CONTENTS

INTRODUCTION

If you are interested in learning how modern DNA research can help uncover your family history, then this is a report for you. In the last few years DNA science has produced a wealth of genealogical information about our ancestors - where they lived, how they migrated over time, and how they managed to survive in different climates.

In this book we have pulled together information from some of the most recent sources to help explain the DNA journey of our ancestors. This is not a simple matter. Research findings are often hard to find as they are spread over a labyrinth of publications. We have tried to compile relevant research in a clear manner, yet with the underlying notion that the first objective of this report is to clarify the Buursink DNA picture to myself. Accordingly, we have divided this book into three main chapters:

Chapter 1, ***Our DNA and our Haplogroups***, deals with our DNA findings. We discuss DNA testing and what the test results mean in genealogical terms. These days the testing of DNA is no longer a complicated process, but in our case DNA investigations proved somewhat more involved. One of the key results of DNA research in genealogy is to find out to which Haplogroup one belongs. Haplogroups are genetic population groups of people who share a common ancestor. In our Buursink case, our Haplogroup was determined to be H2.

Chapter 2 presents ***The Story of our Ancient Ancestors,*** which traces the origin, migration, and cultures of our ancestors over the past many thousands of years. The chapter combines the newest findings of DNA genetic research with information from classic archeological investigations. The lives of our ancestors are placed in context of the main population movements during five distinct time periods covering the last 230,000 years and ending up with modern day Europeans.

The last Chapter, ***An Overview of Our Genetic Genealogy,*** offers a synopsis in table format of Buursink DNA and the migration of our ancestors through the millennia. In one broad time frame the overview combines Haplogroup development against a background of critical environmental and archeological information.

2.5 OUR EUROPEAN ANCESTORS IN HISTORIC TIMES, 500 BCE TO RECENT

The prehistoric population movements discussed in previous chapters largely determine the current distribution of various Haplogroups in Europe. Our knowledge of the distribution and movements of prehistoric populations is based on ancient DNA that is usually obtained at known archeological sites. However, our knowledge of the DNA of ancient cultures has its limitations. Most of the time, information on the terminal SNPs of ancient samples does not go deeper than H2 or is simply not reported. A frustrating example are the numerous well-dated human remains of Bog bodies primarily from the 1 000 BCE to 1 500 AD period where there seems to be no DNA information at all to identify Haplogroups[97]. To date, it has been almost impossible to get valid samples because the acid in bogs causes DNA to disintegrate.[98]

In-depth Y-DNA analysis of currently living H2 persons usually goes many levels deeper than H2. Research on modern samples has greatly refined the findings from ancient DNA. DNA analysis of modern samples allows for a more detailed determination of Haplogroup subclades and for more precise tracking of past migration trends and relationships. Despite progress made in recent years, it remains challenging to connect the analytical results of ancient and of modern H2 samples. It is difficult to determine if for example any H2 branches go extinct over time. Not enough information is available to connect the Y-DNA terminal SNPs of ancient H2 samples, if available, with Y-DNA SNPs of modern H2 samples.

Against this promising, but uncertain background, we review in this chapter the distribution of currently living Y-DNA H2 persons and focus on three historical elements that are important from a genealogical perspective:

- The three paternal ancestral components in modern Europe
- Modern H2 persons – their number and location
- Some outstanding genealogical issues.

2.5.1 Three ancestral components in modern Europe

Modern European populations can be distinguished based on three "Ancestral Components":

- Western European Hunter-Gatherers (WHG),
- Early European Farmers (EEF), and
- Ancient North Eurasians, who were of pastoralist descent (ANE).

These European populations came together in three major time spans well before the beginning of the Historic Period:

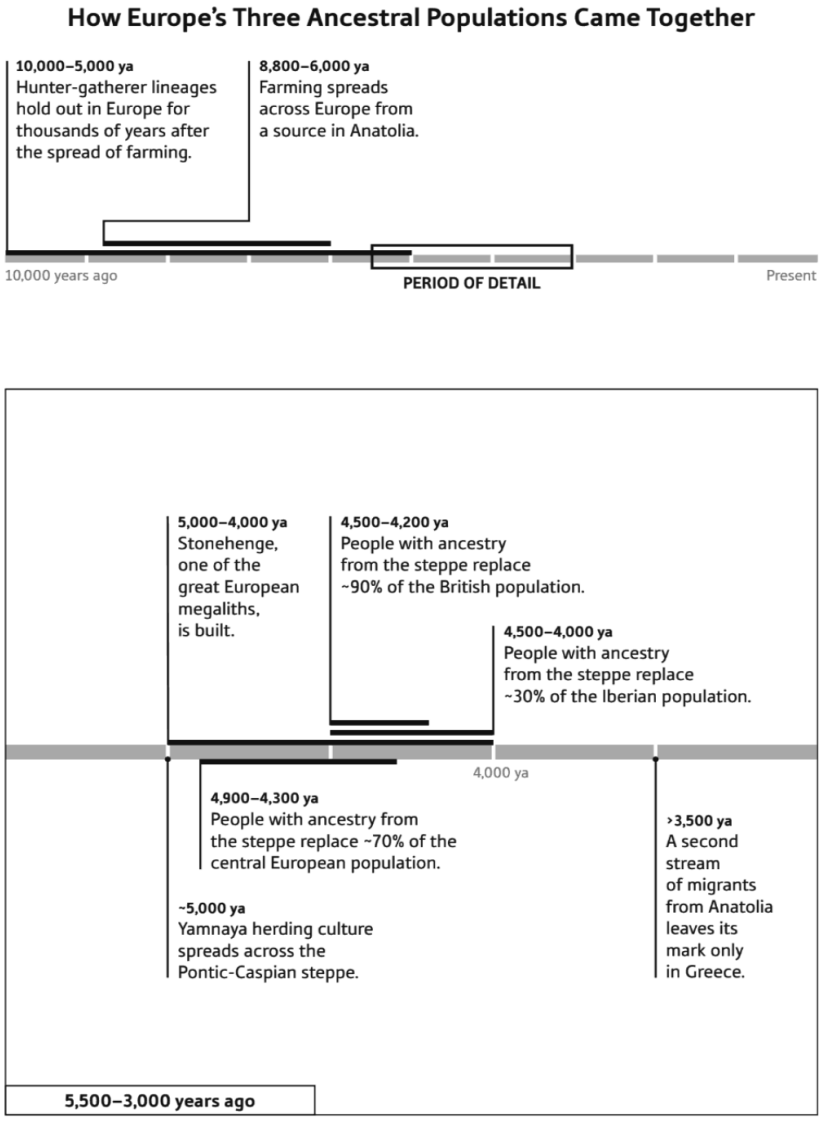
- 8 000 - 3 000 years BCE - Western European Hunter-Gatherer (WHG) lineages,
- 6 800 - 4 000 years BCE - The spread of Early European Farmers (EEF),
- 3 500 - 1 000 years BCE - Ancient North Eurasians (ANE) from the steppe; getting to western Europe about 2 500 years BCE.

[97] Roy van Beek et al, *Bogs, bones and bodies: the deposition of human remains in northern European mires (9000 BC-AD 1900)*, Antiquity (2023). DOI: 10.15184/aqy.2022.163

[98] Joshua Levine. *Europe's Famed Bog Bodies Are Starting to Reveal Their Secrets*, Science , May 2017

How and when the three ancestral populations came together is best demonstrated by Reich, who developed the graphic shown in Figure 34 (in years ago) that serves to support his views.

Figure 34 Three ancestral components in Europe: WHG, EEF and ANE[99]



[99] Reich, D. (2018). *Who We are and how We Got Here: Ancient DNA and the New Science of the Human Past.* UK: Oxford University Press.

As a result of these population movements, modern European populations can be distinguished by differences in the proportion of WHG, EEF and ANE ancestry. Admixture rates among these three ancestral groups vary geographically [100]:

- In the late Neolithic, basic WHG ancestry in farmers in Hungary was at around 10%, in Germany around 25% and in Iberia as high as 50%.
- The contribution of EEF is significant in Mediterranean Europe, and declines towards northern and northeastern Europe, where WHG ancestry is stronger. The Sardinians are considered to be the European group closest to the population of the EEF.
- ANE ancestry is found throughout Europe, with maxima of about 20% found in Baltic people and Finns.

Somewhat in line with the ancestral components, the current European population is characterized by three main Y-DNA Haplogroups:

- Haplogroup R1b in Western Europe
- Haplogroup R1a in Eastern and Central Europe
- Haplogroup I1 and I2 in Nordic countries and SE Europe.

An overview map of dominant European Haplogroups is given in Figure 35.

Figure 35 Predominant Y-DNA Haplogroups in Europe[101]

[100] https://en.wikipedia.org/wiki/Genetic_history_of_Europe
[101] https://vividmaps.com/dominant-y-dna-haplogroups-in-europe/