. grandparents raising grandchild as their child or adopting a cousin, then the shared cM amount could be in a very different range. If the MPE is an unrelated father and mother, then the siblings would share 0 cM.

The analysis of the shared cM between testers and matches is an attempt to mitigate the cumulative MPE effect. If first cousins share the appropriate amount of cM, 396-1397, then the two share the same grandparent.⁵⁹ But DNA is tricky as the shared cM between parent and child is a random amount and very quickly ranges overlap.⁶⁰ For instance, the range on first cousins is 396-1397 and the range for a half niece is 492 -1315, making the analysis of a 600 cM match not an automatic assignment. Additionally, the more generations to the MRCA the more likely that the expected range will start at zero. That is, the DNA recombination events between parent and child eventually leads to none of the MRCAs DNA being present. If the PBT predicts the match to be a

⁵⁶ International Society of Genetic Genealogy (ISOGG), WIKI (https://isogg.org/wiki/Non-paternity_event#Incidence_rates_of_NPEs), "Non-paternity event," rev : 12:59, 22 March 2021.

⁵⁷ ISOGG, WIKI, "Non-paternity event."

⁵⁸ Centimorgan (or cM) is a unit of measure for the frequency of genetic recombination; the higher the cM, the closer the relationship.

⁵⁹ DNA ranges are from: Blaine T. Bettinger, *DNAPainter*, "The Shared cM Project 4.0 tool v4" (<https://dnainter.com/tools/sharedcmv4>).

⁶⁰ The mechanics of parent to child DNA recombination, or mitosis, allows for a huge amount of variation. While the average amount is 50%, the actual amount shared could be

first cousin, then a shared cM amount of zero indicates an issue. If the PBT predicts the match to be a third cousin a cM amount of zero is possible.

Mitigating the cumulative MPE effect

When a tester and match are in a close relationship, like siblings or grandparents, the cM amount alone is sufficient to validate the proposed relationship. As the relationship distance becomes larger a single cM amount alone is insufficient to determine a relationship or to mitigate the potential for an MPE. What is necessary is an independent correlation with another test taker. If the two, or more, tests generally agree on the shared cM, then the chance that an MPE is present decreases. With sufficient independent tests, the probability of an MPE gets closer to zero and the DNA results confirm the PBT.

Segment Triangulation

A segment triangulation occurs when three, or more, individuals share the same DNA values on a specific chromosome. MyHeritage, FamilyTreeDNA, and GedMatch all provide tools that allow the display of segment triangulations.

There are two main benefits for segment triangulations: assurance of chromosome side and a guaranteed common ancestor.

Chromosome side

While it is common to identify a chromosome by a number, it is critical to remember that chromosome's come in pairs. That is for chromosome 1 there is a paternal side and a maternal side. When looking at a single DNA match it is impossible to determine the side of the match or even if the match is a random match with values taken from both sides of the chromosome pair. Segment triangulation removes all doubt, the match is from one side or the other. There is no marker that identifies the side, additional analysis using genealogy or DNA, is necessary to determine the side.

Common ancestor

With the individuals all sharing the same segment, there is only one way for that to occur, sometime in the past all individuals who share the segment have a common ancestor. The triangulation does not identify the common ancestor, which comes from doing traditional genealogy and building out each matches ancestry.

With the randomness of DNA recombination, the common ancestor could be farther back in the tree than expected. That is a DNA segment could be from an ancestor ten or so generations back.

MPE mitigation

When individuals have segment triangulation, and the PBT predicts the relationship, then there is no possibility of a non-familial MPE. As family members share common ancestors, the presence of a segment triangulation does not mitigate the potential for a familial MPE.