



# DNA for your ONS: Drawing Conclusions

by Susan C Meates (DNA Advisor, Member 3710)

**T**here is a strong temptation to start drawing conclusions about the surname, even when just a fraction of the surname has been tested. Below are issues to consider before drawing conclusions.

## Overview

A DNA project is a long-term one. Over time, the number of participants increases. A consistent approach to raising donations and recruiting participants will result in the steady growth of your project.

## The Surname

The situation for each registered surname is different. For example, some surnames have many variants; others a small number or none. Some surnames are single-origin, while others are multiple-origin. Some surnames have had migrations to multiple countries, while others have had limited migrations.

As your one-name study progresses, you build up information about the surname. This information is very beneficial to your DNA project, both to assist with recruiting and to provide a framework for analyzing matches and drawing conclusions.

For recruiting efforts, knowing where your surname is located today is very important. Focusing recruiting on the ancestral country is beneficial, though not all the family trees may still be represented in the ancestral country. Perhaps some trees have daughtered out (no longer have males with the surname) in the ancestral country, yet are thriving in a migration destination country – such as Australia or the USA – where you might find multiple male prospects to recruit to represent the tree in the DNA project.

## Frequency of the Surname

The frequency of the surname provides information about the scope of your one-name study, as well as your DNA project.

For a rare or low-frequency surname, you may have constructed family trees as part of your one-name study. You could, therefore, know how many family trees there are worldwide. Using the objective of testing two distant males per tree, your estimated number of required participants is known.

In some cases, perhaps only one male survives per tree, or there are limited branches in this tree, and the one participant to date had an exact or close match to another tree, which means that you don't need the second participant. In other cases, you may need to test more than two men to clarify relationship issues or to validate the major branches of a tree that covers multiple centuries. On average, though,

you can estimate your required participants at twice the rate of the number of trees.

If the number of family trees for your surname is known, you can monitor your progress by calculating the percentage of trees where testing is completed. The beginning is usually slow, though recruiting will pick up over time.

Since a DNA project is a long-term project, it is helpful to know where you are in pursuit of the goal to test all trees for the surname. When you have a count of family trees, the math is simple. You can easily calculate the percentage of trees tested.

When dealing with a higher-frequency surname, or where the family trees aren't constructed, it becomes more difficult to evaluate where you are in terms of testing the global population of trees for your surname.

In this situation, one methodology is to use a data set, such as the UK 1851 census, to evaluate your progress. For example, you could extract the census index, and combine the data into households. Put this data in a chart, and then when a tree is represented in the DNA project, mark off all the households connected with this tree. The further back in time you take a tree in the parish records, the more likely you will have multiple 1851 households to mark off.

If you have 654 households in the 1851 census, and 107 are marked as represented, you are approximately 16 percent of the way through testing in the UK.

The data set you use for other countries varies based on the records available. For the USA, there is the 1850 census, which is the first to supply birthplace. For other countries, you would decide the record set based on the records available, such as census, complete arrival records, *Griffiths Valuation*, etc. In the worst case – if there are no adequate historical records – use an online phone book, electoral rolls, or a combination of these two.

It is helpful to have a measurement tool of some sort to evaluate your progress in testing all trees for your surname.

## Drawing Conclusions

It is important, before drawing conclusions, to have achieved testing of a significant portion of your family trees – ideally all the family trees – as well as having done some surname distribution mapping and collection of early recordings.

If only 1 percent of your trees have been tested, how valid would conclusions be? Can you really count on the situation

as it stands to continue as more trees are tested? The situation could change dramatically between 1 percent of the trees and 50 percent, as well as between 50 percent and 90 percent.

As your project progresses you will be making discoveries about each family tree and the surname, so you will have discoveries to share with your participants – as well as your potential participants – which will motivate them to participate and contribute to the discovery process.

Matches with other surnames can lead to the assumptions of misattributed paternity (also termed non-paternity events, or NPE). Drawing this conclusion early in the project can often be incorrect.

I've seen situations where less than 1 percent of the trees have been tested: most of them match each other, and one is a match to another surname, such as Thomas. And then a conclusion is drawn of a misattributed paternity. Unless you have some evidence, such as illegitimacy, drawing a conclusion of misattributed paternity based on a fraction of your surname testing risks being incorrect.

I recommend that participants are set to match within the DNA project, so they are not tempted with other surname matches to draw conclusions. Until all the family trees have tested, how does anyone know whether there will be a same-surname match? And if there isn't a match then, without surname distribution maps and early recordings could this tree have the sole male surviving from a surname origin?

Your project will provide discoveries about the family trees, the distant origins, and the surname throughout the project. When drawing conclusions about the surname it is advisable that the majority of the family trees are tested first, and this information is used in conjunction with surname distribution maps and early recordings.

### **Want to Get Started?**

When you are ready to add DNA to your one-name study, the DNA Advisor is here to help, including providing proven marketing material to help you set up your project. Simply write: [DNA@one-name.org](mailto:DNA@one-name.org). You will receive a completely set-up project that you can modify, along with an easy-to-follow 20-step "Getting Started" email and a sample recruiting email and letter. ■