Sorting DNA matches with MyHeritage's Theory of Family Relativity

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Note – examples in the handout do not match the order of the slides.

What is the Theory of Family Relativity?
In brief it is a matching technology to suggest possible avenues for family connections. The theory examines

- family tree data
- historical records
- DNA matches

It may not be correct for several reasons such as

- family trees are inaccurate
- records may have been mis transcribed
- DNA matches may be too small or are false matches.

Like everything in family history research, we need to check all the information carefully and ensure that it is correct.

Is the Theory of Family Relativity Useful?
Yes, but remember to confirm the information using the usual family history tools and resources.

In November 2025 there was a major update to the Theory of Relativity with a further 103 million theories added. That is an amazing addition and while not all may be correct, there will still be those which confirm family connections or suggest pathways to those connections.

This presentation is a case study where I explore my deceased mother's DNA to try and understand some of the ethnicity findings along with identifying DNA matches.

Mum's Ethnicity
According to my paper research (first started in 1977 so almost 50 years) Mum is pure English. By profession I am a librarian, archivist, historian and genealogist so I'm reasonably certain that my research is accurate. Although I would be first to admit we can all make mistakes.

Ethnicity is not an exact science as it depends on the data pool and is updated from time to time. Therefore, it can change.

According to MyHeritage Mum's ethnicity in January 2026 is

- English 43.9%
- Scottish and Welsh 23.4%
- Breton 19.0%
- Dutch 8%
- Germanic 3.9%
- Danish 1.8%

This analysis meant that Mum had just over 50% of her ethnicity which was not English.

Some of that can easily be explained. Mum's grandmother was Cornish and those family lines can (more or less) be traced back to Norman knights who arrived with William the Conqueror and settled in Cornwall. Breton 19% is easily explained by looking at location and history.

My ethnicity is

- Scandinavian 52.3%
- Irish, Scottish and Welsh 41.9% (Eastern Ireland and Midlands England additional groups)

The Midlands England is Mum. The rest of my ethnicity is Dad but no Scandinavian although he has three unknown biological direct ancestors within three generations so that will be a case study for another day.

My Research Question
Could the Theory of Family Relativity assist in sorting Mum's DNA matches and help explain some of the unexpected ethnicity?

I have 42 DNA matches with a Theory of Family Relativity and my brother has 62. That's 20 theories more than me. Also shows that siblings should test as results can be different.

Mum has a staggering 82 DNA matches with a Theory of Family Relativity. At this point I knew there would be some breakthroughs and perhaps some inconsistencies or incorrect assumptions. Exciting.

Look for common ancestors
Start with known relationships. This helped to understand the connections between DNA matches and family trees. In the first example, my Cornish great grandmother Dorcas Trevaskis was listed as the sibling of Nicholas William Trevaskis. The family tree was wrong as Nicholas was the son of James Henry's first wife. They were half siblings and the DNA the two family lines share must be Trevaskis or Hosking DNA as Dorcas and Nicholas had different mothers.

Another Cornish example on the Rosewarne family line. Mum shared 10 segments with a second cousin of her mother. Looking at the family tree Elizabeth Rosewarne and Nanny Rosewarne were the daughters of Henry Rosewarne and Mary James Pearce. This tallied with my paper research and confirmed that I now had identified either Rosewarne or Pearce DNA or a mix of both. The chromosome browser could then be used to further identify and match up any triangulated segments.

A small 35.8cm match was partly correct on my Silk family although the match's tree showed two brothers as half siblings when they were full siblings. Three generations of Daniel Silk was confusing so watch out for generations especially when the same given names are used. There was a connection, just a generation out. Check the chromosome numbers too as they can differ between matches and the common ancestors. There may be relationships even further back which are not yet identified.

Look for close relations
The next example centres on Mum's paternal side, Price and Pollard. The latter is an unusual name and easier to trace than Price. A match with 108cM, the surname Pollard and a theory of family relativity revealed a match with a descendant of my GGG grandparents William Pollard and Elizabeth Pricketts. Their son William Pollard was my direct ancestor, and John Pollard was

his brother and direct ancestor of the match. This meant that Mum and the match were third cousins. This theory was based on four family trees and rated with 57% confidence.

A third cousin match with Mum had three segments with the largest 42.9cm and a total of 55.8cM. This is another example where the family tree is partly right with Mum and the match descending from a common ancestor. Peggy Hosking Trevaskis was the sister of James Henry Trevaskis, and their parents were James Trevaskis and Mary Anne Hosking. The match's tree has the right mother but has put in an incorrect father, Henry Trevaskis.

With most theories, there is more than one path. Another path for this same match shows Dorcas, daughter of James Henry Trevaskis as the half-sister of Peggy Hosking Trevaskis when in fact Peggy was Dorcas' aunt.

It helps to have a family tree chart beside you when looking at these partly right family trees. I like to make notes on them as I work out what is right and what is not quite right.

Also note the chromosome numbers so that you can compare other matches.

More distant relatives
As the DNA matches get smaller there is more room for errors. The next example is 30.8cM in one segment so probably a relative. But the family tree was quite wrong with an incorrect mother given to Emma Titt. Her mother was Rebecca Pragnell not Mary Anne Curnow. The match's tree went back to a Cornish Curnow family, and I do have Curnow's in the family tree but not this one. This theory of relativity was rejected but I can follow up looking at other Cornish matches.

The following example is also on the Emma Titt line and again a wrong mother has been linked to her. Seven family trees and one historical record are linked in the theory which only has a confidence rating of 35%. This theory was also rejected.

Another small match of one segment and 24.9cM linked back to Cornwall but again a wrong mother was attributed to my direct ancestor, Mary Pearce, mother of Elizabeth Rosewarne. The segment was identified as Chromosome 4, so I then used the chromosome browser tool to compare different matches to see who also matched Chromosome 4.

Remember if the theory is incorrect, you can use the other MyHeritage DNA tools to look for matches that are linked to the right ancestors.

Single segments
This is one of my favourite ways of using the theory of relativity. The next example is a single segment of 23.4cM and according to the theory it's a fourth cousin of Mum. The chromosome is number 19 and the family tree links my Rebecca Pragnell to an incorrect Pragnell family.

By looking at the birth dates on the family tree example it seems suspicious that my Rebecca born in 1816 is the half sibling of George born in 1843. Not impossible but is it probable? Also compare place. My Pragnell family is from West Tytherley and the other Pragnell family is from East Tytherley. Yes, close but different. Connected but not just as shown in the family tree.

Surname variants
This next example is another common ancestor but with a different surname spelling. Two shared segments with the largest 22 cM and both segments on chromosome 19. The family tree

in the theory of relativity is correct, but it shows that one brother used the spelling Titt and the other brother used the spelling Tyte. It may be pronounced the same way but a slight variant. Both lines are from Wylye in Wiltshire.

I have another family where half the siblings were called Hair and the other half Hare. Very confusing but all had the same illiterate parents.

Small matches
I usually don't look at anything under 15cM in one segment unless I have good paper-based research to help guide me. These are usually marked with low confidence but may still have a theory of family relativity. It is about fifth cousin level which is quite distant. The example here is 19.6cM but over three segments with the largest only 6.8cM. The theory was incorrect in the family tree and rejected on the basis that it was probably false matches.

Where to next?
In conjunction with the theories of relativity, I used MyHeritage's Cousin Finder to help with Mum's DNA matches. Some of my cousin matches indicated a DNA match and others did not so you do need to cross check. Also, I noted a DNA match without a theory of family relativity.

Use all of MyHeritage's DNA tools.

What did I achieve?
It was a useful exercise.

- Greater clarity around Mum's Cornish families
- Insight into my Titt and Spragnell families
- Insight into my Pollard and Sweatman families
- But no clarification on Welsh, Dutch, Germanic or Danish roots as per ethnicity estimates.

Lessons learnt
- Check family trees carefully
- Watch out for 'odd' dates, do places match
- Variant spellings of surnames

Last thoughts
- Check theories of family relativity
- Can prove family connections
- Can provide clues based on place
- Be wary of small false matches
- Good luck!

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Legacy Family Tree Webinars
January 2026