

Notes for Breaking Brick Walls with DNA

By Kitty Cooper

[Slide broken brick wall]

Introduce myself, started family history at aunt's funeral in 1997

[slide Kristiansand]

My biggest brick wall was my 4th grandfather Lars Monsen (a name like John Smith would be in New England) . He was a Norwegian sailor who met a girl far from home and married her, settling in Norway's southernmost city Kristiansand. 5th largest city at about 150K where the temperature rarely goes above 77 F in the summer but 27 is the average winter low, positively balmy for Norway. Kristiansand is at the same latitude as Anchorage Alaska ...

{slide letter excerpt}

According to a letter my grandfather wrote to my father during World War II Lars was born about 1790 in Bergen.

How many of your ancestors lied or misrepresented their birth year? How likely is this year?

[slide Norwegian digital archive]

My brick wall ancestor's name Lars Monsen is fairly common in Bergen, not quite the equivalent of John Smith in Massachusetts say, but maybe something like Richard Smith ... By the way Monsen means he is the son of Mons, most Norwegians did not use surnames as we do until about 1900 but that could be the topic of a whole other lecture on Norwegian ancestors.

My 2nd cousin Dick, a wonderful genealogist, and I had looked at the ten possibilities of Lars Monsen's we found in the censuses born between 1785 and 1795 in the Bergen area and really had no clue which one was ours. These days you can use the online digital archives and when I replicated that search I found 30 candidates!

[slide ancestor diagram with Y]

Then along came DNA testing, Lars seemed a perfect candidate to find this way since my Dad is in the direct male line of descendance from him. The Y chromosome changes very little over time and is passed father to son without recombination (since there is only one copy) so the only changes are mutations. Thus it can be used for paternal line searching quite easily.

[slide Dad markers]

For genealogical purposes, the Y test looks at the STR (short tandem repeats pronounced STIRs). These markers change more rapidly than the SNPs (single nucleotide polymorphisms) on the Y. Think of the STRs as places where your DNA stutters, in other words it repeats itself. Mutations happen in the number of repeats frequently enough to determine if two men are related in a genealogical time frame.

Your haplogroup is determined by your Y chromosome SNPs and indicate deeper ancestry. SNPs are

mutations where A G may have become a C or a T an A.

Here we see my Dad's STR results. This is not a very useful display by itself. So I joined him to the Norwegian DNA project to see the big picture. There is likely a project for your area, surname, or haplogroup

[slide markers colorized just Dad]

This slide shows the colorized Y results spreadsheet from a family tree DNA project that lists the STRs across the top, and each row has a test result. I am only showing Dad plus the expected ones for his haplogroup. The STRs in red are prone to more rapid mutations

In order have a match, two men need to have the same haplogroup and STR values which are almost the same within 4 steps depending on how many markers. A father and son are usually the same but can differ by one stutter, this is known as “one step”. So instead of 12 repeats at a marker the son might have 11 or 13.

[slide ftDNA matches ...]

Dad matched almost 6000 people at 12 markers on [the family tree DNA site](#). Upgrading to 25 markers got him down to about 2000. Upgrading to 37 eliminated all his matches but one with an ancestor from Sweden who never replied to my emails.

This is a common problem. If you are not part of a surname project but just test your Y hoping to find a match, much of the time there will not be one so either wait many years or try some other approaches.

[slide Ysearch.org]

My other approach was to try the [Ysearch.org](#) site. Again no good matches at 37 or 33 markers. So I decided to look for only Bergen area matches with fewer markers tested. If you use family tree DNA for your Y test, which I do recommend, they will automatically upload you to this non profit site when you press a button at the bottom of your page where you can compare your Y results against those who have tested at other companies as well as those from family tree DNA. It has some extra search tools as well

I contacted the two people I found from Bergen and heard back from one, Sigmund, who lives in Bergen, Norway. He enthusiastically took on my case.

[slide Norwegian forums]

Next he upgraded to 37 markers to see if we still matched. While we waited, Sigmund, posted some queries in Norwegian in the best Norwegian forums for the Bergen and Kristiansand areas and the local historian/genealogy experts found a few more records like his 2nd marriage, and weighed in and found a very good candidates for our Lars.

Now Sigmund went to bat and tracked down Einar, a male line descendant of the paternal grandfather of the most likely Lars. My possible 5th grandfather Ole Monsen Titland born 1702.

Sigmund called Einar on the phone and convinced him to test. Sigmund had a spare test he had gotten

on sale which he sold me and mailed to my possible cousin. We decided to start with 12 markers and only upgrade it to 37 if it matched at 12

Waiting is always hard

[slide new 37 matches]

Einar was one step off at 12 which was a little discouraging since Dad had a few thousand perfect matches, but it was well within tolerance so I upgraded his kit to 37.

{slide Tip file}

This is the Tip report I got when I clicked Einar's little Tip icon on the new 37 marker match page which now includes Einar

I think they have to be cautious with their predictions. I decided to look at the three markers where they differed and form my own opinion. Our presumed common ancestor lived 300 years ago and is 6 generations back from my Dad so a 3 marker difference seemed reasonable to me

[slide Norwegian Y chart]

I also joined both kits to the Norwegian Y DNA project which let me see this pretty comparison. I have removed several hundred others so we can focus on these two and it is a very long page so I moved one piece under the other for a better view

As you can see they match at all but 3 spots and it is easy to see which ones and whether they are red for faster mutators. When I did this search 2 years ago, two of the markers were red so I only googled the third one and found that it was often faster in the R1b haplogroup

[slide Lee Family]

My other brick wall that traditional genealogy research was not getting anywhere with was my great-grandmother Maren Wold, all the way to the left in this family picture. She was born in the Drammen area. I knew her birth year so I searched every churchbook in that area to no avail.

Then one day I got an email out of the blue saying I think your Maren Wold was the sister of my gg-grandfather Martinus Wold. It turned out that they were from a town called Skougar which was in the next county over from the one Drammen is in! No wonder I had not found it!

{slide Jorgen and Anna}

He sent me pictures of her parents, which I had never seen before, a translation of the farm book, and the genealogical research they had done in Norway. Don't you dream of getting an email like that! He had found me because I had made a web site for my family history and had my tree online.

So this brick wall was not broken with DNA but wait, there is more ...

[image of Maren birth record]

What a break through! Now it was easy to find her birth record and Martinius' and also to find them in various census records

Next I started working on the family trees of these two and made some progress with Jorgen but not much with Anna. In the meantime I decided to try the autosomal testing at 23andme for me, my Dad, and my brother and see what turned up. I got a deal on 4 kits for \$9 a month back when these tests were over \$300.

[image DNA relatives]

So a number of Norwegians turned up in our DNA relatives list. This fellow looked like a close relation and he was living in the Drammen area ... O.K. was clearly an accomplished Norwegian genealogy researcher as he went right to work on finding our relationship

[image OK, knut, etc matches with us]

Here is how he looked in the chromosome browser.

He soon wrote to me and said I think you have the wrong parents for Anna Knutsdatter Wold.

Well at least it was not my research! And I had not gotten far with my research into her presumed parents

[slide GENI relationship]

There were two Anna Knutsdatter's born that year in Seljord and the other one is my ancestor and would explain my shared DNA with O.K., although it is pretty distant. He gave me links to the online records that proved his theory. So I hooked her up to her new parents at GENI and here is the relationship path.

Still 8th cousins once removed seemed too distant for that much DNA

Meanwhile his parents DNA tests came in

[slide DNA relatives with OKs parents]

As you can see each of his parents is related distantly to my dad. So OK is doubly related which explains the amount of DNA and the incorrect closer relationship predicted

[slide chromosome browser]

Here is how that looks in the chromosome Browser. The piece on chromosome 9 presumed from the Glaim family does triangulate with several of my WOLD side cousins but the large piece with OK's mom is still unaccounted for 2 years later ..

[slide GENI tree]

Here is Anna's new tree up from those new parents over at GENI and which gives her many new ancestors for me to research. I have found many of them in the bygedebuks

Since then I have confirmed this line with several other folk descended from her new ancestors who triangulate nicely ... but that is in my next lecture on triangulation

combining DNA with traditional genealogy (and a few good helpers) can break your brick walls