

Lone Guldberg Maor Mikkelsen. Bsc. Information Science and Cultural Communication,
University of Copenhagen.

*“Digital Visualizations of
Holocaust in time and space; a
different approach to Holocaust
research”*

The background of the slide features a close-up, slightly out-of-focus image of several strands of barbed wire. The wire is light-colored, possibly silver or grey, and is set against a plain, light-colored background. The sharp, twisted points of the wire are visible, creating a sense of barrier or restriction.

Agenda

- A short introduction
- The questions asked
- Motivation & examples
- Results
- Analysis, discussion, pros and cons
- Conclusion
- Future projects



A short introduction

The background of the slide is a light gray, semi-transparent image of barbed wire. The wire consists of several horizontal strands, each with sharp, pointed barbs that cross the main strand at regular intervals. The overall effect is a subtle, textured background that suggests a barrier or a restricted area.

Some of the new possibilities that digitalization opens for:

- Artificial Intelligence (AI),
- Internet of Things (IoT),
- Big Data (BD),
- Data Visualization (VIZ)
- GIS.

The background of the slide is a faded, light-colored image of several strands of barbed wire. The wires are horizontal and run across the frame, with sharp, twisted points extending from them. The overall tone is light and somewhat somber.

The questions asked

Can we find new knowledge about the Holocaust using Big Data, large datasets, Geographic Information Systems and data visualization?

What are the challenges we must expect and what pitfalls must be looked out for?

And how do we do it?

The background of the slide is a faded, light-colored image of several strands of barbed wire. The wire is twisted and has sharp, pointed barbs at regular intervals. The overall tone is a pale, desaturated green or grey, creating a somber and historical atmosphere.

Method

- Examples using BD, SD, Hgis, Google Ngram and Viz to try to see the Holocaust from new angles
- Focus on Macro level versus Micro level

Concepts used in the projects

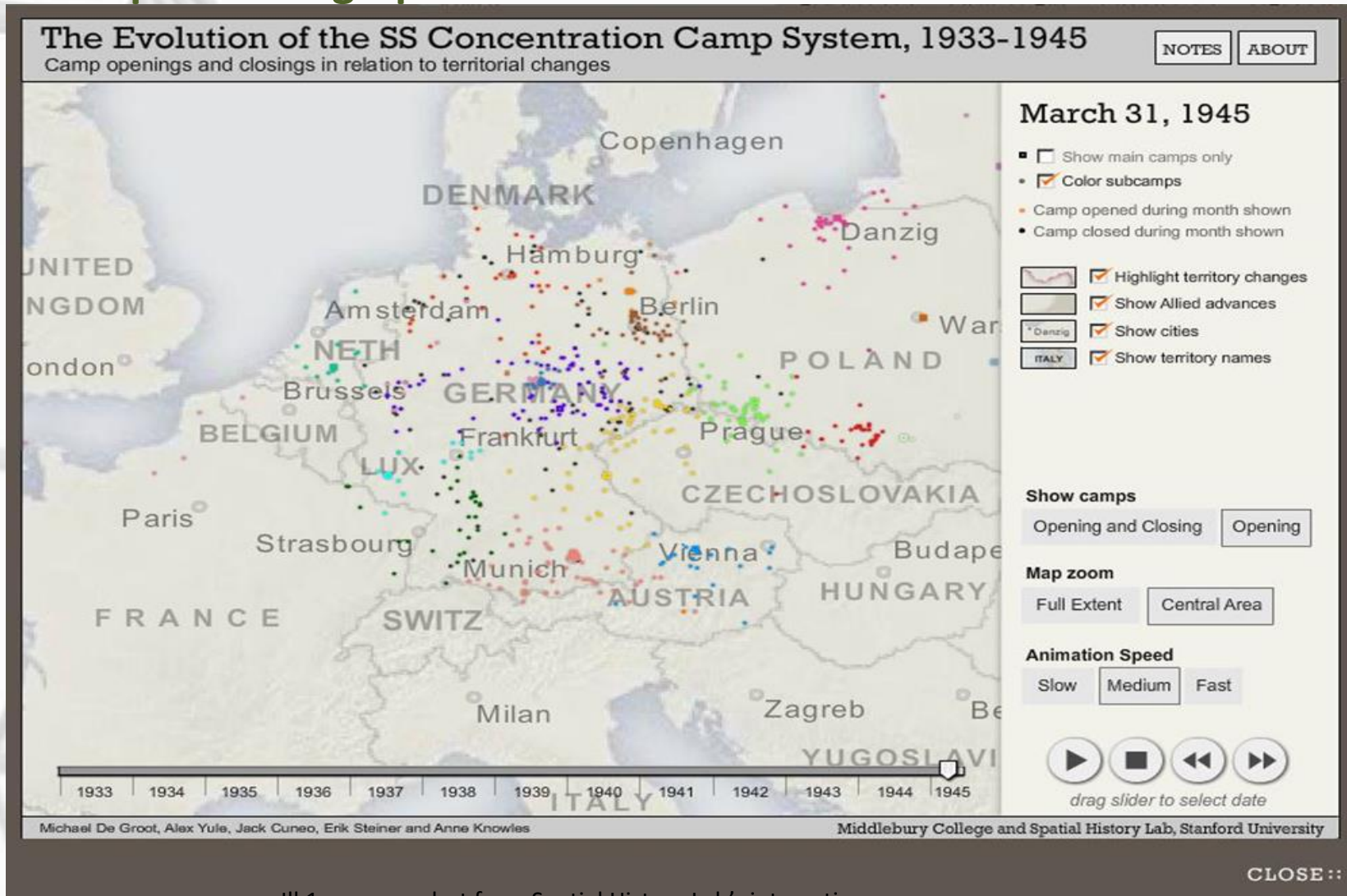
Big Data (BD): Used here as corpora of very large, *unorganized* data sets, that can be harvested and visualized, and which initially may show patterns and correlations rather than causes.

Large data sets (SD), used here about the data gathered from several heterogenic data sets and set into structured databases from which information may be visualized using the visualization software

Historical Geographical Information Science (HGI): HGI is here seen as a database containing spatial- and attribute historical data, which can be loaded into software for visualization.

The visualizations (VIZ) is here a quantitative approach to the phenomenon that can show data at macro level - the "bird's eye" view, that makes it possible to analyze patterns and relationships; - opposite micro level where analysis is based on qualitative method based on in-depth analysis and investigation of a given phenomenon.

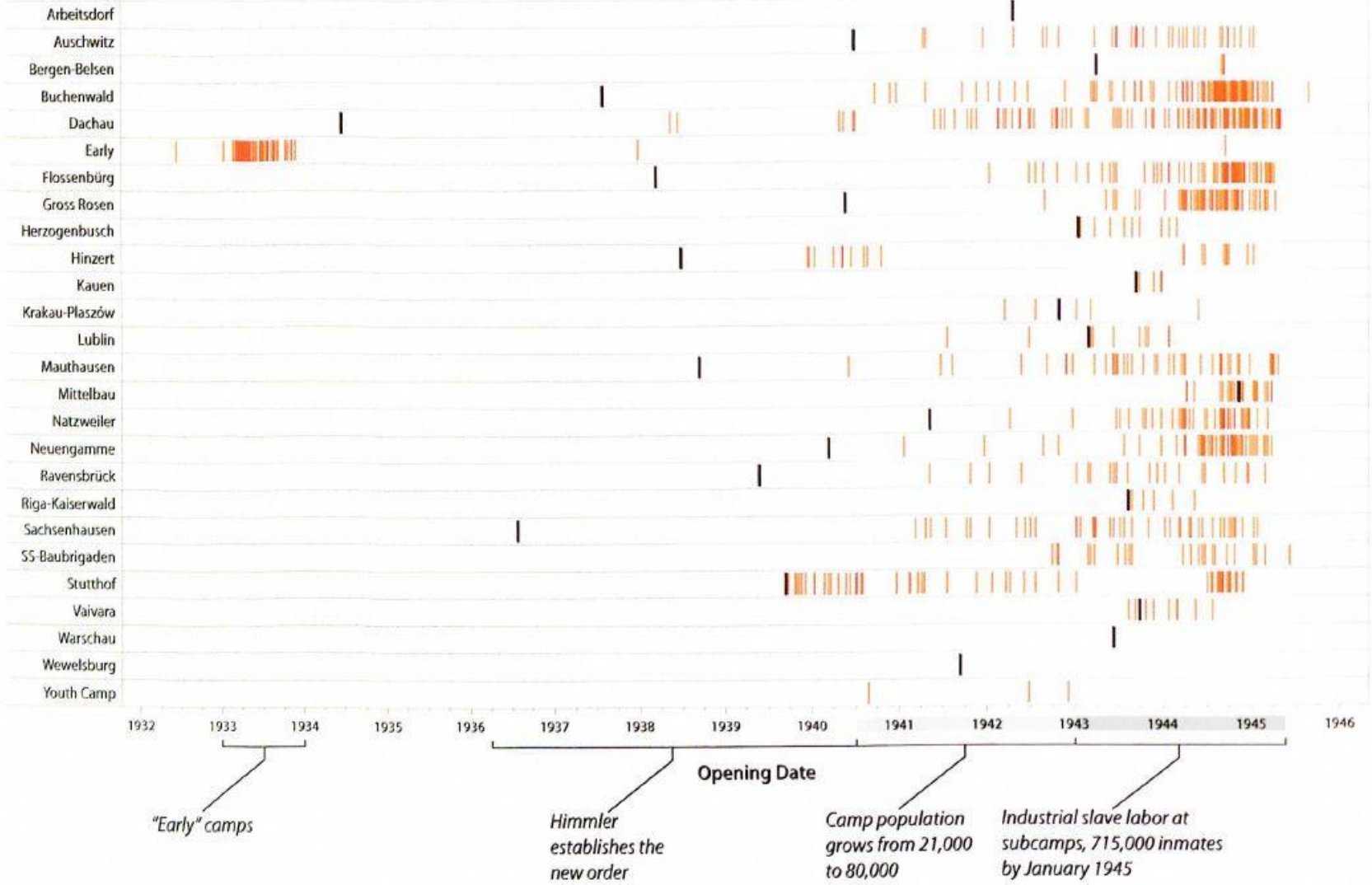
Example 1: Geographies of the Holocaust



Ill 1: – screenshot from Spatial History Lab’s interactive map

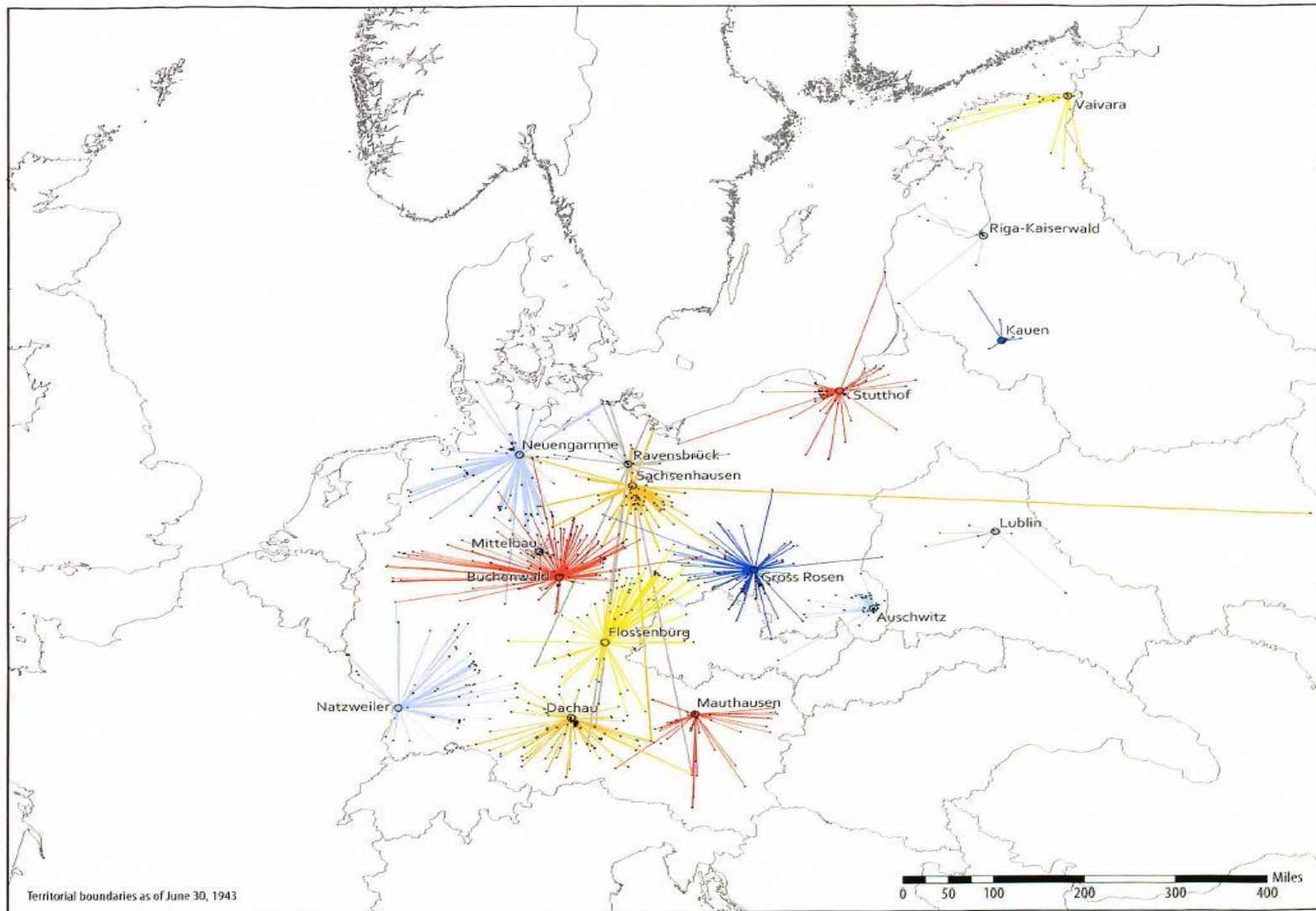
https://web.stanford.edu/group/spatialhistory/cgi-bin/site/viz.php?id=379&project_id=0

Camp System

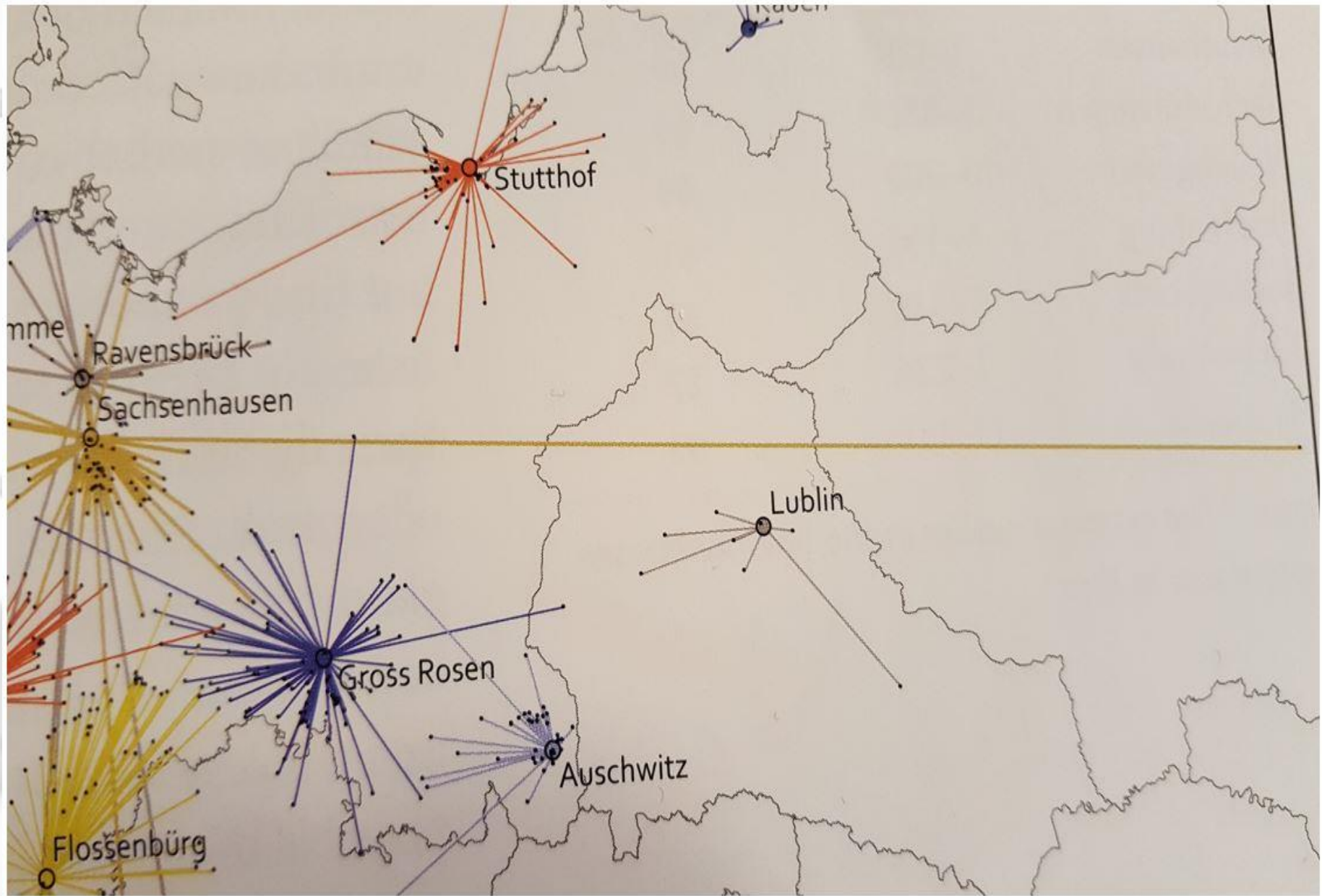


Ill. 4: The opening of camps in relation to important periods in the development of the SS-campsystem. Main Camps are marked with black, sub camps with red. Knowles, A. K., Cole, T., Giordano, A. *Geographies of the Holocaust*. Indiana University Press s. 32

Site Line Analysis



Ill. 5: Sixteen of the main camps in the SS-camp system. The small lines that reaches out from the main camps shows the distance to the respective subcamps.. Knowles, A. K., Cole, T., Giordano, A. *Geographies of the Holocaust*. Indiana University Press s. 33



Ill. 5a – udsnit af kort i ill. 5. Knowles, A. K., Cole, T., Giordano, A. *Geographies of the Holocaust*. Indiana University Press s. 33

Results example. 1

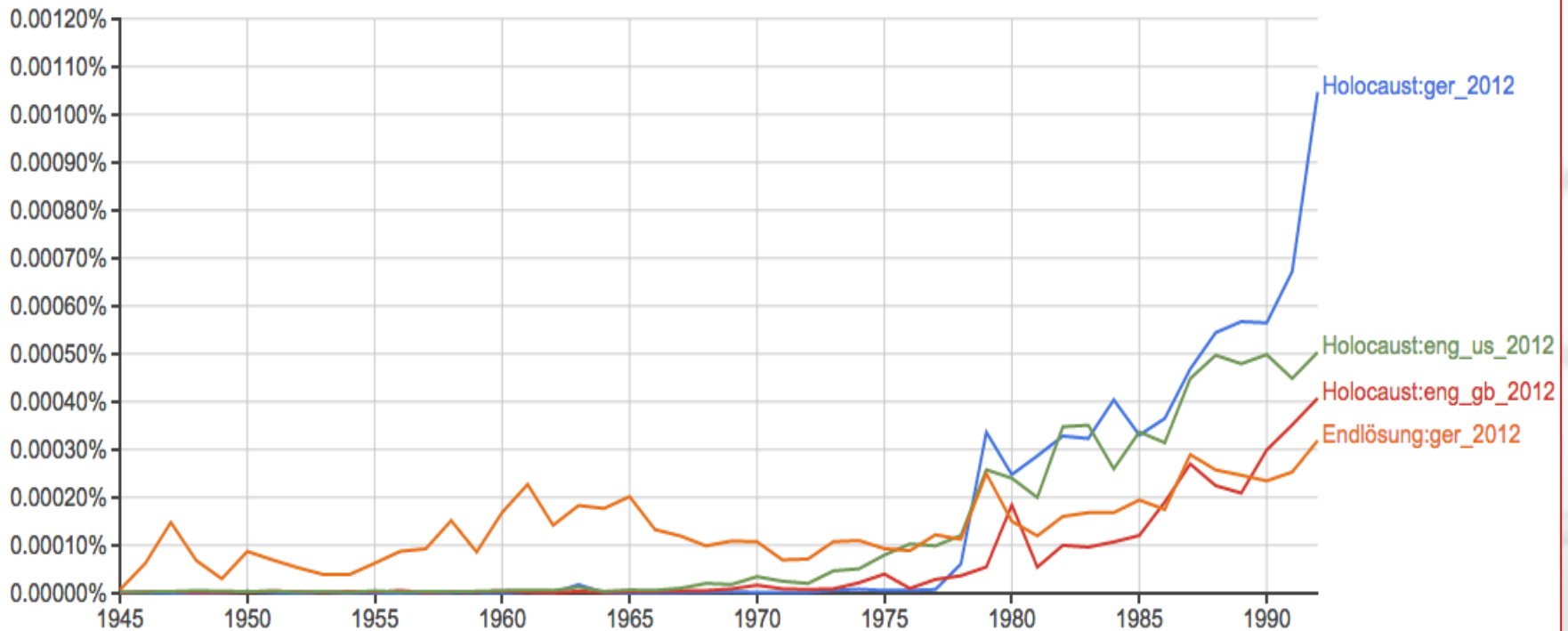
- New ways to see SS concentration camp infrastructure and their function.
- New perspective on the period
- Setting the stage for deeper qualitative study.
- HGIS and visualization can produce a synoptic expression
- Better results if the data base had been larger, with potential up to ??? camps instead of 1,200
- Information seen from Macro level leads to new possibilities for analysis at Micro level and serendipity though emphasizes that domain knowledge is essential .

Example 2: Google Books Ngram Viewer and “The myth”

Google books Ngram Viewer

Graph these comma-separated phrases: case-insensitive

between and from the corpus with smoothing of . [Search lots of books](#)



The background of the slide features a close-up, slightly out-of-focus image of several strands of barbed wire. The wire is light-colored, possibly silver or grey, and the sharp, twisted points are clearly visible. The lighting is soft, creating a subtle texture and depth. The overall tone is somewhat somber and restrictive, which may be a visual metaphor for the 'barriers' or 'restrictions' mentioned in the text.

Results example 2

The tendency in the visualizations points at a generally lower interest in the topic in English literature than in American and German literature



Data cannot stand alone!

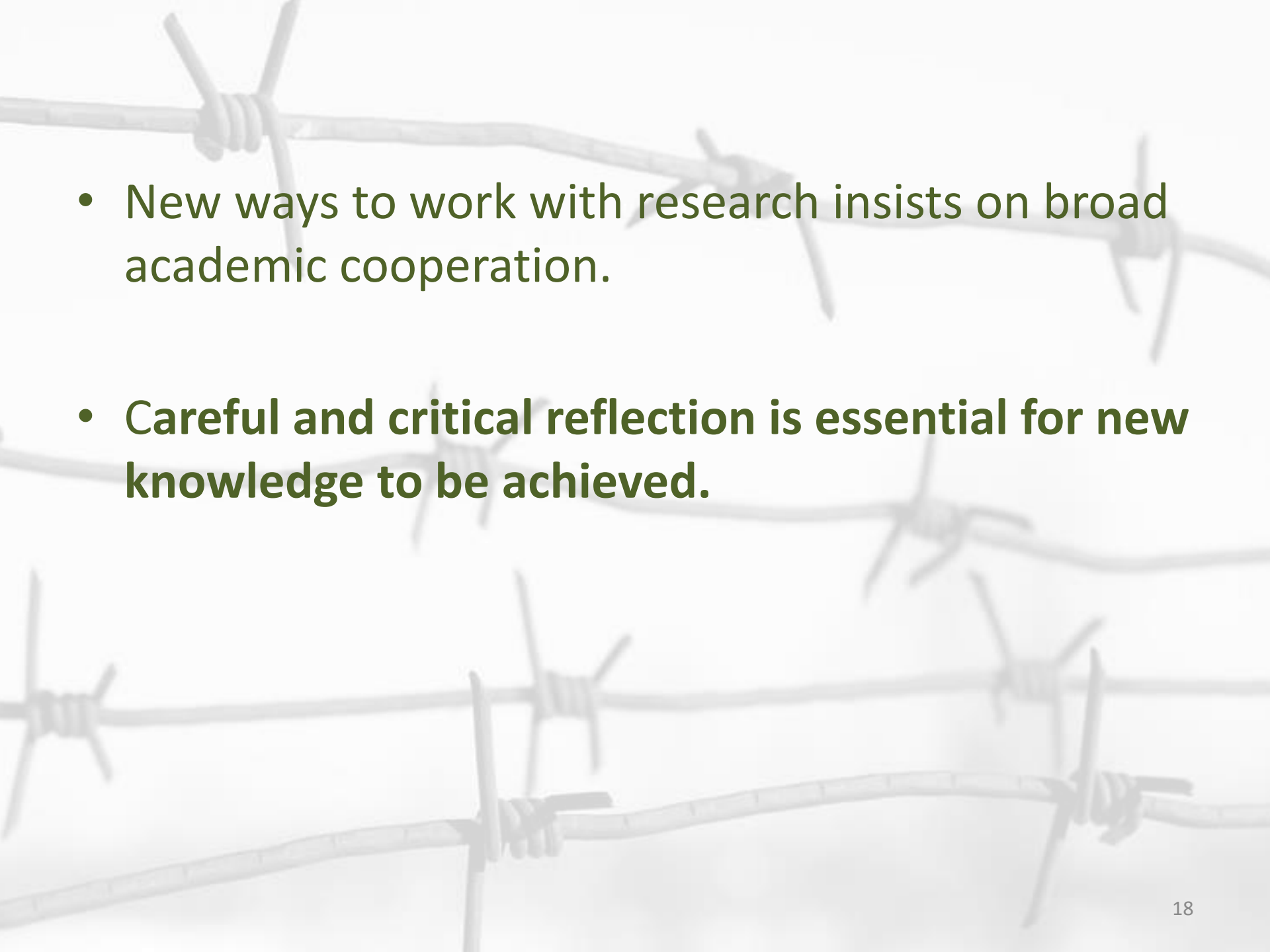
**Visualizations can show *how* and then
it is up to the humanities to answer
the questions *Why!***

Several parameters may have influenced the visualizations :

- Who has chosen which data?
 - On what grounds?
 - What data is omitted?
 - Which are chosen and why?
- ***BD and SD does not replace causality, but supports.***

Conclusion

- BD, SD and ViZ are powerful tools that should be used in the Holocaust research.
- Datadriven research do not only support already established knowledge, it might produce new information and supports serendipity
- The method can generate new questions for researchers in the field of Holocaust research.
- HGIS and Visualizations of Large Data Sets create an overview: sees the phenomenon from a bird's eye view over time.
- Digital History Research and Digital Humanities need to be upgraded to exploit these digital tools

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- New ways to work with research insists on broad academic cooperation.
 - **Careful and critical reflection is essential for new knowledge to be achieved.**

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“No one should be forgotten”

A new project that using visualizations combines scattered, heterogeneous and small databases on Jews living in Europa pre WW2 with layers of The Name database from Yad Vashem (if they let me).

Will this show clusters of names not yet registered and thereby make place for research on microlevel?

ANNE FRANK



- Place of Birth
- Place of Residence
- Place During the War
- Place of Death

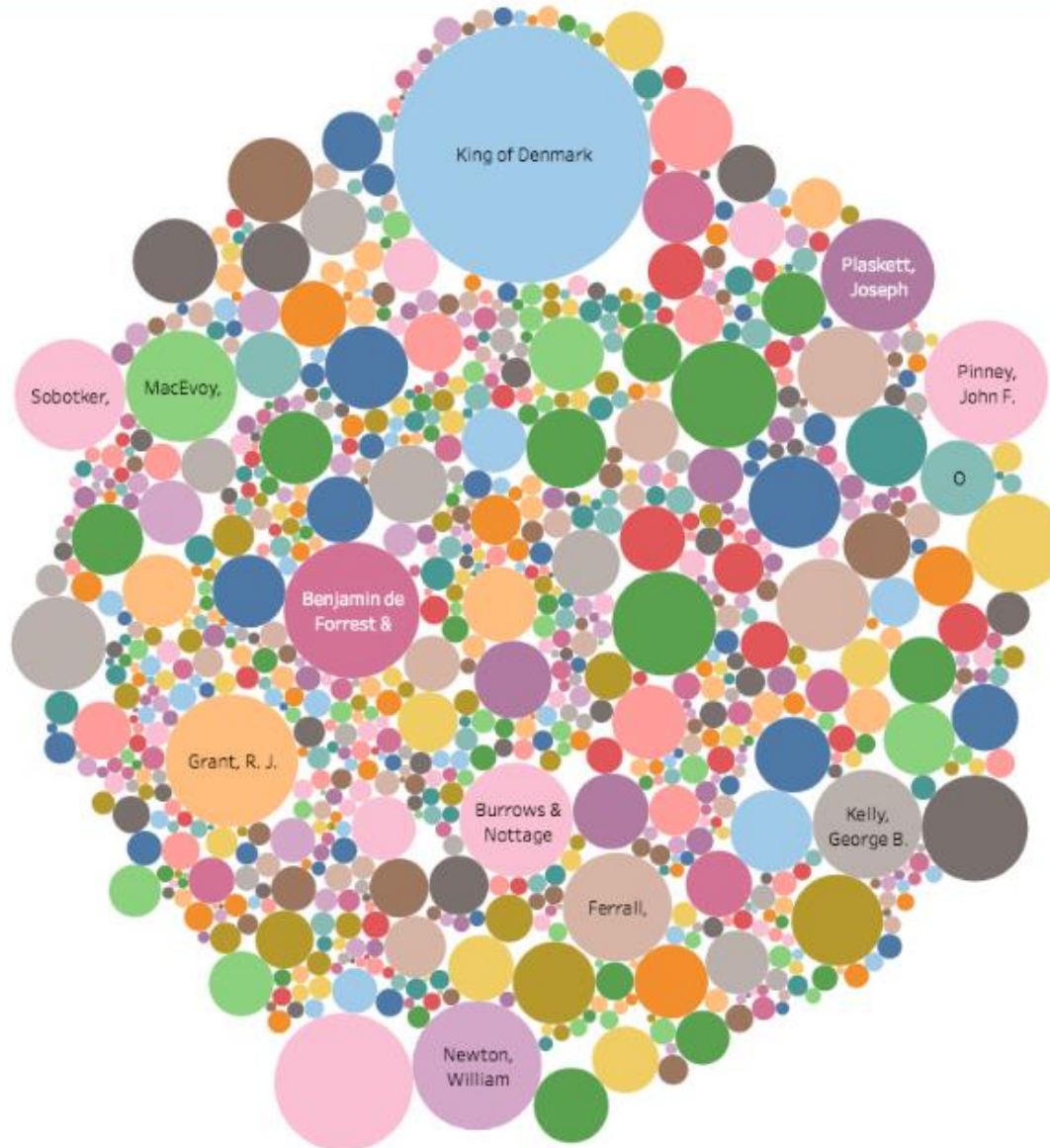


Screenshot from the VIZ of the name Anne Frank (born 12/6 1929 – died in Bergen Belsen in March 1945) in the Name Database's GIS



Thank you for taking interest in my project!

Example 3: Virgin Islands



Property Owner

- (All)
- Abbott, Joseph & Ja...
- Abbott, Mary
- Abbott, William
- Abrahamsen, Anna ...
- Abrahamsen, Steph...
- Abrahamson, A. G. ...
- Abramson, Johasy h...
- Absolom Heirs
- Adams, Charlotte
- Aderate, Abigail
- Aitkens, George heirs
- Aitkin, Ruth
- Akin, Celia
- Allan, Grant
- Andersen & Bithorn
- Andersen, A.
- Andersen, A. A. ...
- Andersen, A. A. chil...
- Andersen F C

Property Owner (legend)

- Abbott, Joseph &...
- Abbott, Mary
- Abbott, William
- Abrahamsen, An...
- Abrahamsen, Ste...
- Abrahamson, A. G.
- Abramson, Johas...
- Absolom Heirs
- Adams, Charlotte
- Aderate, Abigail
- Aitkens, George ...
- Aitkin, Ruth
- Akin, Celia
- Allan, Grant
- Andersen & Bitho...
- Andersen, A.
- Andersen, A. A. ...
- Andersen, A. A. c...