Digital humanities and critical proximity

Reflections from the Techno-Anthropology Lab

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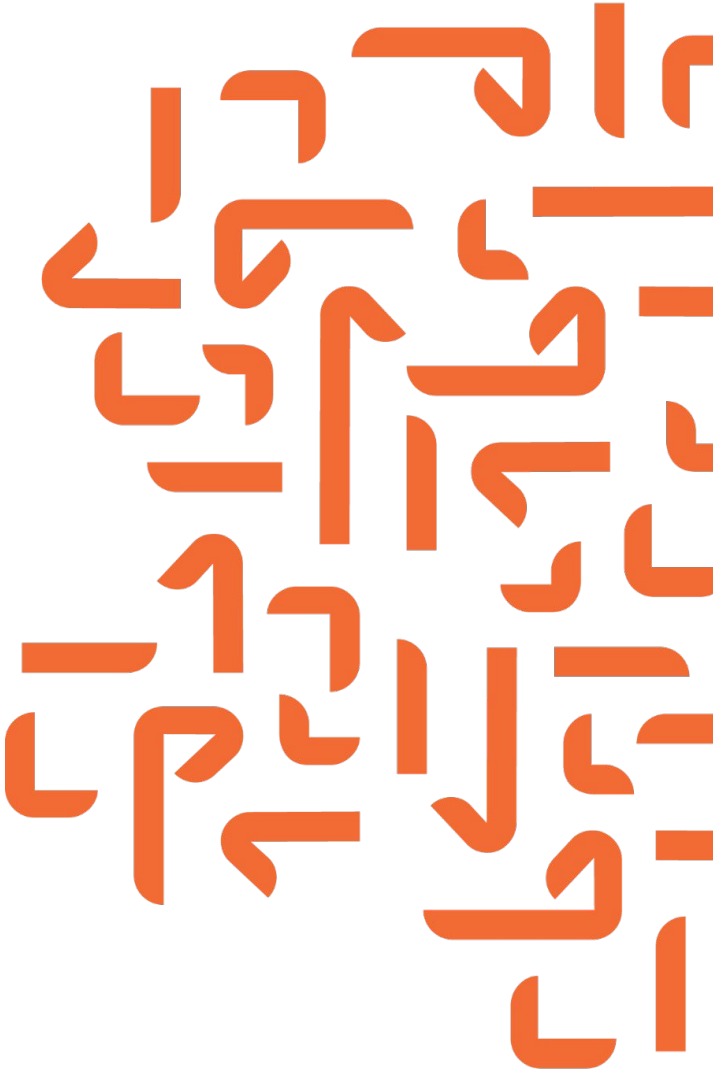
Agenda

- Why digital humanities?
- TANTLab's version
- Some key experiences and reflections

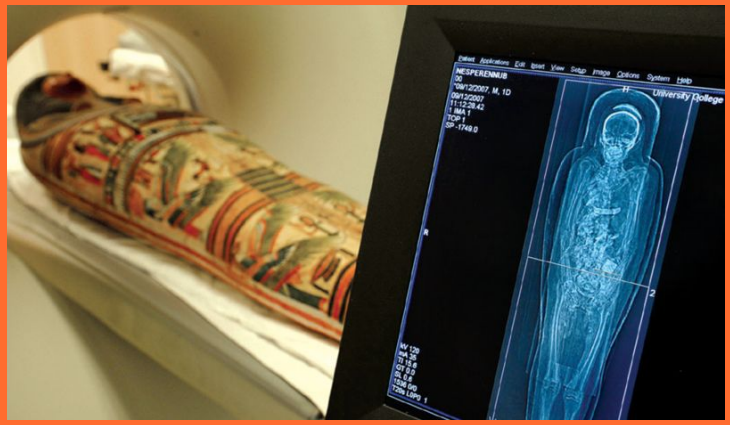


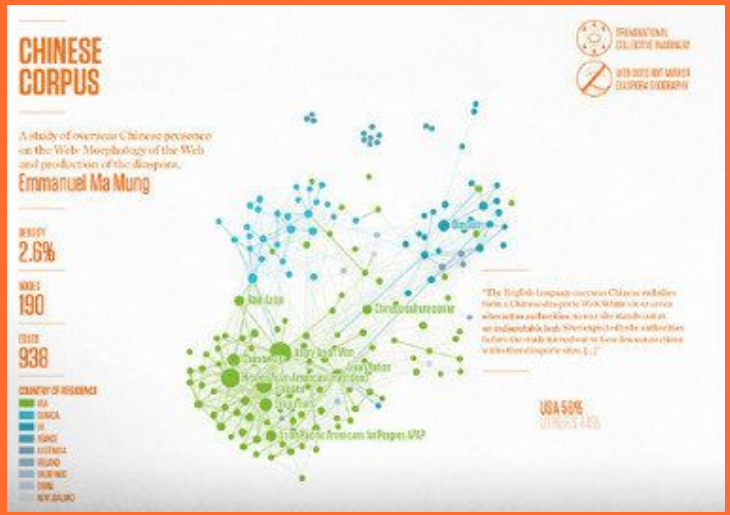
Why digital humanities?

Developments in online media, sensors, digitized archives, etc. generate new empirical phenomena and problems

Why digital humanities?

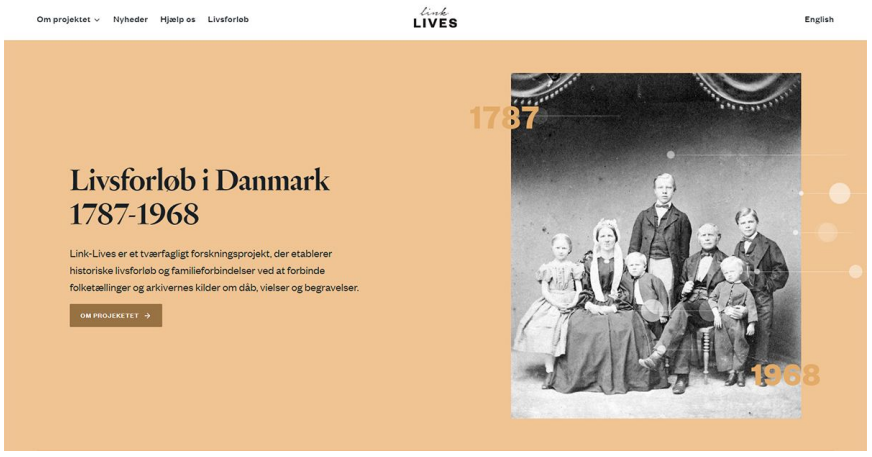
Computational techniques enable researchers to collect a broader spectrum of data and discover patterns in new ways





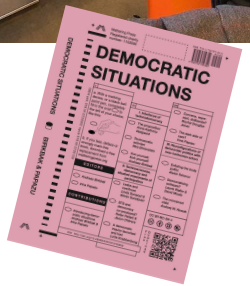
An open party

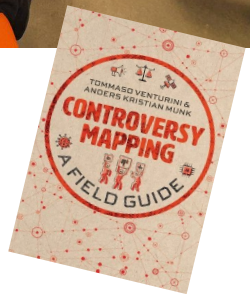
- Predictive archaeology
- PyStorians
- Digital migration studies
- Computational linguistics
- Data journalism
- Creative coding
- Distant reading
- …



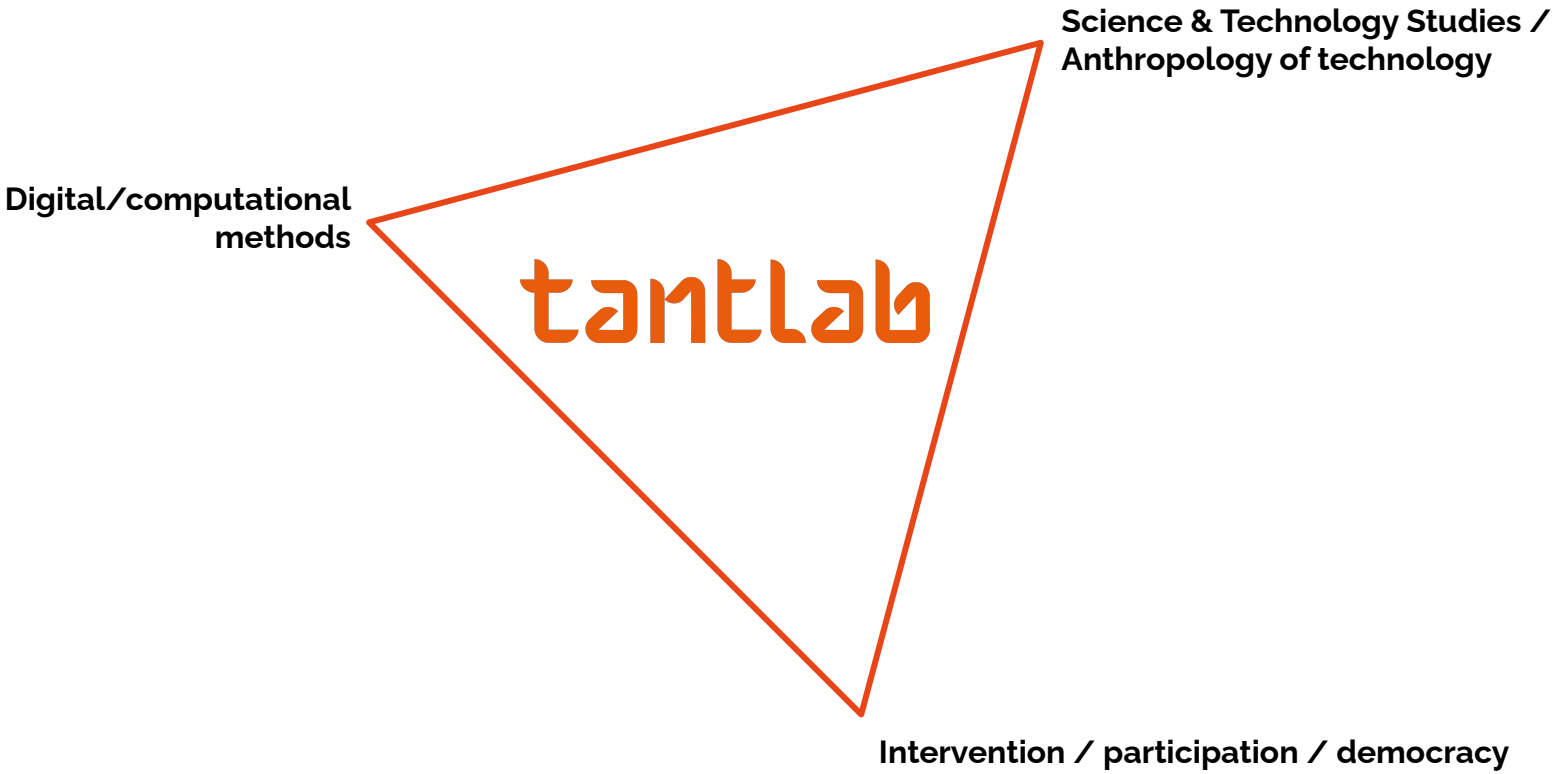
And then there is TANTlab

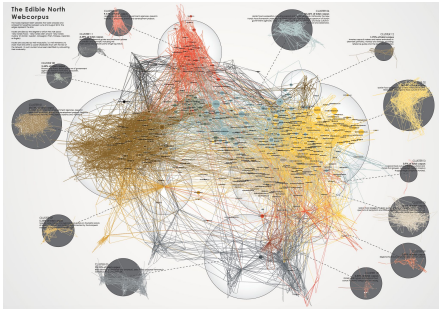
- Est. 2015
- Department of Culture & Learning, AAU
- +13 researchers (5 seniors)
- Mixed SSH backgrounds & technical skills

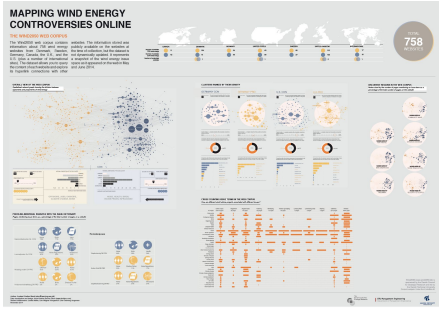


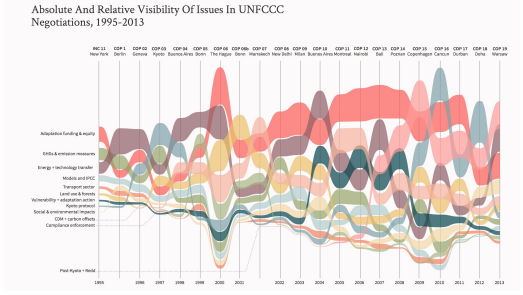


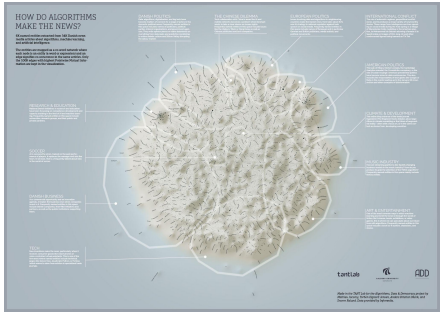
Our version of interdisciplinary digital humanities











Studying science and technology in society

Particularly:

- controversies about new science and technology
- and often about datafication, machine learning, AI, algorithms etc.
- as they play out on digital media

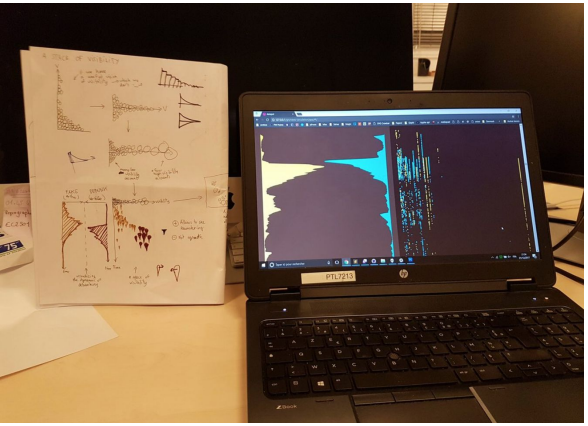
With anthropological and computational methods

Combining:

- Ethnography
- Big sociocultural data
- Machine learning
- Natural Language Processing
- And exploratory data viz

And thus developing:

- New computational research practices
- Plus the tools and technical competencies to support them



In collaboration with partners and stakeholders

As participatory data design

Through sprints and similar formats

To engage publics

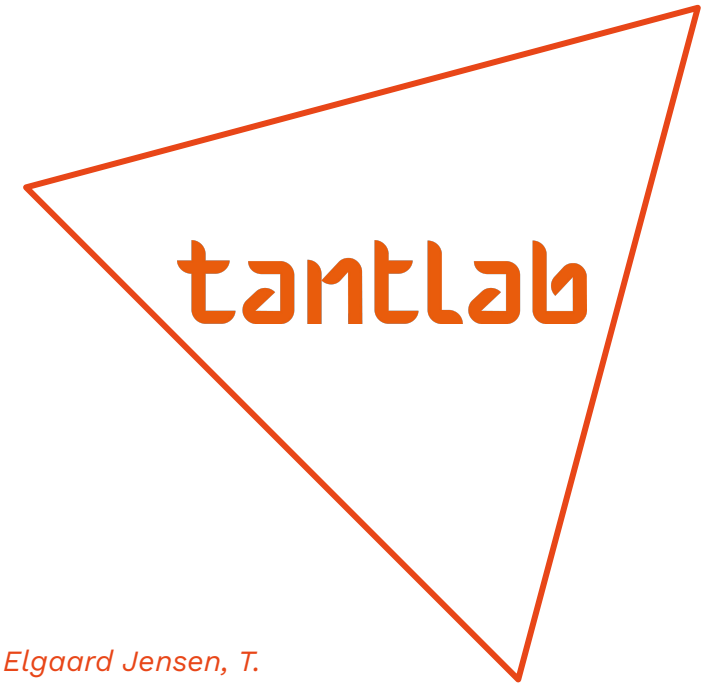
Ensure democratic robustness

And build capacity

“Critical proximity!”

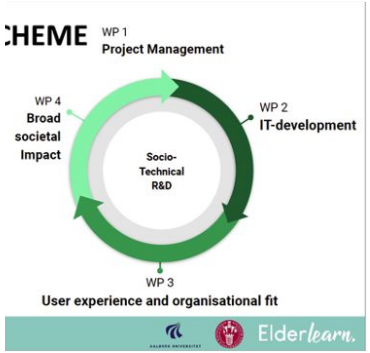
Science & Technology Studies / Anthropology of technology

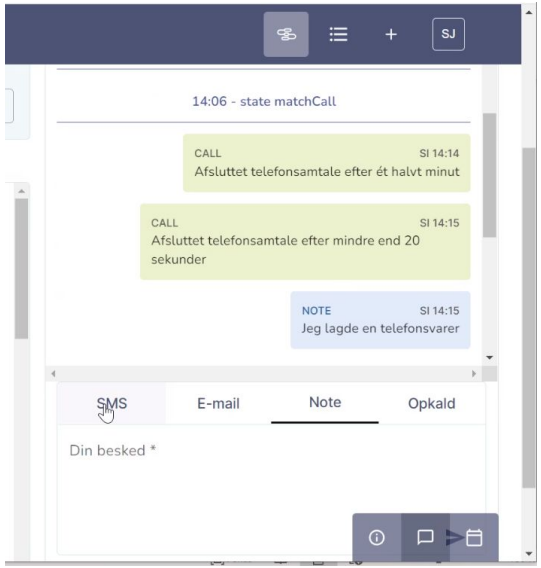
Digital / computational methods



Intervention / participation / democracy

Birkbak, A., Petersen, M. K., & Elgaard Jensen, T. (2015). ***Critical proximity as a methodological move in techno-anthropology****. Techné: Research in Philosophy and Technology, 19(2), 266-290.*





Proximity with technology in the making

EMOVE project (with Core, Saxo):

Developing a new IT-system for matching volunteers in NGOs.

Investigating the logic of users and programmers

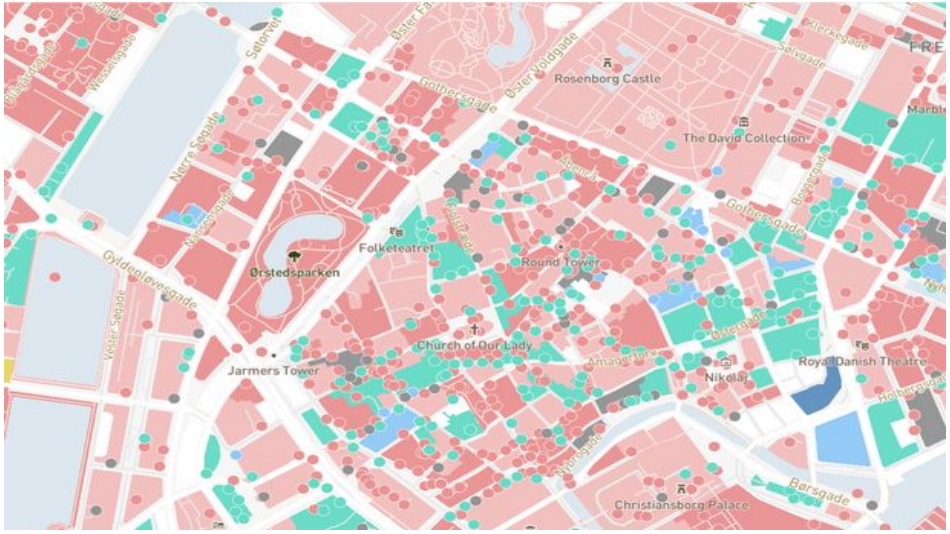
Proposing ways of thinking about, handling and visualizing data

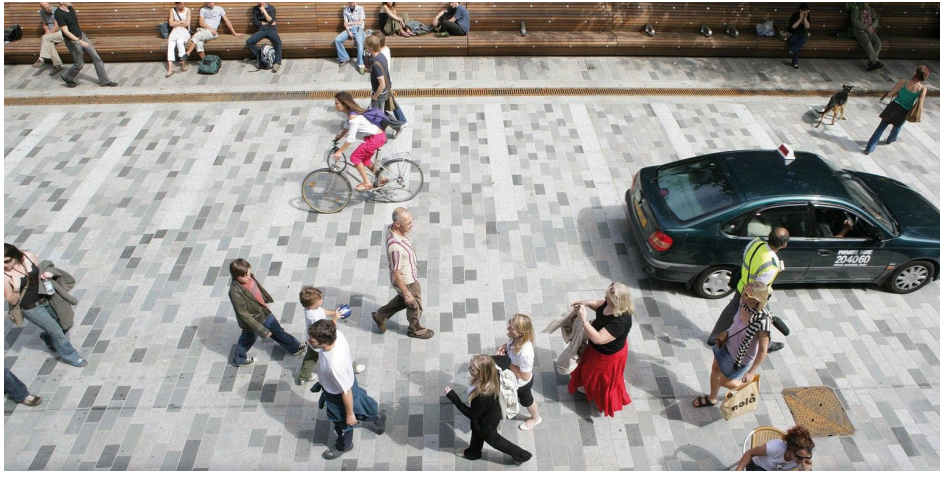
Proximity with stakeholders

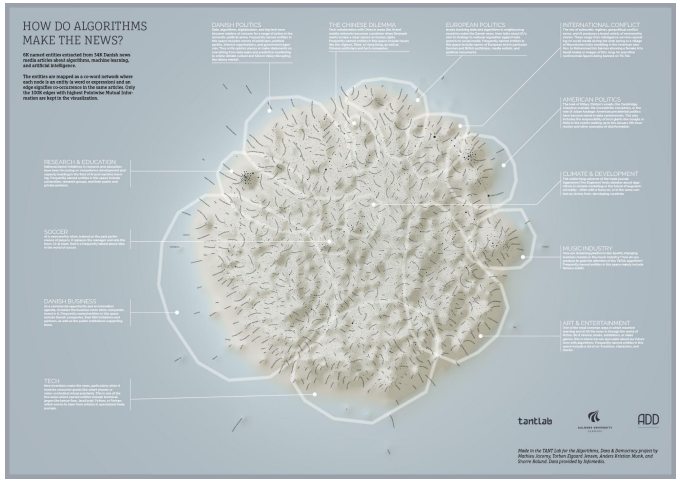
Doing Data Together:

Collaborating with Gehl Architects to explore how social media data might begin to inform the design of urban spaces.

Drawing on facebook events to explore where in the city political opposites meet







Proximity with data and computational tools

Algoritmer, Data og Demokrati:

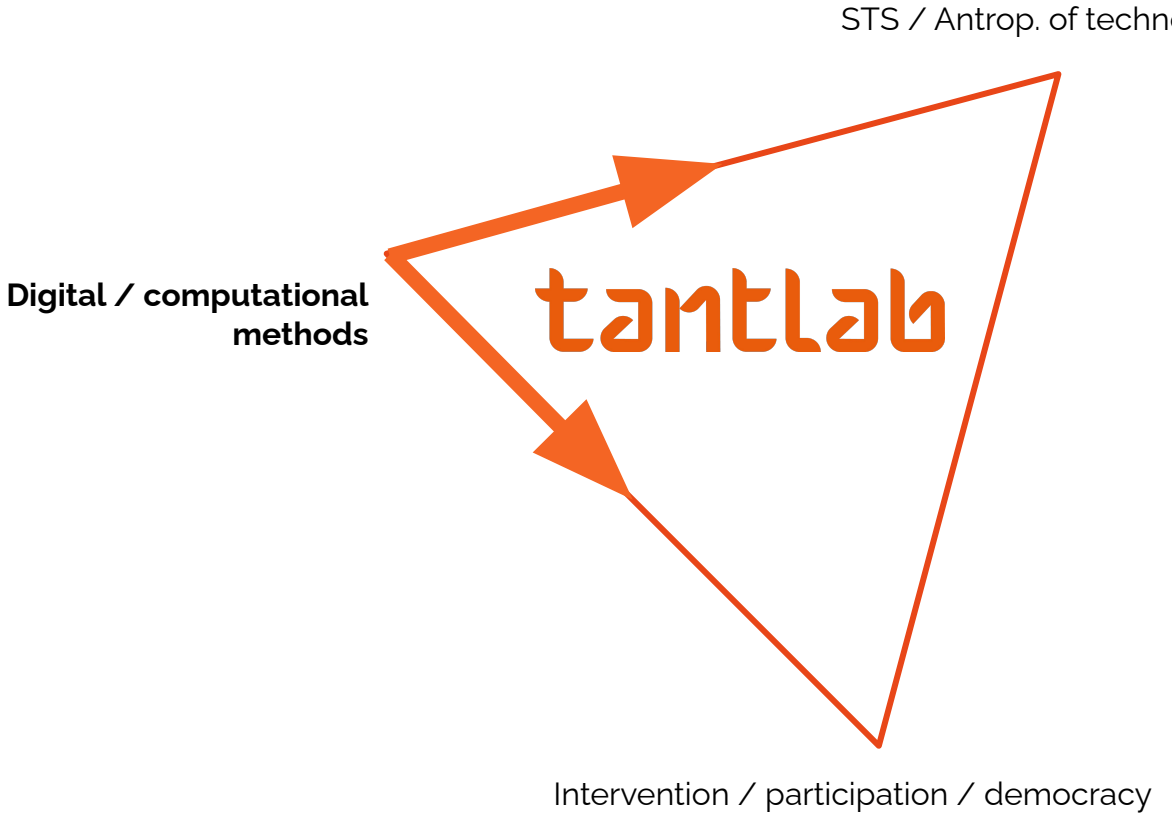
Building an interface for data exploration for our SSH colleagues in the project

Harvesting big qualitative data (InfoMedia, Scopus)

Performing quali-quantitative analyses

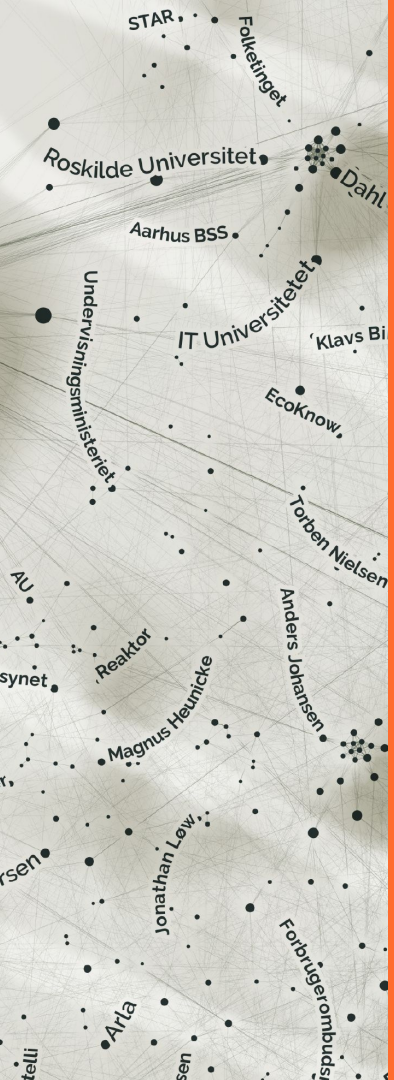
Developing a visual search tool that facilitates SSH research strategies

Incorporating the digital/computational into a qualitative SSH tradition: Reflections and experiences



Computation ≠ quantitativist ambitions

The pressing question is how we nurture and care for native genres of humanities computing



HOW DO ALGORITHMS MAKE THE NEWS?

6K named entities extracted from 34K Danish news media articles about algorithms, machine learning, and artificial intelligence.

The entities are mapped as a co-word network where each node is an entity (a word or expression) and an edge signifies co-occurrence in the same articles. Only the 100K edges with highest Pointwise Mutual Information are kept in the visualization.

DANISH POLITICS

Data, algorithms, digitalization, and big tech have become matters of concern for a range of actors in the domestic political arena. Frequently named entities in this space includes names of politicians, political parties, interest organisations, and government agencies. They write opinion pieces or make statements on everything from data leaks and predictive monitoring to online debate culture and Silicon Valley disrupting the labour market.

THE CHINESE DILEMMA

Tech collaboration with China in areas like AI and mobile networks becomes a problem when Denmark wants to take a clear stance on human rights. Frequently named entities in this space include issues like the Uighurs, Tibet, or Hong Kong, as well as Chinese politicians and tech companies.

EUROPEAN POLITICS

Issues involving data and algorithms in neighbouring countries make the Danish news, from talks about EU's new AI strategy to national regulation against hate speech on social media. Frequently named entities in this space include names of European and in particular German and British politicians, media outlets, and political movements.

INTERNATIONAL CONFLICT

The mix of autocratic regimes, geopolitical conflict zones, and AI produces a broad variety of newsworthy stories. These range from intelligence services operating on social media during the Arab spring or a village of Macedonian trolls meddling in the American election, to Mohammed bin Salman allowing a female AI in Saudi Arabia or images of Kim Jong-Un and other controversial figures being banned on Tik-Tok.

AMERICAN POLITICS

The leak of Hillary Clinton's emails, the Cambridge Analytica scandal, the Crowdstrike conspiracy, or the role of Julian Assange: American presidential politics have become mired in data controversies. This also includes the responsibility of tech giants like Google or Meta in the events leading up to the January 6th insurrection and other examples of disinformation.

RESEARCH & EDUCATION

National Danish initiatives in research and education have been focussing on competence development and capacity building in the field of AI and machine learning. Frequently named entities in this space include universities, research groups, and their public and private partners.

CLIMATE & DEVELOPMENT

The online blog universe of the trade journal Ingeniøren (The Engineer) hosts debates about algorithms in climate modelling or the future of augmented reality - often with a focus on, or in the same context as stories from, developing countries.

SOCCER

AI is newsworthy when, trained on the past performance of players, it replaces the manager and sets the team. Or at least, that is a frequently talked about idea in the world of soccer.

MUSIC INDUSTRY

How are streaming platforms like Spotify changing business models in the music industry? How do you produce to grab the attention of the TikTok algorithm? Frequently named entities in this space mainly include famous artists.

DANISH BUSINESS

As a commercial opportunity and an innovation agenda, AI makes the business news when companies invest in it. Frequently named entities in this space include Danish companies, their R&D initiatives and partners, as well as the public institutions supporting them.

ART & ENTERTAINMENT

One of the most common ways in which machine learning and AI hit the news is through the world of fiction. Be it cinema, books, exhibitions, or video games, this is where we can speculate about our future lives with algorithms. Frequently named entities in this space include a lot of sci-fi authors, characters, and stories.

TECH

New inventions make the news, particularly when it involves consumer goods like smart phones or voice-controlled virtual assistants. This is one of the few areas where named entities include technical jargon like tensor flow, JavaScript, Python, or Fortran, which seems to stem from articles in specialized trade journals.

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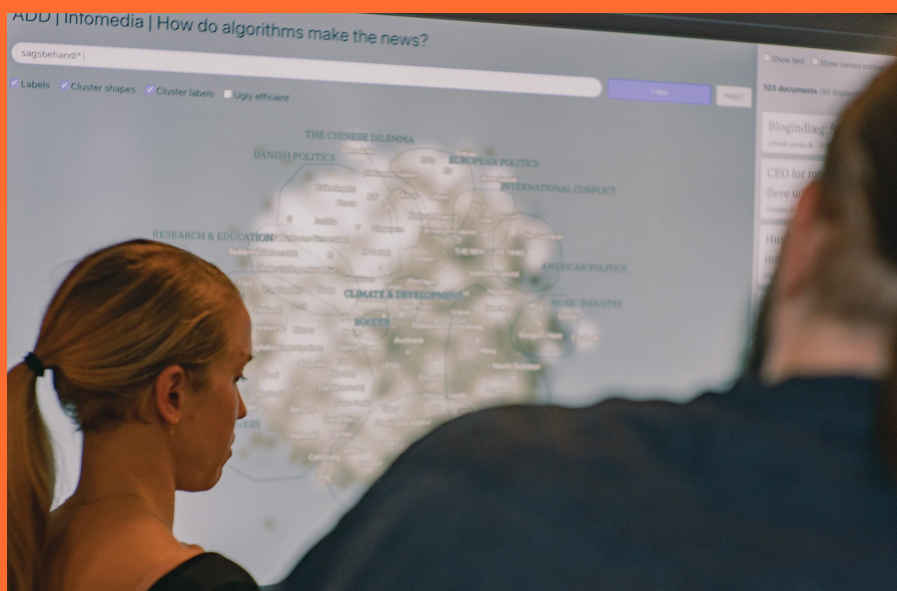
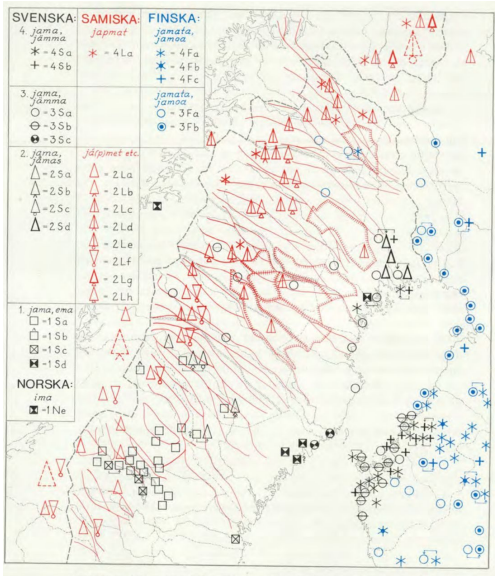
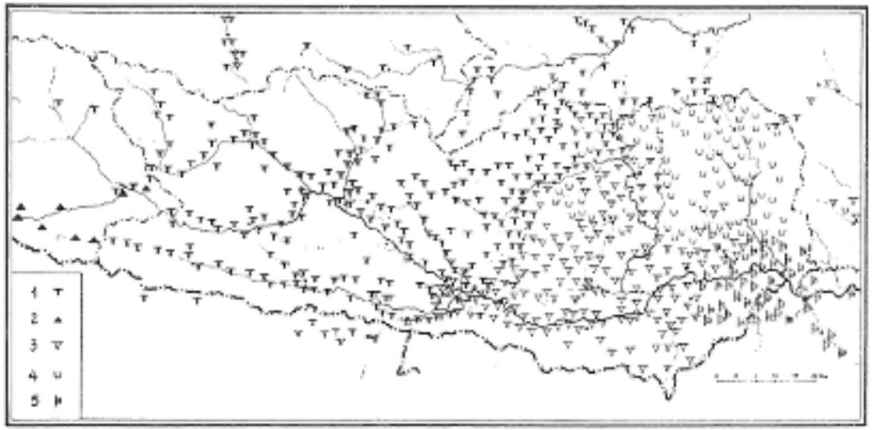
ADD

Made in the TANT Lab for the Algorithms, Data & Democracy project by Mathieu Jacomy, Torben Elgaard Jensen, Anders Kristian Munk, and Snorre Ralund. Data provided by Infomedia.


ADD | Infomedia | How do algorithms make the news?
sagsbehandl*
Labels
Cluster shapes
Cluster labels
Ugly efficient
THE CHINESE DILEMMA
DANISH POLITICS
EUROPEAN POLITICS
INTERNATIONAL CONFLICT
RESEARCH & EDUCATION
CLIMATE & DEVELOPMENT
SOCCER
AMERICAN POLITICS
MUSIC INDUSTRY

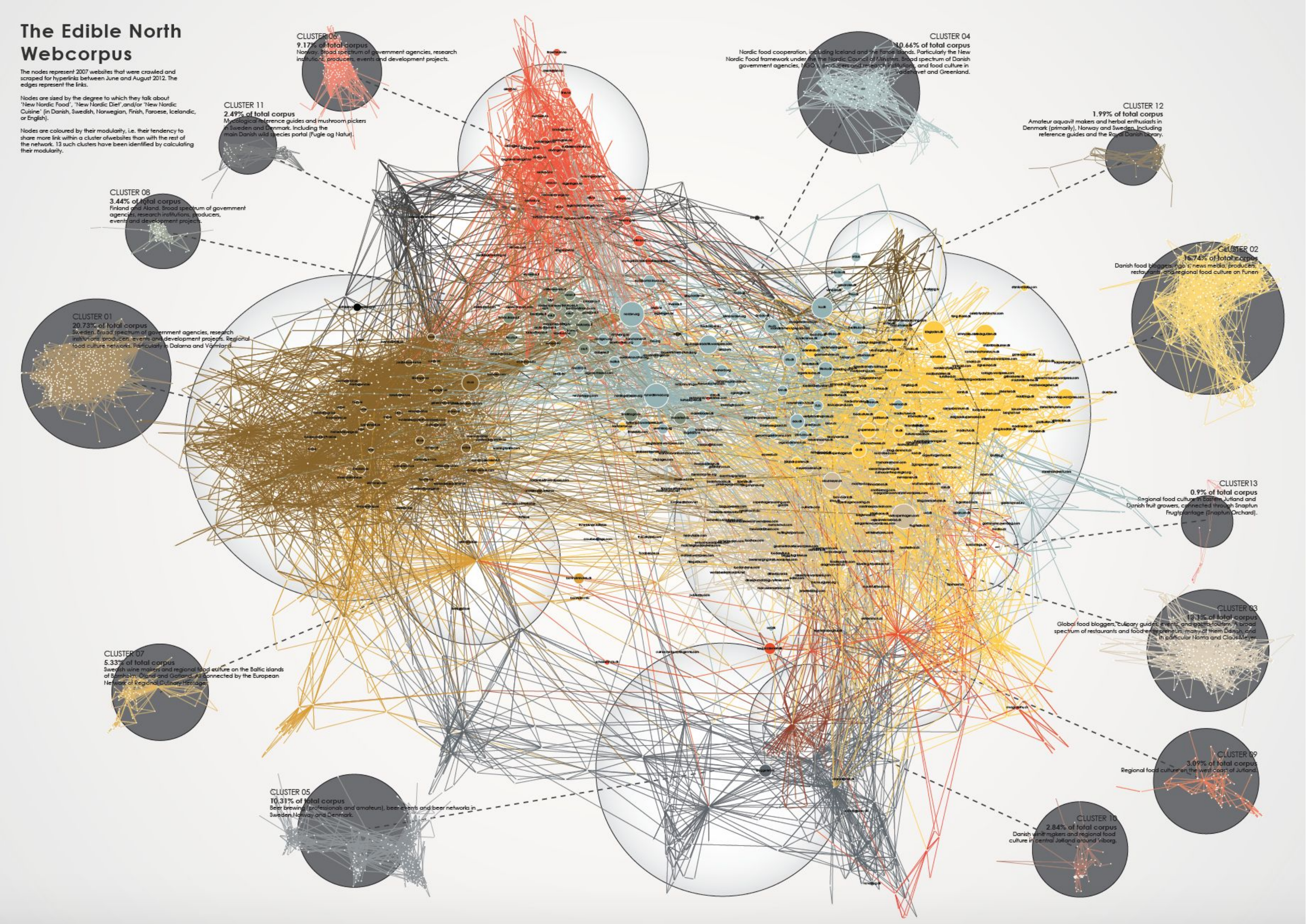


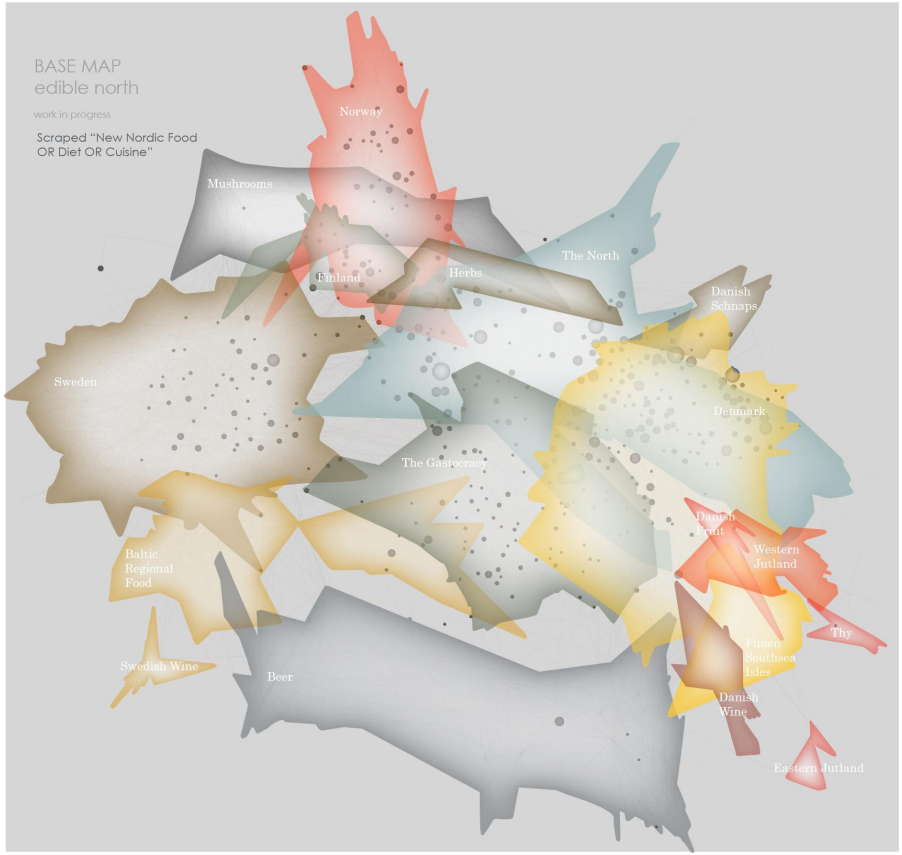


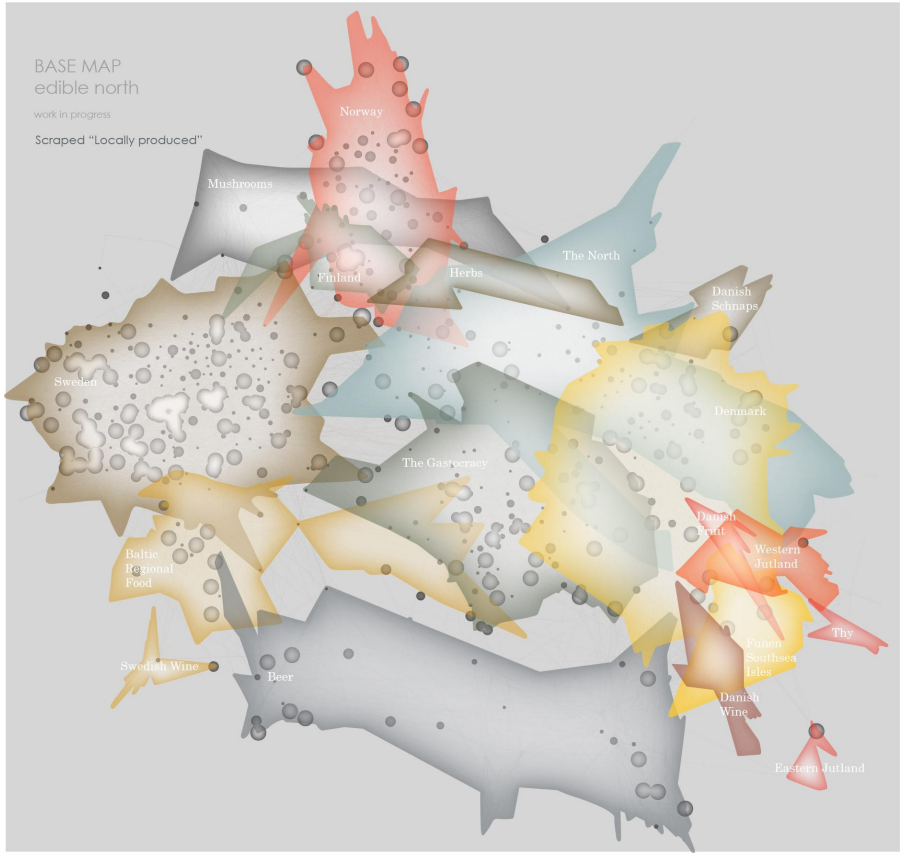
Mapping revisited

Long tradition for data intensive research practices where the aim has not been to explain or predict, but to describe patterns and pose better questions. E.g. the historical geographical paradigm in ethnology and folkloristics.

Munk, A. K., & Jensen, T. E. (2015). ***Revisiting the histories of mapping****. Ethnologia Europaea, 44(2), 31.*


The Edible North Webcorpus
The nodes represent 2007 websites that were crawled and scraped for hyperlinks between June and August 2012. The edges represent the links.
Nodes are sized by the degree to which they talk about 'New Nordic Food', 'New Nordic Diet',and/or 'New Nordic Cuisine' (in Danish, Swedish, Norwegian, Finish, Faroese, Icelandic, or English).
Nodes are coloured by their modularity, i.e. their tendency to share more link within a cluster ofwebsites than with the rest of the network. 13 such clusters have been identified by calculating their modularity.
CLUSTER 06
9.17% of total corpus
Norway. Broad spectrum of government agencies, research institutions, producers, events and development projects.
CLUSTER 11
2.49% of total corpus
Mycological reference guides and mushroom pickers in Sweden and Denmark. Including the main Danish wild species portal (Fugle og Natur).
CLUSTER 08
3.44% of total corpus
Finland and Aland. Broad spectrum of government agencies, research institutions, producers, events and development projects.
CLUSTER 04
10.66% of total corpus
Nordic food cooperation, including Iceland and the Faroe Islands. Particularly the New Nordic Food framework under the the Nordic Council of Ministers. Broad spectrum of Danish government agencies, NGO's, producers and research institutions, and food culture in Vadehavet and Greenland.
CLUSTER 12
1.99% of total corpus
Amateur aquavit makers and herbal enthusiasts in Denmark (primarily), Norway and Sweden. Including reference guides and the Royal Danish Library.
CLUSTER 02
15.74% of total corpus
Danish food bloggers, ngo's, news media, producers, restaurants, and regional food culture on Funen
CLUSTER 01
20.73% of total corpus
Sweden. Broad spectrum of government agencies, research institutions, producers, events and development projects. Regional food culture networks. Particularly in Dalarna and Värmland.
CLUSTER13
0.9% of total corpus
Regional food culture in Eastern Jutland and Danish fruit growers, connected through Snaptun Frugtplantage (Snaptun Orchard).
CLUSTER 03
13.1% of total corpus
Global food bloggers, culinary guides, events, and gastro-tourism. A broad spectrum of restaurants and food entrepreneurs, many of them Danish, and in particular Noma and Claus Meyer.
CLUSTER 07
5.33% of total corpus
Swedish wine makers and regional food culture on the Baltic islands of Bornholm, Öland and Gotland. All connected by the European Network of Regional Culinary Heritage.
CLUSTER 09
3.09% of total corpus
Regional food culture on the west coast of Jutland.
CLUSTER 05
10.31% of total corpus
Beer brewing (professionals and amateurs), beer events and beer networks in Sweden,Norway and Denmark.
CLUSTER 10
2.84% of total corpus
Danish wine makers and regional food culture in central Jutland around Viborg.


BASE MAP
edible north
work in progress
Scraped "New Nordic Food OR Diet OR Cuisine"
Norway
Mushrooms
Finland
Herbs
The North
Danish Schnaps
Sweden
Denmark
The Gastrocracy
Danish Fruit
Western Jutland
Baltic Regional Food
Thy
Funen Southsea Isles
Swedish Wine
Beer
Danish Wine
Eastern Jutland


BASE MAP
edible north
work in progress
Scraped "Locally produced"
Norway
Mushrooms
Finland
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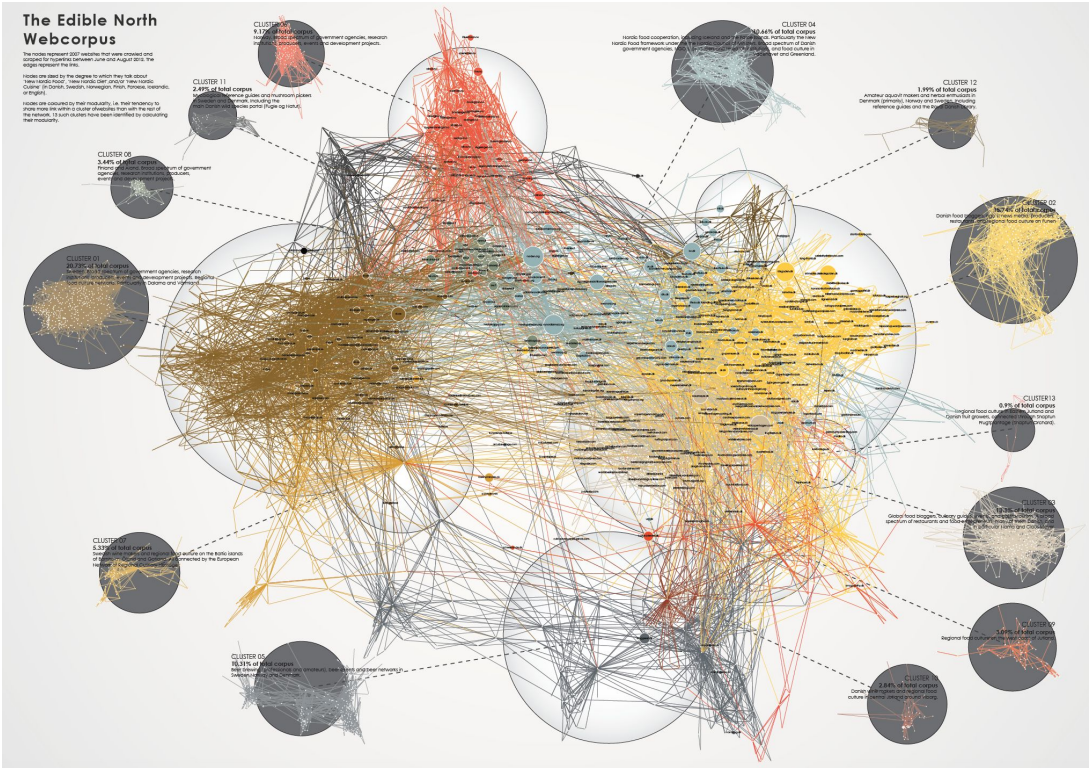
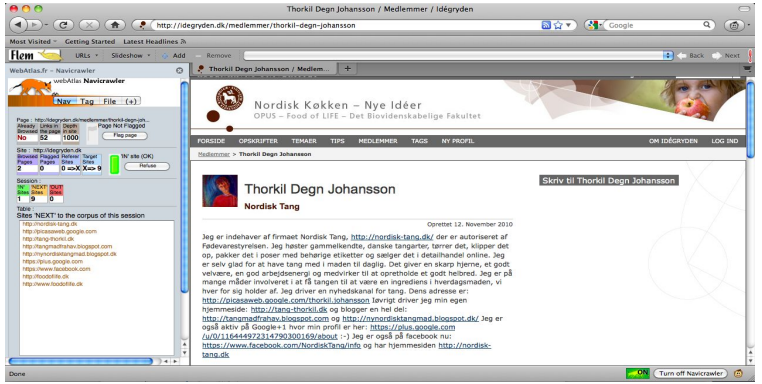
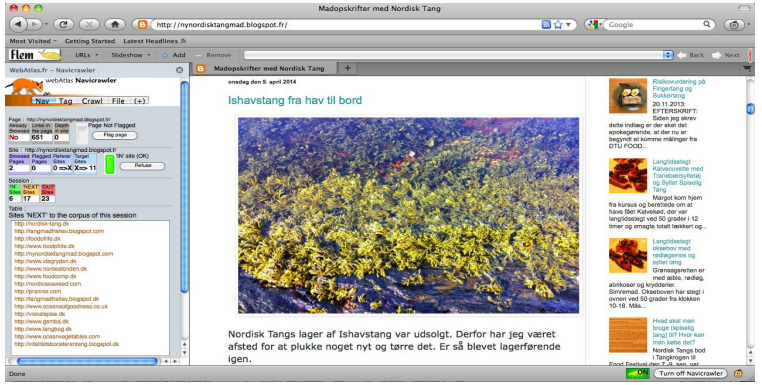
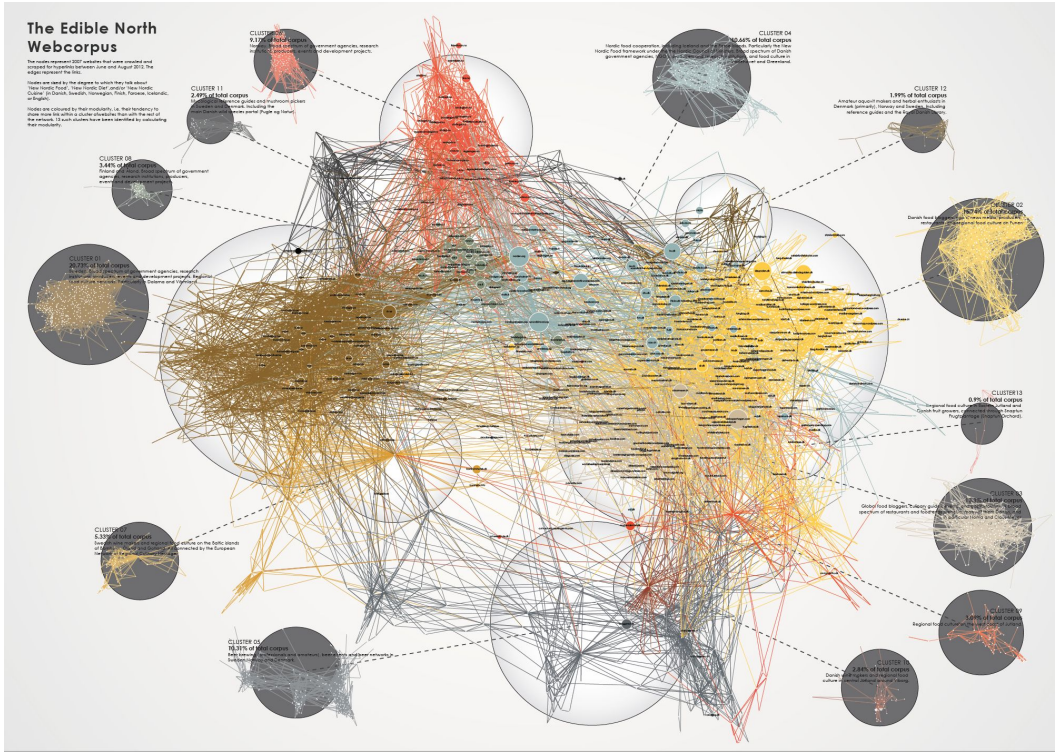






Munk, A. K. (2019). ***Four styles of quali-quantitative analysis: Making sense of the new Nordic food movement on the web.*** *Nordicom Review, 40(1).*



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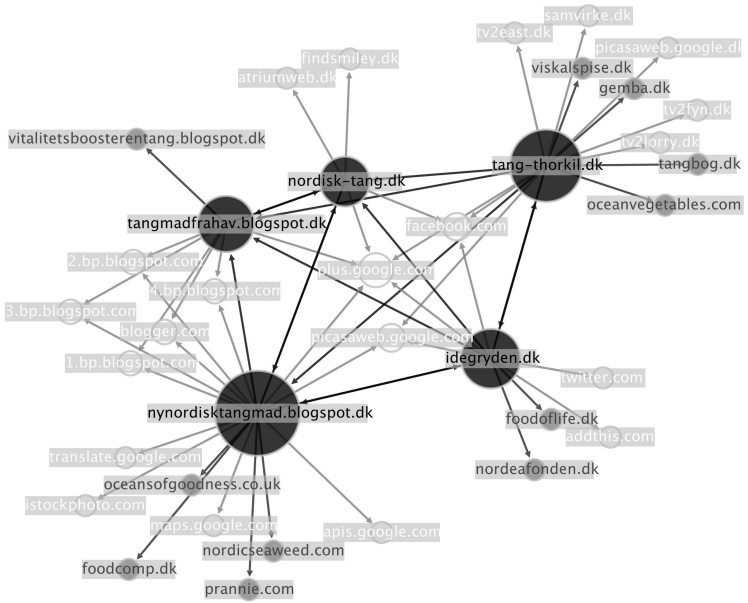

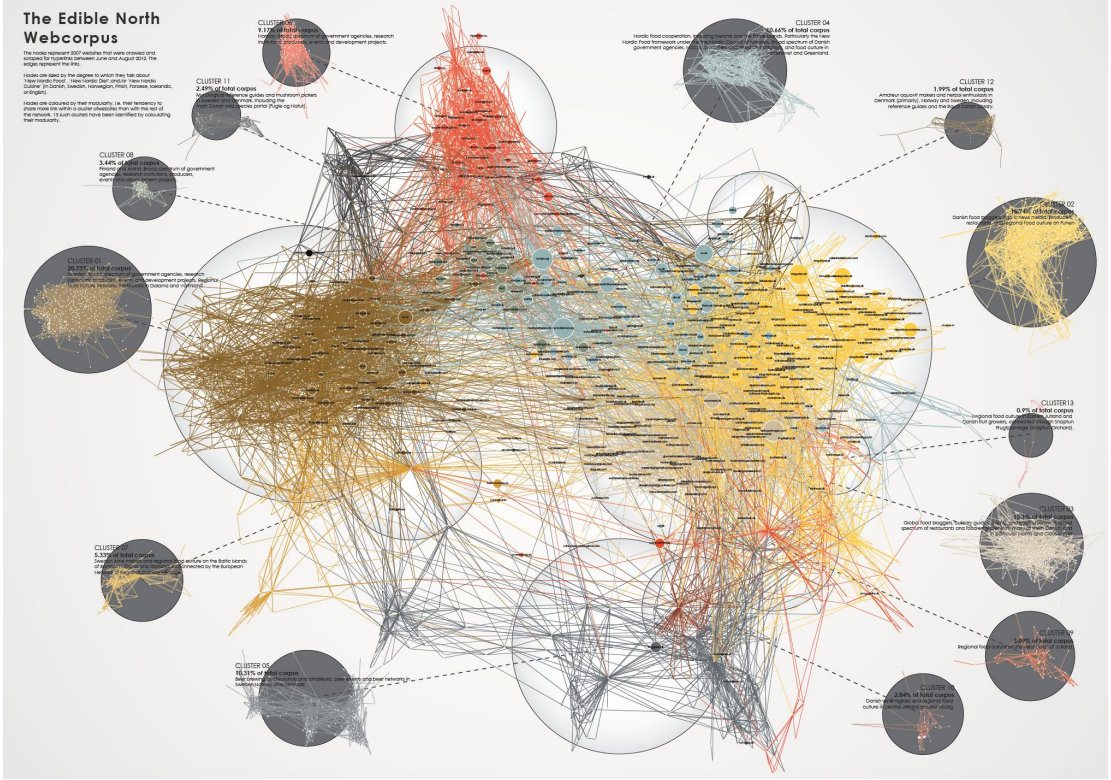

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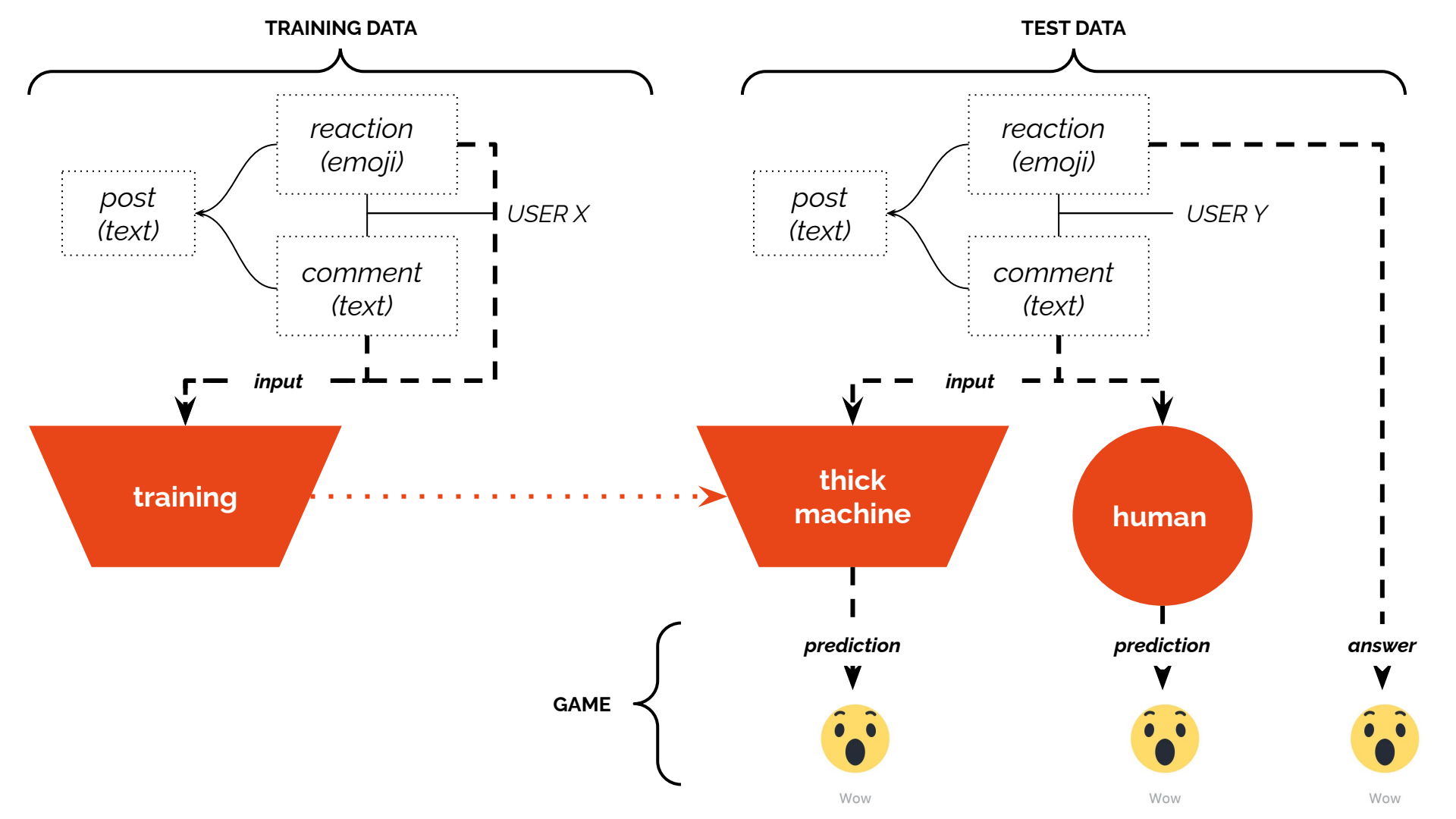

TRAINING DATA
reaction (emoji)
post (text)
comment (text)
USER X
input
training
TEST DATA
reaction (emoji)
post (text)
comment (text)
USER Y
input
thick machine
human
prediction
prediction
answer
GAME
Wow
Wow
Wow

POST (translated):

For the Prince, the decision not to be buried next to the Queen is the natural consequence of not receiving the same treatment as his spouse when it comes to the title and function he has always desired, says chief of communications for the Royal House, Lene Balleby.

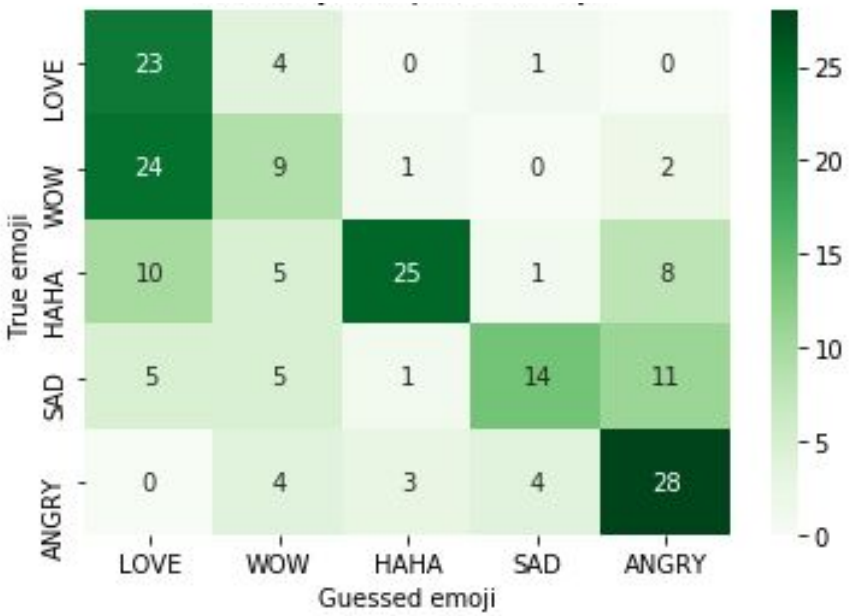
COMMENT (translated):

I will gladly swap problems with him. Happy to refrain from a royal title in exchange for 8 mio a year. Or just the 29 mio for the sarcophagus. Then he can fight my f***ing ex and the system without getting as much as a penny from me in return. Get a real problem, King Carrot.

Reaction: 😂
Prediction: 😡

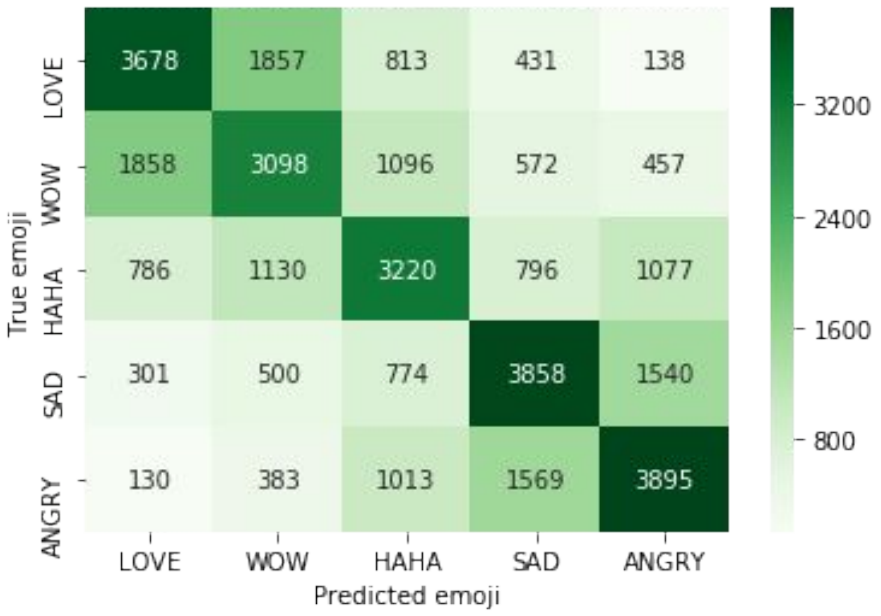
Munk, A. K., Knudsen, A.G. & Jacomy, M. (2022). ***The Thick Machine: An experiment in computational thick description****. Big Data & Society, special issue on "Machine Anthropology".*

HUMANS OF THE TANT-LAB



Accuracy
52%

NEURAL NETWORK TRAINED ON 140K COMMENTS + REACTIONS



Accuracy
51%

Munk, A. K., Knudsen, A.G. & Jacomy, M. (2022). ***The Thick Machine: An experiment in computational thick description****. Big Data & Society, special issue on "Machine Anthropology".*

Computational analyses tend to...

...provide us with more questions than answers

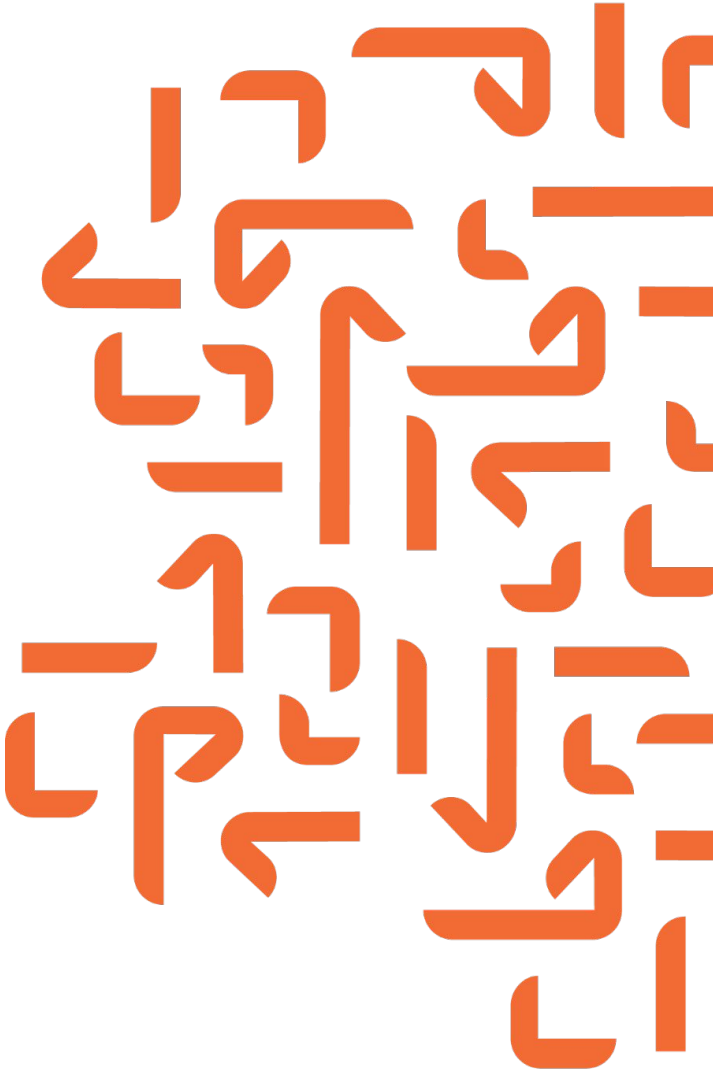
- ➢ *can we not only / always judge them on their accuracy as truthsayers, but on their ability to stimulate qualitative inquiry?*

...improve iteratively through qualitative curation of datasets and analytical choices

- ➢ *can we not by default import ideas about data as given and methods as reproducible?*

...display striking similarities with idiographic and explorative qualitative work in search of patterns

- ➢ *can we draw on traditions in e.g. ethnographic methods to wrong-foot debates about explainability in machine learning and algorithmic bias?*

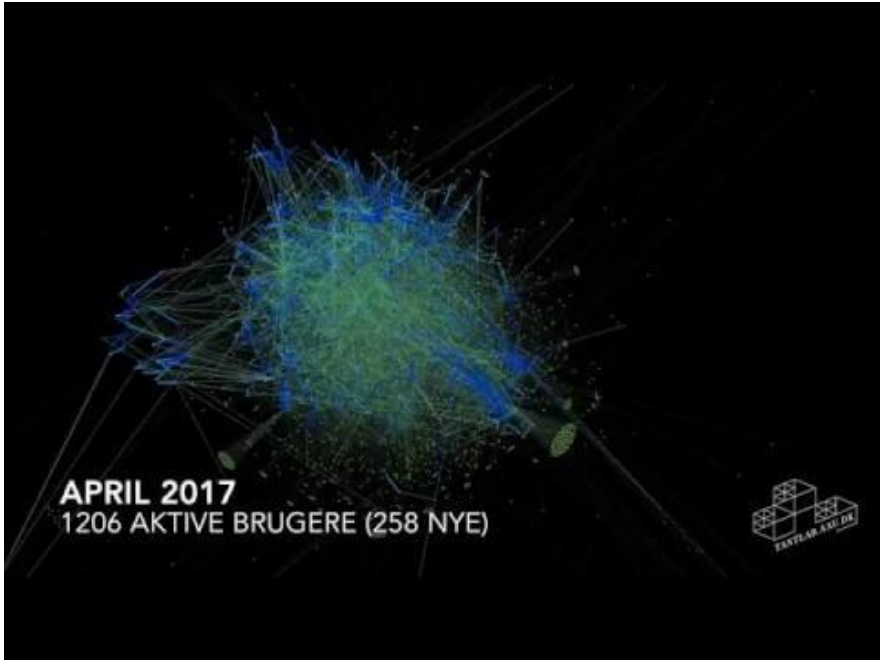


Humanities computing ≠ IT support

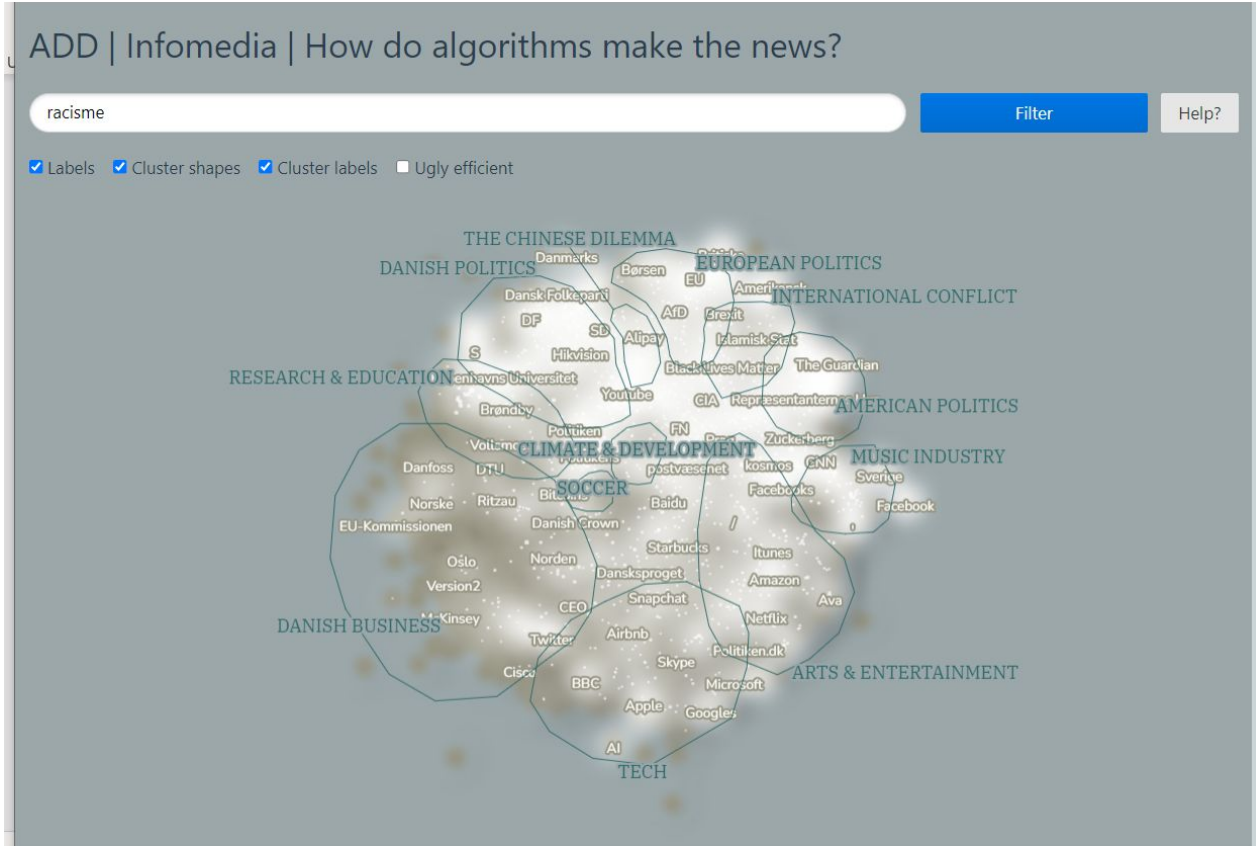
Pretending that it is comes at the risk of outsourcing knowledge interests and research designs to others

2.2 Issue map cropped from the pages of the National Flood Forum using IssueCrawler (07.01.2008). Top 50 nodes displayed.

2007



2017

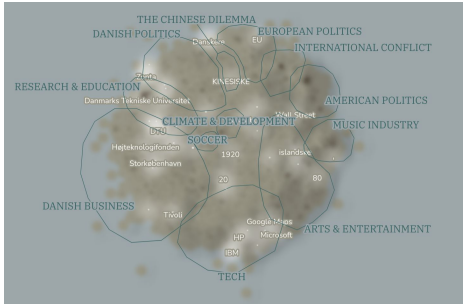


Show text Show named entities

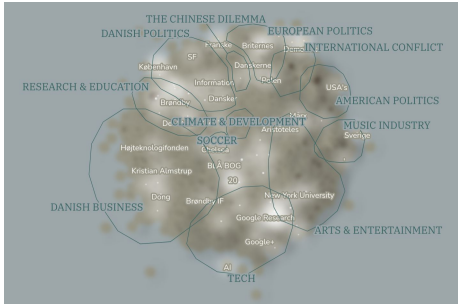
135 documents (50 displayed) Load more Download 50 as CSV

INTERNATIONAL ANALYSE: Nu bryder magtfulde techgiganter med politiet : Automatisk ansigtsgenkendelse beskyldes for racisme, og nu stopper nogle af USA's techgiganter samarbejdet med amerikansk politi.

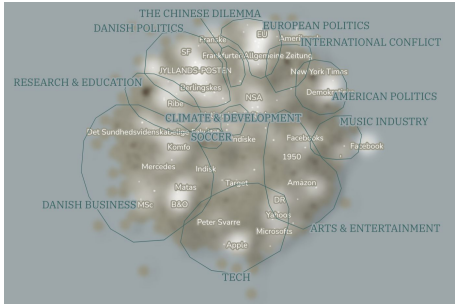
Demonstrationerne mod politivold og racisme oven på den sorte amerikaner George Floyds død i politiets varetægt har ført til en overraskende skilsmisse: Nogle af verdens største techfirmaer vil ikke længere forsyne amerikansk politi med en automatisk genkendelsesteknologi, der er blevet beskyldt for at fremme både racisme og overvågningssamfund. Udviklingen bør give genlyd i Danmark. Det var IBM, der rykkede først, da techgiganten for nogle dage siden bebudede, at den ikke længere vil udvikle eller tilbyde den omstridte teknologi til ordensmagten. Siden fulgte det endnu større Amazon og indførte et etårigt stop for leverancer af ansigtsgenkendelsessystemet Rekognition til amerikansk politi i håb om, at politikerne i mellemtiden vil regulere området. Og nu er også Microsoft, en anden af de store udbydere til politiet, kommet under pres: »Den verden, som Microsoft tilsyneladende ønsker sig, er en, hvor politiet har en



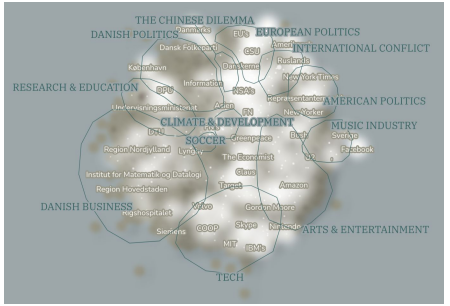
2011



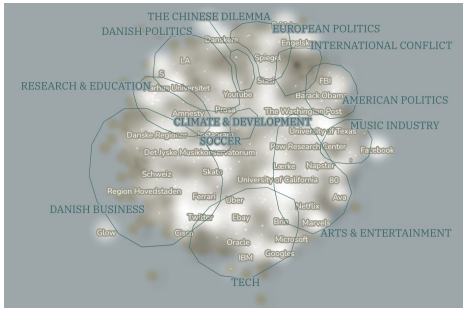
2012



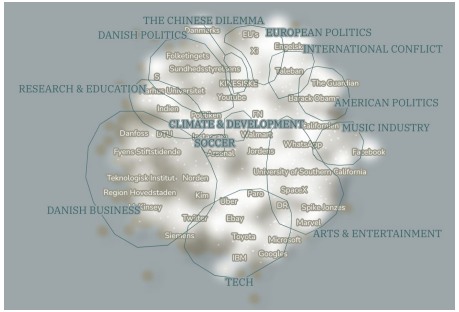
2013



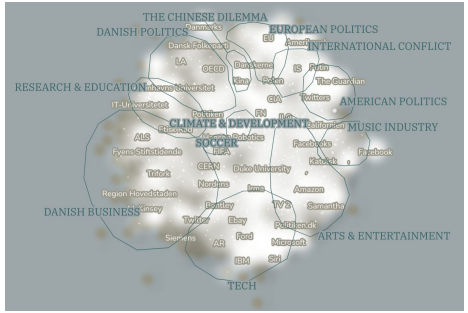
2014



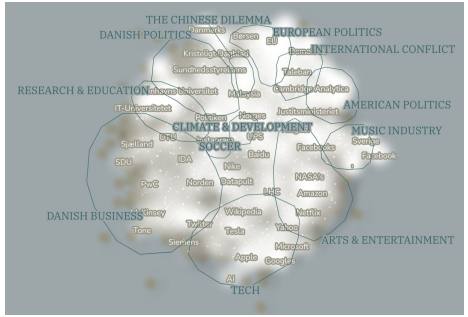
2015



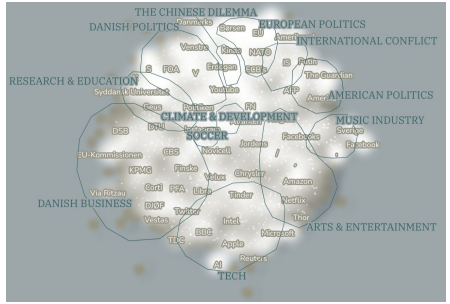
2016



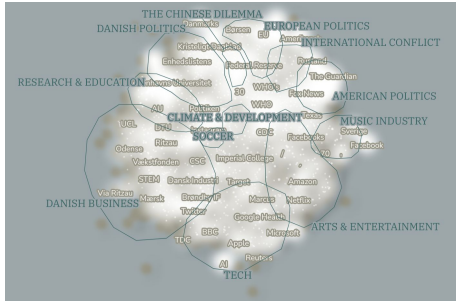
2017



2018

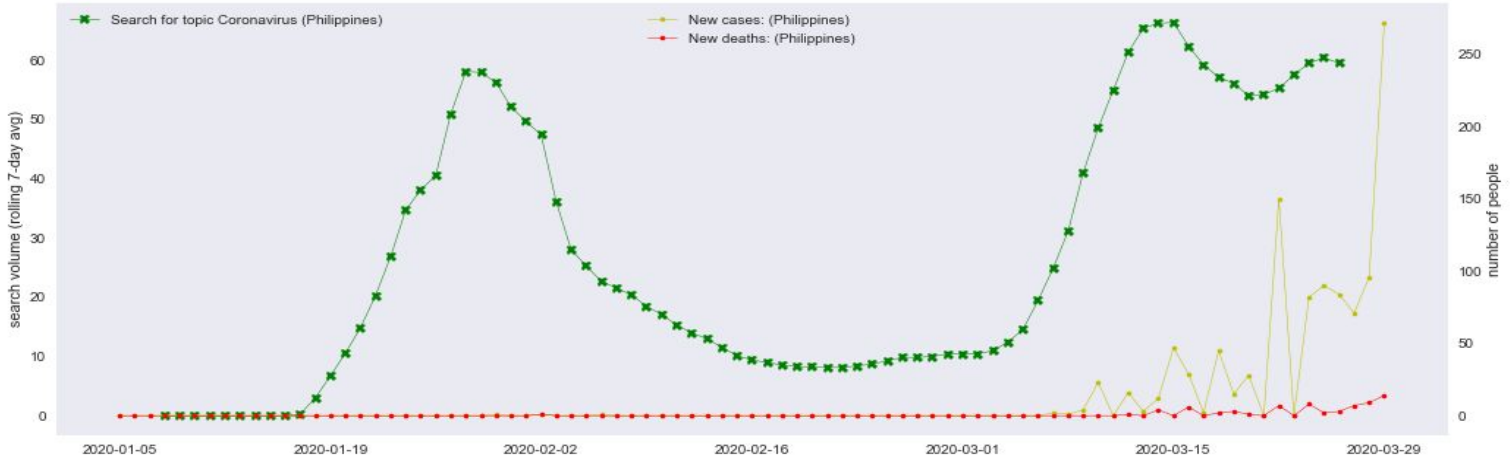


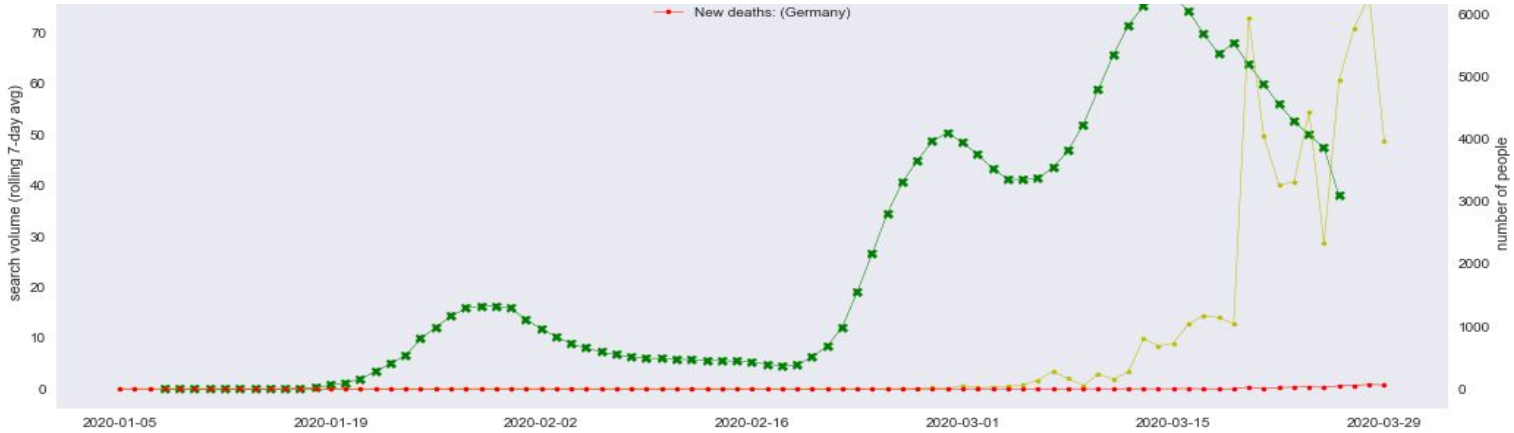
2019



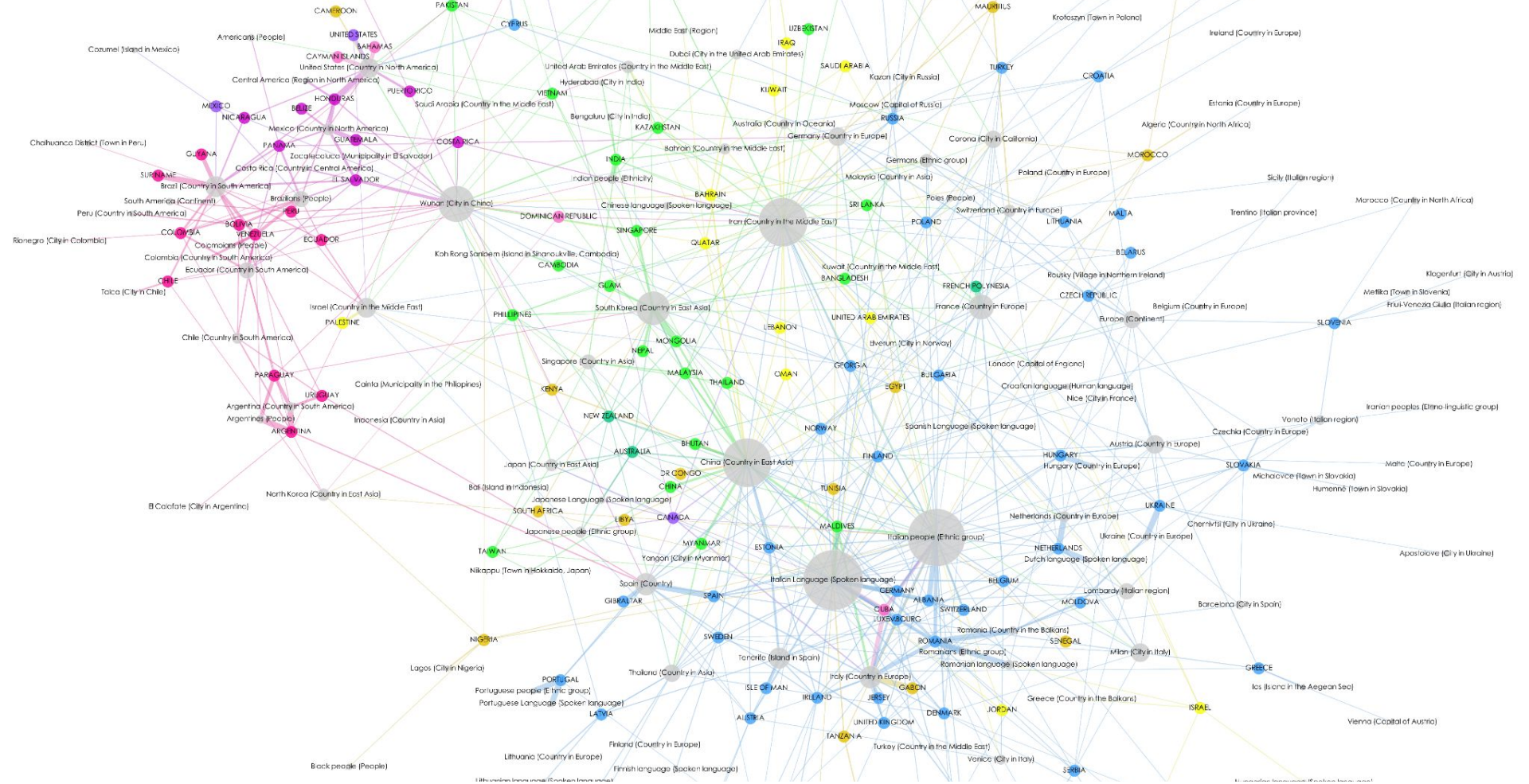
2020

Datafied female health: year by year

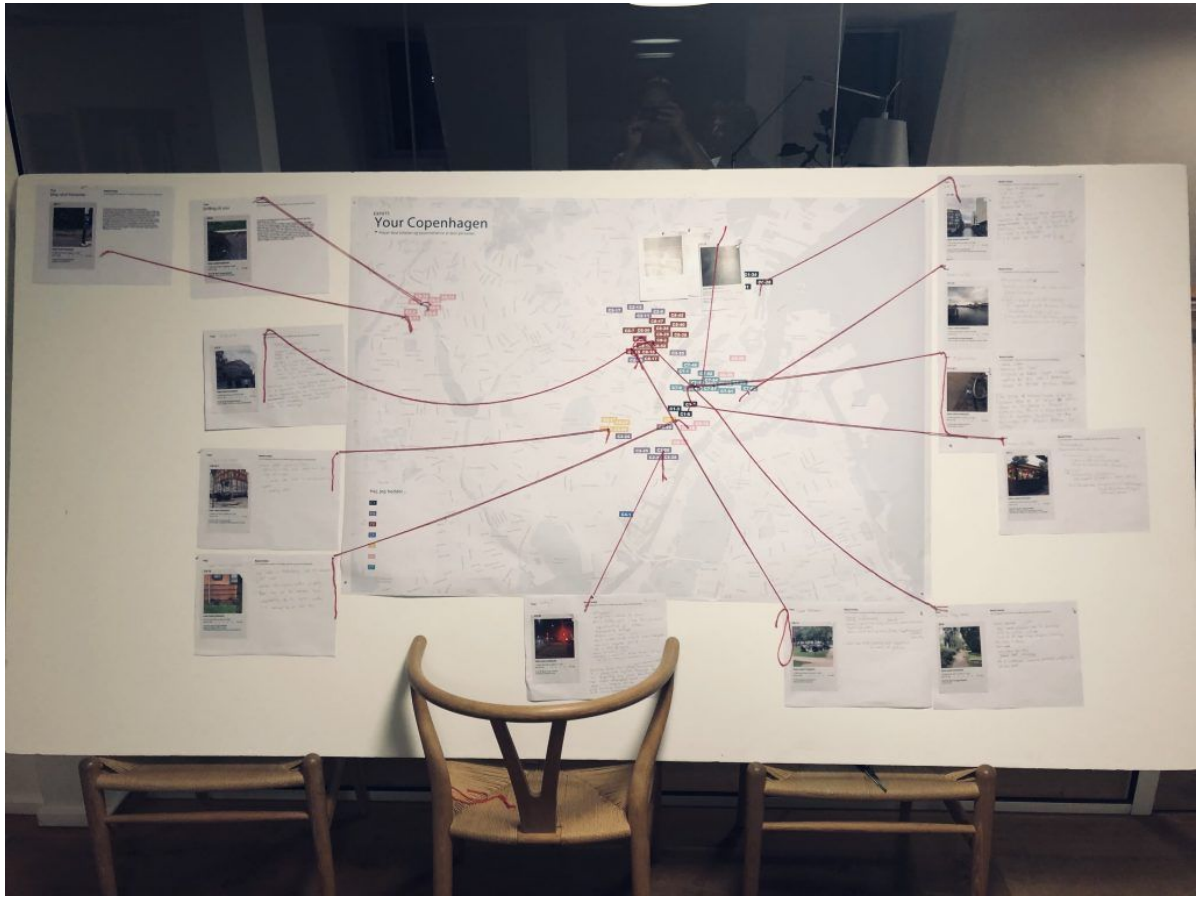




Munk, A. K. (2020). ***Internettet, infodemien og den sagsorienterede offentlighed.*** *In "Det Epdemiske Samfund". Hans Reitzels Forlag.*



Munk, A. K. (2020). ***Internettet, infodemien og den sagsorienterede offentlighed.*** *In "Det Epdemiske Samfund". Hans Reitzels Forlag.*



Madsen, A. K., Grundtvig, A., & Thorsen, S. (2022). ***Soft City Sensing: A turn to computational humanities in data-driven urbanism****. Cities, 126*

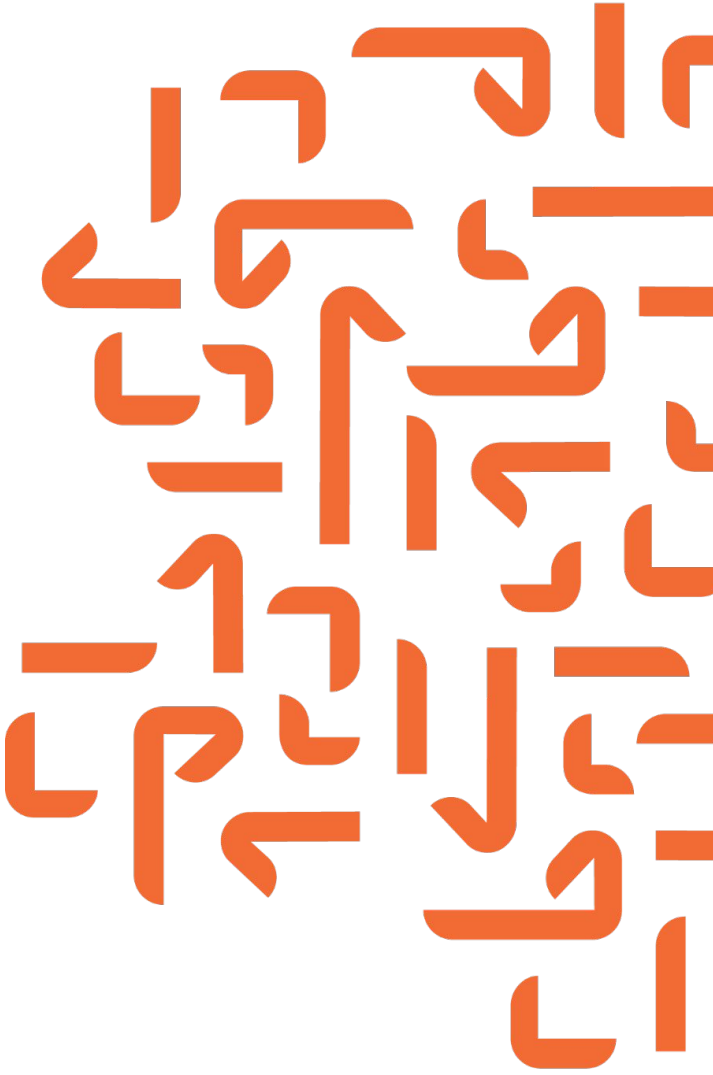
Easy-to-use tools are nice, but…

…they also prescribe certain forms of analysis.

- ➢ *how do we ensure that research design does not become a matter of which buttons can be easily pushed (i.e. how a tool designer happens to see the world)?*

…scripted solutions often mask a wealth of technical possibilities ‘under the hood’.

- ➢ *what kind of technical skills do we need to (at least imagine how to) exploit them?*



Critique ≠ distance

We need to get closer to the technical infrastructures and decisions we claim to be scrutinizing.

Elgaard Jensen, T., Kleberg Hansen, A. K., Ulijaszek, S., Munk, A. K., Madsen, A. K., Hillersdal, L., & Jespersen, A. P. (2019). ***Identifying notions of environment in obesity research using a mixed-methods approach****. Obesity Reviews, 20(4)*

Jensen, T. E., Birkbak, A., Madsen, A. K., & Munk, A. K. (2021). ***Participatory Data Design: Acting in a digital world.*** *In Making and Doing STS. MIT Press.*

Madsen, A. K., & Munk, A. K. (2019). ***Experiments with a data-public: Moving digital methods into critical proximity with political practice.*** *Big Data & Society, 6(1)*

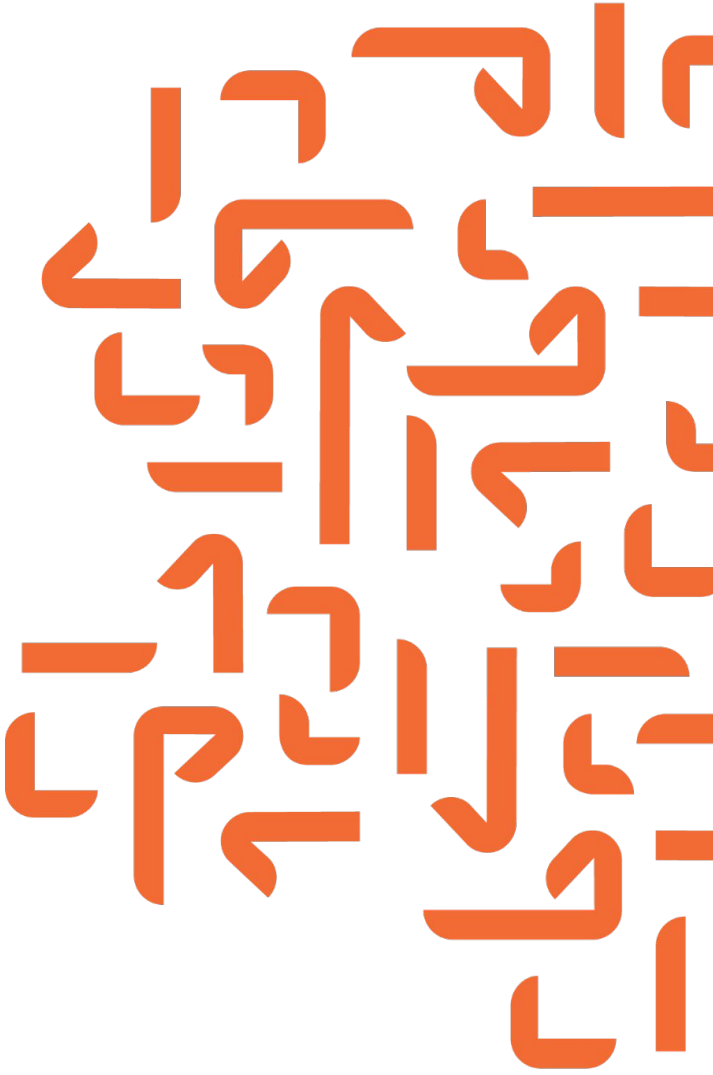
Proximity to practices of datafication, analysis, and visualization can be...

...a way to empower engaged publics / stakeholders / users by giving them a possibility to scrutinize socio-technical black boxes and possibly redesign them.

- ➢ *what are the right formats for this engagement?*

...and a way to develop more situated critical perspectives on such practices.

- ➢ *how do we leverage this potential for critique?*



Digital humanities and critical proximity

Reflections from the Techno-Anthropology Lab

Anders Kristian Munk & Torben Elgaard Jensen

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