WHO WAS LISBETH'S GREAT-GRANDFATHER? A FOLLOW-UP USING BANYANDNA AND WATO PLUS

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Who Was Lisbeth's Great-Grandfather?

A Follow-Up Using *BanyanDNA* and *WATO plus*

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Today's genealogist/family historian who uses DNA can expect new products to be developed periodically to assist in researching their genetic matches. *BanyanDNA* (beta version,) has recently been released. This new web-based product provides the genetic genealogist additional tools along with *WATO* (*What Are The Odds*) to help predict accurate relationships of your DNA matches.[1] Additionally, *WATO plus* (beta version) has also been released, a new upgraded version of *WATO*.[2]

Both of these new web-based tools can be a major benefit to the genetic genealogist. *BanyanDNA* can help identify ancestors and determine relationships between yourself and your DNA matches. Most significant though is its ability to customize your trees whether you have pedigree collapse, double cousins, or (in a future release) endogamy."[3]

These new two web-based tools would have been valuable in supporting my hypothesis in my narrative "Who was Lisbeth's Great-Grandfather," published in the March 2024 issue of *The Journal of Genetic Genealogy*.[4] The subject of the article was unaware of who her great-grandfather was, as her grandmother's birth was listed as illegitimate. "Lisbeth," tested with *MyHeritage* and she was a strong genetic match to my wife and her cousins who descend from the same Swedish ancestors. The amount of DNA they share is what I call genealogical, meaning the likelihood of finding their MRCA (Most Recent Common Ancestors) is quite possible.

Having used *WATO* on multiple occasions the newest change I believe is a significant upgrade. As an experienced author of genealogical proof articles, the most important part of your narrative is the question you are asking. The changes with *WATO plus* begin with the new, updated research question format. This means the question of your narrative is identical to your *WATO plus* printout[5]

Image 1 - Research Question

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[1] "BanyanDNA FAQ," *BanyanDNA*, 2023 (https://www.banyandna.com/docs/faq).

[2] Jonny Perl, Getting Started | DNA Painter WATO+ User Guide," *DNAPainter* (https://dnapainter.com/help/user-guide/wato-plus).

[3] "BanyanDNA FAQ," *BanyanDNA,* 2023 (https://www.banyandna.com/docs/faq).

[4] Robert Flanagan Stieglitz, "Who Was Lisbeth's Great-Grandfather? "*The Journal of Genetic Genealogy,* 12, no. 1, Mar 2024 (https://jogg.info/wp-content/uploads/2024/03/121.006-Full-Article.pdf).

[5] Diahan Southard, "What Are the Odds? Plus (WATO+): A New Upgrade to the Classic Tool," *Your DNA Guide - Diahan Southard*, 23 Feb 202 (https://www.yourdnaguide.com/ydgblog/wato-plus).

[6] https://dnapainter.com/tools/wato3/1054

The research methodology I used is described in my article in *Family Tree Magazine*, published in its 2023 July/August issue.[7] The conclusion drawn was Olof Olsson and Inga Andersdotter were the MRCAs of Lisbeth and Bette (and her cousins) and therefore her great-grandfather, a son of Olga and Inga.[8] *WATO plus* would be more specific to the question asked in my narrative. The new tool makes the subject (Lisbeth's great-grandfather) of the question the hypothesis, rather than the relationship to the match. This provides a more direct answer to the question. This difference can be seen in the original *WATO* readout (Image 2) compared to the readout provided by *WATO plus* (Image 3)
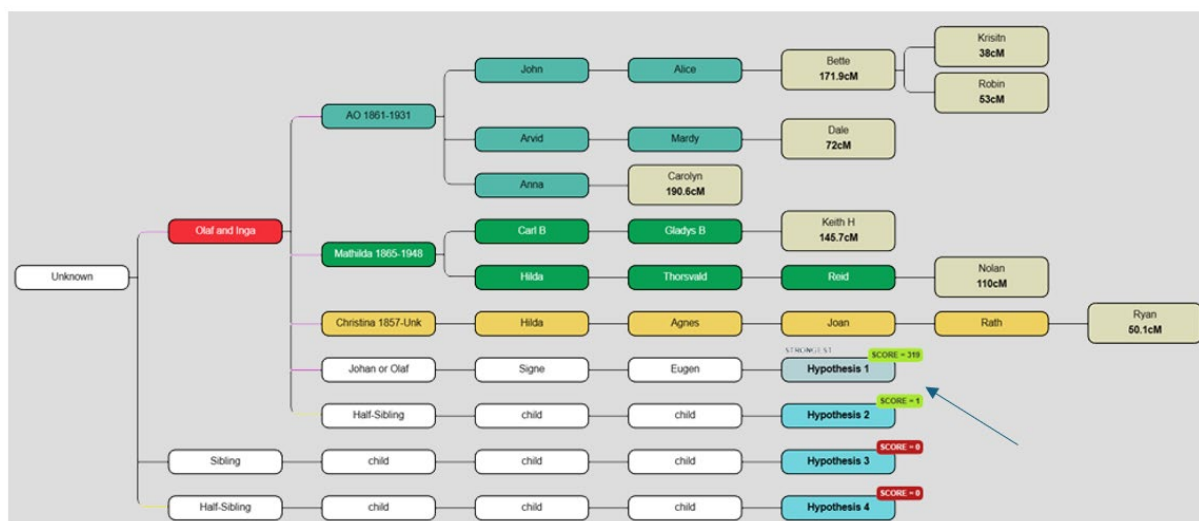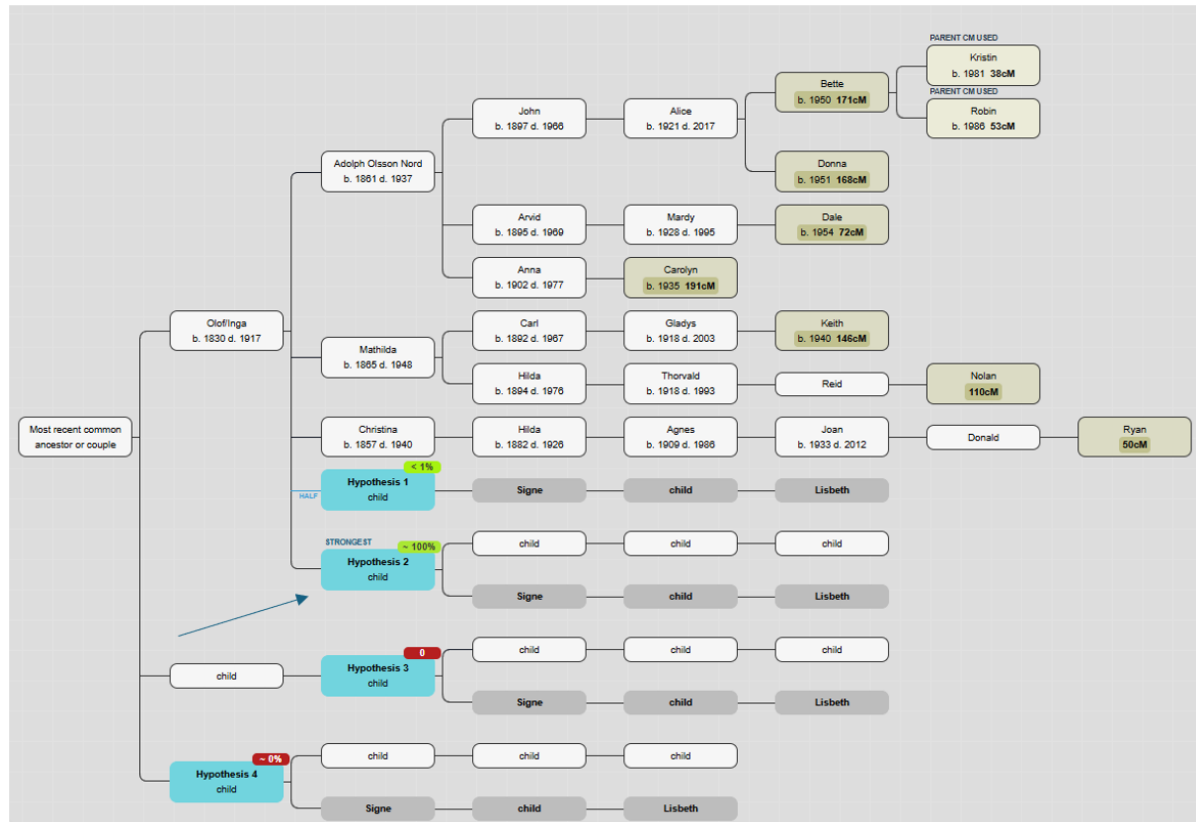

[9]

Image 2 – *WATO*

WATO predicts Lisbeth and Bette are third cousins, while *WATO plus* predicts Lisbeth's great grandfather was the son of Olaf and Inga and therefore a brother to Bette's great-grandfather, Adolph. A direct response to my research question.

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[7] Robert Flanagan Stieglitz,."6 Steps for Applying the Scientific Method to Genetic Genealogy," *Family Tree Magazine,* 21 Jun 2023 (https://familytreemagazine.com/dna/scientific-method-genetic-genealogy/).

[8] Flanagan Stieglitz, "Who Was Lisbeth's Great-Grandfather? "*The Journal of Genetic Genealogy,* 12, no. 1, Mar 2024.

[9] Stieglitz, "Who Was Lisbeth's Great-Grandfather? "*The Journal of Genetic Genealogy,* 12, no. 1, Mar 2024.
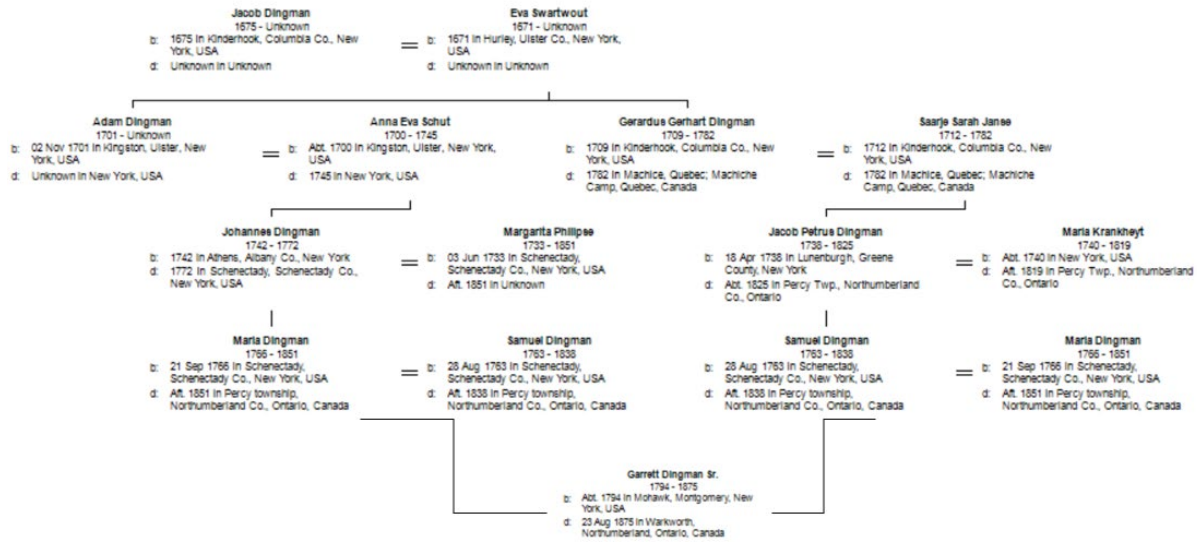
Image 3 - *WATO plus*

In the conclusion of my genealogical proof narrative ("Who Was Lisbeth's Great-Grandfather? "), I brought up the possibility of endogamy. According to DNA Educator, Diahan Southard, "Endogamy is the practice of marrying within the same group of people for several generations."[11] The result would find that matches at a confirmed relationship level would have more shared DNA than predicted. Because some of the matches to Lisbeth have higher than average shared DNA than the predicted relationship, I suspect pedigree collapse or endogamy is involved. At his time *Banyan DNA* does not have the ability to test endogamy, but it does for pedigree collapse (a form of endogamy). According to Diana Elder AGⓇ AGL a professional genealogist, author, and speaker - "Pedigree collapse occurs when cousins reproduce, and their descendants have ancestors in more than one place in the family tree. Pedigree collapse can become endogamy if it repeatedly occurs over many generations. However, two to three instances do not qualify the situation as endogamy."[12] Bette does have a known pedigree collapse in her family tree, although not within her Swedish ancestors. Her third-great-grandfather, Garret Dingman's (1796-1875) parents were second cousins. Samuel Dingman married Mary Dingman, both being great-grandchildren of Jacob Dingman and Eva Swartwout. (Image 4)

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[10] "Who Was the Biological Father of Signe?" *DNAPainter - WATO plus* (https://dnapainter.com/tools/wato3/1054).
[11] Diahan Southard, "Endogamy and DNA Testing Tips," *Your DNA Guide*, 28 May 2020. (https://www.yourdnaguide.com/ydgblog/endogamy-dna-test-jewish).
[12] "Endogamy, Pedigree Collapse, and Multiple Relationships: What's the Difference and Why Does It Matter?" 2022, *Family Locket,* 2 Sep 2022 (https://familylocket.com/endogamy-pedigree-collapse-and-multiple-relationships-whats-the-difference-and-why-does-it-matter/).

Image 4 - Example of Pedigree Collapse

To test for pedigree collapse in "Who was Lisbeth's Great-Grandfather," I built multiple models with different relationship levels. For example, I constructed a *Banyan DNA* model (Image 5) where Emma (Lisbeth's grandmother) married her first cousin (son of Olaf and Inga). Then repeated the process making Emma as a second, then third cousin and so on.

The initial model shown in Image 4 also contains another possibility in addition to pedigree collapse. This being Emma marrying a half-brother. The resultant reading indicate an 86% probability of there being NO pedigree collapse at this relationship hypothesis. The other relationship level hypotheses tests also predicted no pedigree collapse.

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[13] Robert Flanagan Stieglitz, "Stieglitz/Johnason Family Tree," *Family Tree Maker*, personal computer database, Fargo, North Dakota, 20 Jun 2024.
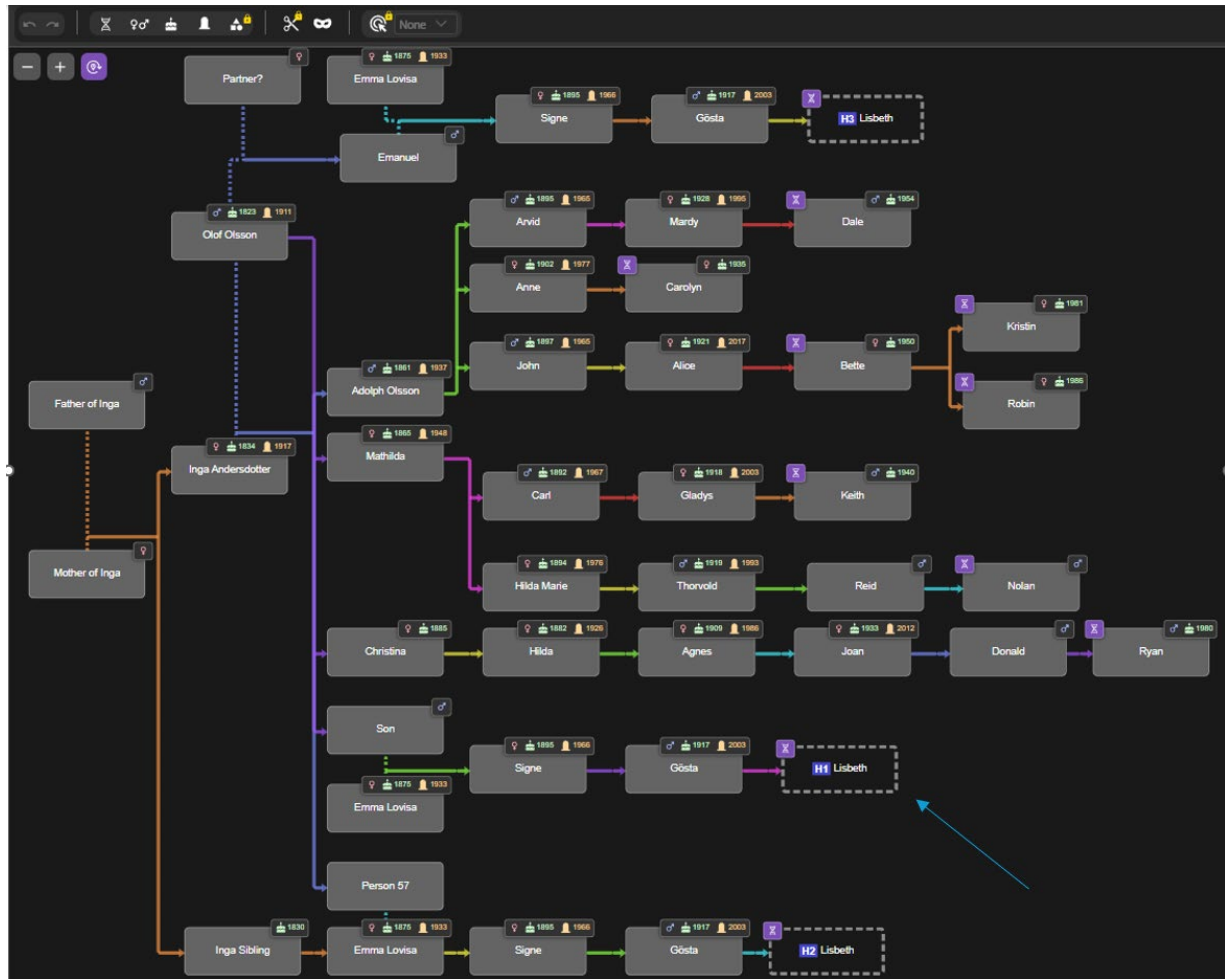
Image 5 – Banyan DNA Pedigree Collapse [14]

As mentioned, there are a few matches with above average shared DNA which does make me believe there is endogamy taking place here. In most cases when new tools are released, I always test with known cousin relationships to see if the new tool provides an accurate result. Unfortunately, at this time I don't have enough descendants of the Dingman family pedigree (Image 4) collapse to test the *Banyan DNA* tool.

Conclusion

The results provided by *BanyanDNA* are not concrete proof of my hypotheses but provide additional support in combination with other evidence when drawing an overall conclusion that Lisbeth's great-grandfather was a son of Olaf and Inga. One might suggest that the negative results by *Banyan DNA* were not beneficial to support my hypothesis. I would disagree, and infer that the negative pedigree collapse result, along with the higher that average shared DNA by the matches then directs my belief that more broad endogamy is most likely involved. The *WATO plus* tool's predicted relationship may be the same as *WATO* but directly answers the original research question rather than indirectly like the original. The addition of these two new web-based tools also reinforces my belief that our genealogical research is never done because the continued development of new tools in conjunction with new documents

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[14] "Project - Swedish Connection," BanyanDNA (https://app.banyandna.com/all-projects).

continuingly being released online. "Scientific methods involve a continual process that often incorporates changes to methodology in response to new information learned during experimentation."[15]

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[15] Mario Bunge, "Scientific Methods," *Access Science | McGraw Hill's*, 2017 (https://www.accessscience.com/content/article/a607200).