

The Genetic Link of the Viking – Era Norse to Central Asia: An Assessment of the Y Chromosome DNA, Archaeological, Historical and Linguistic Evidence

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Abstract

There is general agreement that by 8000 BC the retreat of the glaciers had left most of Scandinavia open for human settlement; that there has likely been continuous settlement in Norway and Sweden since this time. It is generally accepted that descendants of these hunter – gatherers from three southern European glacial refugia ultimately became the Scandinavian Vikings circa 800 AD. What has not been adequately addressed is the evidence demonstrating that there was a significant movement of people, as well as their horses and cultural traditions, from Central Asia to Scandinavia in the years immediately prior to the Viking - Era. Many or most explorations of the matter have assumed that trade explains the appearance of all the Central Asian finds in Scandinavia. What this approach fails to explain is the presence of Scandinavians with DNA signatures that are not European, but which bear a direct link to the Caucasus Mountain and Central Asian regions. It is also argued here that it was this population shift and consequent cultural upheavals that sparked the Scandinavian expansions in the years to follow. What makes the present study entirely different from those who have addressed (often somewhat controversially) this matter is the reliance on Y chromosome genetic evidence. Historical, linguistic, archaeological data sources are used to support the Central Asian migration hypothesis. The focus of the present study is to cross – validate these other sources of evidence by analyzing the results of testing of the non – recombining part of the Y chromosome (NRY). This male lineage marker is known for its power as a tool in the exploration of human population movements. In this case it is shown that not only did human groups migrate from Central Asia to Scandinavia, but in addition genetic evidence concludes that the horses so important in Scandinavian life also originated in Mongolia, and were brought to Scandinavia at approximately the same time as the proposed migration of humans. It is argued that these people with a long history of using horses and ships to extract wealth and territory from opponents are the most likely candidates for the leaders of those who founded the Norse colonies such as the Shetland Islands circa 800AD and Iceland circa 870AD. The most important contribution of the present study is to use Y-DNA genetic databases with samples scattered from Mongolia to Britain to show the continuity of genetic marker patterns from the Shetland Islands and other Norse colonies to groups such as the Altai of Central Asia, and the Azeri of Azerbaijan, and the lack of similarity of this subset of the Scandinavian population to local Eastern Europeans

Prologue

The present study emerged out of a single observation. Genetic Y chromosome DNA testing revealed that the author’s uncle Williamson (and thus his maternal grandfather), whose roots in the male line lie in the Shetland Islands, had an unusual pattern of matches to the 12 “scores” (markers). The largest number of close matches to this rare haplogroup R1a1 (more on this genetic grouping later) Norse signature from Shetland were not seen in large and diverse European samples in which R1a1 predominates (e.g., Poland), but among the tribal Siberian Altai of Central Asia (33 close matches out of the sample of 46 who had a Haplogroup R1a1 DNA signature). While this could simply be

an anomaly, the data emerging out of the Shetland Islands Y-DNA Surname Project (www.davidkfaux.org/shetlandislandsY-DNA.html) began to paint a picture of an Asian presence within the Norse population. All other R1a1 participants with aboriginal surnames (e.g., Robertson, Mathewson) also had the same match profile as the above Williamson. Over time, and as the sample size increased, other rare haplogroups, seen but rarely anywhere in Europe emerged. These included Q (seen almost exclusively in Asia and North America), and K (found in Asia and the Middle East) came to light. These three particular DNA signature patterns were also seen in recently published samples of Norway, Iceland, and the Faroe Islands (the latter two being founded, as was Shetland, as Norse colonies).

If the interpretation of the genetic evidence is valid, it is other sources of data that will hopefully point to a time of the migration, and possibly even the names of historical tribes and individuals that took part in this proposed folk movement.

The thesis to be tested in the present study is as follows: *Through a detailed examination of the genetic evidence in the form of the paternally inherited non recombining (NRY) part of the Y chromosome, it will be possible to show that there is a continuity between some of the DNA signatures of Scandinavia, and those of the Caucasus Mountain region and Central Asia, reflecting a migration of people to Sweden and Norway prior to the Viking - Era; and further that there is sufficient archaeological, historical and linguist data to support the DNA findings.*

General Introduction

Steeped in myth and mystique, Northmen from the Scanadinavian countries blasted on to the world's stage in the late 8th Century, shaking to the core the whole of the then known "civilized" world. Known later as the Vikings, these men of mystery, wolves from the north, terrorized people wherever they went, pillaging sacred Christian monastic sites, and taking male and female slaves to sell in the markets of Dublin or Baghdad. A component group known as the "berserkers" became human whirlwinds, literally showing no fear and committing acts of unimaginable blood rituals. These men of adventure also colonized the lands they occupied (e.g., Dublin, the East Coast of England, Northern Scotland and the Isles, and Normandy). They also established settlements in largely or wholly unoccupied territory in Orkney, Shetland, the Faroe Islands, and Iceland. Once they accepted Christianity and a more settled way of life by the beginning of the first millennium, as an identifiable group, they faded into relative obscurity. They did, however, leave their genetic stamp in all the areas they "visited".

As a rule, most recent books (of which there are many) may give a short rendition of some stories ("historical fiction") found in the Icelandic sagas (to be discussed in detail later), provide some detail as to life just before the Viking era, and tend to begin the story of the Vikings in 793 with the infamous attack on the monastery at Lindesfarne, Northumbria, England. Typical of the works that explores the early pre – Viking history of Scandinavia is "Cultural Atlas of the Viking World" (Graham – Campbell et al., 1994), which begins with the Ice Ages and uses historical and archaeological evidence to

provide a background to the eventual emergence of the Vikings. Most agree that modern Scandinavians are descendants of Stone Age hunter – gatherers. None describe a significant migration in historical times that might have turned the established social order upside down and established a new ruling dynasty as a consequence of this wave of immigration. If the hypothesis is confirmed a re-writing of pre Viking – era Scandinavian history is required. So how could historians and others have missed something that may have been so important? Two primary reasons stand out. First is the inescapable fact that there is a historical “dark age” in all of Scandinavia as the Roman Empire began to collapse in the 4th Century. No longer were studies of the names and locations of tribes in the Germanic north such as that of Pliny the Elder (circa 77 AD), Tacitus (circa 98 AD) and Ptolemy (circa 150 AD) being penned. Familiarity with the peoples of the known world is a function of distance from the Limes (Roman Empire borders). It was not until the 13th Century that Icelandic scribes took upon themselves the task of recording the history of their people. The perception of this work has always been that so much mythology was interwoven with potential fact that many have dismissed any stories about the years prior to Charlemagne as unreliable and mostly fiction. As will be shown, this is a perception that does not hold up with a careful detailed analysis of the content of these works. To be fair, it is only with the latest genetic findings that a re-examination of the Icelandic Eddas and similar texts is warranted since the claims (e.g., about the ruling Aseir people and “mythical” Asgaard as the home of the Scandinavian princely ancestors) either gain support or they do not.

Each source of evidence will now be examined, culminating in an integration of each with the genetic findings.

Archaeology and Cultural Background of Pre - Viking Norway

General Background: Unfortunately we do not have clear evidence of the origins of the early Norse. It is generally assumed that they crossed to what is today Norway and Sweden about 8000 BC when the region of Denmark, Southern Sweden, and England were one land mass. “The Penguin Historical Atlas of the Vikings” (Haywood, 1995) and the above “Cultural Atlas of the Viking World” agree that there is no convincing evidence of subsequent migrations into Scandinavia, thus it seems likely, according to these sources, that these first hunter – gatherers were the ancestors of the Vikings who emerged circa 800 AD. It is the purpose of the present work to challenge this assumption.

A much more balanced and detailed study of the matter is presented in “Vikings: the North Atlantic Saga” (Price, 2000) where the author notes the significant changes in culture, “which may reflect new population groups” (p. 35) occurring with the Funnel Beaker, Battle Axe, and Pitted Ware cultures which existed between about 4000 BC to 2200 BC.

Norway would have been very sparsely populated indeed in the Middle Stone Age to about 4000 BC. The latter figure marks the transition between the Mesolithic and

Neolithic (New Stone Age), and at this time cattle raising and farming began in the southern reaches of Scandinavia (including south eastern Norway). A hunter – gatherer way of life would still have been predominant in the northern reaches of the region, where trade in walrus tusks and hides was an important part of the local economy. By about 2000 BC, the stone tool kits began to give way to items made of bronze that, via trade routes, made exotic trade goods available to the northern most reaches of Norway. While there are rich archaeological remains in Denmark, any statements about Norway are largely by inference. It is likely that at this time a rich and powerful elite emerged in Scandinavia with access to the bronze goods.

About the 1st millennium BC there was a transition to the Iron Age, the ingredients of which were freely available in the bog iron of Scandinavia. This Age is divided into a number of phases, with the last being the era when the Roman Empire held sway over much of Continental Europe (1st to beginning of the 5th Century AD). These latter dates shall assume a particular importance shortly in connection with the thesis of this study. It was also a time of mass migrations in response to the tumultuous changes occurring throughout Europe and Asia.

The information here and below is found in works noted above unless otherwise indicated.

The Roman Age (1st to 4th Centuries AD): Unfortunately relatively little is known of Norway during this period, compared to the more southerly regions. What has been established is that the Norse were situated in the southern and mid sections of what is today Norway, and that the Danes occupied the most southern part of Sweden as well as the rest of what is today Denmark with the exception of the Jutland Peninsula.

The Swedes were divided into two groups. To the north on both sides of Lake Malar were the Svears (who would give their name to the modern country) with their royal seat at Old Uppsala, and to the south were the East Gotar residing east of Lake Vaner in the provinces of Vastergotland and, (significantly as we shall see) Ostergotland, and West Gotar from Western Sweden and Eastern Norway. Around 44 BC various groups of Scandinavians began to move south to the Continent and expand in numbers, including the Goths (who became the historical Ostrogoths and Visigoths) and Vandals (perhaps from Vendel just beyond the northern reaches of the Svear lands), of which more will be said later.

Migration Period (375 to 550 AD): After the fall of the Roman Empire circa 420 AD, there was a mass migration of peoples across Europe, largely from east to west (e.g., the Visigoths migrating to the Iberian Peninsula), however it is typically believed that this, “great migration affected Scandinavia only slightly.” (Graham – Campbell et al., p. 28)

The archaeological record (documented by Tejral, 1997) shows new artistic features that manifest themselves at this time (first part of the 5th Century) and have been attributed to

Scythian (Siberian tribal peoples from south central Asia for whom the horse was paramount) influences. Animal motifs with imaginary beasts and elephants with elaborate decorative work appear in Scandinavia – which “points unquestionably to definite Eastern connections.” (Talbot Rice, 1957). Specifically these artifacts, according to Tejral, are part of the “Soesdala Style” (horse paraphernalia including stamped ornamentation, and animal heads shown in profile).

Also making an appearance in the archaeological record of the 5th Century are characteristic bracelets, and since they are of “Scandinavian origin and not a usual trading object the flow must have followed Huns or Eastgermanic horsemen from Scandinavia back to Southeastern Europe” (Brandt, 2004). There are apparently identical objects found in the Czechish Zhuran – mound at Brno and at Bornholm and Oeland in Sweden (Terjal). At Bornholm, for example horses are found in the graves (a Central Asian tradition). Basically the archaeological evidence strongly suggests that from the 5th Century there was a strong cultural continuity between the areas in Scandinavia and points south and includes artifacts from as far east as Afghanistan. The sheer magnitude of the changes argue for a movement of people as opposed to a cultural diffusion – the change was simply too rapid and without any evidence of a transition – it was apparently a replacement. There will be those who will see all this as little more than evidence of increased trade, but it is the sheer scale and rapidity of the change that argues for a migration of individuals who brought “foreign” cultural traditions with them.

Evidence from Norway provides more evidence to support the “Central Asian migration theory”. For example in Eveboe at Nordfjord in Western Norway is seen a burial mound that duplicates what is seen in the East. Here is found a 5th Century grave with Syrian glass, a geometric toy seen only in Iran and Afghanistan and inhumations of three chiefs “connected in a way which involved the Huns or Eastergermanic horsemen in the Danubian area” (Brandt, 2004).

Other material goods with a Scythian stamp appear with greater frequency as the Viking - Era approaches. For example, “Small – scale objects such as the bronze plaques [from the burial mounds] at Borre in Norway, show this very clearly both as regards to the animals that appear on them – stags, griffins and imaginary creatures – and in the style. Even the muscle markings which are included are clearly derived from the Sythian dot and comma convention”. This influence continues right to the Viking period and beyond. Talbot Rice continues, “The same influence is also evident in large – scale work, notably the animal figureheads on the Viking ships, such as those from Oseberg and Gokstadt, placed there to ward off the evil eye. The Gokstadt horse fits into the Scythian frame particularly well” (pp. 178-192).

An exacting assessment of the archaeological evidence (Fitzhugh and Ward, 2000), states that this shift in styles was a function of the mass movement of peoples across Europe after the fall of the Roman Empire. Here the flowering of full animal ornamentation began early in this period in southern Scandinavia “through influences from Scythic, Oriental, Celtic, and Roman art” (p. 62). Scythian peoples include the Scythians,

Sarmatians (including the Alans or Ases), and Huns (all originating in Central Asia) who are noted in the Chinese, Greek, Byzantine, Roman and other documentary sources.

Farmsteads in Norway from this Period have been excavated showing that isolated farmsteads were common, with a rectangular stone longhouse, and structures suited to the growing of crops and the raising of animals part of the farmstead. It is, however, at this time when artifacts begin to show up at sites such as Lake Malar in Sweden where exotic gold coins from the Eastern Roman Empire, as well as a Buddah figurine attributed to northern India have been found. Clearly, again, there was either an exchange of goods (the commonly held theory) or a movement of people from southeast to northwest needed to explain these finds.

There appears to be a fairly abrupt change in religious beliefs and practices when after about 500 AD sacrifices in the form of humans, and as well gold foil figurines and coin pendants were buried near the homes of the major chiefs.

Immediately Prior to the Viking – Era was a time when very elaborate burials in southern Sweden hint at the presence of a Royal lineage, and likely the centralized power of regional chieftains. It appears that there were two burial practices relating to high status individuals, and practiced in close proximity. The Vendel Cemetery of the Sveres on the east bank of the River Fyris, which flows southward to Lake Malar, contains bodies placed in boats and surrounded by their personal possessions, and ringed with stones. These are a mere 27 kilometers upstream from the Gamla Uppsala burials noted below, and are considered by many or most archaeologists to be the retainers of the latter. It also seems reasonable to propose that they represent an entirely different tribal and cultural unit – but both “aristocratic” in status. These could be the descendants of King Gyfir, the Svere king discussed by Snorri Sturluson in *The Prose Eddas* and *Heimskringla* noted below.

Near the point where the River Fyris empties into Lake Malar is found a cemetery with cremation burials containing a wealth of grave goods and covered with large earthen mounds. What becomes particularly interesting in light of the hypothesis set forth here is that at this location at Gamla Uppsala with burial mounds 20 feet high (without boat burials) have been associated with the above *Heimskringla*. Within the mounds have been found highly decorated armor and horse trappings consistent with Scythian influence. An organic analysis of the soil in the vicinity is consistent with the arrival of a substantial number of horses in the 5th Century, and it is at this time that they make an appearance in the graves of chiefs and warriors. Also, what could be recovered from these cremation burials suggested a grave goods assemblage that included items suggesting a Southeastern European and Persian origin; and in particular the cremation of a woman in one of the mounds included an antique mirror with an eye at the backside which was interpreted as being Sarmatian since these items are very common in the burials of Sarmatian – Hun women in the Black Sea region (Ph.D. dissertation of Anke Bodo, 1993, as reported by Brandt, 2004).

Specifically in this location there are three mounds considered to be the burial sites of the 6th Century Kings Egil, Aun, and Adils who are all members of the Yngling Dynasty (see later). In Fitzhugh and Ward they state, “In central Sweden the first generations of the Svear from the sixth century are buried in Old Uppsala.” (p. 73). Again this takes on a poignancy when considering the dating of the proposed migration of Odin’s people to Scandinavia.

The Vendel Period (7th and 8th Centuries): The Migration Period and the Vendel Period seem to move seamlessly from one to the other in Scandinavia. It is at this time, approximately 600 AD, at Borre just south of Oslo, that the largest grave field in all Scandinavia is found. Here there are nine large barrows (up to thirty feet high) or mounds (the oldest dating to about 600 to 650 AD, and the most recent being about 900 AD – all probably the same family associated with the hall located nearby) associated with a row of lesser ones. Those excavated contain ship burials with horse trappings in abundance. This is believed to be the burial site of the Norse Vestfold Dynasty noted in the Yngling Sagas. In close proximity is the well – known Oseberg ship burial dating from 820. Under the mound was found an impressive sailing ship to house the remains of a Viking – Era queen, along with sumptuous grave goods including elaborately carved sleds, two horses and an ornate cart. Oseberg means “Ases mounds” – suggesting a royal connection and tying in with the Yngling Sagas once again.

It will now be necessary to turn our attention to the south east, beginning at a time before the Scandinavians had likely encountered any of these nomadic Asian horsemen. As noted previously, significantly none of the standard texts on the Vikings and their forebearers (e.g., “Historical Atlas of the Viking World”) consider any movement of people into Scandinavia during the above three mentioned periods – let alone men from Asia.

In conclusion, the archaeological record indicates a significant change in religious practices occurring in Scandinavia in the 5th Century AD. The dramatic alterations in artifact assemblages and burial practices strongly point to a change “coming from the south around 450 or a little earlier” (Brandt, p.30) a people who would have a significant impact on all aspects of life in Scandinavia – and yet it goes unnoticed in the standard texts.

This period in time marked the beginning of a change in the centers of power to Gamla Uppsala and Southeastern Bornholm. The thesis of the present study is that these changes were initiated by the arrival of Uldin / Odin and his mixed Ostrogoth / Herul and Hun / Alanic forces who established new dynasties and brought with them the unmistakable Y chromosome DNA signatures of Central Asia.

Evidence from historical and linguistic sources will now be considered.

Historical Evidence

The Norse (Icelandic) Sagas in Relation to History

It is unfortunate that there is no accurate and reliable text which would provide a comprehensive history of pre – Viking Norway and the other Scandinavian countries. The available documentary sources have been viewed with much skepticism by historians, since the Icelandic Sagas contain stories of gods, giants, dwarfs, and other elements of Norse mythology. However, it is known that the author of these texts, Snorri Sturluson was a poet and a historian. He had access to oral traditions and manuscripts, including genealogies (now lost) when he wrote circa 1200. His knowledge of geography is excellent, and he mentions many specific places by name. Considering that he was writing for an audience (Kings of Norway) who were likely to expect stories of great deeds of their ancestors, there is likely some exaggeration and distortion. None – the – less, if the material is sifted cautiously there is much to be gleaned about the history of Iceland and the Norse people.

Perhaps an analogy could be drawn between Homer's, "The Illiad" and well as Vergil's "Aeneid" which were thought by most scholars of the classics to be works of fiction, and thus a foolish waste of time to go on wild goose chases trying to locate the places mentioned in these works. Fortunately for the world, Heinrich Schliemann was convinced that Homer was not waxing poetic at every turn but was telling stories about real places whose locations were familiar to him. He succeeded in archaeologically investigating this mythical city whose existence was very real and in the location described by Homer. This finding at the same time confirmed the validity of the story told by Vergil of the escape of the few Trojans to Italy. With the spade of the archaeologist the core of the "myth" morphed into reality. Thus it behoves all to take the sagas told by Snorri as a probable blend of fact and fiction – but it is the fact component that is compelling.

Snorri's two prose works the *Eddas* and the *Heimskringla* will now be explored to obtain clues as to the origin of the Norse people. Specific information about sources is provided in the Reference section under "Norse Sagas".

The Prose Eddas: The present author has consulted two translations of this work, that by Anderson (on-line version, 2004), and Brodeur (1916). In the Prologue to his work, Snorri sets the backdrop to the sagas to follow. He speaks of the Norse god Odin as the progenitor of a long line of rulers of the Scandinavian and Germanic countries, and gives him an ancestral home – Asia. Snorri speaks of Odin making "ready to journey out of Turklund, and was accompanied by a great number of people, young folk and old, men and women; and they had with them much goods of great price." Furthermore, "They made no end of their journeying till they were come north into the land that is now called Saxland [Germany]; there Odin tarried for a long space, and took the land into his own hand, far and wide" (p. 8). Here Odin set up three of his sons as "land – wardens", one in East Saxland, another in Westphalia, and a third in Frankland, and "from all these are

sprung many and great houses” (p. 8). Odin then headed northward, installing another of his sons as ruler of Jutland, and proceeded on to Sweden whose king was Gylfi. “When the king learned of the coming of these men of Asia, who were called Asir, he went to meet them, and made offer to them that Odin should have such power in his realm as he himself wielded.” Continuing, Snorri reported that, “The fields and the choice lands in that place seemed fair to Odin, and he chose for himself the site of a city which is now called Sigtun. There he established chieftains in the fashion which had prevailed in Turkland; he set up also twelve head – men to be doomsmen over the people and to judge the laws of the land; and he ordained also all laws as, there had been before, in Turkland, and according to the customs of the Turks. After that he went into the north, until he was stopped by the sea, which men thought lay around all the lands of the earth; and there he set his son over this kingdom, which is now called Norway. This king was Saemingr; the kings of Norway trace their lineage from him, and so do also the jarls and the other mighty men, as is said in the Haleygjatal. Odin had with him one of his sons called Yngvi, who was king in Sweden after him; and those houses come from him that are named Ynglings. The Asir took wives of the land for themselves, and some also for their sons.” (p. 13)

Apparently then this migration from the land of the Turkish peoples was largely a male phenomenon, and thus there should be seen in the genetic patterns of the Norse and Swedes some percentage of Asian Y chromosomes (male lineage), but little or no trace of Asiatic female migration (mitochondrial DNA, female lineage).

Heimskringla: The author consulted two translations here also; that of Laing (1844), and Monsen and Smith (1990). Snorri wrote this saga as a chronicle of the Kings of Norway. In the Preface to this work Snorri provides an overview of his sources – which include stories told to him by “intelligent people”, plus details of the family branches of the Norse rulers obtained from diverse sources including “ancient family registers”, where kings and kin have written their genealogies, as well as songs sung about such matters. A hint at his search for historical facts is reflected in his comment that, “although we cannot know the truth there may be in these, yet we have the certainty that old wise men held them to be true.” Snorri then proceeds to list his sources.

The most important of the sagas written by Snorri here is “The Ynglinga Saga, or the Story of the Yngling Family from Odin to Halfdan the Black.”

Snorri begins by providing a lesson in geography –

1. *The Situation of the Countries*, including how the Black Sea divides the three parts of the earth into the eastern part known as Asia, the western segment called Europa, and to the north Swithiod (e.g., Scandinavia) whose northernmost reaches are uninhabitable due to the frost and cold, whereas the south there are many races of man and many languages including Tartareans, Kalmuks, and Mongolians. The three parts of the earth are divided by the River Vanaquisil (Don) that enters the Black Sea. Those residing along this river are known as the people of Vanaland. Snorri speaks of the Straits of

Gibraltar and various parts of Africa – demonstrating a clear understanding of the geography of the known world.

2. *Of the People of Asia*, Snorri here speaks of the land east of the Don being known as Asaland, or Asaheim, and the chief city in that land was called Asgaard, the home of Odin. While this might be a mythical place, the evidence discussed later would lead one to believe that the city referred to by Snorri is Chasgar, located in the region of the Caucasian ridge, “called by Strasbo Aspargum the Asburg, or castle of the asas”. A warrior with an unparalleled track record of wins, he came to be looked upon as a god and worshiped. One of his greatest battles was against the people of Vanaland (i.e., those west of the Don) however this battle saw – sawed back and forth until a truce was made and hostages exchanged. There is an interesting anecdote that will be noted since it has a direct tie in with a leader of the peoples of east of the Don. As part of the truce between the peoples of Vanaland (between the Don and the Danube) and Odin’s people hostages were exchanged, including one Mimir, “the wisest of men” who, during a misunderstanding while in Vanland, was beheaded by his hosts and the severed head sent to Odin. Apparently Odin then kept the head, and used it to work charms.
5. *Odin Divides his Kingdom*, “There goes a great mountain barrier from north-east to south-west, which divides the Greater Swithiod [ancient Samartia and Scythia Magna] from other kingdoms. South of this mountain ridge [Ural Mountains] it is not far to Turkland [probably Turkistan in around the Aral Sea in Asia Minor], where Odin had great possessions. In those times Roman chiefs went wide around the world, subduing to themselves all people; and on this account many chiefs fled from their domains. But Odin having foreknowledge, and magic – sight, knew that his posterity would come to settle and dwell in the northern half of the world. He therefore set his brothers Ve and Vilje over Asgaard; and he himself, with all the gods and a great many other people, wandered out, first westward to Gardarike [Russia], and then south to Saxland [Germany].” At this point the story takes an abridged version of what is stated in the Eddas, and again Odin ends up in Sweden in some sort of power sharing arrangement with the Swedish king Gylve (Gylfi), who realized that he could not defeat the Asaland peoples. Odin “took up residence at Malar Lake, at a place now called Old Sigtun (Gamla Sigtun)”. He then gave his temple priests large estates in the district.
6. *Of Odin’s Accomplishments*, “When Odin of Asaland came to the north, and the Diar (gods) with him, they introduced and taught to others the arts which the people have long afterwards practiced.” It was Odin who introduced the skaldic arts including singing of great deeds. Also, “People sacrificed to Odin and the twelve chiefs from Asaland, and called them their gods, and believed in them long after.” This statement ties in with the archaeological information noted above, with the introduction of Scythian art forms at about this time. It was also Odin who introduced the new burial practices with cremations and the possessions buried with the deceased and then the building of a mound over the grave of “renowned men”.

Snorri goes on to speak of Odin's death in Sweden, and his cremation, clearly indicating that he was mortal. Then comes a recitation of information about the descendants of Odin whose lineage, via his grandson Frey, came to be known as Ynglinga who were the founders of Uppsala Dynasty of Sweden and the Vestfold Dynasty in Norway. However the first 13 generations given by Snorri likely, via a genealogical record, pertain to another dynastic family since there is a clear indication that the three burial mounds at Gamla Uppsala are from the 5th and 6th Centuries, and contain the remains of kings Aun, Egil, and Ottar. Again the dating is off since Snorri indicated that Ottar went on Viking raids (which did not begin until the late 7th Century), and further the Anglo – Saxon poem tells of Ottar being involved in events at the beginning of the 6th Century, was killed in Denmark, and buried there. As will be seen below, Odin likely died in Sweden about 450, so it is here proposed that the three burial mounds above belong to Odin, Aun, and Egil.

A Summary and Some Conclusions Respecting the Sagas

If, and it is a “big if”, these traditions can be taken as a weaving of fact and mythology, then the people who are the ancestors of the Swedish and Norse Dynasties are the Ases, a Turkic Asian people (also known as Asir) from east of the River Don, who resided in that location during Roman Times, and who had as their primary city at that time Asgaard, located somewhere east of the Don and south of the Ural Mountains and possibly at Chasgar in the Caucasus Mountains. When Odin and his people left to move north to Sweden, apparently with the people on the other side of the River Don with whom they had intermarried, he left his two brothers in control of Asgaard. Presumably then the group was divided such that one tribal contingent stayed, and if so, then their descendants may be still in this area to this day. If all the above conditions can be fulfilled through finding a historically documented group that is a close match to that being described by Snorri, then the Norse Sagas will assume a new historical importance – especially if there the genetic evidence is consistent with the information in the *Prose Eddas* and the Ynglinga Sagas of the *Heimskringla*.

The Proposed Asir (Ases) of Asia

Archaeology:

In National Geographic (Edwards, 2003) published an analysis of the ornate artifacts located in a burial mound in the Republic of Tuva in Central Siberia near the Mongolian border. The archaeological attribution of the finds is to the Scythians, “Nomads and fierce warriors, they lived in Central Asia as early as the ninth century B.C., and their culture spread westward to southern Russia and Ukraine, and even into Germany, before gradually disappearing early in the Christian era.” (p. 118) Further, they report that, “A Scythian necropolis, the valley that holds this kurgan billows with scores of other burial mounds. Local people call it the Valley of the Tsars, as if the mounds harbored kings, some surely did” (p. 118). The tomb that was excavated dated to the 7th Century BC, replete with jewelry in gold shaped to represent stags, fish, and mythological griffins. “One of the major cultural markers is the depiction of animals in art. Fish tattoos have

been found on the frozen bodies of Scythians in the so – called Pazyryk burials in the Altay Mountains southwest of Tuva” (p. 126). It appears that the Scythians were also early dwellers near the Black Sea where they flourished in the 4th Century BC, and left kurgans (tall burial mounds) containing elaborate fish and feline figures and other animal forms in gold. It is here that they apparently met up with the Greek writer Herodotus who described some of their less savory predilections such as using victim’s skulls as drinking cups. It is unclear how many tribes made up the Scythians, but their territory was clearly immense. Their language is unknown for certain, however most scholars believe it was in the Turkic – Altaic family which is spoken in the area today, and west to modern Turkey.

The Scythian Peoples: A Note about Sources

Unless otherwise indicated the material below is from an array of ostensibly well – researched data on the various Scythian peoples found in various sources on the web. These sources are listed in the Reference section under Scythian, then the specific group (e.g., Alans).

Scythian Chronology – While it may be a bit simplistic to attempt to “capture the wind”, since tribal units were constantly shifting and absorbing others, the following is a chronology offered by one scholar:

- 1) Saka – 8th to 3rd Centuries BC.
- 2) Scythian – 7th to 3rd Centuries BC.
- 3) Sauromatians – Late 7th / early 8th Centuries to 4th Century BC.
- 4) Early Sarmatians – 4th to 2nd Centuries BC.
- 5) Middle Sarmatians – 2nd Century BC to 2nd Century AD.
- 6) Late Sarmatians – 2nd Century AD to 4th Century AD.

A search for more information on the Scythians (since it is proposed that they are the ancestors of an as yet unknown number of Scandinavians) has revealed that literally thousands of archaeological investigations on Scythian sites in a band or swath between the Altai in the east and the Carpathian Mountains in the west. It is beyond the scope of this work to document these in detail. They have been described as a, “vigorous nomad people with their unique animal art and love of the horse – an extraordinary race from whom the civilized world learned to wear trousers and riding horses.” They were renowned for the sheer quantity of gold that adorned their bodies and weapons. Their nomadic lifestyle involved residing in felt tents that, with all their goods, were frequently moved in ornately decorated wagons. They used gold decorative adornments for the wagons, their horses, and themselves.

History:

The Scythian People Prior to the Emergence of the Huns – Various Hunnish peoples of Scythian origin have come thundering across the Russian Steppes and into

Europe in successive waves, following the old “Silk Road” of commerce between west and east.

Historical atlases show the movement of supposed Indo – European speaking peoples from the Ukraine, the purported home of the Kurgan Culture of nomads who revered the horse, into the Russian Steepes beyond the Caspian and Aral Seas probably long before 2750 BC. Then by 1575 BC the “Aryans” moved south into India, and also directly east toward the Altai. Those east of the Caspian Sea were known as Scyths by 1275 BC, and the closely connected Cimmerians resided north of the Black Sea. Between 820 BC and 670 BC the Scyths had replaced the Cimmerians (who moved south of the Black Sea), and also occupied the shores of the Caspian Sea. Little is known at this time about the peoples to the Far East, but based on the archaeological evidence it is safe to assume that the Scythian empire stretched from the Altai to the Black Sea. There is, however, entirely insufficient evidence to warrant asserting that the ancestors of all the Altai peoples were Indo – Europeans from the east. The genetic evidence shows that many of the peoples in that region are indigenous to Central Asia and that there were likely movements of people east to west and west to east such that genetic markers from the Middle East and the Far East also show up in the Altai.

From the viewpoint of physical anthropology, the peoples of Mongolia and China during the time periods under discussion may have born scant resemblance to the peoples living in these regions today. Perhaps the most compelling evidence is the physical appearance of the “Mummies of the Tarim Basin”. The native people of this region today are the Kazaks and more particularly the Uygurs, who are a Turkic – speaking group with Europoid and Mongoloid features (see later discussion in section on the Huns for more about the Uugurs). They reside in the Chinese province of Xinjiang. At the time that the Tarim Basin was settled about 2000 BC, the consensus is that they were and Indo – European people who spoke Tocharian, which, according to linguists working with texts dated from the 6th to the 8th Centuries, was “Proto – Celtic” as were the people who wrote them. Kimball – Davis, a well – know archaeologist of the region speaks also of the grave goods found with the Tarim mummies (circa 2000 to 500 BC) including cloth whose “patterns, colors, and weave mimic those of modern Scottish tartans” (p. 149). Kimball - Davis reports that the physical features of these people who had arrived in the Tarim Basin about 2000 BC are decidedly “European – like” (e.g., p. 144), including their stature, up to 6 foot 6 inches in a male, and 6 feet tall in a woman; and “plaited reddish – brown hair” (p. 151). These well preserved bodies from the Tarim Basin were the subject of a Nova documentary entitled, “Mysterious Mummies of China” (p. 153). Further evidence as to what these people may have looked like in life is found in on the walls of caves in the nearby foothills west of Korla where the art shows men with blue or green eyes with red or blond hair and beards and dressed in a manner similar to the Sassanians of Iran. The inscriptions in the caves are in Tocharian. Descriptions of the people residing in this region are available from Chinese sources as reported by Kimball – Davis and others. The upshot is that the people being described, who were residing on the steppes and known as Alans and Sarmatians (for example), appear to be mixed (with some Mongolian features). However, it would appear that they might have been largely indistinguishable from Scandinavians of today.

By 600 BC the Medes had driven the Scythians back east to the Pontic Steepes south of the Black Sea. A short time later, in 514 BC, the Persian King Darius decided to invade the homeland of the Scythians but failed since the Scythians merely retreated leaving nothing to destroy. Thus there was a movement to the west after this event, and by the 3rd Century BC these people were installed between the Don and Danube Rivers. There were distinct groups of Scythians at this time, largely based on how sedentary they were. The Royal families of the Scythians were true nomads, and their homeland was the Steepes of the Azov Sea and both banks of the Dnieper River. Also at this time the nomadic Scythians also occupied the Altai Region of Siberia near the Mongolian border. They were known as the Kindred Scythians or the Eastern Scythians. It is these people who would later move west to displace their cousins in the area of the Black Sea.

It is among the latter groups from the Altai whence came the Sarmatians, a Scythian people who by 415 BC were resident east of the Don River and north of the Caspian Sea. By 192 BC this group had crossed the Don and drove the Scyths to the Danube Delta and the Crimea.

By 145 BC the Sarmatians had divided into the Alans, the Roxolani, and furthest west the Jazyges located between the Dnieper and Don Rivers. When 79 AD dawned, all three groups had pushed west, with the Jazyges finding a home on the Hungarian Steepes. At about the same time the Goths were moving from southern Sweden to begin a relentless drive southward. By the year 230 the Jazyges were surrounded by various Germanic tribes, with their closest neighbors being the Vandals. The Roxalani were installed between the Don and Dneiper Rivers, with the Alans immediately east of the Don River and from the Black Sea to the northern quarter of the Caspian Sea. Also, at this time the Goths had carved out a large territory along both sides of the Danube River and to the north of the Black Sea. By 305 they had completely absorbed the territory of the Roxolani (and likely the people themselves), the middle group of Scythian Sarmatians, and bringing them into contact with the Alans, the upper most group of Sarmatians at the River Don. As early as 268 Byzantine sources recorded that huge fleets of pirates (up to 2000 ships) were manned by Sarmatians and / or Goths and were practicing the “art” of piracy; thus their raiding could be via horse or ship clearly providing them with more options. This habit may have been kept alive until the dawn of the Viking – Age. However, the age of the Huns, distant cousins to those peoples, was about to arrive.

The above information was presented in some detail since it is likely that the group that made its way to Scandinavia in the 5th Century was a mélange, composed of Alans, Huns, and Goths. However, before examining the dramatic incursions that brought the Huns to the doorstep of the Alans, also known as Aes to Turkic peoples and the Wu Sun to the Chinese scribes (see also Bachrach, 1973), it is important to explore how a Scandinavia group with roots in Sweden came to reside as far east as the Don River creating an interface between peoples of very different origins.

The Ostrogoths and Huns

A Note about Sources - Unless otherwise indicated, the following material is from on-line sources listed in the Reference section under Goths and Scythians respectively. In addition many of the facts about the Goths are from Heather (1998), and those relating to the Huns from Thompson (1948), both sources being part of “The Peoples of Europe” series.

The Ostrogoths – Reference to available atlases (“The New Penguin Atlas of Ancient History” (McEvedy, 2002) and “The New Penguin Atlas of Medieval History” (McEvedy, 2002) indicate the movement of Indo – European peoples from the Balkans and the Black Sea into Denmark, Southern Sweden, and Eastern Norway by 5500 BC. By 2750 BC there appears to be an expansion to South Western Norway by a group known as East Indo – Europeans, and by 2250 BC as “Germanics”. A virtually identical distribution is seen in the era leading up to 14 AD when there was a southward expansion as the Roman Empire began to engulf adjacent regions, and a group known as the Goths appeared on the shores of the Baltic south of Sweden. Contemporary sources (Jordanes, Cassiodorus and Ablabius) agree that this group originated in Scandinavia and had crossed the sea to what is today Poland.

Archaeological evidence shows that this group used burial practices similar to those in Scandinavia, namely burials within stone circles - as opposed to Scythians who buried their dead under kurgans (mounds). This fact will assume some importance when the 5th Century Swedish sites are discussed. Their progress is reflected archaeologically in the Weilbark cultural traditions in the northern reaches of their territory and the Cernjachov culture along the hinterland of the Black Sea. It appears that as the Goths reached the Black Sea, and occupied the area between the Danube and the Don, absorbing the cultural practices of the Scythians (e.g., reliance on the horse).

By 230 AD the Goths had moved far south to the shores of the Black Sea to the lands formerly occupied by the Sythians (who disappear as a distinct entity at this time). To their immediate north, along the Danube are the Vandals (noted in the *Heimskringla*). By 305 the Goths had divided into Ostrogoths in the east, and Visigoths in the west – with the Vandals moving further north and west. It is also at this time that the peoples of Scandinavia are named with the Danes occupying the eastern part of what is today Denmark and also southern Sweden. North of them were the Getes, then the Swedes; and to the west were the Norse.

By 362 the Roman Empire was at its zenith. The “barbarian” hordes that included the Ostrogoths were, however, nipping at the flanks of the Empire. At this time the Ostrogothic Empire stretched from southern Sweden in a corridor south on both sides of the River Wista in Poland to the Crimea on the Black Sea and east to the Don River. These descendants of the Swedish Goths had adopted the horse – centered lifestyle of their neighbors, and thus were culturally indistinguishable from the Asiatics. Meanwhile the Alans occupied a triangle of land wedged between the Black and Caspian Seas south of the Don River to the Caucasus Mountains and the Caspian Sea where Azerbaijan is today, with the Ostrogoths to the north along the west bend of the Don, and immediately

across the River to the east were the Huns, who had “materialized” rapidly to press against both peoples. It was a formula ripe for combustion.

One of the difficulties, which may not be resolvable, is the nomenclature issues surrounding the various Germanic tribes in the area. In particular there was a group noted occasionally in the writings of the early scholars and known as the Heruls, Heruli, Eruli and so on. It is entirely unclear as to whether these mysterious people were a tribal unit on their own, or this was merely a term meaning “young warriors” and relating to units of the Ostrogoths. There is a very thorough study of “The Heruls” by Troels Brandt (2004) that is 106 webpages in length (www.geocities.com/troels_brandt/heruleng.html) with copious references to original sources (e.g., Byzantine scholars). To the present author there does not seem to be a clear difference between the Heruls and the Eastern Ostrogoths, particularly since Brandt acknowledges that the first record for the Heruls is in the swampy area along the Sea of Azov where others place the Goths, but this is a matter that could be debated at length. Brandt acknowledges that the Heruls were likely an amalgam including Sarmatian Alans, and Goths.

What is most critical here is to realize that in 553AD, the scholar Procopius, subsequent to interviewing many with knowledge of the matter, wrote his history of the Gothic Wars. Procopius wrote that sometime prior to 494AD a contingent of the Herul – Goths (likely mixed with, or led by Alanic/Hunnish elements) went to Illeria where they suffered defeat and many were killed by the Romans however before this the bulk of the people were led by members of the Royal Family back to Thule (i.e., the Scandinavian Peninsula). Clearly, unless this well - known historian of Classical Times was wrong, then the stories of Snorri (who was unlikely to have access to this source) fit perfectly with this 5th Century movement of the mixed peoples of the Black Sea area north to Scandinavia. Even the trip north through the territory of the Slavs (Russians) and the Danes is described as it is by Snorri – particularly the fact that they met with no hostile resistance all the way to Sweden (which, unless the group was composed of an intimidating force of warriors does not seem reasonable).

The Huns – A background to the Hunnic peoples of Central and East Asia has been provided above. As to the Huns themselves, the specifics are elusive, and general agreement as to origins is not obtainable. One popular history, “The Huns”, part of “The Peoples of Europe” series, omits any discussion of the ancestral roots of the Huns. However, it appears that the most likely background, expressed chronologically, largely via Chinese and Russian writers is as follows:

318 BC. Chinese records note the Xiong Nu, Asiatic Turkish speaking Huns whose empire constantly attacked the Qin Chinese who in turn as a defensive measure built the Great Wall of China. Their raiding also took them into the Altai.

200 BC. Dou Man unites the nomadic tribes and gains control of the “Silk Road”, and subjugates the Han Dynasty of China.

121 BC. China defeats the Xiong Nu, who had by then brought numerous Central Asian peoples under their control.

55 BC. Factionalism and internal revolts cause a major split into the eastern (southern) horde who is under the control of the Chinese; and the western horde begin a westward migration. At this point the Xiong Nu cease to exist as a recognizable entity.

50 BC. The western faction reached the Volga River and the Aral Sea where they remain for a considerable time and the history of merges and splits in the group is not apparent (likely due to their now considerable distance from China).

350 AD. The remnants of the Xiong Nu, now known as Huns, were at the gates of Europe in the Ukraine, on the east bank of the Don River.

376 AD. The united forces of the Huns crossed the Don, and subjugated the Ostrogoths all the way to the Danube; and in the year 395 the Hun forces also crossed the Caucasus Mountains and laid waste to Armenia, penetrating as far as Edessa in Syria. By 406 the Huns were in control of the former territory of the Alans south to Azerbaijan.

It is unfortunate that of all peoples, especially those who have put their stamp so vigorously on Europe, there is a paucity of historical documentation and even less archaeological material pertaining to the Huns. One of the reasons why the Huns have an air of mystery about them is that they were almost certainly an amalgam of peoples – a confederation rather than a single entity. The “Hun army” would only be composed of an unknown percentage of the Xiong Nu descendants. Work at the University of Sofia has determined that among the confederacy circa 370 AD were the Bulgars, who had moved from the steppes to Armenia in the Caucasus after 45 AD. The leader of these proto – Bulgars was one Vanand, and the whole region took its name from this leader (Dimitrov, 1998). Again this name takes on significance in the sagas told by Snorri who mentions a decisive battle between the Vanaland people and Odin’s people. Thus until the dissolution of the Hun Empire circa 453 AD the word Hun may have been somewhat generic. But without a doubt the leadership or aristocracy was true Hun – Atilla and his predecessors. The leaders of the “true Huns” were of the Dulo clan of the Utigurs tribe – to which Atilla belonged. It is also the Uygurs who are considered to be the descendants of the people represented by the Tarim Basin Mummies of Xinjiang Province in China (Thornton & Schurr, 2004). Referring back to an earlier discussion of the Scythian peoples of the steppes, the Uygurs were noted as the probable founders of the Huns, and there is evidence that they (the Huns) still continued to exist and maintain control after the death of Atilla by merging with the Avars and Bulgars, with the leader of the latter being Khan Kubrat (died 651 AD).

Uldin – It would be difficult not to notice the similarity between the name of the Hunnic “king”, and the name of the Asian leader of the Norse Sagas named Odin. Odin is characterized as a great warrior who won many battles upon crossing the River Don. The historic Uldin was considered by some authors to be the man who united the Huns and led them to their decisive victory over the (Eastern) Ostrogoths who became subjects of the Huns. The link between the Goths and the Huns is reflected in their joint campaign (possibly led by Uldin) against Adrianople where two thirds of the army of 80,000 men and the Emperor Valens were destroyed on 9 August 378. In 400 a German rebel named Gainas incurred the wrath of Uldin who, with some considerable effort, finally managed to beat the forces of his opponent, and Uldin sent the slain man’s head to Constantinople on 3 January 401 to be displayed - with the demand that he be paid “gifts”, thereby

sealing a treaty with the Eastern Romans. This historical record bears some similarity to the Odin from the Sagas whose story is tied in with the severed head of a man. It is unclear as to how many men went around holding the severed head of another, but this overlap does help to tie Odin to Uldin. In 405 Uldin was called upon by West Rome to assist in eradicating Radagaisus and a large contingent of Germans, and in the Battle of Faesulae in Italy in 405 Uldin's cavalry made swift work of the Germans. In 406 the Ostrogoths formed a coalition with other Germanic - Scandinavian tribes (e.g., Vandals, Suevi), which also "included a clan of Alans displaced from the Caucasus" (p. 12). In 408 Uldin crossed the Danube and laid waste to Thrace, but through bribes to his followers, the Roman officer was able to get many to desert with the result that Uldin was forced to cross back over the Danube with a much weakened force. The contact between the Huns and the Goths is possibly reflected in the observation that the songs sung by the Huns at the time of Attila were in Goth, and followed Goth conventions. It has also been reported that at this time Goths would take Hun names by which they were known in their community; and other authors state that Huns were in the habit of taking Goth names. Either way it appears that there was a solid link between the two peoples whose lifestyle and culture at the time did not differ in any significant way. This sets the stage for a merging of the two such that both came to revere the horse; and both were masters of occupying their time by acts of piracy using boats to raid along the Black Sea (from the 3rd Century AD). This propensity may have set the stage for the similar raiding that would be characteristic of their apparent descendants – only the venue was different – the Atlantic Ocean and Baltic Sea and beyond.

After 408 Uldin, the first Hun to be mentioned by name in the chronicles of the day disappears from the historical record, and we know that his successors in 412 were Donatus and Charato (perhaps the two brothers of Odin mentioned in the Sagas). According to the thesis put forward here, Uldin / Odin appears in Sweden a few years later with his Hun – Alan followers and remnants of the Ostrogoths to negotiate with King Gefir prior to taking up residence at Sigtun on Lake Malar.

It is interesting that Jordanes reported that the Heruls (which might be a generic term for a very mixed group) were acting as pirates along the French and Spanish coasts in 409, 450 and 459. It can only be guessed whether the first raid was a little diversion while enroute to Scandinavia; while the others were conducted after the community had settled in Gamla Uppsala and Southern Norway. It is possible, however that this was an entirely independent group of Heruls.

Thor Heyerall: The Hunt for Odin

In the midst of preparing the present study, the Resource Coordinator of the Shetland Islands Y-DNA Surname Project informed the author that, "A few years ago while visiting Fosnavag in Norway, I attended a talk given by the famous adventurer, Thor Heyerdahl. He raised the question, why are northern Europeans called Caucasian? He had read Snorri Sturluson's Edda and decided to investigate for himself. He explored the mountainous region, and in the south of Russia found a legend of a group of people, who in the long distant past, had emigrated to the northern areas of Europe. He found that

their leader was a man called Odin. His visit was, of course, to the Caucasus Mountains. He brought back with him to Norway a group of musicians from that area who performed after his talk” (E. Morewood, personal communication, 2004).

An Internet search confirmed that indeed this project was one of the last undertaken (but not finished) by Dr. Heyerdahl prior to his death in 2002. He wrote a book in Norwegian called “Jakten pa Odin” which was supposed to be translated into English by November 2002, but apparently has not been done so up to the time of this writing. What can be gleaned via the Internet indicates that he concentrated his archaeological explorations in the region where the Don empties into the Sea of Azov. It appears that Dr. Heyerdahl concluded that the Ases emigrated around 63 AD, and he found traces of a contemporary civilization in the area.

What is very interesting for the purposes of the present study is that Dr. Heyerdahl located a people called “Odin-People” (Ossetians) residing in what is today Azerbaijan, who he said consider themselves descendants of the same people who migrated to Scandinavia long ago.

What compelled Dr. Heyerdahl to investigate the matter was apparently the similarity of the word Azov to the place called by Snorri “Ashov (read as As-hov)” the site of tribal sacrifices. This prompted a joint Norwegian – Swedish and Russian archaeological project that began in 2001. A research center was set up in England, and after the death of Dr. Heyerdahl, has set as its mission to continue the work in Azov and the Caucasus.

While the entire contents of the book may not be available to the present author, a very comprehensive book review translated from Norwegian is. A team of scholars examined the contents of the book and, to say the least, found it woefully lacking in just about every category. They paint Thor Heyerdahl as a sensation seeking pseudo – scientist whose claimed doctorate cannot be verified. Apparently Heyerdahl and Lilliestrom use highly selected evidence and ignore anything that might not fit their preconceived bias. Some very serious examples include the following. The reviewers state that the “Odin – People” identified by Heyerdahl in Azerbaijan have never used that name to refer to themselves, they take extensive liberties with linguistic “evidence”, the “Vannic” people did not exist at the time of Snorri, let alone live on the shores of Lake Van in Turkey (which in turn did not become a country until modern times), and the Troy from which Odin allegedly departed, according to Heyerdahl, was not even identified with a specific location until the last century. Then there is the archaeology where the artifacts assembled to support their case show no continuity in the materials in the 1st Century Azov and Scandinavia. Furthermore, Heyerdahl and Lilliestrom point to the cremation burials at Uppsala to support their argument – but these sites have been dated to the 5th and 6th Centuries. As to the similarities of the folk music between the two regions, apparently the expert Scandinavian folk musician cited by the authors wrote a press – release where he refuted the way that his views had been expressed in “The Hunt for Odin”. Also, apparently other authors have investigated the subject, such as the Russian author Vladimir Sjerbakov and the Scandinavian Stein Jarving, but neither were given credit by Heyerdahl and Lilliestrom. The reviewers conclude that, “The book is a gold –

mine to those interested in research ethics. To anyone with a love for juicy errors and hilarious anachronyms, H and L provide a good read.”

Linguistic Evidence

Linguists are separated into two camps in relation to all Indo – European languages. One group believes that about 6,000 years ago horse mounted invading clans of Kurgan tribes from the Ukraine and spread Indo – European languages to Central Asia, the Indian sub – continent, and eventually to Europe. The other camp is of the opinion that the mega language family emerged in Neolithic Anatolia (Turkey) and spread with agricultural innovations. A recent article in *Nature* (Gray and Atkinson, 2004) cites new evidence in support of the “plow” theory” over the “sword” theory. Their calculations point to a 9,800 to 7,800 BC expansion. This “glottochronology” evidence supports the “Anatolian farming” rather than the “Kurgan expansion” theory. However, in essence, it is unknown whether the peoples of this region spoke Indo – European or Turkic languages.

It is important, however, to assess the language family derivation of certain words related to the thesis of this study. For example, Russian linguists report that *Ases* is a Turkic word. A very thorough discussion of the subject with detailed references is found on-line in an article entitled, “Who are the Alans” as part of a more comprehensive exploration of the Tartar Nation. Here it is recorded that Bartold (1963) noted that “the word *As* with all its phonetical variations in the designation of the Turkic – speaking peoples was applied very widely, and in parallel with a word *er* (*ir-ar*). Apparently, in antiquity many Western peoples also quite actively used the ethnonym “*As*” for Eastern peoples. So, “in Scandinavian mythology *Ases* was the name for the main group of gods, and at the same time it was stated that the *Ases* came from Asia, hinting at the identity of the word *Ases* and *Asia*.” A Turkic people of Central Asia (possible descendants of the Huns) who were noted in the section on genetics have been known, since at least the 7th Century, as both Kirghiz and *Ases*. The Alans were also known by this name.

Among the present day tribal peoples of Central Asia to be “candidates” for the *Aseir* (although there was doubtless more than one tribal group considering the *mélange* along the Silk Road in Roman Times), are the Uygur of Xinjiang in China and nearby Siberia – nomads who could be found anywhere along the steppes between Mongolia and the Caspian Sea depending on the timeframe. Greek and Iranian sources noted their presence circa 300 BC. At about the time of Christ the Uygurs held sway over an extensive empire. Although not entirely clear, it appears that the Uygurs were descendants of the Huns. *Hun* may be but one name for these people. Their original name, as far as the documentary sources can tell us, was the Dingling nomadic tribe. The name is interesting in relation to the ruling dynasty of the *Aseir* – the Yngling Dynasty of Scandinavia. It could be a coincidence, but the phonetic juxtaposition leads one to the obvious conclusion that there is no need for any force fit to see them as identical – especially considering the changes one would expect due to the evolution of the language and the use of a “foreign” word by non – native speakers (recall how “Route du Roi” became “Rotten Row” when filtered through English ears).

The word Azir in Persian means “fire” and in Turkic the meaning is “high”. Thus the Azir, known as Azeri from Azerbaijan bear a remarkable phonetic resemblance to the Asir noted by Snorri in the Norse Sagas. This fact takes on a more compelling significance when the genetic findings are recalled. Many of the names of places mentioned in the land of the Ases appear to the untrained ear to be Persian, and others Turkic. It will require an in depth investigation of each word to shed further light on the matter, and then to be able to tie each (if possible) to known cities existing today, or in the past.

Recalling back to the archaeological and historical evidence discussed above, it was noted that the Heruls and their associates (e.g., Huns) were thought to have begun new dynasties in Scandinavia beginning circa 450 AD. Sigurdsson has reported in the Norse – Icelandic Sagas that the men from Asia became the aristocrats of Sweden and Norway. It may be of significance that the linguistic evidence seen in the rune stones (“EriLaR-runes”) dated to this time in Scandinavia (the earliest are 4 from Sweden and 5 from Norway, and the earliest of these dated to the 5th Century), and thought to be connected with the Wolthan Cult arriving from the south, often contain the word “Eruli”, which is another variant of Herul. Rune stones, with essentially the same script, has been found on items such as a silver bowl in a Saka – Sarmatian grave circa 400 BC, indistinguishable, according to Kimball – Davis, from their Germanic counterparts. Artuns (1994) provides evidence that the rune stones of Norway have their origins in the Middle East.

The linguist Ellegaard (1987) has reported that he believes that there is a “very probable” connection between the word Eruli and Eorl/Jarl, in other words the Earls of Scandinavian society. Procopius has described the trip of a Scandinavia Herul Royal Family member, long after the first arrival to Scandinavia (during Justinian times) to Illyria to replace a dead family member from the Danube region. Therefore it is clear that there was a recognized Royal Family in Scandinavia in the 6th Century (548 AD) whose roots are among the migrants northward a century previous. Here the linguistic, archaeological and historical evidence all point clearly in the same direction.

Genetic Evidence

Ancient DNA Samples:

The most “ideal” source of evidence would be a large world – wide database of dated archaeological samples where each had been analyzed with the tests commonly used today in population genetics and genealogical studies. Here the ancient Scandinavian DNA samples could be compared to diverse groups to see if, for example, there are clear similarities between some Swedish and Norwegian samples, and those from ancient samples from Central Asia or regions of the “Silk Road” route between east and west.

It is unfortunate that to date, not a single study has yet reported sequencing Y-DNA from a Viking – Era archaeological site. The situation with respect to Central Asia is only moderately better. A current study by Ricault et al. in *Human Biology* (2004) reports on the DNA analysis of two skeletons entombed in ice at the Sebystei Site in the Altai Republic site (circa 500 BC) who were of the Scytho – Siberian culture. Autosomal STRs (short tandem repeats) and the mitochondrial DNA of the direct maternal lineage was Asian, with some suggestion of likely Mongolian and East Asian origins. The mitochondrial haplogroups D and F observed in this study are still commonly found in populations of this region. One can only hope that with technological innovations that the Y chromosome will at some point be able to provide the haplogroup (e.g., R1a1, Q) and the haplotype of the male sample (see below for the definitions and a discussion of the terminology here).

Alas, it is very unfortunate that the Y chromosome is relatively unstable and may not be recovered from samples from 20 years ago, let alone 2000 year – old specimens. An important step in this direction, and the only known study of its kind, is the work of Keyser – Tracqui et al. (2003). They investigated the mtDNA (female lineage) of 46 skeletons from the 2000 year - old cemetery located in the Egyin Gol Valley of Mongolia; and in addition were able to sequence up to 10 YSTR (male lineage) markers in a sample of 27. The details of this study will be discussed later.

Y Chromosome DNA Markers:

Through an examination of sets of two types of genetic indicators on the Y chromosome of males, it is possible to track population movements, and examine the biological relationship between two or more population groups. The first are SNPs (Single Nucleotide Polymorphism) changes that occur only once in thousands of years and all descendants of the man who first experienced this mutation (e.g., a change in a nucleotide base pair from a Cytosine to an Adenine at a recognized location on the chromosome) will continue to carry this mutation. These are known as binary markers. For example at a locus on the Y - chromosome a change from one base pair to another, at the location where marker M242 is situated, that occurred in a man who was destined to be the ancestor of all haplogroup Q males. The ancestor of R1a1 had a mutation (actually a deletion of one base pair) thousands of years ago (the debate rages as to the exact timing as will be noted later) at a marker site known as M17. His descendants to this day will carry this variation (or polymorphism). This will provide us with what are known as haplogroups, which are relatively few in number (e.g., Jobling et al., 2004). For example most males in County Connaught, Ireland belong to a haplogroup known as R1b1c (M269) – most common among Insular Celtic as well as Basque peoples (e.g., Hill et al., 2000) and decreasing in percentage in a cline from west to east to the point where it becomes rare beyond Poland (e.g., Semino et al., 2000). There are haplogroups that are characteristic of Western Europe (e.g., R1b1c) and East Asia (e.g., C3c) with very little overlap (although more so the former than the latter), plus others that are found throughout Eurasia but may vary according to some of the specifics of their “signature”, as noted next.

A second type of informative marker is the pattern or signature of alleles in the form of repeats in the “junk DNA” part of the Y chromosome, and each is known as a microsatellite. It is typical to use between 2 and 37 loci on the Y chromosome and, using DNA amplification and sequencing techniques, count the number of repeats as shown as the height of a peak on an electrophoresis printout (a photographic – like paper containing the DNA with a radioactive tag which has been exposed to an electrical field). There will be much more variability here such that, concerning the R1a haplogroup noted above, all males in this grouping will have slightly different haplotypes, meaning allele “scores” at each of the, for example, 37 markers – unless individuals are closely related. The markers are in the form of DYS (DNA Y chromosome Short Tandem Repeat) numbers so that one man may have DYS390 = 23 and another 25, residing in the same village, and not be related in recent times, only 10,000 or so years ago when they shared a common ancestor at the time of the Last Glacial Maximum. Haplotype patterns of scores, even within the same haplogroup, are correlated with geography such that for example a Central Asian modal R1a haplotype will differ from that seen in Eastern Europe. There may even be differences between two proximal tribal groups suggesting that they do not share a recent ancestral connection (e.g., Rosser et al., 2000).

Some Major Relevant European and Asian Haplogroups:

There are major nomenclature issues in relation to the haplogroups of the world. What follows are the names most commonly used in the most recent literature. The YCC (Y Chromosome Consortium) attempted to standardize the highly variable nomenclature that has appeared in the literature over the years. Since this group appears to be defunct, in 2006 the International Society of Genetic Genealogists (ISOGG) assembled a team of experts and established a Y – chromosome phylogenetic chart that is constantly updated as new information is made available. The following descriptions are adapted from the data available at www.isogg.org.

R1b1c: Haplogroup R1b is the most common haplogroup in Northern European populations. It is defined by the M173 plus P25 / M269 (plus the upstream M45) that originated in Central Asia or enroute to Western Europe about 30,000 years ago. It is believed to have expanded throughout Europe as humans re-colonized after the Last Glacial Maximum (LGM) 10-12 thousand years ago during which time they had been ensconced in the Franco – Cantabrian refugium. It decreases in a cline from west (e.g., Ireland) to east (e.g., Poland). This lineage is also the haplogroup containing the Atlantic modal haplotype. Varieties such as R1b1c6 (M167) originated in Iberia, and R1b1c7 (M222) in Ireland (“Ui Neill”). R1b1c9 (S21) is a North Germanic – Scandinavian marker; while R1b1c10 (S28) is associated with the distribution of La Tene Celtic peoples (with a focus in the Alpine region of Central Europe) with outliers in Jutland and Southeast Norway. Depending on the study, about 25% of males in Norway and Sweden are within the R1b1c category.

I: The I1a (M253) lineage is largely restricted to Northwestern Europe. This is a common lineage among Germanic speakers and would most likely have been common

within Viking populations. The defining marker is M170. One lineage of this group I1b1 (P37) extends down into central Europe (the Balkans). It is believed that the entire “I” group (including I1b2 / M223) “over wintered” in the Balkans until the end of the LGM – although there could have been pockets located elsewhere. Seldom are the latter two found in Scandinavia where the I1a haplogroup is seen in about 40% of males.

R1a1: Until recently the assumption was that the R1a lineage originated in the Eurasian Steppes north of the Black and Caspian Seas, among those of the Kurgan culture, and spread, with their culture dependent on the horse and their Indo – European language to the east and south. This lineage (defined by a nucleotide deletion mutation at M17 and a back mutation at SRY1031.2 downstream from the general M173 R division) has a wide variety of estimates as to when it emerged. For example the interval of 3000 – 1000 years BC via the Kurgan Culture to spread from its supposed origin in the Ukraine to Central Asian and India is suggested by for example Passarino et al., 2001 which is wildly divergent from the circa 15,000 years before present asserted by for example Zerjal et al., 1999. This lineage is currently found in Central and Western Asia as far east as Mongolia, south into Sri – Lanka and India, and west as the predominant haplogroup of the Slavic populations of Eastern Europe. It is generally believed that this group found refuge on the Ukrainian steppes at the time of the LGM and expanded from there. Another viewpoint is that the haplogroup originated in Northern Pakistan (where the diversity is highest) and this was the location of a glacial refugium for at least some R1a1. The percentage typically found in Norway and Sweden is about 20%, and is the one haplogroup that, if found in Britain, is almost certainly attributable to the presence of the Vikings.

Q: The Q lineage links Asia and the Americas. It is found in North and Central Asian populations. This lineage is believed to have originated in Central Asia and migrated through the Altai / Baikal region of northern Central Asia and descendants with a M3 mutation moved into the Americas. The Asian defining markers are M45 and M242 (also shared with some Native Americans). In Scandinavia north of Denmark haplogroup Q is found in less than 8% of the male population.

C3: The C3 lineage is believed to have originated in Southeast or Central Asia, and has been determined to be the haplogroup of the descendants of Genghis Khan. This lineage then spread into Northern Asia, and then to a limited degree into the Americas. It has very seldom been seen in samples from Europe, other than in 1% of Hungarians; and less than half a dozen who are haplogroup C* (marker RPS4Y) or C3c (M217 / M86) seen in Scotland and England but no indication of any association with the Vikings as this haplogroup has not been observed to date in Scandinavia.

K: The K lineage is an old lineage presently found only at low frequencies in Africa, Asia, and in the south Pacific. One descendent line of this lineage is restricted to aboriginal Australians, while another is found at low frequency in Southern Europe, Northern Africa, and the Middle East, but at higher levels in Central Asia and the

Caucasus. Most of the haplogroup K are probably K2 (M70). It is a rare haplogroup anywhere in Northern Europe and is seen only in trace amounts.

N: This haplogroup is distributed throughout Northern Eurasia. It is the most common Y-chromosome type in Uralic speakers (Finns and Hungarians). This lineage most likely originated in northern China or Mongolia and then spread into Siberia where it became a very common line in western Siberia. Most carriers of the haplogroup will be M178 or N3. It is unlikely that N3 was found in Viking communities in Scandinavia since it is rare to absent in any samples from colonies settled by the Vikings.

G: This haplogroup appears to have first emerged about 30,000 years ago in the region of the Middle East, or perhaps further east in the Himalayan foothills of Pakistan or India. The haplogroup has relatively few descendants and is widely dispersed - from Southeast Asia and the Pacific Islands, but with the largest concentration in the Middle East, and also observed scattered around the Mediterranean and into Turkey, the Balkans and the Caucasus Mountains (a “hot spot” at about 30%). In Europe the frequency is generally no more than 3% but found occasionally in most countries in Europe (sometimes at higher levels such as 14% in Sardinia). G is seen more frequently in Central Asia (e.g., Uzbekistan and Mongolia). The G2 lineage is defined by P15. It is seen in scattered contexts in some locations in Sweden.

The above are the haplogroups that potentially might be found in both Central Asians and their proposed kin in Scandinavia. The focus of the present study will be on R1a, Q and K since they have been found in the Shetland Islands Y-DNA Database (www.davidkfaux.org/shetlandislandsY-DNA.html), are found in sufficient numbers in Central Asia to show up frequently in databases there, and there is in general sufficient data in the literature to be able to make direct comparisons. Unfortunately this is not so with haplogroup C3 where its documented presence in Europe is extremely low. The same situation prevails with haplogroups N3 and G2, found in small Scandinavian “enclaves”, but as yet not observed in the Scandinavian colonies – with the exception of one N3 in Helgason’s (2000) study noted elsewhere.

What is of interest here are the haplogroups shared between Scandinavia and Central Asia that might reasonably be expected to reflect a biological link between the two peoples.

Haplogroup Percentages in Selected Eurasian Populations

Below is a listing of the percentages of each of the above haplogroups found in countries from Ireland to Mongolia. These two end point countries are noted here since they are at the extreme end of the European – Asian corridor. What will be readily apparent is that none of the haplogroups of interest occur west of Eastern Germany, thus our search must be to the south and to the east. In the table below, a zero means that the haplogroup was typed in the study but not found in that population. A dash (-) means that there is no evidence that the authors searched for the haplogroup via SNP testing. The bracket around the 7% of Q in the Iceland is explained below. The manner of typing for R1b and

Q in many if not most studies of Europe (often using the super class of P which lumps both together) is a chronic problem, and has meant that otherwise interesting studies (e.g., “Y Chromosomes of Eastern Ukrainians” by Kharkov et al., 2004) are of marginal use. In addition they, and other authors, cluster haplogroups I and J together, when typically it is imperative parse them (I is characteristic of Germanic countries and J of the Middle Eastern region).

The data, expressed in percentages, is from published studies and private databases which, being private, may not be individually identified.

| | <i>Haplo</i> | R1b | I | R1a | J | E | Q | C | K | N3 |
|-----------------------|--------------|-----|----|-----|---|---|-----|---|---|----|
| Region / Country | | | | | | | | | | |
| <u>Europe</u> | | | | | | | | | | |
| Ireland (N=207) | | 81 | 15 | 1 | 1 | 2 | - | - | 0 | 1 |
| Faroe Islands (N=89) | | 27 | 19 | 52 | - | - | - | - | 2 | - |
| Iceland (N=181) | | 34 | 34 | 24 | - | - | (7) | - | - | 1 |
| Orkney (a) (N=26) | | 65 | 08 | 27 | 0 | 0 | 0 | 0 | 0 | 0 |
| Orkney (b) (N=121) | | 63 | 15 | 19 | 0 | 0 | 2 | - | 0 | 0 |
| Shetland (a) (N=63) | | 66 | 10 | 23 | 0 | 0 | - | - | 1 | 0 |
| Shetland (b) (N=38) | | 53 | 11 | 29 | 0 | 0 | 8 | 0 | 0 | 0 |
| Shetland (c) (N=35) | | 40 | 23 | 29 | 0 | 0 | 3 | 0 | 3 | 0 |
| (Aboriginal Surnames) | | | | | | | | | | |
| Norway (a) (N=52) | | 29 | 33 | 31 | 2 | 2 | - | - | 0 | 4 |
| Norway (b) (N=201) | | 30 | 28 | 34 | 0 | 0 | 4 | - | 0 | 1 |
| Norway (c) (N=72) | | 29 | 40 | 24 | - | - | 0 | 0 | 1 | 7 |
| Norway (d) N=83) | | 27 | 45 | 22 | 2 | 1 | - | - | 0 | 4 |
| Sweden (a) (N=116) | | 20 | 54 | 17 | 1 | 0 | - | - | 1 | 7 |
| Sweden (b) (N=141) | | 22 | 48 | 18 | - | - | 0 | 0 | - | 3 |
| Saami (a) (N=24) | | 8 | 42 | 8 | 0 | 0 | 0 | 0 | 0 | 42 |
| Saami (b) (N=127) | | 4 | 26 | 11 | - | - | 0 | 0 | - | 48 |
| Saami (c) (N=48) | | 6 | 31 | 21 | 0 | 0 | - | 0 | 0 | 42 |

| | | | | | | | | | | |
|----------------------------|--|----|----|----|----|----|----|-----|----|---|
| Denmark (a) (N=194) | | 36 | 39 | 17 | - | - | 0 | 0 | - | 1 |
| Denmark (b) (N=190) | | 39 | 39 | 12 | 3 | 3 | 0 | - | 0 | 2 |
| Hungary (a) (N=45) | | 13 | 11 | 60 | 2 | 9 | 0 | 0 | 0 | 0 |
| Hungary (b) (N=113) | | - | - | - | - | - | 3 | 1 | - | - |
| | | | | | | | | | | |
| <u>Asia (West to East)</u> | | | | | | | | | | |
| | | | | | | | | | | |
| Turkey (a) (N=523) | | 14 | 5 | 7 | 33 | 11 | 2 | 7 | 2 | 1 |
| Turkey (b) (N=30) | | 7 | 3 | 7 | 40 | 13 | 3 | 0 | 3 | 3 |
| Uzbeks (N=28) | | 0 | 0 | 32 | 21 | 0 | 21 | 18 | 4 | 0 |
| Azeri (N=19) | | 0 | 0 | 5 | 58 | 5 | 16 | 0 | 5 | 0 |
| Tajiks (N=22) | | 0 | 0 | 64 | 9 | 0 | 9 | 14 | 0 | 0 |
| Dungans (N=22) | | 0 | 0 | 14 | 18 | 0 | 27 | 9 | 27 | 5 |
| Kyrgyz (a) (N=52) | | 2 | 0 | 63 | 2 | 2 | 2 | 8+ | 2 | - |
| Kyrgyz (b) (N=41) | | 0 | 0 | 63 | 5 | 0 | 5 | 22 | 2 | 2 |
| Altains (a) (N=29) | | - | - | 55 | - | 3 | 7 | 24 | 10 | 0 |
| Altains (b) (N=98) | | 0 | 0 | 47 | - | - | 17 | 22 | - | 1 |
| Tuvini (N=42) | | 2 | 0 | 14 | 0 | 0 | 17 | 10+ | 26 | 0 |
| Uygurs (N=68) | | 18 | 0 | 22 | 10 | 0 | 4 | 7 | 10 | 0 |
| Mongolians (N=65) | | 0 | 0 | 9 | 3 | 0 | 5 | 57 | 12 | 8 |
| | | | | | | | | | | |

Some interesting patterns emerge here in relation to the haplogroups of interest to the present study.

Considering Norway, it is clear that the three major haplogroups are R1b, I, and R1a, and that they occur at about 30% each – in other words are found in equal proportions. There are, however, a restricted number of other haplogroups that make a minor appearance. Both J and E1b in Northern Europe are considered to reflect the Neolithic expansion of agrarianism from the Middle East. In other words they have probably been in Norway for thousands of years. N3, while being found at rates up to 7% in Norway and Sweden is problematic to interpret.

Haplogroup N3 (also known as Tat) is found very infrequently in Norse colonies and could have come via East Asia (where it reaches levels of 28% in some tribal groups such as the Buryats; but 0% in their Altai neighbours). It is also found at up to 10% in Eastern Ukraine which has seen successive waves of Central Asians move through the area). The problem is that the immediate neighbors of the Norwegians and the Swedes to the north (Saami) and east (Finns) have about 40% and 60% N3 respectively. Thus N3 could have come from local or East Asian sources and the small numbers play havoc with interpretation. Still, it may be worthwhile to compare haplotypes and get a sense whether the Norse N3 (as seen in Iceland) is more similar to that found in East Asia or among the Saami. Unfortunately, the one major paper to focus on the Saami (Tambets et al., 2004) did not include haplotypes. This is an area for future investigation.

Haplogroup Q Y Chromosomes undoubtedly emerged in Central Asia and came to Norway at an as yet undetermined time. If they came overland as the crow flies it would have been a very torturous route, and there are no indications that this group is found in any clinal pattern – it seems to hop from place to place. It is probably no coincidence that it has been observed along the path which the Scythian and Hunnish peoples used in their migration through Eurasia, but still at very low levels. In the only study of European haplogroups where Q could be differentiated from related lineages, Tambets et al. (2004), the only location in a broad cross section of European countries where any Q was detected was Hungary at 2.6% (and also was the only European country to show any haplogroup C - .9%).

A very interesting study is that of Barac (2003) who explored the Y chromosomal heritage of Croatia. His genotyping included P*(xM173) which is clearly Q. The study also reflects the fact that unless a country is sampled widely from all geographical regions, a lot of important information could be hidden. Barac found that the Adriatic island of Hvar was unique in having 14% P* - 92R7 (Q) Y chromosomes – compared to a rate of .02 on the Croatian Mainland. Here is an enclave of the probable descendants of one or more of the Central Asian incursions into the European heartland. However, this island had by far the lowest percentage of R1a haplotypes in all Croatia at .087%. As an aside, in addition to the Q “anomaly”, Hvar is the only European location to harbor an unmistakably Central Asian mtDNA (mitochondrial DNA; direct female lineage) haplogroup (for example haplogroups H and K are found in both Europe and Central Asia). Haplogroup F is seen in 8.3% of the population of Hvar according to Tolk et al. (2001). This suggests that the Central Asians who settled here included both male and female founders.

One unfortunate problem, alluded to above, is that with rare exceptions researchers at best simply type to P*(exceptR1b8,R1a,Q3). What this means is that while the researchers would assume that they had typed R1b Y Chromosomes, there may well have been a number of Q that would simply be misclassified as R1b. The classic example is the excellent study by Helgason et al. who identified a “Branch A” which looked so different from R1b that they speculated that it might represent an as yet unknown haplogroup. Actually when examining the haplotypes (scores on individual markers) for each person in the study (since there is a strong correlation between haplotypes and haplogroups – the latter can often be predicted from a knowledge of the former) - it is very clear that Branch A is actually haplogroup Q. Thus Helgason et al. inadvertently identified 7% Q in their sample. Therefore by virtue of the “founder effect” or “genetic drift”, Q may be found at a higher rate in Iceland than anywhere else in the Norse world. However, it may turn out that as the sample size increases for Shetland we will see similar number appear there. As to Norway, a problem in seeing it in small samples is that it is spread non – randomly across the country, with “hot spots” being in the south and north (J.F. Wilson, personal communication, 2004).

Haplogroup K is in much the same situation as Q, however it is found more widespread in the Middle East, Southern Europe, as well as Central Asia where it reaches its maximum numbers. Haplogroup K appears to be dispersed along the “Silk Road” that for centuries has joined east and west. Haplogroup K is even spottier in Scandinavia. At this point it appears that it might be more prevalent in Sweden, and in the Faroe Islands (thought to have been settled by the Norwegians and the Swedes during the 9th Century AD).

The evidence that Q and K have been in Scandinavia since before the Viking era circa 800 AD is that they are both found in Norse colonies at even higher levels than in Norway or Sweden.

Haplogroup R1a is the predominant grouping in many Central Asian peoples, out eclipsing what is seen in Scandinavia. It occurs among the tribal peoples of the Altai and adjacent regions often at rates over 50%. An interesting question is whether the haplotypes associated with this haplogroup in Scandinavia more closely match those of Eastern Europe (where R1a also predominates), or those of Central Asia, and whether there are any specific markers which serve to distinguish Y chromosomes from each of these regions. Since the hypothesis being tested in the present study is that there was a significant migration of people from Central Asia prior to the Viking - Era, it is probable that the Swedish and Norwegian people (and the colonies they spawned) would not only have Q and K haplotypes (found at very low levels in Scandinavia), but also the “Asian variety” of R1a.

As an aside, it may be wondered why, if haplogroup C also occurs frequently in the Central Asian populations, it has not yet show up anywhere in the Scandinavian world. It is likely that this haplogroup is a relatively recent arrival to the heartland of Asia. Recent work by Zerjal et al. (2003) has determined that the haplogroup of Genghis Khan was C, and that he and / or his kindred were responsible for “introducing” this form of DNA signature to the world beyond Eastern Asia to the Caspian Sea. Here 8 percent of the population may be direct descendants, plus others who descend from the cohort of Genghis Khan. The Kyrgyz, Uzbeks, Uyghur have rates even above this figure. Since Genghis Khan lived 1000 years ago, his signature and others of haplogroup C would not be expected to show up in a migration that is proposed to have occurred prior to this date.

Since there are relatively few Q and K, Y Chromosomes to study, it makes sense to first turn to the most numerous of the Central Asian haplogroups, R1a, to see whether their descendants can be seen reflected in the DNA signatures of Scandinavia. This will require a close analysis of haplotypes, the pattern of from 3 to 37 short tandem repeat (STR) markers that provide the variability within haplogroups. Thus it should be possible to explore whether there is a subset of R1a chromosomes that more closely match those of Central Asia than those of Eastern Europe, or even those of their own Scandinavian neighbors.

The R1a, Y Chromosomes of Scandinavia and the Norse Colonies

There are some clues that suggest that there is something different about a subset of R1a, Y chromosomes from Iceland to Sweden.

First, the process of administering the Shetland Islands Y-DNA Surname Project meant that the author was provided with the series of matches for each R1a individual via the Haplogroup Database of Family Tree DNA. Here a 12 marker haplotype is compared to a world – wide SNP tested database accumulated by Michael Hammer and his team of the University of Arizona. Some individuals have most of their close matches in Poland, India, and a variety of locations between. However there is another set of R1a participants who match more individuals in China, Mongolia, and Central Asia – particularly the Altai. For example the R1a Shetlanders with aboriginal surnames (patronymic usage genealogically proven) have only a scattering of matches anywhere in Europe, but considerably more located well east of Scandinavia. As an example, the two R1a Williamsons have 19 matches at the 10/12 level with the Altai, and another 14 at the 9 of 12 level. Although details of this database for the Altai has not yet been made available to the author, it is possible to “reverse engineer” things to find a modal haplotype. The data are clearly from Karafet and Hammer’s work that has 98 Altai in their database, 46.9% of whom are R1a. Thus there are 46 R1a individuals in the database of whom these participants closely matches 33 with 12 markers. The numbers are similar for R1a Jamieson, Blance, and Robertson among others. By looking at a number of profiles of participants it is possible to construct the Altai modal haplotype. The other haplotypes are modal in the denoted groups. The raw data is from private databases as well as published databases including Jorgensen et al., 2004, Helgason et al., 2002, Cinnioglu et al., 2003, Family Tree DNA’s Ysearch database (www.ysearch.org), and the Forensic User’s Group database (www.yhrd.org).

R1a Haplotypes in Asian and European Populations

| | | | | | | | | | | | | | | |
|------------------|-----|------------|----|----|----|----|----|----|----|----|----|----|----|----|
| R O U P | R1a | | | | | | | | | | | | | |
| | G | | | | | | | | | | | | | |
| | | | | | | 3 | 3 | | | | | 3 | 3 | |
| | | 3 | 3 | | 3 | 8 | 8 | 4 | 3 | 4 | 9 | 3 | 9 | 4 |
| | | 9 | 9 | 1 | 9 | 5 | 5 | 2 | 8 | 3 | | 9 | | 8 |
| | | 3 | 0 | 9 | 1 | a | b | 6 | 8 | 9 | 1 | 2 | 2 | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | Williamson | 13 | 25 | 15 | 11 | 11 | 14 | 12 | 12 | 10 | 14 | 11 | 33 |

| | | | | | | | | | | | | | | |
|-----------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|-------|
| Robertson | 13 | 25 | 15 | 11 | 11 | 14 | 12 | 12 | 10 | 14 | 11 | 31 | 11 | |
| | | | | | | | | | | | | | | |
| <u>ASIAN</u> | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| Mongolian | 13 | 25 | 16 | 11 | 11 | 14 | | | | | 11 | 31 | | |
| Mongolian | 13 | 25 | 16 | 11 | | | 12 | 12 | 10 | 13 | 11 | 31 | 11 | |
| Uyghurs | 13 | 25 | 16 | 11 | | | 12 | 12 | 10 | 13 | 11 | 31 | 11 | |
| Uyghurs | 13 | 25 | 16 | 11 | | | 12 | 12 | 10 | 13 | 11 | 29 | 11 | |
| Altains | 13 | 25 | 16 | 11 | 11 | 14 | 12 | 12 | 10 | 14 | 11 | 32 | 11 | |
| Kyrgyz | 13 | 25 | 16 | 11 | | | 12 | 12 | 10 | 14 | 11 | 32 | 11 | |
| Tajiks | 13 | 24 | 16 | 11 | | | 12 | 12 | 10 | 14 | 11 | 32 | 11 | |
| Uzbeks | 13 | 24 | 16 | 10 | | | 12 | 12 | 10 | 13 | 11 | 30 | 11 | |
| Azeri | 13 | 25 | 16 | 10 | | | 12 | 12 | 10 | 14 | 11 | 32 | 11 | |
| Pakistan (a) | 13 | 25 | 16 | 10 | | | 12 | 12 | 10 | 14 | 11 | 31 | 11 | |
| Pakistan (b) | 13 | 25 | 16 | 11 | | | 12 | 12 | 10 | 13 | 11 | 31 | 11 | N=233 |
| Turkey | 13 | 25 | 16 | 11 | | | | 12 | 10 | 13 | 11 | 30 | | |
| | | | | | | | | | | | | | | |
| <u>EASTERN EUROPE</u> | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| Combined | 13 | 25 | 16 | 10 | | | 12 | 12 | 11 | 13 | 11 | 29 | 11 | |
| Ukraine | 13 | 25 | 17 | 10 | | | | | | 13 | 11 | 29 | | |
| Poland (a) | 13 | 25 | 16 | | | | | | | 13 | 11 | 29 | | |
| Northern Poland | 13 | 25 | 17 | 10 | 10 | 14 | | | | 13 | 11 | 30 | | N=508 |
| Ashkenazi Jew | 13 | 25 | 16 | 10 | | | 12 | 12 | 10 | 13 | 11 | 30 | | |
| | | | | | | | | | | | | | | |
| <u>SCANDINAVIA</u> | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| Iceland (a) | 13 | 25 | 15 | 11 | | | | 12 | | 14 | 11 | 31 | | |
| Iceland (b) | 13 | 25 | 15 | 11 | | | | 12 | | 13 | 11 | 30 | | |
| Faroe Islands | 13 | 25 | 15 | 11 | | | | | | | 11 | | | |
| Shetland (a) | 13 | 25 | 15 | 11 | | | | 12 | | 14 | 11 | 32 | | |
| Shetland (b) | 13 | 25 | 15 | 11 | | | | 12 | | 13 | 11 | 30 | | |
| Orkney (a) | 13 | 25 | 15 | 11 | | | 12 | 12 | | 13 | 11 | 30 | | |
| Orkney (b) | 13 | 25 | 16 | 11 | | | 12 | 12 | | 13 | 11 | 30 | | |
| Norway North | 13 | 24 | 15 | 11 | | | | | | 14 | 11 | 31 | | |
| Norway West (a) | 13 | 25 | 15 | 11 | | | | | | 14 | 11 | 30 | | |
| Norway West (b) | 13 | 25 | 16 | 10 | | | | | | 13 | 11 | 30 | | |

| | | | | | | | | | | | | | | |
|-----------------|----|----|----|----|--|--|--|--|--|----|----|----|--|--|
| Norway Central | 13 | 25 | 15 | 11 | | | | | | 13 | 11 | 29 | | |
| Norway South | 13 | 25 | 15 | 11 | | | | | | 14 | 11 | 30 | | |
| Norway East | 13 | 25 | 16 | 11 | | | | | | 13 | 11 | 30 | | |
| Sweden Osterg. | 13 | 25 | 17 | 10 | | | | | | 13 | 11 | 30 | | |
| Sweden Blekinge | 14 | 25 | 15 | 10 | | | | | | 13 | 11 | 29 | | |
| Sweden Vasterb. | 13 | 25 | 15 | 11 | | | | | | 13 | 11 | 30 | | |
| Sweden Varml. | 13 | 25 | 16 | 11 | | | | | | 14 | 11 | 31 | | |
| Sweden Uppsala | 13 | 25 | 15 | 11 | | | | | | 13 | 11 | 31 | | |
| Sweden Skrasb. | 13 | 25 | 16 | 11 | | | | | | 13 | 11 | 30 | | |
| | | | | | | | | | | | | | | |

It is clear that the Shetland example most closely matches the Central Asian Altai, Kyrghyz, and Tajiks (all from Kazakhstan or other areas along the Chinese border with Siberia), plus the Azeri who reside on the west side of the Caspian Sea. As to Scandinavia, the two areas with the closest matches are Northern Norway, and in Sweden Uppsala and Varmland; as well as the Norse colony of Iceland. The differences seen in relation to Northern Poland are perhaps most striking.

There is one more piece of the genetic puzzle that can add significant information on the origins of the Scandinavian R1a Y Chromosomes, and it relates to one marker which appears to clearly differentiate some Norwegian haplotypes from all those found in Eastern Europe.

A Unique Genetic R1a Polymorphism Separating Norwegians from Eastern Europeans

One potentially important observation here is that among the groups to most closely match the Shetland participants are the Khirgiz (Kirghizes), who are called Ases (with As being common as a Turkic ethnic or geographical name), the term given by Icelandic Sagas to the ancestors of the Scandinavian Royalty. This observation will be addressed in detail later.

In looking at the haplogroup and the haplotype data presented so far there are fairly sweeping conclusions that can be made. However, these will be strengthened if it can be shown that a subset of Norwegian R1a differ from their Eastern European counterparts (since R1a can reach levels as high as 50% in nearby Poland), and even the Norwegians who share the same haplogroup but who hypothetically do not descend from a Central Asian source but rather the same ancestral group as the Poles and Ukrainians.

Passarino et al. (2002) examined 72 Norwegian Y chromosomes, of which 24% were R1a - M17. He only examined microsatellite markers DYS19 and YCAIIa,b. However he was able to see a clear differentiation within the R1a grouping. 9 of 17 (53%) had DYS19 = 15 or 16 along with the YCAIIa,b scores of 19,23 whereas 7 of 17 (41%) had a 19,21 pattern. This means that the R1a, Y chromosomes of Norway have two very “distinctive microsatellite motifs” (p. 523), which translates to a bimodal distribution.

What is most interesting is that while the first cluster above is found to be the most widely distributed (Western Europe to India) of any of 53 identified combinations of the a and b components; the second (19,21) is virtually absent from all areas yet tested Passarino et al. (2001a). The only Central Asian group to be tested using this marker is the Yakuts who are overwhelmingly of haplogroup N3 (88%). It is simply not possible to even infer to which haplogroup the 3.3% who have the 19,21 pattern belong. If the thesis of the present work holds up, however, they would be the few R1a Yakuts noted in other publications. Only one paper, again by Passarino et al. (2001b) provides a partial answer. Of 261 individuals who are Eu19 (R1a), the vast majority are 15, 16, or 17 for DYS19 and 19,23 for YCAIIa,b. There very few individuals who have the motif 19,21 and only one is from Western or Eastern Europe but he has a value of DYS19 = 14 which is very seldom seen (one male from India also has this exact motif, but a different 49a,f Taq haplotype). Three are from India (N=23); and two from the Middle East (N=35) – who have the more typical ht = 11; but one male from India has DYS19 = 14 and is Taq = 51. Since Taq markers are seldom ever measured, this finding remains tantalizing but of marginal use in the present context. The point is, however, that the only location other than Norway where the YCAIIa,b motif of 19,21 is seen is India and the Middle East, not Central Europe

There have, however, been 5 individuals with an R1a haplotype who are participants in the Shetland Project and who have 37 marker haplotypes which include YCAIIa,b. A preliminary observation is that those who have close matches with the Altai on the first 12 markers all have YCAIIa,b of 19,21 or the one step mutation 19,20. Those whose matches are primarily in Eastern Europe have the common 19,23 grouping. Although far from confirming the hypothesis, this observation does offer some small support to the proposal that there are R1a, Y chromosomes from ancestral Eastern European sources in the Norse population, as well as a somewhat smaller percentage whose deep roots lie in Central Asia. The author will hypothesize, from the YCAIIa,b haplotype data, above, as well as the large Icelandic sample of Helgason showing the values of key markers, that the R1a figure may be approximately 60% European and 40% Asian origin. Work is presently progressing to test the Altai samples for the YCAIIa,b marker and the results will be key to the thesis of the present study.

The only published study of a M17 Central Asian to include the YCAIIa,b locus is from ancient samples. Keyser – Tracqui et al. (2003), whose study was noted earlier, examined the remains of a 2000 year old burial ground in the Egyin Gol Valley of Mongolia. Here they sequenced 10 STR markers for their 27 males samples. Although some markers failed to amplify, it is clear that at least three of the samples were R1a1 – M17 based on an analysis of the marker values (see values highlighted in blue in above table). All were modal for the Mongolian samples noted in the chart above, suggesting a long continuity in the area. Only one of the three had values for all markers, and this individual was 19,23 for the YCAIIa,b locus – which is the pattern seen by far most frequently in M17 Y chromosomes. Clearly all M17 Central Asians will not have the motif 19,21 (as is true of India) which is proposed in this study to link Scandinavia to Central Asia. A more definitive statement must await the testing of the Altai samples noted above. It is particularly interesting to note that the above authors identify these

| | | | | | | | | | | | | | | | |
|-----------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|-------|------|
| Mongolian | 13 | 24 | 13 | 10 | 15 | 17 | | | | | 15 | 29 | | 19,20 | |
| Uyghurs | 13 | 23 | 13 | 10 | | | 11 | 12 | 12 | 14 | 14 | 31 | 11 | | |
| Kazaks | 13 | 23 | 13 | 10 | | | 12 | 12 | 12 | 14 | 14 | 31 | 11 | | |
| Dungan | 13 | 24 | 14 | 10 | | | 12 | 12 | 11 | 13 | 13 | 29 | 12 | | |
| Kyrgyz-Tajiks | 13 | 24 | 14 | 10 | | | 12 | 12 | 11 | 14 | 13 | 30 | 11 | | |
| Uzbeks | 13 | 24 | 14 | 11 | | | 12 | 12 | 11 | 13 | 13 | 29 | 11 | | |
| Uzbek M-242 | 13 | 23 | 13 | 10 | | | 12 | 12 | 12 | 11 | 13 | 28 | 11 | | N=19 |
| Pamiri M-242 | 13 | 23 | 13 | 10 | | | 12 | 12 | 12 | 11 | 13 | 28 | 11 | | N=13 |
| Turkmen | 12 | 24 | 14 | 11 | | | 12 | 12 | 12 | 13 | 13 | 29 | 12 | | |
| Kurds | 12 | 24 | 14 | 10 | | | 12 | 12 | 13 | 13 | 13 | 30 | 12 | | |
| Armenians | 12 | 23 | 14 | 10 | | | 12 | 12 | 12 | 13 | 14 | 28 | 12 | | |
| Turkey | 13 | 22 | 13 | 10 | | | | 12 | 12 | 13 | 15 | 29 | | | |
| | | | | | | | | | | | | | | | |
| <u>EASTERN EUROPE</u> | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| Combined | 13 | 22 | 13 | 10 | 14 | 17 | 12 | 12 | 12 | 13 | 15 | 29 | | | |
| Ashkenazi Jew | 13 | 22 | 13 | 10 | | | 12 | 12 | 12 | 13 | 15 | 29 | | | |
| | | | | | | | | | | | | | | | |
| <u>GT. BRITAIN</u> | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| Combined | 13 | 23 | 13 | 10 | 13 | 17 | 12 | 12 | 12 | 12 | 12 | 29 | | | |
| | | | | | | | | | | | | | | | |
| <u>SCANDINAVIA</u> | | | | | | | | | | | | | | | |
| Iceland | 13 | 23 | 13 | 10 | | | | 12 | | 12 | 12 | 28 | | | |

The evidence shows that the closest matches of the Shetland Q participant are to Iceland and Great Britain combined. The variability across all other areas suggest that there are a large number of lineages of Q, and that in all probability those that were the progenitors to the peoples of Scandinavia were a subset (and example of the founder effect) of those seen in Kazakhstan (but as yet not appearing in any database). With extreme diversity it is necessary to have sample sizes much larger than those presently available. The above Mongolian sample above, highlighted in blue, is a 2000 year old archaeological sample (see R1a description above), and what is particularly interesting is that the YCAIIa,b values (not measured in the research literature on those living anywhere in Central Asia with a SNP tested sample) matches the Shetland sample – but without SNP testing it is not possible to be absolutely certain that we are in fact seeing a Q sample.

An interesting and noteworthy finding is the data in relation to those samples tested for the M-242 marker (from Seielstad, 2003) that is found on all Y chromosomes also carrying the M3 variation (predominant in the Americas). See also Bartolini et al.

| | | | | | | | | | | | | | | | |
|--------------------|----|----|----|----|---|---|----|----|----|----|----|----|---|---|---|
| Combined | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ashkenazi Jew | 13 | 23 | 14 | 10 | | | 11 | 12 | 12 | 12 | 13 | 29 | | | |
| | | | | | | | | | | | | | | | |
| <u>GT. BRITAIN</u> | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| Combined | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | | | | | | | | | | | | | | | |
| <u>SCANDINAVIA</u> | | | | | | | | | | | | | | | |
| Faroe Islands 1 | 13 | 24 | 14 | 10 | | | | | | | 13 | | | | |
| Faroe Islands 2 | 13 | 23 | 14 | 10 | | | | | | | 11 | | | | |

There are extreme variations in those who have the K haplogroup (high diversity), and low sample sizes in private databases and published studies mean that it will be relative rare in some populations in Asia and most in Europe. It is more concentrated in Central Asia and the Middle East, and is virtually absent in Northern Europe with the exception of the Scandinavia countries and Norse colonies.

Searching the database of the 2000 year old Mongolian necropolis (see discussion R1a above) there was only one sample that appeared to be Haplogroup K, denoted in blue (although without SNP testing this is only a hypothesis).

Shetland Project Participants and the Azeri - Armenia

While there are obvious similarities between the R1a Shetland participant and certain Asian populations, Q and K show extreme haplotype diversity in all Asian populations. The only consistency was inconsistency, and there were few near matches at all – with one possibly very significant exception – the Azeri people of Azerbaijan and their immediate neighbors in Armenia. Included in the chart below will be the marker values for each participant along with that found within the Azeri and Armenian (R1a, N=1; Q, N=3; K, N=1) samples. This appears to be the only population in Eastern Europe or Asia in which a single group has a cluster of Asian genetic types that most closely match all three participants in the Shetland study.

| | | | | | | | | | | | | | | |
|------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|
| <u>AZERI & ARMENIA</u> | | | | | | | | | | | | | | |
| + | | | | | | | | | | | | | | |
| Shetland Islands Participant | | | | | | | | | | | | | | |
| | 3 | 3 | | 3 | 3 | 3 | 4 | 3 | 4 | 3 | 3 | 3 | 4 | |
| | 9 | 9 | 1 | 9 | 8 | 8 | 2 | 8 | 3 | 9 | 9 | 9 | 3 | |
| | 3 | 0 | 9 | 1 | 5 | 5 | 6 | 8 | 9 | 1 | 2 | 2 | 8 | |
| | | | | | | | | | | | | | | |
| <u>Williamson</u> | 13 | 25 | 15 | 11 | 11 | 14 | 12 | 12 | 10 | 14 | 11 | 33 | 11 | R1a |
| <u>AZERI</u> | 13 | 25 | 16 | 10 | 11 | 14 | 12 | 12 | 10 | 14 | 11 | 32 | 11 | R1a |
| <u>ARMENIA</u> | 13 | 25 | 15 | 11 | | | | 12 | | | 11 | | | R1a |
| | | | | | | | | | | | | | | |
| <u>Hay</u> | 13 | 23 | 13 | 10 | | | 12 | 12 | 13 | 12 | 12 | 29 | | Q |
| <u>AZERI</u> | 12 | 24 | 14 | 11 | | | 12 | 12 | 12 | 12 | 14 | 28 | | Q |
| | 12 | 23 | 14 | 11 | | | 12 | 12 | 12 | 13 | 13 | 29 | | Q |
| | | | | | | | | | | | | | | |
| <u>Jamieson</u> | 13 | 23 | 14 | 10 | | | 11 | 12 | 10 | 14 | 13 | 32 | | K |
| <u>AZERI</u> | 13 | 23 | 14 | 10 | | | 11 | 12 | 11 | 14 | 13 | 32 | | K |
| <u>ARMENIA</u> | 13 | 23 | 14 | 10 | | | | 12 | | | 13 | | | K2 |
| | | | | | | | | | | | | | | |

While the values above for the Azeri are based on very small sample sized (N = 1 or 2) in a private database, those for the Armenian sample include 37 R1a and 36 K2 (Weale et al., 2001). The marker numbers above represent the most frequently occurring haplotype motif in the entire sample – and each is an exact match to the Shetland participants. It is noteworthy that the DYS19 = 15 value is modal in the Armenian sample as well as typical of Shetland; whereas 16 is more commonly occurring across the region from Mongolia to the Ukraine. Unfortunately Q was not typed (and may be embedded among the R category in this study). It appears that in addition to Central Asia, this area of the Caucasus has haplotypes similar or identical to those from Shetland.

Equine Genetic Support

Bjornstad et al. (2003) set out to test the theory that the native Norwegian Nordland/Lyngen and Fjord horse breeds would show a genetic similarity to the native Mongolian horse due to the accompaniment of horses in a proposed migration of humans from Central Asia to Norway. They used 26 STR microsatellites in collected blood and hair samples, and showed the close genetic relationship between the breeds as predicted and not between these horses and, for example, Standardbred trotters. In addition, “The presence of primitive phenotypes in the Fjord horse, such as a dark eel stripe along the back and occasionally transverse stripes on the legs, suggests that the breed is old and could be traced directly back to the Asiatic wild horse”. (p. 56) They estimated that there is the about the same distance between the Fjord horse and its descendant the Icelandic horse as there is between the Fjord horse and the Mongolian horse – therefore about 875 years. Assuming that this estimate is roughly accurate then the people who brought the horse left Mongolia about 150 BC - which is in agreement with the historical evidence to be presented in the present study.

Conclusions in Relation to the Historical, Archaeological, Linguistic and Genetic Findings

Based on the data above, the following interpretation is set forth, and related in story fashion going back to the dawn of mankind in Central Asia.

The evidence provided by a series of genetic studies (e.g., Wells, 2002) points convincingly toward a movement of humans about 45,000 years ago, out of Africa (with Y chromosome marker M89 derived from M168) and into the Levant area of the Middle East. However a man born about 40,000 years ago in the area of modern Iran had a new mutation on the Y chromosome (M9) and he became the ancestor to the majority of Eurasians. His descendants first headed east across the steepes and over the mountain ranges of the south central Asian highlands – all of which merge at Pamir Knot in Tajikistan. Here, about 35,000 years ago M45 came into existence, while M9 descendants also continued to flourish. The harsh climatic conditions of the Ice Age forced upon the people a lifestyle that would put their survival skills to the test. From their mountain retreats they would roam the steepes in search of large herbivores (e.g., reindeer and mammoths). Some people, who had a M175 mutation on M9 headed through the passes used by Genghis Khan much later and so into East Asia. Meanwhile back in the central Asian heartland another change occurred on the M45 lineage with a new marker M242, which is the prototypic Siberian marker (haplogroup Q) originating west of Lake Baikal, and finally splitting off into a subset via another marker M3 (haplogroup Q3) which, became the ancestral lineage of the majority of those who migrated to North America about 15,000 years ago. At about the same time that M242 emerged, another M45 mutation occurred in Central Asia, M173 which was to become ancestral to most western Europeans via the R1b. It appears that along the path to western Europe, about 10 to 15,000 years ago, a further mutation occurred – M17. One school of thought proposes that it arose in the area of the steepes of the Ukraine among

those of the Kurgan culture whose lifestyle depended on the horse. These people apparently spoke an Indo – European language and ultimately spread south to India, and some, perhaps accompanied by peoples who originated in the Middle East (e.g., haplogroup K) followed a migratory path from the Middle East to Central Asia and the Altai Mountains where their numbers rivaled that of their distant Q cousins. Another viewpoint is that R1a originated in Northern Pakistan where haplotype diversity appears to be highest (pointing to the source of the mutation being in this region). Whichever hypothesis is accepted, the R1a people likely brought the horse and the associated nomadic culture to the Altai and Central Asian steppes. Here the Scythian culture emerged as reflected in the elaborate burials noted earlier.

For thousands of years the peoples of the Altai who were largely of haplotype R1a lineage with smaller numbers of Q and K, and continued to live the nomadic lifestyle of their ancestors. In the years preceding the birth of Christ there appear to have been pressures exerted by the Chinese peoples who lived nearby, and perhaps also due to an explosion in population, some of these Scythian peoples began to move in successive waves to the west toward the Caspian Sea. Based on the haplotype examination above, and recognizing that population structure may have changed over time, the tribal groups and geographic regions that appear to have made the most significant contribution to this migration include the Altai of the Altai Mountains of Siberia near the Mongolian border, and the people who today are known as the Khirgyz and Tajiks from Khirgystan and Tajikistan. They followed the old “Silk Road” to beyond the Aral Sea and the Caspian Sea to the Don River and the Azov Sea. Here they came directly into contact with the descendants of a Swedish people known as the Ostrogoths (there still being a city of this name in Sweden today). These latter people had begun their long march south (as reflected in the series of dated archaeological sites), and by the 4th Century AD had absorbed the local Scythian peoples, the Alans or Ases people across the top of the Black Sea west to the Danube River. Into this mélange in the year 376 came the Scythian Huns who in turn drove off the western branches of the Ostrogoths and other Germanic peoples, and subjugated the proximal Ostrogoths. Here they co-existed and according to some sources the Scythian peoples came to use German as the lingua franca of the day. Here a leader known as Uldin (Odin in Norse) emerges and makes a name for himself in the Roman world before disappearing from the world’s stage (i.e., from the awareness of the classical writers) in 408. The Icelandic Sagas report that the Asir people resided across the River Don, with their principal settlement being a city wedged along the Caucasus Mountains, and it is here that Odin’s two brothers stayed with some of their people as Odin began his northward migration. Thus we should expect to find some group of people in the area who conform to the descriptions of Snorri. The Azeri people (Azer being as close to Aesir as one can imagine) are today a group residing in the mountains of Azerbaijan. Clearly they have intermixed with the local Middle Eastern population as reflected in the predominance of the haplogroup J signature in the Azeris. However there is a contingent still present in this population, dissimilar to their neighbors, who in fact carry the three Asian signatures seen in Shetland (a Norse colony), and the signatures are more similar between these two northern and southern regions than any other group between Turkey and Mongolia. It is likely that the R1a, K and the Q

identified in this study are from Central Asia – the home of the Aseri R1a signature, which is modal to those detected in Central Asian Altai populations.

In the epoch known as the “Migration Period”, there were waves of documented and undocumented mass movements of people across vast expanses of Europe such that Germanic peoples were found in Italy, Spain and North Africa by the middle of the 5th Century. It is proposed that, as is reported in the Norse Sagas written down by Snorri Sturluson, Uldin and the composite Sarmatian / Hunnish – Germanic people that accompanied him moved north to the homeland of the Ostrogoths, negotiated with Gilfyf the then king of the Sveres (probably making him an offer of power sharing that Gilfyf could not refuse – considering the Hun reputation for the use of extreme violence to get their way) for lands around Lake Malar at Gamla Uppsala to settle the majority of his people. He did, however, send his sons to occupy other lands, including Oslofjord in Norway.

This perspective on history is supported by the archaeological record where at Gamla Uppsala there are three burial mounds attributed to the kings of Sweden in the 5th Century, and the burial practices are consistent with those of the Scythian peoples (cremation burials with a wealth of grave goods with a twenty foot mound over top). Similar burials are seen all the way back to before the birth of Christ in the Altai.

Furthermore, in looking at the R1a genetic signatures of 4 locations in Norway and 5 in Sweden, it is clear that the people who most resemble the Y chromosome DNA signatures in the Altai are found at Gamla Uppsala and Vasterbotten in Sweden, and also in Northern Norway. Furthermore in the Norse colonies of Shetland and Iceland the R1a signatures of about 30% of those with this haplogroup are similar to those of Northern Norway as well as in Southern Norway which historically are the areas considered to have been the source population for those who emigrated to Shetland and Iceland during Viking times. This subset of Norse signatures seen in parts of Sweden and Norway as well as the latter’s colonies do not resemble those of Eastern Europe, whereas the larger component of R1a in Scandinavia is indistinguishable from Eastern Europe where presumably their ancestors originated. It is likely that the latter were already present in all of Scandinavia before the Asian peoples made their arrival in the early 5th Century – or that the Ostrogoth returnees had Eastern European R1a signatures inherited from their ancestors from 400 years previous.

While the emphasis here has been on the R1a, Y chromosomes, it is the Q that is (other than a sprinkling along migration paths) seldom found west of Central Asia. It is this signature that speaks loudest as to the immigration of Asians to Scandinavia. It is not found anywhere between Russia and Spain at even 1%, although is found at low levels further south in Turkey and Hungary – both areas which in historical times have been “exposed” to Hunnish peoples. Q is found in Norway and her colonies (including Britain – but at very low levels). A reasonable estimate of Q in Norway would be 4% - but very scattered and would only manifest itself in large samples or in regions where through the founder effect or genetic drift more Q is concentrated. This figure also applies to Iceland and Shetland. The K from the Asia turns up very occasionally in Swedish and

Norwegian samples, and has been documented in the Faroe Islands (a Norse colony) and Shetland. Clearly it seems probable by an examination of the distribution of Y chromosomes today that the majority of the Asian group was R1a, followed by Q, then K. The best estimate of the total percentage of Asian Y chromosomes in the Norse population is 4% Q plus 1% K plus 10% via R1a making a total of 15%. The reason why the timing of the influx of people can be dated to before 793 is that Q is also found in the colonies founded by Norway during early Viking times. The human genetic data is even supported by a comparison of the genetics of the Norwegian Fjord horse and the Mongolian horse and the data suggests that the migrants to Scandinavia brought with them their prized horses which became the root stock of the Norwegian equines of today.

The author has used genetic data as well as historical, linguistic and archaeological information to support the descriptions of Snorri Sturluson in *The Prose Eddas* and *Heimskringla* as to how and when the Asian peoples arrived in Scandinavia to found the Swedish and Norse royal dynasties. As well, this data supports the basic assertions of the controversial Thor Heyerdahl as to the connection between the Azeri people and the Scandinavians.

The facts can speak for themselves, but need to be put in a theoretical framework that is a “best fit”. The converging data sources appear to support the hypothesis set forth in the present work. If the evidence presented here can withstand the scrutiny of others, and the test of time, then it will be necessary to include the details of the migration of Mongolian – Azeri forbearers when speaking of Scandinavian history.

References

The above represents a work in progress. It has been years in the making. The genesis was when the DNA findings for my uncle Williamson were reported. As time permits it will evolve, with new data and references added.

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