



Haplogroup G In The New Stone Age

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**This text is always under construction - the firm conclusions of today are the obsolete ponderings of yesterday*
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I: The Golden Triangle

As the Natufians spread north they likely pressured the groups of Haplogroup G2 into the valleys of Northern Syria, which in turn applied pressure on the G1 groups living there, pushing them east along the rivers flowing out of the Zagros mountains and the agricultural arch of Barley and Emmer. In Northern Syria, both groups additionally encountered the overlapping range of Wild Einkorn Wheat as well as animals that were prime for domestication, pigs, cattle, sheep, and goats.

Some of the G2 groups that may have formed in the valleys of Northern Syria [Yfull v9.01.00]:

- G2A2A:PF3147: formed 14,700 BC, TMRCA 10,100 BC
- G2A2B:L30: formed 14,700 BC, TMRCA 12,500 BC
- G2A2B1:M406: formed 12,500 BC, TMRCA 10,200 BC
- G2A2B2A:P303: formed 12,500 BC, TMRCA 9,400 BC
- G2A2B2B:PF3359: formed 12,500 BC, TMRCA 10,300 BC

At this time, both groups would have been considered part of a greater Pre Pottery Neolithic culture and living in an area of northern Syria known as the Golden Triangle. As the Natufians reached the North Syrian Valleys, they may have further cemented the wedge between the G1 and G2 groups living in the region and pressuring G2 groups west into Anatolia.

G1 eventually settles (perhaps assimilating with other haplogroups) in the area of the Northern Tigris where they would domesticate Pigs, Cattle, and Goats by 10,000 BC as well as acquire farm via cultural diffusion. Hunters learned that by controlling animals they once pursued, they could have reliable sources of meat, milk and milk products, and hides for tents and clothing.

By this time the following G1 Haplogroups would arise [Yfull v9.01.00]:

- G1A*-L1324 Formed 11,100 BC, TMRCA 2,700 BC
- G1A*-GG362 Formed 11,100 BC, TMRCA 6,800 BC
- G1A*-GG313 Formed 11,100 BC, TMRCA 7,300 BC
- G1A*-F2885 Formed 12,400 BC, TMRCA 5,600 BC

Eventually some of these groups would migrate north along the Caspian while others would push along the Zagros and further east into the Iranian Plateau.

II: The First Towns

In regard to the G2 group, they migrated north and west tracking rivers and resources into Anatolia possibly due to advantageous climate and resources, or possibly to pressured by an expanding Natufian presence. The men from this group would form the backbone of Anatolian Neolithic Farmers. The G2 group is also associated with the domestication of livestock, cattle, pigs, and sheep by about 10,000 BC.

While the G2 peoples were early adoptees of farming, many current researchers speculate that the G peoples did not bring farming with them to Anatolia, but rather would have acquired the knowledge via cultural interaction or their own innovation.

A 2018 study sequenced the whole genome of an Anatolian Hunter Gatherer from about 13,000 BC. The study found that 80-90% of the aDNA of this individual matched later Anatolian Neolithic Farmers. However, not a lot of safe conclusions can be drawn from one skeleton. One thing of note is that from between 13,000 BC and 7,000 BC about 20% of the AHG DNA was replaced with DNA from Iran/Caucasus Farmers as well as Levantine Farmers. Is it possible that the shared connection to Iranian/Caucasus Neolithic came from a mutual third source that split and influenced both AHG and CHG?

A 2019 paper from the Max Planck Institute asserted that the genetic interactions during this time period warranted further study. Researchers also found a pattern of interactions between pre-existing Anatolian Hunter Gatherers with their neighbors. By the time that farming had taken hold in Anatolia between 8,300-7,800 BCE, the researchers found that the local population had about a 10% genetic contribution from populations related to those living in what is today Iran and the neighboring Caucasus, with almost the entire remaining 90% coming from Anatolian hunter-gatherers. To add to this, Marchi (2021) infers that the Anatolian Hunter Gatherers were a mix of a kind of "Balkan" WHG like Iron Gates and some group they call "Near East 1" related to the Near Eastern component in Iranian Neolithic ancestry.

Around 8 or 9,000 BC, the innovations of farming, livestock, and eventually pottery would allow for the G2 peoples to live a more sedentary lifestyle. By about 7000-6000 BCE, however, the Anatolian farmers derived about 20% of their ancestry from populations related to those living in the Levant region which likely was the result of different interactions which may have spread advances in farming to the region. The Anatolian Farmers were able to band together for protection, enable specialization of roles within their society, and allowed for a population expansion that is reflected in the number of sub-haplogroups that originated during this period of time. The world's oldest Neolithic cities like Catalhoyuk and Gobeekli Tepe are examples of communities with a heavy presence of Haplogroup G2.

Catalh y k was occupied from about 7100 BC to 5700 BC. Houses of sun-dried brick, were built closely together and had several rectangular rooms. People climbed into them by a wooden ladder from its flat roof. These peoples both farmed and kept livestock which allowed the settlement to provide for a group of 5,000 to 7,000 individuals. These people built religious shrines decorated with murals. Evidence suggests they worshiped a mother deity that is common throughout Anatolia for thousands of years. Often times people were buried under the floors of their home. Human and animal figurines were carved in stone or modeled in clay. The people used bone tools, made weapons such as maces, arrows, and lances, as well as weaved mats and baskets.

III: Neolithic First Farmers

It is from these early occupation sites and the seeds planted in Anatolia that would sprout a great explosion of farming peoples into Europe. Many sub-haplogroups associated with this timeframe were [Yfull v9.01.00]:

- G-F1193: formed 10,300 BCE, TMRCA 9,900 BCE
- G-PF3148: formed 10,100 BCE, TMRCA 9,700 BCE
- G-PF3177: formed 9,700 BCE, TMRCA 9,700 BCE
- G-FGC82036: formed 9,500 BCE, TMRCA 5,900 BCE
- G-F872: formed 9,500 BCE, TMRCA 7,200 BCE
- G-M278: formed 9,400 BCE, TMRCA 250 AD
- G-Z39310: formed 9,300 BCE, TMRCA 300 AD
- G-Z6880: formed 9,300 BCE, TMRCA 5,800 BCE
- G-Z30503: formed 9,400 BCE, TMRCA 6,800 BCE
- G-L140: formed 8,900 BCE, TMRCA 8,900 BCE
- G-Y18939: formed 8,900 BCE, TMRCA 3,500 BCE
- G-PF3345: formed 8,900 BCE, TMRCA 8,700 BCE
- G-L91: formed 9,700 BCE, TMRCA 9,700 BCE
- G-CTS342: formed 8,700 BCE, TMRCA 7,600 BCE
- G-L497: formed 8,700 BCE, TMRCA 5,200 BCE
- G-L13: formed 8,400 BCE, TMRCA 2,900 BCE
- G-L1266: formed 8,400, TMRCA BCE 5,500 BCE
- G-PF3237: formed 9,700, TMRCA BCE 9,700 BCE
- G-PF3239: formed 7,000, TMRCA BCE 5,600 BCE
- G-PF4202: formed 7,600, TMRCA BCE 2,600 BCE
- G-Y36001: formed 7,600, TMRCA BCE 1,800 BCE
- G-FGC12126: formed 7,600, TMRCA BCE 5,800 BCE
- G-Z724: formed 7,600, TMRCA BCE 6,200 BCE
- G-F2572: formed 7,200, TMRCA BCE 6,800 BCE
- G-PF3378: formed 7,200, TMRCA BCE 4,000 BCE

Some other haplogroups of interest to us later are the J haplogroup who may have settled in north eastern Anatolia, south of the Caucasus mountains and Haplogroup R which some scholars believe occupied an area to the north.

The area of north-central Anatolia and on the southern shore of the Black Seas also seems to be the most likely home for G-M406. Today, G-M406 makes up a large percentage of the Haplogroup G men found in Anatolia. It is also found throughout Europe in low percentages, especially in Italy, Sicily, and Greece. This might incline us to believe that M406 was a part of the First Farmers, those groups of G2 men who founded Catalh y k and other Neolithic settlements in eastern and central Anatolia and eventually brought agriculture to Europe. Especially because we know its sister group G2a2b2-PF3359 played a role. However, M406 has not been found among the samples of the First Farmers in Anatolia and Europe which contained many sub-haplogroups of G2. A lack of genetic evidence from limited samples alone can't rule out the M406 as part of the first farmers. However, Central Anatolia does not seem to have been a major frontier of the Pre Pottery Neolithic B, a phenomenon that benefitted its cousins to the south. This seems to suggest, as noted by Haplogroup G researcher Ted Kandell, G-M406 looks like it may have missed the boat. At least for a time, G-M406 may have carried on as Semi-Sedentary Foragers. We will look at recent evidence that supports this narrative when we look at G-M406 and G-M3302 in the Bronze Age Chapter [Yfull v9.01.00]:

- G2A2B1: G-M406: formed 12,500 BC, TMRCA 10,200 BC
- G2A2B1(A): G-M3317: formed 10,200 BC, TMRCA 7,000 BC

The men of Haplogroup G have strong ties to the First Farmers of Europe who began to enter Europe in large numbers as early as 6,000 BC. Many YDNA sequences of the earliest Neolithic farming communities in Europe have resulted in Y Chromosomal signatures of Haplogroup G2a. Evidence of G peoples has been found along the Danube river system as well as in coastal areas and famously the Alps, where Otzi, the most famous G member was found frozen timelessly in the ice. Science has sequenced the Y chromosomes of Neolithic skeletons in Bulgaria, Hungary, Ukraine, and Germany finding evidence that the descendants of the G2a2b2 (CTS2488) and G2a2a1 (PF3148) people played a major role in bringing farming to Europe. The older residents of Europe, the European Hunter Gatherers, who were sparse in numbers after the last ice age began to retreat were either out competed, overwhelmed by the more advantageous practice of farming, or eventually assimilated into the Neolithic European society of which these specific G clades were a major factor.

The development of pottery in the near east around 8,500 years ago seems to coincide with the a prolonged expansion of G2a agriculturalists toward western Anatolia, the Aegean, and finally Europe. Pottery allowed easy storing of domesticated grains such as wheat and barley which allowed for better storage of food, trade, and greater population success. Although Haplogroup M406 was likely not among them, G2a subclades are credited with spreading farming first to western Anatolia and Thessaly in central Greece and eventually expanding into central and southern Europe about 6,000 BC.

According to *The Origins of Europe's First Farmers: The Role of Hacilar and Western Anatolia, Fifty Years On* written by Maxime Bami and Volker Heyd, the crossing into Europe may have occurred in three separate spearheads (probably many more) or as the author's call it packages. It seems that the painting/decoration of pottery is also associated with this movement.

1. We first see the expansion of Dark Faced Burnished Ware (DFBW) pottery moving north west into the region of modern day Turkey known as Marmara which includes traditional Greek, European areas on the other side of the Bosphorus from Anatolia.
2. Later, archeologists have found that the expansion of Red Slipped Burnish Ware (RSBW) moved west across Anatolia and the Aegean, in some cases island hopping into Greece.
3. In addition, the paper leaves open a third, maritime expansion that may have started out in southern Anatolia and spread across Rhodes and Crete before making landfall on the Peloponnese.

The paper hypothesizes that the advent of pottery in Syria and the Levant around 6450 BC made the traditional G farming communities in Anatolia more efficient. This transformation resulted in the expansion of Neolithic horizons in Western Anatolia and Greece at more or less the same time. Within the Neolithic farming communities in Greece, pottery seems to be present from the start, and immediately shares characteristics with an advanced stage of pottery production similar to either the DFBW or the RSBW horizon. Some differences in ceramic wares between Greece and the Balkans can be attributed to influence from the different pottery horizons.

By 5,800 BC, the descendants of these groups including G2a2 farmers from Anatolia and later Greece expanded across the Balkans, north up the Danube as evidenced by the Starcevo culture, reaching Serbia, Hungary and Romania. his culture would give rise to the LBK culture that eventually pushed into the heart of the continent spreading the Neolithic Revolution by a combination of demic and cultural forces. They reached Germany and Belgium by 5,500 years ago and northern France by 5,200 years ago.

Archeological evidence seems to indicate that these early farming cultures settled near rivers and lakes; suggesting that they followed fertile soils along bodies of water when building their communities. Timber longhouses were constructed from wicker like materials that were lashed together with a mud plaster, built together in loose groups to form the communities of the LBK Cultures. LBK pottery is unique in its use of parallel lines to form spiral designs, and designs of triangles and chevrons around bands on bowls. Although these farming populations quickly spread across the European continent, they show clear evidence of close genetic relatedness and likely did not yet carry a tolerance for lactose in high frequencies

In addition, another group of G people from Anatolia crossed the Aegean by boat and colonized the Italian peninsula, the Illyrian coast, southern France and Spain, where they established the Cardium Pottery Culture or Impressed Ware.

It looks like some descendants of G2a2a1a (PF3177) as well as G2a2b2a (P303) and G2a2b2b (PF3359) may have also been connected with a Mediterranean route that spread farming both south into Greece and west to Italy from the Danube along the coast, eventually reaching Southern France and Spain.

IV: Proto-Indo-Europeans

Meanwhile, by about 3,000 BC, an ancient people sometimes referred to the Proto-Indo-Europeans (PIE) are thought to have ushered in the Bronze Age as they migrated out of the Eurasian Steppe north of the Black Sea. This theoretical culture has been linked to the Yamnaya peoples according to the widely accepted Kurgan hypothesis of Marija Gimbutas. The Yamnaya were a nomadic group that originated on the Eurasian Steppe, a large area of unforested grassland in southeastern Europe or Siberia. This group mainly consisted of the men of Haplogroup R1b-L23, although American anthropologist David Anthony speculates that the R1a found among the Corded Ware peoples of Western Europe must also have been present in small quantities among them. A great deal of discussion and information regarding the Yamnaya and Proto Indo European language can be found at indoeuropean.eu.

Through the linguistic study of many of today's language families in Europe, Asia Minor, and the Indian subcontinent, scholars have been able to reconstruct the linguistic and cultural identity of the Yamnaya peoples. Science has also been able to bring into focus the startling genetic legacy the group seemingly left behind in Europe and Asia. Together, we now have a somewhat clearer picture of who these Proto-Indo-Europeans were, what language they spoke, how they lived, and how they set the stage for many of the civilizations quite familiar to us today.

The Yamnaya way of life was likely dependent on cattle herding and aided by the domestication of the horse, advances in metalworking technologies, and the use of wheeled wagons or carts. While such a migration predates written history, this group did leave behind ample evidence in the form of artifacts, language, culture, and genetics. They were possibly the first people to transport goods using the wheel and wagon, an innovation which allowed for the development of their way of life. Out of this culture arose a society of warriors, who accumulated wealth from breeding and stealing livestock, as well as engaging in warfare. Their superior technology, better weapons, and also domesticated horses would have given them an advantage in war. This facilitated a gradual migration process that over time resulted in sub-groups of Yamnaya men migrating further and further from the steppe with each succeeding generation. By many estimates, this started around 4,000 BCE and came to a close around 2,500 BCE.

The strongest evidence for the Yamnaya genetic and linguistic expansion comes from Europe where their cultural and archeological imprint can be clearly noted. From this footprint evolved the foundation for that helped to define European ethnicity and language families to this day. Tribes like the Celts, Germans, Slavs, Italics, Greeks, and others are thought to have originated from this ethnogenesis. While the Proto-Indo-European language family also encompasses Anatolia, Iran, and India, how this mother tongue was transmitted to these areas seems to be more complicated, and less clear. A 2018 paper by Damgaard et. al. *The first horse herders and the impact of early Bronze Age steppe expansions into Asia* confirms the European expansion of the Yamnaya, but warns against assuming the Yamnaya themselves spread Proto-Indo-European language into Asia. The paper states, "Although in Europe there is much support for the steppe hypothesis, the impact of Early Bronze Age Western steppe pastoralists in Asia, including Anatolia and South Asia, remains less well understood, with limited archaeological evidence for their presence."

What we do know in regard to Haplogroup G, the incursion of the Yamnaya peoples into Europe proved to be a disastrous conquest. In the span of a few hundred years their groups of mostly men had interbred with local Europeans and replaced much of the farming population which included many Neolithic Haplogroup G Farmers. While female mtDNA reveals a genetic continuity between the Neolithic and Bronze Age women of Europe, YDNA analysis reveals an abrupt displacement of G lines. This indicates that the conquests were largely violent encounters where in large part, First Farmer men were killed or driven off, and women of the culture were claimed by the victors. The union between the Yamnaya and the farming peoples of Central Europe is thought to have led to the creation of the Corded Ware Culture who itself would influence the creation of some of the modern European cultures we know of today. Autosomally, the Bronze Age people of Europe would be a genetic mix of the two cultures, the steppe people contributed a lactose tolerance, while the farmers contributed alleles for light skin which had an advantage for extracting vitamin D in colder climates. In terms of male lineages today, Europeans are roughly 21% R1a, 31% R1b, and only 4.23% Haplogroup G.

While the arrival of the Indo Europeans meant an abrupt end for many male lines of Neolithic First Farming men, in Anatolia it did not impact the men of G-M3302 (G-FGC5089 & G-M406) in the same way as we will see in the Chapter on the Copper & Bronze Ages. We know that the male lines of indigenous Anatolians like the Hattic peoples did not suffer the same replacement as their haplogroup cousins in Europe. We also see, albeit from limited evidence, that the Proto-Indo-European speaking peoples of Anatolia did not have a Hittite Yamnaya (Steppe) autosomal signature. Again, Damgaard et. al. provides additional insight, "In Anatolia, Bronze Age samples, including from Hittite speaking settlements associated with the first written evidence of IE languages, show genetic continuity with preceding Anatolian Copper Age (CA) samples and have substantial Caucasian hunter-gatherer (CHG)-related ancestry but no evidence of direct steppe admixture."

