



# The Värmland-Hedmark Cluster

No. 4 (December 2020)



*A newsletter with updates about the genetic genealogy project “The Värmland-Hedmark Cluster.” The project is run by a group of hobbyists who try to learn about the early history of their patrilineal ancestors in southern Värmland (Sweden) and in Hedmark (Norway). What can be said about the ancestors’ whereabouts before they start to appear in the written records, i.e., in the 1500s and earlier? Where did the ancestors live before they arrived in Värmland and Hedmark? In technical terms, the project concerns the study of the Y chromosome haplogroup R1b → M269 → U106 → Z18 → S11601 → Y112538 → Y130179 and surrounding clades.*

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*En sammanfattning på svenska finns i slutet av nyhetsbrevet.*

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**M**ANY countries around the world are, as I write this, in the midst of a second wave of the covid-19 pandemic. Hopefully, all participants in our project have managed to avoid the virus and stay healthy. The ones of you that I have been in contact with recently seem to be safe and well. I have myself (as far as I know) not been infected, and I am fine.

The pandemic has had some, although quite limited, impact on the activities in the project. The Italian testing company Dante Labs has been slowed down by the pandemic. The company has reported that it, at least for a period over the summer, had problems with getting all the supplies that were needed, and it therefore had to stop sequencing for a few weeks. In the project, we have submitted two test samples to Dante Labs for which we await the results (the samples were received by the company on September 21 and October 8). We did not get any results back in time for the Christmas holidays, as I had hoped, but hopefully we will have them reasonably soon.<sup>1</sup> International mail delivery has also, it seems, been adversely affected by the pandemic. Still, we have been lucky. We have sent saliva samples across the Atlantic and from Sweden to L’Aquila, Italy, and to Berlin, Germany, and this has worked fairly well for us.

This issue of the newsletter starts out with a discussion of some newly finished test results and how these results have modified the picture that shows our part of the haplotree. For the third time running, that picture includes a branch that did not appear in the previous issue of the newsletter. On this occasion, the new branch connects the man Christoffer Andersson, who lived in the early 1600s in Väse parish, with a man born in 1885 in Grue in Hedmark, Norway (or, put differently, the new branch connects Testers 3 and 4, on the one hand, with Tester 12, on the other). Further in this issue, I give an account of what tests that are in the pipeline and what lineages we know of that probably belongs to the Värmland-Hedmark cluster but are not yet tested with a sufficiently ambitious test. Finally, I make an attempt at spelling out what I think we know about “the big questions” (like the ones written in italics at the top of this page).

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<sup>1</sup>While working on this newsletter (on December 23), I indeed received the results for one of these tests. That is great. However, to learn exactly where the new tester enters the tree, we will first have to let the company YSEQ do a remapping and analysis of the files, and then have the remapped files submitted to YFull. However, later in this issue of the newsletter, I will briefly discuss some preliminary analysis of the results.

# The Värmland-Hedmark Cluster and a Neighboring Branch, December 2020

## Confidence intervals for age estimates

The age estimates in the tree are from YFull (YTree v8.09.00). YFull also provides the following confidence intervals at the 95% level:

- ◇ **A1:** AD 920 — AD 1645
- ◇ **A2:** AD 920 — AD 1645
- ◇ **A3:** 380 BC — AD 770
- ◇ **A4:** AD 220 — AD 1370
- ◇ **A5:** AD 920 — AD 1745
- ◇ **A6:** AD 1020 — AD 1795
- ◇ **A7:** AD 720 — AD 1670



## SNPs that define the branches

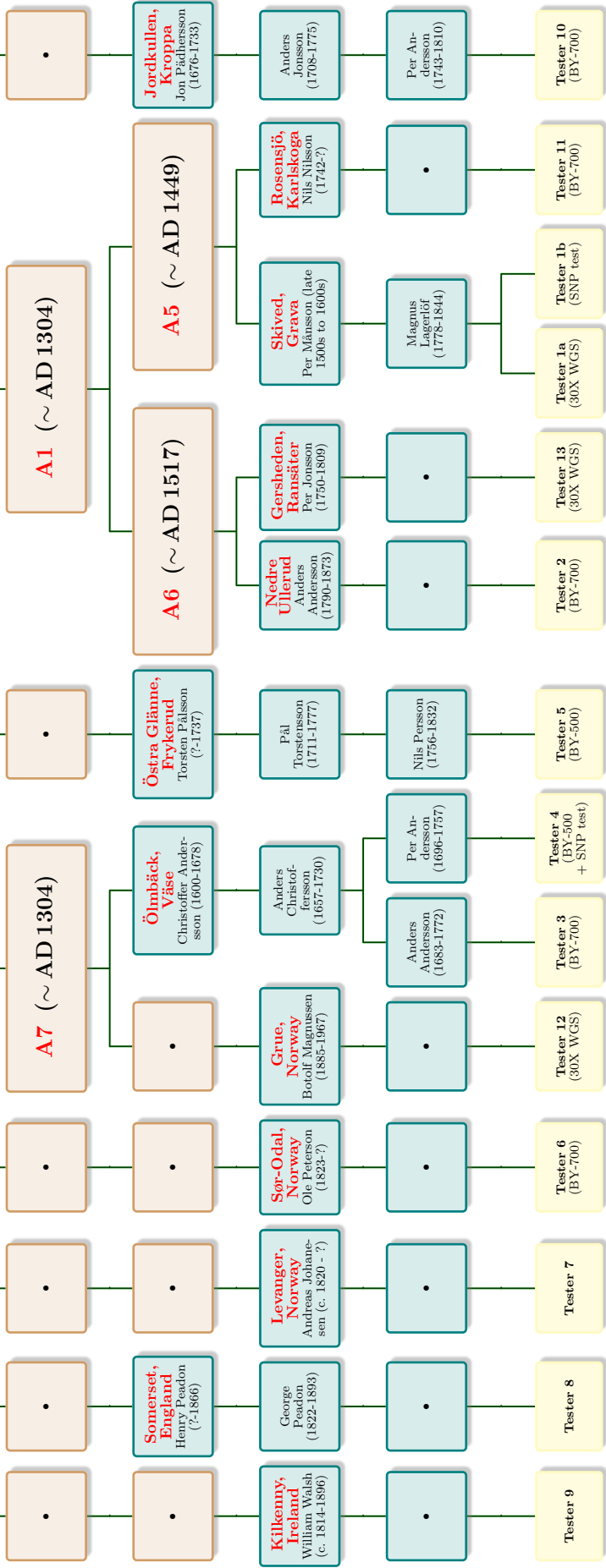
The Värmland-Hedmark cluster is a twig on the R1b branch of the human Y chromosome haplotree: R1b → M269 → U106 → Z18 → S11601 → Y112538 → Y130179. For more information, see [www.johannlagerlof.com/genen](http://www.johannlagerlof.com/genen). The branches shown in the tree are defined by the SNPs listed below (an asterisk indicates that the SNP is located outside of the so-called combBED region of the Y chromosome).

- ◇ **A1:** Y86344, Y107658\*
- ◇ **A2:** Y100873\*, Y128033, Y101814\*, Y103246, Y130179, Y83455, Y125815\*
- ◇ **A3:** Y112538, Y129064, Y112538
- ◇ **A4:** BY71612, Y159325, BY116275, BY146620, BY78202, BY99722, BY100142, BY102070
- ◇ **A5:** FT146431
- ◇ **A6:** BY12164
- ◇ **A7:** A25847\*

**A3 (~AD 234)**

**A4 (~AD 900)**

**A2 (~AD 1459)**



## The New Version of the Tree

THE new version of the tree is shown on page 2. Although the tree may at first blush look very different from the one in the previous issue of the newsletter, the only qualitative difference is the addition of the branch that includes ancestor A7 and Testers 3, 4, and 12. (For technical reasons, I had to start from scratch with the picture in order to add a new branch, and when doing that I chose some new colors and partly a new design.) I will refer to the new branch as the “Väse-Norway branch.”

The Väse-Norway branch is defined by a SNP called A25847, which is located in the so-called q11.221 region of the human Y chromosome (see Fig. 3) and at the Hg38 position 13,630,313 (where the nucleotide G has changed to a T). The position where this SNP has appeared was not covered by the old versions of the Big Y test—the ones labeled “Big Y-500” and simply “Big Y”.<sup>2</sup> However, the new Big Y-700 test covers a larger part of the Y chromosome, including the position of A25847. Moreover, a whole genome sequencing (WGS) test obviously reads the position where A25847 might have occurred, as such a test sequences the whole genome. In September this year, YFull identified both Tester 3 (who has done a Big Y-700 test) and Tester 12 (who has done a 30X WGS test at Dante Labs) as being positive for the SNP A25847, and these two testers therefore formed a new branch in YFull’s tree. However, YFull did not include Tester 4 in that branch, as he has done a Big Y-500 only and therefore has a “no call” at the position of A25847. We simply cannot tell from the Big Y-500 test results whether Tester 4 is positive or negative for A25847. Still, we know from our genealogical data (i.e., church records etc.) that Testers 3 and 4 have a common patrilineal ancestor who lived quite recently, namely, Anders Christoffersson, who was born in 1657. It therefore seems likely that also Tester 4 is positive for the SNP A25847.

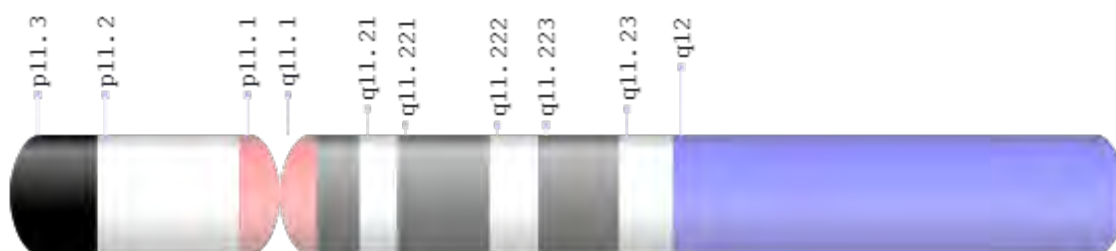


Figure 1: The human Y chromosome. The picture is created with the help of the National Center for Biotechnology Information’s “Genome Decoration Page” (see <https://www.ncbi.nlm.nih.gov/genome/tools/gdp/>).

To investigate whether or not Tester 4 is positive for A25847, and thus whether he belongs to the Väse-Norway branch, we made use of the services of the testing company YSEQ in Berlin. At this company one can easily test for the presence of an individual SNP. The price is \$18, which is very reasonable as long as there is only one or a small number of SNPs one needs to test. Tester 4’s test is managed by his cousin, “B.” I asked B about the possibility of testing for the presence of A25847 at YSEQ, and B in turn asked Tester 4. Both were very happy to do the test. On October 6, the result was ready. It just said “A25847 T+,” which means that Tester 4 is positive for the SNP A25847 (the “T” indicates that the SNP is defined as a change to a T at the position in question—the reference genome has a G there). This result was what we expected, but it is very useful to have it confirmed. We now know that Testers 3, 4, and 12 are all positive for the SNP A25847, whereas so far no other man in the world has tested positive for that SNP. This means that these three testers share a relatively

<sup>2</sup>The Big Y-500 test was sold by Family Tree DNA up until March 2019.

recent common patrilineal ancestor, which I have called A7 in the tree on page 2. Moreover, A7 must be younger than the ancestor A2 (for at least one other descendant of A2 than Testers 3, 4, and 12, is negative for A25847, and therefore also A2 must have been negative for A25847).

There is an important caveat, however. When I drew the tree on page 2, I made an assumption that we cannot yet be sure is valid—namely, I let the branch with Tester 12 shoot out from Testers 3’s and 4’s common lineage *upstream* of their common ancestor Anders Christoffersson (1657-1730). This seems to be, I would argue, the more likely scenario, as we have a fair amount of knowledge about the family tree downstream of Anders Christoffersson, and we are not aware of any branch there that leads to Norway.<sup>3</sup> However, we should investigate this more carefully and not yet dismiss the possibility that also Tester 12 is a patrilineal descendant of Anders Christoffersson. For example, it could look as in Fig. 2 (or, alternatively, that the node A7 in that figure is instead located between Tester 4 and A. Christoffersson). If this turns out to be the case, against expectation, then I will have to redraw the tree later.

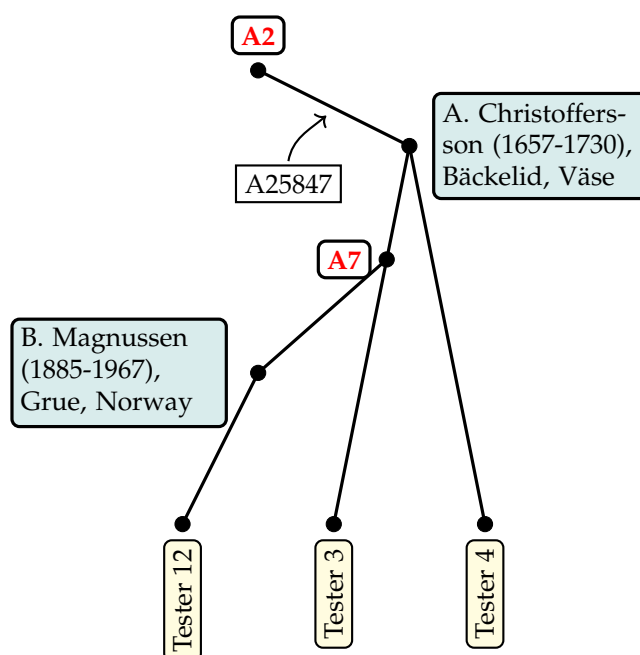


Figure 2: We know that the SNP A25847 occurred *before* Anders Christoffersson (so he would have tested positive for this SNP), as is shown in this figure and in the tree on page 2. However, we do not yet definitely know if the branch leading to Tester 12 shoots out from the rest of the tree upstream or downstream of Anders Christoffersson. Moreover, in the latter case, we do not know whether the node A7 is located on the branch leading to Tester 4 or on the branch leading to Tester 3 (the figure shows the latter possibility). I would argue that the most likely scenario is that the tree looks as shown on page 2. However, I could be wrong about that and we should continue to investigate this question.

The oldest known patrilineal ancestor of Tester 12 that is shown in the tree on page 2 is Botolf Magnussen (1885-1967), who was born in Grue in Hedmark, Norway. However, there is some information on the Geni.com website that suggests that also the identities of Botolf’s father and paternal grandfather would be known.<sup>4</sup> According to this information, Botolf’s father and grandfather are the following men:

- **Father:** (Lars) Jakob Magnussen; born in 1847 in Salhus i Hamre, Hordaland; dead in January

<sup>3</sup> Another reason why I think it is most likely that A25847 occurred before A. Christoffersson, instead of after, is that Tester 12 has as many as eight private SNPs in the combBED region. The event that eight or more SNPs in the combBED region occurred within the time span of  $2020 - 1657 = 363$  years is of course not impossible, but it is unlikely. Some calculations suggest that the probability is 0.0045 (assuming that the SNPs are drawn from a Poisson distribution with a parameter  $\lambda$  that corresponds to YFull’s mutation rate 144 years per mutation:  $\lambda = 363/144 \approx 2.52$ ).

<sup>4</sup> See <https://www.geni.com/people/Lars-Jakob-Magnussen/6000000029135104888?through=6000000029134100781> and <https://www.geni.com/people/Magne-Salhus/6000000029134100781>.

1890 in Grue.

- **Paternal grandfather:** Magne Jakobsen Salhus; born in 1823; dead in 1894.

I have no particular reason to believe that this information is incorrect. However, I am not sure of what the source of the claims is and, so far, I have not had time to investigate this more closely. One source seems to be the book “Grueboka,” which was published by the municipality of Grue in Norway in 1949 (see Hveberg, 1949). I will try to get hold of this book, and I will also contact the person who has added the information on the website. If the information is correct, it is somewhat surprising that Tester 12’s lineage seems to go back to Hamre in (the former county) Hordaland and not to Grue in Hedmark county. While Hedmark is located in the eastern part of Norway, with a direct border to Värmland, Hordaland is on Norway’s west coast; the (former) parish Hamre lies about 50 km from Bergen. It is of course possible that the reason why Botolf’s grandfather moved to Grue in Hedmark, of all places, is that his own grandfather (say) came from Grue, and Botolf’s grandfather therefore still had connections there.

What can we learn from the presence of the new Väse-Norway branch? So far, the perhaps only piece of information that we, with any certainty, can infer from our new finding is that *there is a relatively recent connection between Värmland and Norway along the lineage in question*. The word “connection” here means that A7 or one of his descendants migrated—either from Värmland to Norway, or in the opposite direction. The migration appears to have occurred before the time for which we have written records (so probably before the 1600s), but not very much earlier than that. (YFull’s point estimate for A7’s birth year is 1304; but we also know that A7 is younger than A2, whose birth year is estimated to be 1459.<sup>5</sup> Both those estimates are associated with a large amount of uncertainty, as reflected in the confidence intervals shown in the tree on page 2.) We already knew that the ancestor A2 has descendants both in Värmland and in Norway. Now we have been able to pinpoint *two* distinct migration events. One of the migrants was A7, or a descendant of A7. The other migrant was also a descendant of A2, but one who is located on a separate branch from A7’s branch and which leads to Tester 6.

I have talked with Tester 3, who is an amateur genealogist, and I know that he at one stage thought he had found written evidence about a person who could be the father of Tester 3/4’s common oldest known patrilineal ancestor, Christoffer Andersson (1600-1678). This possible father was indeed a migrant from Norway to Värmland. As I understand it, that link had to be dismissed (or, at least, it could not be corroborated). Still, our new results and the presence of the Väse-Norway branch would be fully consistent with that kind of link. One way of making progress is indeed to look for more written evidence and thereby try to find the link between Väse and Norway that evidently is there. Another way of making progress is to continue to gather more DNA data, by searching for and recruiting more testers. I think it is fair to say that we already have learned a quite a lot. Yet it would be helpful with a few more pieces of the jigsaw puzzle, in order to get a better picture of how the migration paths might have looked like.

## Tests in the Pipeline

The two testers below are in the pipeline to be added to the tree, as they have recently been tested and we are waiting for the results.

- **Tester 14 (Södra Rådom, Nyed).** *Oldest known patrilineal ancestor: Bengt Olsson, born in 1725 in Nyed (Södra Rådom) in southern Värmland; died in about 1800.* This is a 30X Whole Genome Sequencing (WGS) test from Dante Labs. The test sample was received by Dante Labs on October 8 (I can see this on the DHL receipt), and it was registered as received by Dante Labs on October

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<sup>5</sup>The illogical phenomenon that an age estimate for an individual is lower than the age estimate for one of his own descendants arises as a consequence of YFull’s estimation approach. When presenting the results, YFull solves this issue by first computing the age estimate of the younger individual (using data coming only from his sub-tree) and then, when presenting the older individual’s age estimate, imposing the constraint that this cannot fall below that of the younger one. This approach is not the most appealing one statistically. However, it is simple and therefore (I presume) easy for the YFull team to automate when computing the age estimates of all the branches in the very large tree that the company oversees.

20. On December 4, the kit status updated to “Sequencing Started.” The files with raw data were ready very recently (on December 23, while I was working on this issue of the newsletter). The files still need to be remapped to the most recent reference genome (I will let the company YSEQ do that) and then be submitted to YFull. However, I have had a preliminary look at the BAM file myself, and further down in this section I report on my findings.

Tester 14 has previously done a Y111 test with the company family Tree DNA (a so-called STR test). The genetic distance to me (Tester 1a) is 9 at the 111-markers level, 4 at the 67-markers level, and 3 at the 37-markers level.

- **Tester 15 (Nor).** *Oldest known patrilineal ancestor: Anders Bengtsson, born in 1740 in Nor in southern Värmland and dead in 1809.* This is also a 30X Whole Genome Sequencing (WGS) test from Dante Labs. The test sample was received by Dante Labs on September 21, and it was registered as received by Dante Labs on October 20. On December 9, the kit status updated to “Sequencing Started.” We are still waiting for the results to be ready.

Tester 15 has previously done a Y37 test with the company family Tree DNA. The genetic distance to me (Tester 1a) is 4 at the 37-markers level.

We will get the definite answer to the question where in the tree Tester 14 ends up later, when YSEQ’s and YFull’s analyses are ready. However, I have recently started to learn how to look at the files myself (for this, I use a program called Golden Helix GenomeBrowse, which is free when used for non-commercial purposes—see <https://www.goldenelix.com/products/GenomeBrowse/>). I managed to investigate where in the tree Tester 14 is located. I have found out that he will form a new branch with Tester 12, with a common ancestor that I will call A8 and who will be located downstream of A7. I will update the tree later, after having had these findings confirmed by YSEQ and YFull—so it will have to be for issue No. 5 of the newsletter.

If I have made no mistakes in my investigation, the new branch A8 will be defined by the SNPs A25843 and A25845 (both are located in the combBED region of the Y chromosome). Tester 12 had from the beginning no less than eight private SNPs in the combBED region, two of which were A25843 and A25845. That means that Tester 12 has six SNPs in the combBED region that Tester 14 is negative for, suggesting that the new ancestor A8 is not likely to be very recent (perhaps he was born in the 1500s, 1400s, or 1300s). And, obviously, ancestors A7 and A2 are older than A8.

In earlier issues of the newsletter, I have discussed and given an account of lineages that we expect to belong to the Värmland-Hedmark cluster but which are not yet in the tree, as no representative of the lineage has done a more ambitious test. For my own and other people’s convenience, I here restate the list of those lineages (I do not include the lineages L1, L2, and L3, as they are now tested).

- **Lineage L4 (Ölme).** *Oldest known patrilineal ancestor: Erland Eriksson Falk (1863-1937), born in Ölme in south-eastern Värmland.* The person in this lineage who shows up in my match list has done a Y37 test. The genetic distance to me (Tester 1a) is 3 at the 37-markers level.
- **Lineage L5 (Växjö).** *Oldest known patrilineal ancestor: Peter Engström (1764-1855), born in Telestad, Växjö, Småland.* The person in this lineage who shows up in my match list has done a Y37 test at FTDNA and the genetic distance between him and me is only 1 at the 37-markers level.
- **Lineage L6 (“Hässelby”).** *Only the tester’s father and paternal grandfather are known, but I personally do not even know those names. The geographic origin is also unknown to me.* The person in this lineage who shows up in my match list has done a Y37 test at FTDNA and the genetic distance between him and me is 3 at the 37-markers level.
- **Lineage L7 (Östra Tolerud, Grava).** *Oldest known patrilineal ancestor: Anders Jonasson (1745-?), who died in Östra Tolerud, Grava parish, in the south of Värmland.* This test person has done a Y37 STR test at Family Tree DNA. The genetic distance to me (Tester 1a) is 3 at the 37-markers level.

On page 10, one can find a family tree with a number of male-line descendants of the oldest known ancestor for lineage L7—the Östra Tolerud, Grava branch (due to lack of time, I have not yet followed all the lines and the tree is therefore not complete). I am afraid that the text in the tree on page 10 is in Swedish, as it was created for another purpose than this newsletter.

I hope to get all these lineages into the tree at some point (I am not sure whether the lineage L5 belongs to the Värmland-Hedmark cluster, but for the other ones I think it is likely, or very likely, that they do). In the summer of 2020, I had three empty 30X WGS Dante Labs test kits, which I wanted to use on some persons who were reasonably likely to belong to the Värmland-Hedmark cluster. I was very happy to find two such individuals to test, and after that I had only one kit left. However, during the Black Friday weekend in November, Dante Labs had a very good sale where they offered the 30X WGS for 149 euros (in the US, the price was 149 US dollars, which is even a bit lower given the exchange rate at the time). I could not resist the temptation to purchase two new test kits, which means that again have three empty 30X WGS test kits in my home. I would be delighted if I could use these kits on any person who we think is reasonably likely to sit somewhere in the Värmland-Hedmark cluster (entirely at my expense, of course). Please get in contact with me if you are interested and would like to discuss this issue!

I am very happy that I have bought these tests. This project is, in my opinion, important. And I know that it is great fun. The test results have so far been of good quality and well worth the money, and I can afford the expense. The biggest headache so far has been the work associated with recruiting test persons, which is a harder task than one might imagine. Still, I am happy to do it and I hope to be able to report on the recruitment of new test persons in the next issue of the newsletter.

## A Stab at the Big Questions

In the last issue of the newsletter, I pointed out that I have not—in any issue of the newsletter so far—tried to offer answers to our big questions about when and where from the Värmland-Hedmark lineage entered that geographic region, and about migration paths. I also wrote (p. 11):

I do think we need more data before we will be able to say anything about these issues that feels meaningful and which is not only speculation. However, [...] it would be meaningful, and indeed very useful, to write down a number of hypotheses about possible migration paths that are consistent with our data and which strike us as plausible. If nothing else, such an exercise can help us see what kind of data would be needed to rule out certain scenarios.

I still feel that, concerning most of our questions, we need more data—more pieces of the jigsaw puzzle—before we are in a position where we can say very much that does not amount to speculation. Yet concerning a few questions we *have* learned some things, and it would be useful to spell out what they are. Moreover, for harder questions, like the ones about migration paths, it would be helpful to formulate hypotheses that are consistent with our DNA data and other available evidence. I will here make an attempt to do those things.

To begin with, consider the questions we *have* learned something about. There are three things that come to my mind. First recall that we have found a large number of test persons with very similar Y chromosomes and with an oldest known patrilineal ancestor who lived somewhere in a small geographic area (namely, southern Värmland and Hedmark). This suggests the following two conclusions (C1 and C2):

- C1. The extended family that makes up the Värmland-Hedmark cluster was quite large already in the late Middle Ages (for otherwise there would not have been enough time for it to grow into today's size).
- C2. Members of the extended family did not arrive in southern Värmland and/or Hedmark immediately before the time when we first find them in the written records—i.e., immediately before

the 1600s. Rather, the family members must have resided there for at least one or a few centuries longer than that (for otherwise, again, there would not have been enough time for the family to become so large by the 1600s). Conclusion C2 is consistent with YFull's age estimates (the 95% confidence interval for the ancestor A2 in the tree has its lower boundary at AD 920).

The new branch that we have just found and which was discussed earlier in this issue—i.e., the Väse-Norway branch—tells us something about the social and economic connections between Värmland and Hedmark. This yields conclusion C3:

**C3.** We have indirect DNA evidence of multiple migrations between Värmland and Hedmark. Specifically, if the ancestor A2 lived in Värmland, then at least two separate migrations must have occurred to rationalize the tree on page 2 (see the two lineages leading to Testers 6 and 12). Similarly, if the ancestor A2 lived in Hedmark, then at least four separate migrations must have occurred to rationalize the tree on page 2 (the lineages leading to Testers 3/4, 5, 1/2/11/13, and 10). Our data do not say anything about the direction of the migrations (although Occam's razor would suggest that they were from Värmland to Hedmark).

It is well known that there were close ties between Värmland and Hedmark during the Middle Ages; see, e.g., the discussion in von Schoultz (1984, pp. 26-28) and the references cited there. However, I am not sure whether any indirect DNA evidence of such ties has been available before. (In our project, evidence of *multiple* migrations occurring after the ancestor A2 has been available only from the fall of 2020, when we discovered the new Väse-Hedmark branch. Prior to that, we could not rule out that the presence of Testers 6 and 12, whose oldest known patrilineal ancestors are both Norwegian, were due one single migration.)

Now turn to the questions that we know much less about—the ones about migration paths and how members of the Värmland-Hedmark cluster came to Värmland/Hedmark. Concerning migration, we can think of three different time perspectives:

- (i) How does the migration path look like if we take a very long view? That is, how did members of our common lineage travel from the place where Y-chromosomal Adam lived (about 200-300 thousand years ago)<sup>6</sup> until the time when the tree on page 2 begins (so some 1500-2000 years ago)?
- (ii) Where from did the members (or, perhaps, the single member) migrate when the lineage first arrived in the geographic region of Värmland and Hedmark? Moreover, how—in migratory terms—can we understand the link to the branches in the tree on page 2 that lead to Ireland, the southwest of England, and Levanger in Norway?
- (iii) How did the migration paths of members of the Värmland-Hedmark cluster look like immediately before the time from which we have written records (so, say, in the 1500s, 1400s, and 1300s)? That is, how did the members of the cluster move within Värmland and Hedmark and end up at the particular places that are indicated in the tree on page 2 (so, e.g., Skived in Grava, Jordkullen in Kroppa, or Ölbäck in Väse)?

As we move through the above list, from (i) to (iii), the questions gradually get harder to answer. To say anything meaningful about (iii) is, I would argue, too difficult to do, given the information we have available, and I will refrain from making any attempt. The questions under (i) might be relatively easy, thanks to the greater amount of data about that migration path that is available. Still, as the questions under (i) are already discussed in the academic literature, and as they are not specific to our project, I will not here make any attempt to review them.<sup>7</sup> However, I will formulate some hypotheses about the questions under (ii).

Before looking at these hypotheses, we should note that we can obtain more information from the tree on page 2 than is immediately apparent. In particular, it turns out that two of the surnames shown

<sup>6</sup>See, e.g., the Wikipedia article on Y-chromosomal Adam: [https://en.wikipedia.org/wiki/Y-chromosomal\\_Adam](https://en.wikipedia.org/wiki/Y-chromosomal_Adam).

<sup>7</sup>I nevertheless hope to do so in some future issue of the newsletter.



in the tree, Walsh and Peadon, have a Norman origin.<sup>8</sup> This does not necessarily mean that Testers 8 and 9 have a Norman origin along their patriline—there might have been adoptions or similar reasons for why an individual used a particular name, without there being any genetic (Y-chromosome) connection. Still, there is not one, but two, such Norman surnames in our tree. And although we cannot presume that the two events are completely independent, the fact that both surnames from the British Isles in our tree are Norman lends support to the idea that also that branch (under A4 in the tree) is Norman. Hopefully we will in the future find more related testers from the British Isles, and we can then see whether also their surnames are Norman. Here I will suppose that the idea about a Norman origin is correct, and I will formulate hypotheses that are consistent with A4 being the ancestor of a Norman branch.

Below I suggest two sets of hypotheses. The first one (consisting of the single hypothesis H1) involves migration *from* Scandinavia *to* the British Isles. The second one (including the three hypotheses H2a-c) involves migration in the opposite direction, *from* the British Isles *to* Scandinavia. I deliberately include hypotheses with migration in each one of the two possible directions. My purpose is to make the point that we cannot, with the available data, rule out either one of the scenarios.

- H1.** *Migration from Scandinavia to the British Isles.* The ancestors A3 and A4 lived somewhere in what is now Norway. In the 10th century (or thereabout), a descendant of A3 and A4 migrated to Normandy (as part of the Viking colonization under the leadership of Rollo). A century or so later, members of that lineage continued their migration to the British Isles (in connection with, or in the aftermath of, the Norman conquest) and some of the later descendants began to use the names Walsh and Peadon. Another descendant of A3 and A4 (fairly closely related to the one who went to Normandy) stayed in Norway and his lineage eventually lead to Tester 7. In the 11th century (or thereabout), a third descendant of A3 moved from the part of Norway where he lived to Värmland/Hedmark and gave rise to ancestor A2 and eventually to Testers 1-6 and 12-13. In the centuries after A2, there was also some migration between Värmland and Hedmark.
- H2.** *Migration from the British Isles to Scandinavia.* Common for these three hypotheses is that the ancestor A4 lived on the British Isles (perhaps in the southwest of England or in Ireland). Ancestor A3 lived in Normandy, and a descendant of his migrated to the British Isles. Alternatively, A3 also lived on the British Isles (in which case the later Norman association was only cultural, not genetic). In the 10th century (or thereabout), a descendant of A4 migrated to Norway and this lineage lead to Tester 7. Other descendants of A4 stayed on the British Isles and took the surnames Walsh and Peadon. These two lineages lead to Testers 8 and 9.

- a)** In the 13th century (or thereabout), a descendant of A3, who lived on the British Isles and was involved in *the trade of timber between Norway and England*, emigrated to (or conceived a son in) Hedmark or Värmland.<sup>9</sup> This lineage lead to A2 and to Testers 1-6 and 12-13. In the centuries after A2, there was also some migration between Värmland and Hedmark.
- b)** In the 9th or 10th century (or thereabout), a descendant of A3 living on the British Isles was *captured in a Viking raid, taken as a slave, and brought to Hedmark or Värmland*. The slave was later freed and his lineage lead to A2 and eventually to Testers 1-6 and 12-13. In the centuries after A2, there was also some migration between Värmland and Hedmark.
- c)** In the 8th or 9th century (or thereabout), a descendant of A3 living on the British Isles *traveled to Scandinavia, in particular (perhaps) to Värmland, for the purpose of converting people to Christianity*. If he did not arrive in Värmland/Hedmark from the beginning, he or a descendant of his later moved there. The lineage lead to A2 and eventually to Testers 1-6 and 12-13. In the centuries after A2, there was also some migration between Värmland and Hedmark.

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<sup>8</sup>I cannot offer the reader a very good reference in support of this claim (I will look more carefully into this in the future). However, my assessment is that the claim that those names are associated with Norman culture is a credible one. It is easy to find websites that say that Walsh and Peadon are Norman surnames, and Tester 8 and 9 (I have been in contact with them both) think of their surnames as being Norman. That said, and as discussed below, this does not necessarily imply that the Y-DNA lineages of these two testers go back to people of Norman origin (as there might have been non-paternal events, for example).

<sup>9</sup>Export of timber from Norway to England is discussed in Bagge (1925) and von Schoultz (1984, pp. 129-30).

# Östra Tolerud, Grava-grenen (äldsta generationen ej helt säkerställd)

## Om släkträdet och använda källor

Släkträdet är gjort av Johan Lagerlöf ([www.johanolagerlof.com](http://www.johanolagerlof.com), e-post: [johan\\_lagerlof@econ.ku.dk](mailto:johan_lagerlof@econ.ku.dk)). Denna version är från den 29 december 2020. Informationen i trädet är hämtad från kyrkböcker, databaser, Sveriges be-folkning (olika årgångar) och Sveriges dödbok, 1860-2016, och andra offentliga källor. Alla data finns tillgängliga på en så kallad GEDCOM-fil, som kan läsa av de flesta släktskapsprogram. Filen kan läsa av mig, Johan, om någon är intresserad (med reservation för att filen kan tänkas innehålla fel). Om du upptäcker något som du tror är fel i trädet är du välkommen att skicka ett emejl om det.

Som framgår av rubriken är den äldsta generationen i trädet inte helt säkerställd – uppgiften om Jonas Andersson och Ingeborg kan tänkas vara fel. Endast agnatsiska (alltså manliga) linjer har följts, då det främsta syftet med kartläggningen har varit att finna personer som bär på samma Y-kromosom som de äldsta männen i trädet (se informationen i rutan till höger). Trädet är dessutom inte en komplett sammansättning av de agnatsiska linjerna, då jag ännu inte har hunnit följa de sex äldsta söner till Jonas Andersson (1789-1857) och deras eventuella ättlingar. Jag hoppas kunna utvidga trädet senare när jag får tid.

## Om Värmland-Hedmark-klustret

Skälet till att jag har konstruerat trädet är att denna släktgren från gården Östra Tolerud i Grava socken troligen härstammar på det raka fjädrnet från en väldigt stor släkt som ser ut att ha funnits i södra Värmland och i Hedmark i Norge sedan medeltiden och möjligen ännu längre tillbaka i tiden. Detta är något som vi har upptäckt med hjälp av DNA-test – i första hand test av Y-kromosomen, som bara män har och som arvs från far till son. Den här stora släkten har fått benämningen Värmland-Hedmark-klustret, och arbetet är i full gång med att försöka få mer kunskap om den. Hur stor var släkten? Var i Värmland och Hedmark fanns den? Hur långt tillbaka i tiden har medlemmar i släkten funnits i Värmland och/eller Hedmark? Varifrån kom släktmedlemmarna när de anlände dit?

Man kan läsa om projektet i ett nyhetsbrev ("The Värmland-Hedmark Cluster") som kommer ut med jämna mellanrum och som finns att ladda ned på denna länk <https://www.johanolagerlof.com/genjen.html>.

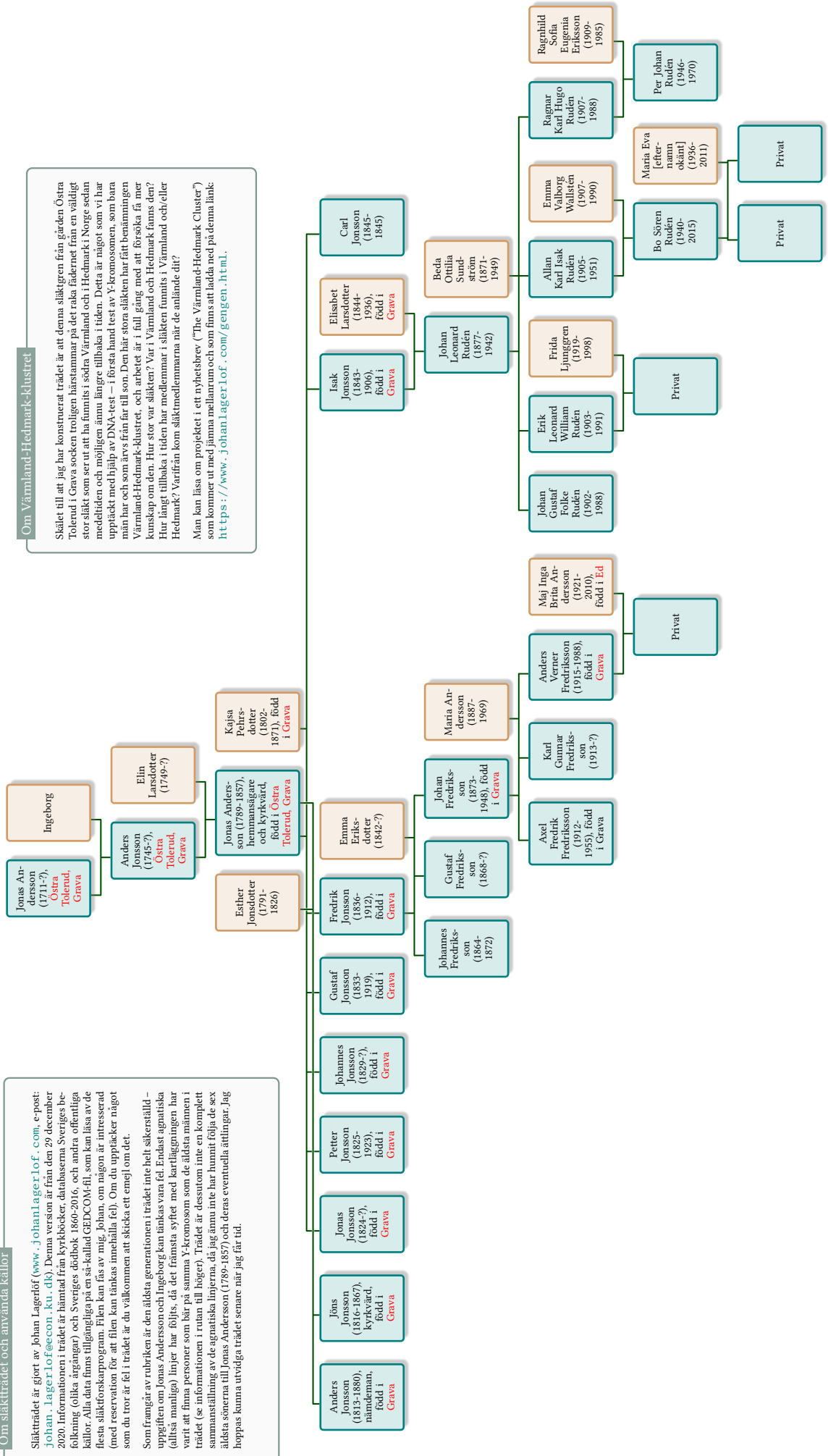
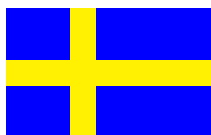




Figure 3: Oil painting from 1882, depicting Gammelkroppa herrgård (i.e., a mansion in the village Gammelkroppa) in Kroppa parish. The artist is Christoffer Wallroth (1841-1916), and the picture is part of the collections of Värmlands Museum (public domain mark 1.0; see also <https://digitaltmuseum.se/021048496718/gammelkroppa-herrgard-oljemalning>). Tester 10 in the project has an oldest known patrilineal ancestor from Kroppa parish. Let us hope that this tester (as well as Testers 5 and 6, who also for a long time have been on their own in the tree) soon will be part of a new branch. Another connection between the oil painting and our project is the fact that Christoffer Wallroth was a maternal uncle of the author Selma Lagerlöf (1858-1940), whose father and brothers had (almost) the same Y chromosome as the project participants. Indeed, Selma Lagerlöf's paternal grandfather was a brother of Magnus Lagerlöf (1778-1844), shown in the tree on page 2.

## References

- Bagge, Alexander.** 1925. *Den norske trælasthandels historie, I: Fra de ældste tider indtil freden i Speier 1544.*
- Hveberg, Harald.** 1949. *Grueboka.*: Flisa Aksidenstrykkeri.
- von Schoultz, Gösta.** 1984. *Värmländsk historia.*: Norstedt.



## Svensk sammanfattning

Värmland-Hedmark-klustret är benämningen på en – vad det verkar – väldigt stor släkt som levde i Värmland och Hedmark under medeltiden och kanske även ännu längre tillbaka i tiden. Detta är något som vi har upptäckt med hjälp av DNA-test av nu levande personer. Framförallt har vi varit behjälpta av test av Y-kromosomen, som bara män har och som ärovs från far till son. Arbetet är i full gång med att samla mer kunskap om Värmland-Hedmark-klustret. Det här nyhetsbrevet utkommer med jämna mellanrum (hittills har det blivit i juli och december varje år), och det rapporterar och diskuterar vad som har hänt inom projektet sedan sist.

Exempel på frågor som vi försöker förstå: Hur stor var den här släkten? Var i Värmland och Hedmark fanns den? Hur långt tillbaka i tiden har medlemmar i släkten funnits i Värmland och/eller Hedmark? Varifrån kom släktmedlemmarna när de anlände dit? Kan resultaten hjälpa oss att förstå frågor kring social mobilitet?

- ✓ För tredje gången på raken har Värmland-Hedmarks-klustret fått en ny gren, jämfört med det föregående numret av nyhetsbrevet. Den här gången kopplar den nya grenen ihop, å ena sidan, två testpersoner som har sin äldsta kända ana (längs det raka fädernet) från Ölmbäck i Väse socken med, å andra sidan, en testperson med äldsta kända ana (längs det raka fädernet) från Grue i Hedmark i Norge. Man kan se den senaste versionen av trädet på sidan 2 i nyhetsbrevet. Anfadern som bildar en ny gren har där fått beteckningen A7.
- ✓ Den nya grenen i trädet, tillsammans med tidigare resultat, innebär att vi har DNA-belägg för att det har skett multipla migrationer mellan Värmland och Hedmark inom släkten vi undersöker och ungefär under 1300- till 1500-tal. Det är väl känt att det fanns starka band mellan de två landskapen under den här tiden, men möjligen är detta första gången som vi har tillgång till indirekta DNA-belägg för sådana band (jag känner i alla fall inte till något annat exempel på detta).
- ✓ Vi väntar just nu på att resultaten från två helgenomtest hos det italienska testföretaget Dante Labs ska bli klara. Den ena testpersonen har sin äldsta kända ana (längs det raka fädernet) från Södra Rådom i Nyeds socken, och den andra från Nors socken. Vi har redan preliminära resultat för testpersonen med äldsta ana från Nyed. Dessa tyder på att han kommer att bilda ännu en ny gren i trädet, och även vid detta tillfälle är den andra partnern i grenbildandet testpersonen som har sin äldsta ana i Grue i Hedmark. Om de preliminära resultaten står sig kommer den nya grenen ligga under den nybildade grenen i det nuvarande trädet (på sidan 2). Den nya anfadern kommer få beteckningen A8, och denne kommer alltså själv vara en ättling till A7.
- ✓ Det här numret av nyhetsbrevet innehåller en diskussion av ett antal slutsatser som vi törs dra av de data som vi har samlat hittills. En av slutsatserna berör belägget för multipla migrationer, som nämndes ovan. De andra handlar om att släkten som vi studerar rimligen måste ha funnits i Värmland/Hedmark i ganska många sekler före 1600-talet, och att den måste ha varit stor redan under sen medeltid.
- ✓ Det nya numret innehåller även en diskussion av ett antal frågor om migrationsvägar som vi betraktar som väldigt viktiga, men där vi ännu inte kan dra några slutsatser. I nyhetsbrevet formuleras dock två uppsättningar hypoteser om hur migrationsvägarna på vikinga- och medeltid kan ha gått och när migrationen kan ha skett. De olika hypoteserna är alla förenliga med tillgängliga data men sinsemellan oförenliga: en säger att migrationen gick från Skandinavien till Brittiska öarna (via Normandie); de andra hypoteserna säger att migrationen gick i motsatt riktning (och den uppstod, enligt de olika underhypoteserna, genom en man som var involverad i antingen trävaruhandel, vikingatåg, eller kristen mission).