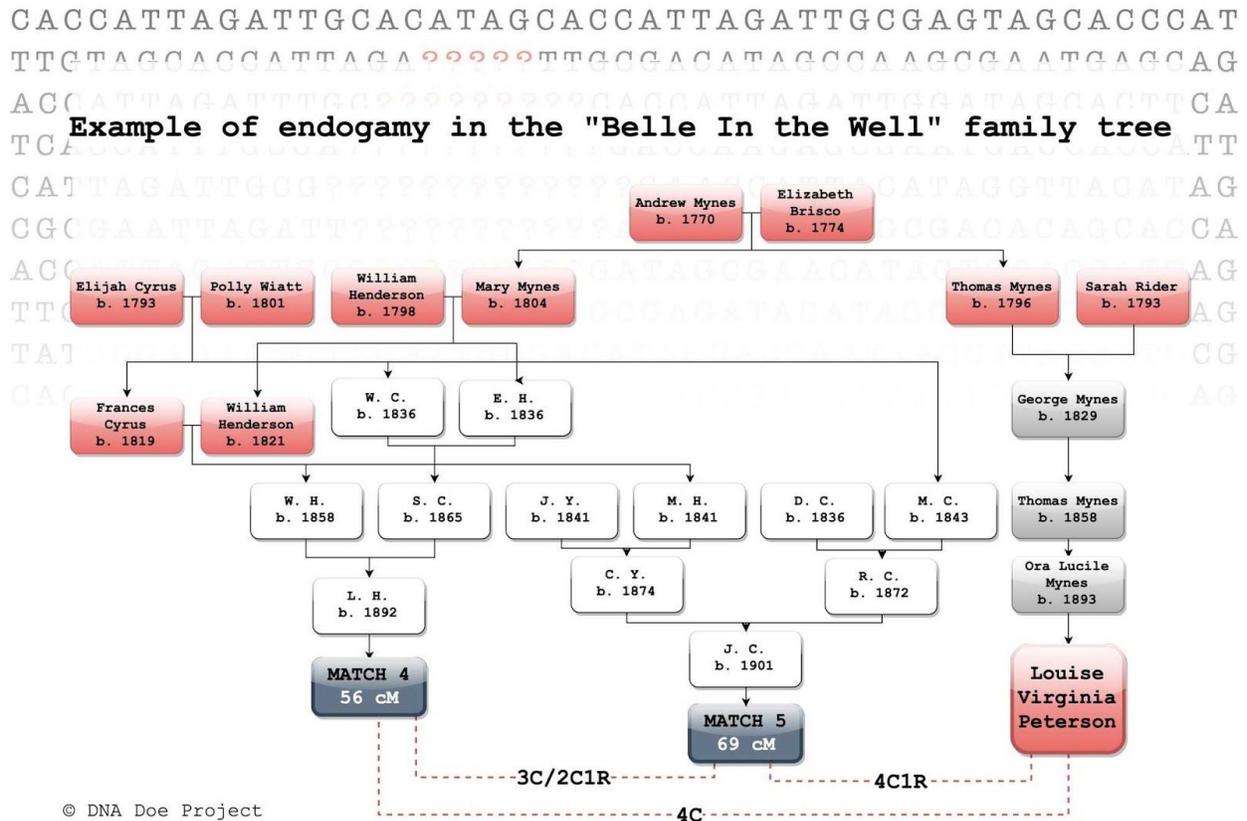


## “Belle In The Well” Press Conference DNA Doe Project presenter #2: Anthony Lukas Redgrave Forensic Genealogy Research section transcript



- As we worked out the family trees of Louises’ genetic cousins, we found that many shared more than one set of common ancestors
  - This is called endogamy. Endogamy is the the custom of marrying only within the limits of a local community, clan, or tribe. This happens in religious communities, geographically isolated groups, indigenous peoples, and is more common than you might expect.
- For example, match 4 and match 5 on this chart are both third cousins and second cousins once removed with each other, because they share two sets of common ancestors.

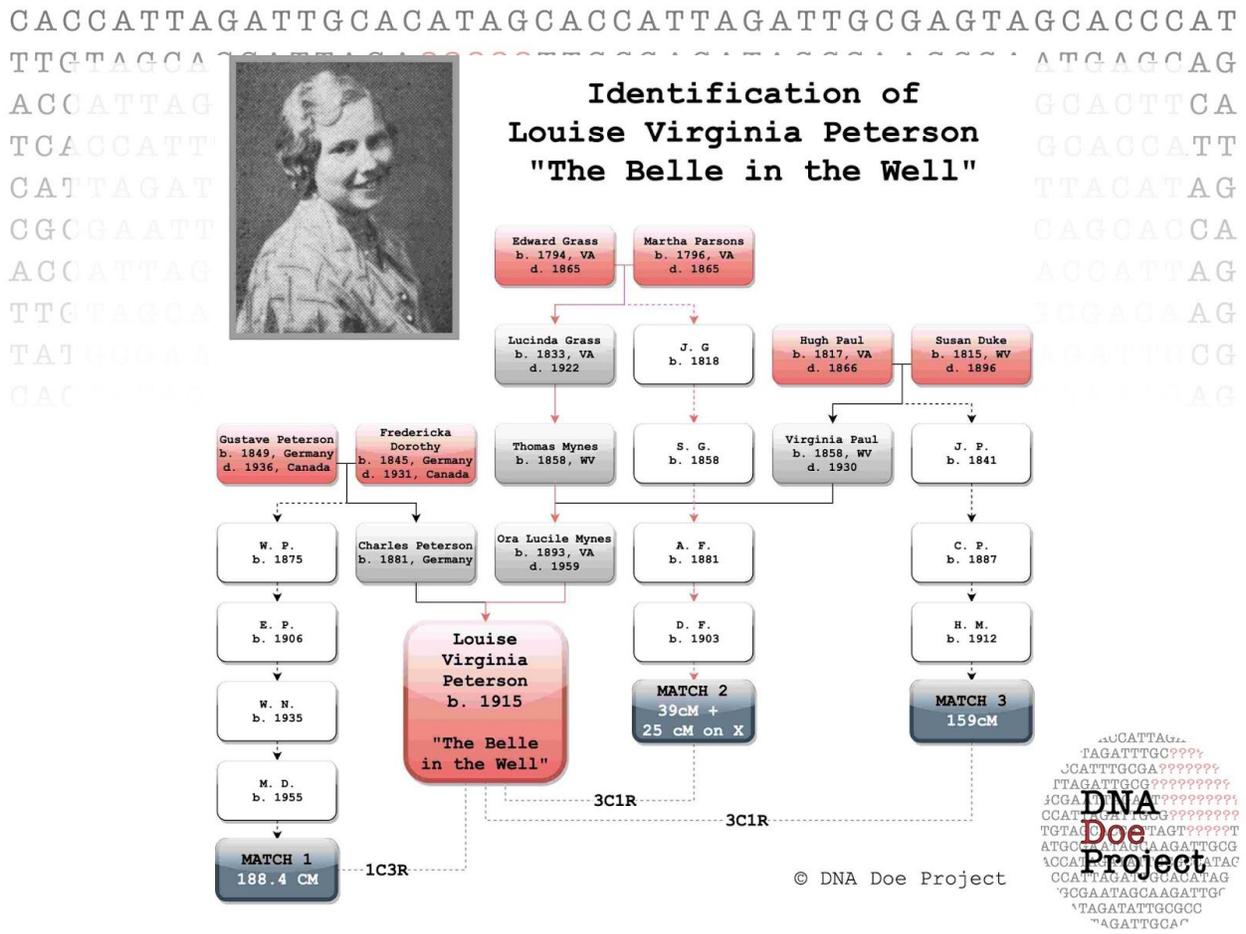
- When a person shares a single set of common ancestors, the DNA they share with each other falls within a predictable range that allows us to make a guess of how they are related to each other before we ever build out their family trees. When two people share more than one set of common ancestors, the amount of DNA they share is less predictable - more than if they shared only one common ancestor couple, making them appear possibly more closely related than they are.
- This paired with the degraded state of Louise's DNA made it so that for the first year or so of our research we weren't sure of the accuracy of what we were looking at.

CACCATTAGATTGCACATAGCACCATTAGATTGCGAGTAGCACCCAT  
TTGTAGCACCATTAGA????TTGCCACATAGCCAGCCAAATGAGCAG  
ACCATTAGATTTG0?? **Genealogy Timeline** ATTGGATAG0ACTTCA  
TCA??CATTGCGGA?????????GACCAAGAGCGAATGAGGACCA.TT  
CAT????GCG?? **Jun 7, 2017 Plan to test Belle first discussed with DNA Doe Project** CATAG  
CGCGATTAGATT?????TAGOTAGGTTGGGAGACAGGCCA  
ACC????GCG?? **Aug 10, 2017 Belle's tooth arrives at Bode for DNA extraction** TAG  
TTC????GCG?? **Oct 6, 2017 Extracted DNA arrives at AMD for sequencing** AG  
TAT????GCG?? **Nov 25, 2017 Kit uploaded to GEDmatch** CG  
CAC????GCG?? **Mar 5, 2018 Second round of sequencing done, upload to GEDmatch** AG  
**Mar 15, 2018 Louise Peterson's name first emerges, seems too old**  
**Jan 31, 2019 New match appears, unrelated to WV**  
**Feb 2, 2019 Louise Peterson is identified as Belle**



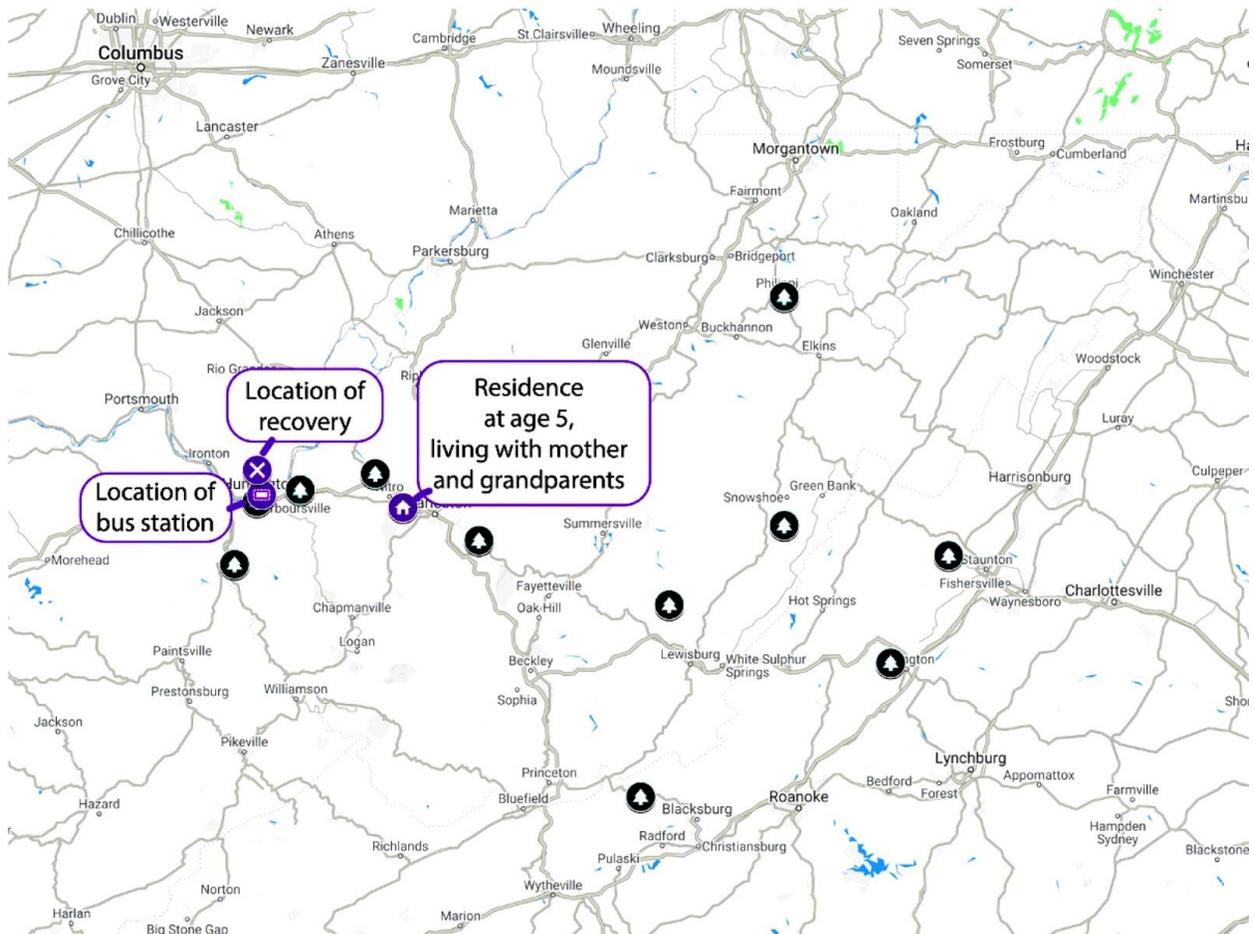
- In March of 2018 we first spotted Louise Peterson and found that she fit in to where we would expect to find a person that matched the Belle in the Well's autosomal profile. We moved on from her because she was much older than the predicted age range we were working with, and we had nothing to support her as a candidate for identification on her paternal side. We continued to look in other places for someone who might be a better fit.

- At the end of January 2019, around the time someone who may have gotten an Ancestry kit as a Christmas present might be getting their results back, a new DNA match appeared on GEDmatch who was not related to the other cousin matches. We knew this must be someone from the as yet unrepresented father's side. However, we did not have any other matches that we could use to triangulate which ancestor this new match might share with our Jane Doe, so we had to estimate how many generations back their common ancestor might be, and then work all of the descendancies from each ancestor at that generation level until we saw something familiar. This DNA match had a third great grandfather, Gustav Peterson, who moved with his family from Germany to Canada. Gustav's son Charles, the DNA Match's 2nd great grand uncle, moved from Canada to the US and married Ora Mynes - the mother of Louise Peterson. We knew at the moment we saw this marriage record come up that this was the connection we were waiting for.
  - We examined the possibility that Louise may have been the mother of the Belle in the Well because of her age being outside of the predicted age range, but upon reviewing the DNA matches for any signs of a genetic connection to Louise's husband, we determined that Louise herself was the belle in the well, and not one of her children.



Belle In The Well Identification Press Conference  
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- Ultimately, Louise escaped the endogamy common to her genetic cousins, and several of her top matches do fall within predictable ranges of shared DNA as compared to their actual cousin relationships. Match 1, the only match on the paternal side, had no double cousin relationships and is a first cousin three times removed to Louise. Match 2 and match 3 are both third cousins once removed.
  - Match 2 is unique and integral to our genealogical analysis because in addition to the amount of shared autosomal DNA, this match also shares a significant segment of their X chromosome with Louise. X DNA can only be inherited through specific chains from an ancestor. Either it comes from a direct maternal ancestor, or through an alternating mother-father chain. In other words, a father cannot pass an X segment to a son, so this can narrow the focus of what lines of descendency to look at when DNA cousins share an X segment. Since Louise and Match 2 both descend from their ancestors Edward Grass and Martha Parsons in a way that would allow them both to share a portion of their X chromosome with each other, this gave us extra assurance that we had made a positive identification.



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- While we found dozens of common ancestors between Louises's DNA matches, only a handful of those common ancestors were in Louise's direct ancestry. The majority of those common ancestors lived their lives very near to where Louise's remains were discovered. Their birth and death locations are depicted as green tree icons on this map. Before we ever had Louise Peterson as a person of interest, we could already determine that the Belle in the Well was found not far from the home of her ancestors. In fact, the cistern in which Louise's remains were found is only about an hour away from where she lived as a five year old child in the home of her mother and grandparents in West Virginia.