DNA – Analysing the results

#### A short presentation at MLFHS Irish and Scottish Beginners’ talks.

1. Why your ethnicity doesn’t match your family tree (or perhaps it does)
2. Why you and your favourite cousin don’t seem to be related (and it probably has nothing to do with the milkman)
3. Show you how to sort through the 45,000 matches that you get on Ancestry

Every generation receives half of their mother’s DNA and half of their father’s DNA in a process often referred to as ‘shuffling’. It’s a mix. It doesn’t come with handy little notes that says “with love from mum” or “sorry, kid, you got the long nose from your dad”.

You have 22 pairs of chromosomes called autosomes – this is where autosomal testing gets its name. You have been matched with between 20,000 and 60,000 people (as a guide) who each share a piece, usually a different piece, of DNA with you. That doesn’t mean that they are all family. In the mix there will be people who match because of location – you could argue, of course, that if you could track your family tree back a few thousand years you would find a match, that you and Vlad the Beard came from the same village somewhere up north; everyone has that possibility.

The Pareto Principle is often quoted in business, and it applies to nearly everything you do. In this case we can say that only 20% of your DNA matches will yield 80% of really useful information. But, unlike business, where that 20% can usually be analysed by sales, etc., the DNA matches need to be collected together in clusters to narrow down the results. It only takes one DNA match – it could be a first cousin with 750cMs of matching DNA or a 5th-8th cousin with 12cMs of DNA – preferably with a well-researched tree attached, to link everyone in a cluster to an identifiable ancestor.

Halving and shuffling the DNA means that, although unlikely, even first cousins can appear not to be related by DNA. It might be that two relatives do share the same DNA but that one has so little that matches the other that the computers are unable to validate the match, they have insufficient certainty to report the chromosome segment as a match. Another reason, of course, is that at some point the family has been dislocated, a new partner has been involved, an informal adoption took place or a child was born in the workhouse. Look at DNA results with an open mind. Rumours of an affair may prove to be completely untrue, it just might take a while to find a cluster of DNA matches that do link you with the right ancestor. Who knows what you will find or never find? Ancestry only tests the 22 autosomes; testing the X and Y chromosomes might help. Get to know Ancestry and try uploading your results to My Heritage first. You will soon feel confident to move on if needs be.

Thru-lines are a computer-generated guess at naming your presently unknown ancestors. They are based on a mix of DNA results and names in family trees. Treat them as suggestions, enjoy doing the research to see if you can match up with the same names, and then use your research to decide whether the Ancestry suggestions are useful or not.

## Groups

Ancestry has a relatively new feature called Groups. Groups, identified by coloured dots, can be created for surnames and locations (occupations can sometimes by useful, too) and the groups can then be assigned to other DNA matches that share the same DNA.

Shared Matches are invaluable. These list only the people who share DNA with each other. Begin with your best DNA match – let’s call it Miss Scarlet, hopefully you will recognise some names and know which side of the family tree is connected; click on ‘Add to Group’, create a group, give it a meaningful name, then Add a Note to explain the connection. Next go to Miss Scarlet’s Shared Matches. Add everyone in that list to Miss Scarlet’s group. Now open up Miss Scarlet’s best match – we’ll call this match Mr Amber. The first thing you will notice is that some of the names in the list will already have coloured dots indicating that they are in this group, but it is very likely that there will be more matches to add. They will share the same DNA with Miss Scarlet, but it might be different from the DNA that Miss Scarlet shares with you – but it is still a valid match.

Triangulation is when you and two other matches share exactly the same DNA segments. My Heritage will show this as a chart (and as a download), Ancestry state that shared matches share the same segment of DNA, but not exactly which segment is involved. Even so, Ancestry is just as reliable and will usually return far more matches than the other companies and is a good place to start.

The search boxes are equally valuable. Search for surnames, not just your ancestors’ surnames, but the surnames of married daughters and cousins. Search for locations, especially smaller towns and villages. Add these results to groups if you can identify a link, and create groups for the locations. It all saves time and effort in the future. Most importantly, every time you revisit your DNA matches, those coloured dots and any notes you add will be there, in the list, clear to see.

Persevere. Someone out there may have just put their DNA test in the post. In a few weeks’ time it will appear in the ‘New’ list. It might be the DNA match of your dreams, the one that finally identifies a cluster, that is backed up by accurate research (or at least replies to messages) and who confirms that, yes, you are probably a Viking and, no, the milkman was not your father. DNA is a wonderful finding aid, use it to confirm your matches and to help to build your family tree. Enjoy the process, enjoy talking to new cousins even if your tree gets wider rather than taller. One last thing, if you have a family tree that is full of hard-won research, you do not have to allow everyone in the world to see your research and your photographs. Build a separate bare bones tree instead, it won’t take long, include the usual BMD information and extend outwards to include as many surnames of cousins as possible, link the DNA test to your bare bones tree and keep your research private. Anyone can message you and it is your choice whether to share any details with them or not.

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