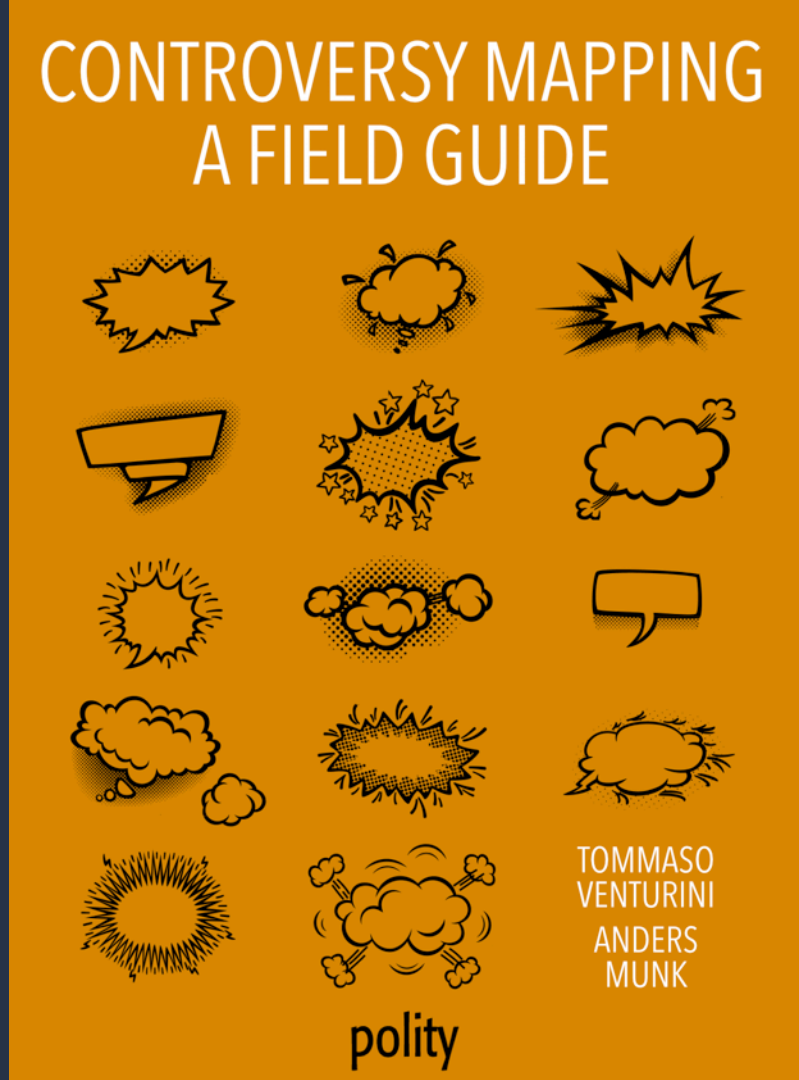
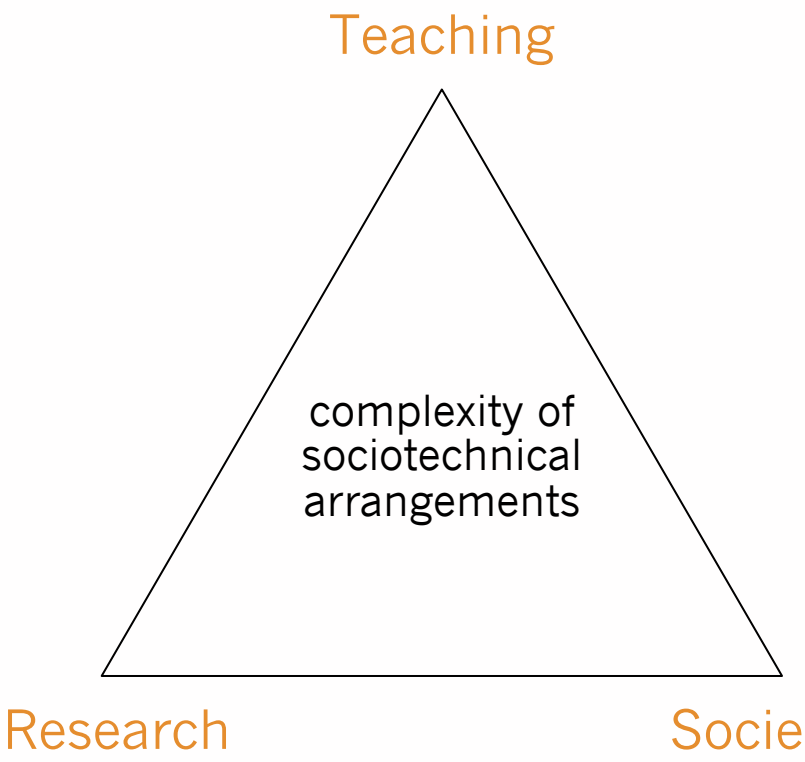
going the extra mile of complexity

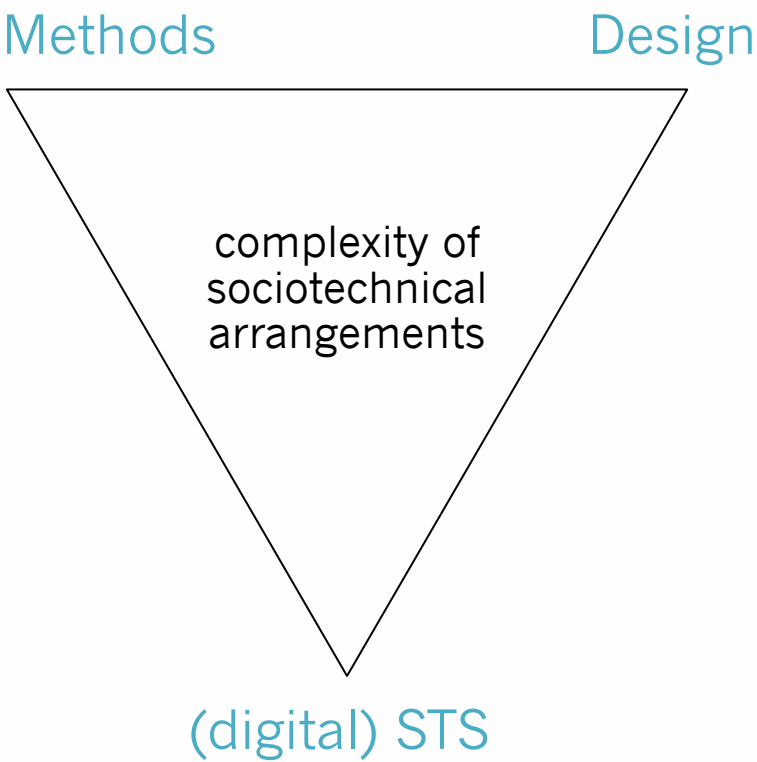
controversy mapping and digital methods as tools for the management of innovation

Tommaso Venturini
tommasoventurini.it



Controversy mapping as a method to explore and represent



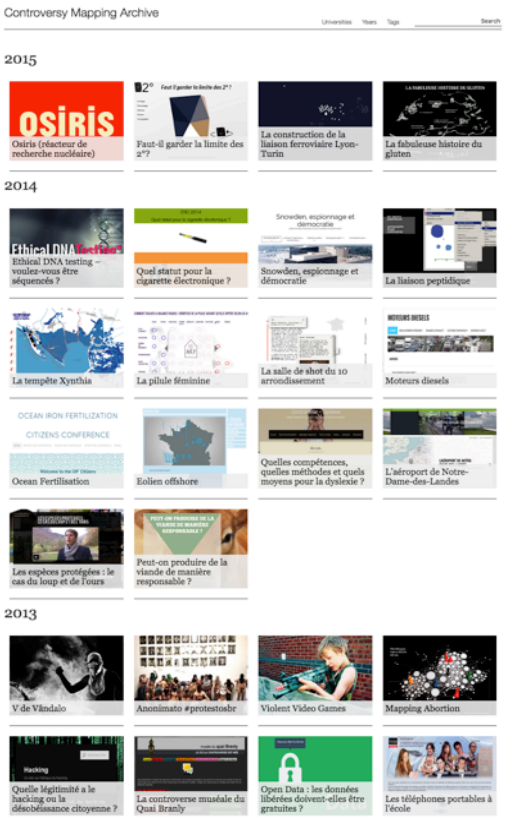


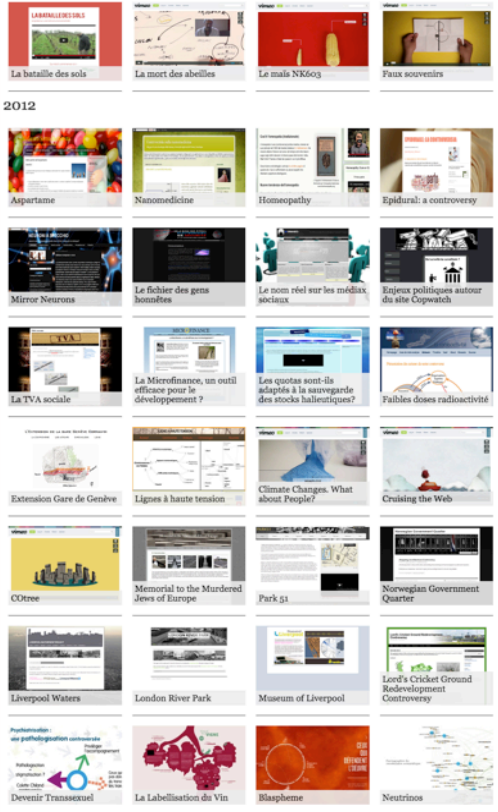
CM in Teaching

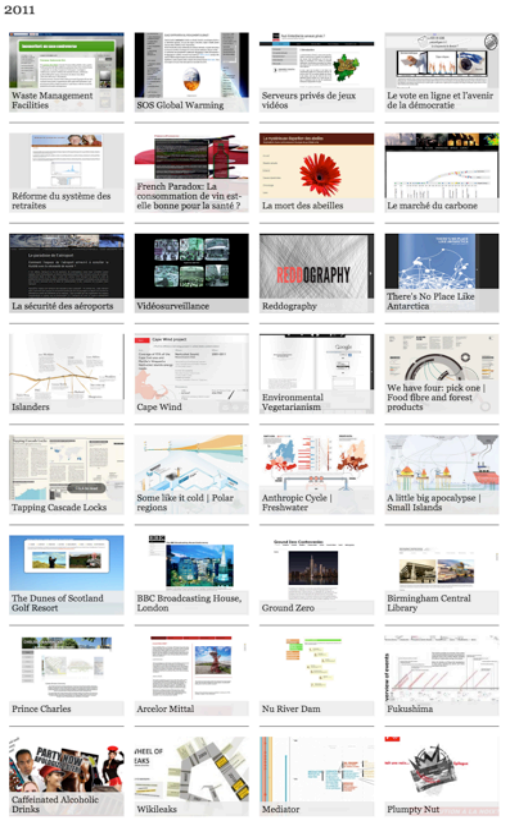
FORCCAST project
www.controverses.org

Venturini, Tommaso. 2010. "Diving in Magma: How to Explore Controversies with Actor-Network Theory" *Public Understanding of Science* 19(3)

Venturini, Tommaso. 2012. "Building on Faults: How to Represent Controversies with Digital Methods" *Public Understanding of Science* 21(7)



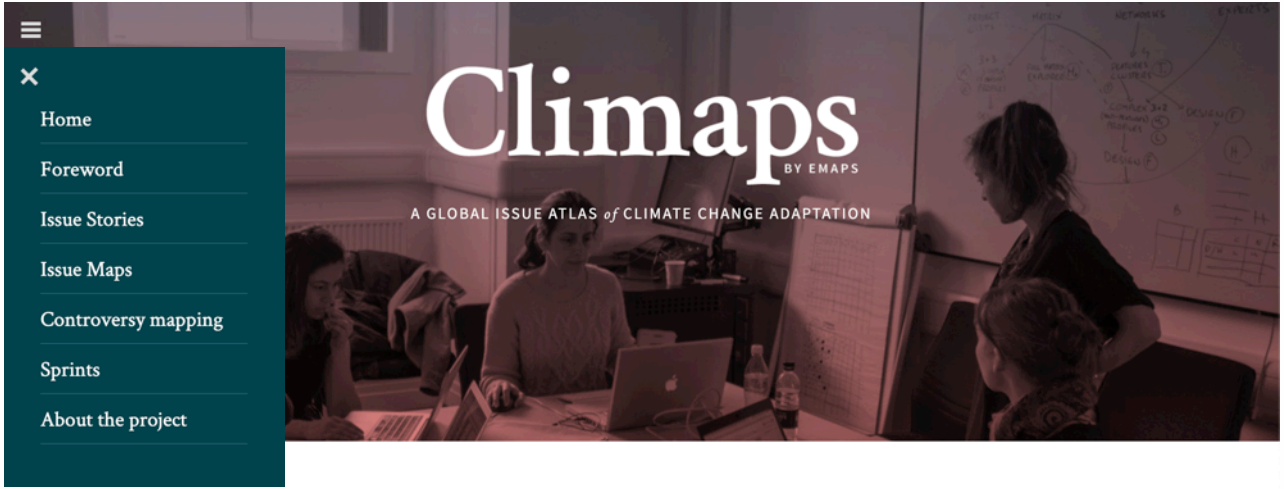




CM in Teaching

CM in Research

EMAPS project – climaps.eu
A Global Atlas of Climate Change Adaptation



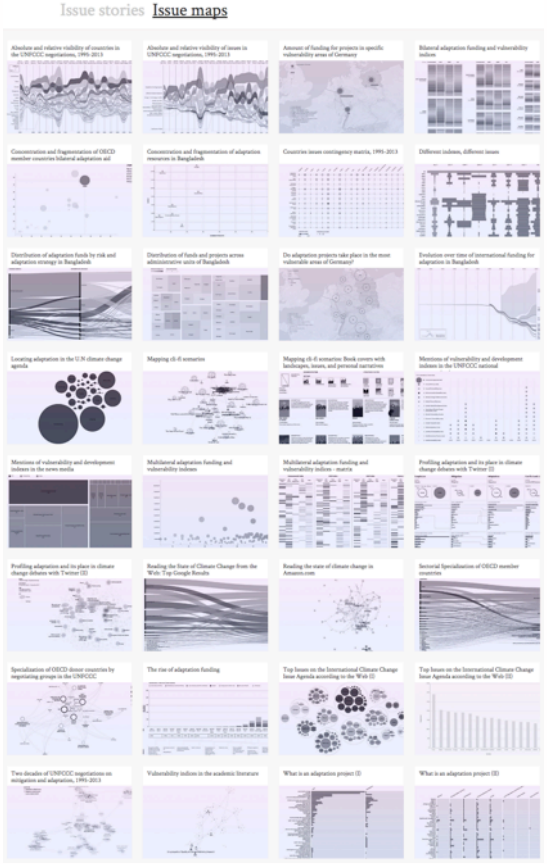
EMAPS

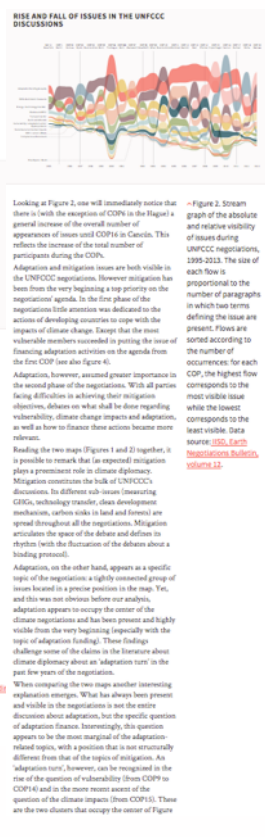
This website presents the results of the EU research project EMAPS, as well as its process: an experiment to use computation and visualization to harness the increasing availability of digital data and mobilize it for public debate. To do so, EMAPS gathered a team of social and data scientists, climate experts and information designers. It also reached out beyond the walls of Academia and engaged with the actors of the climate debate.

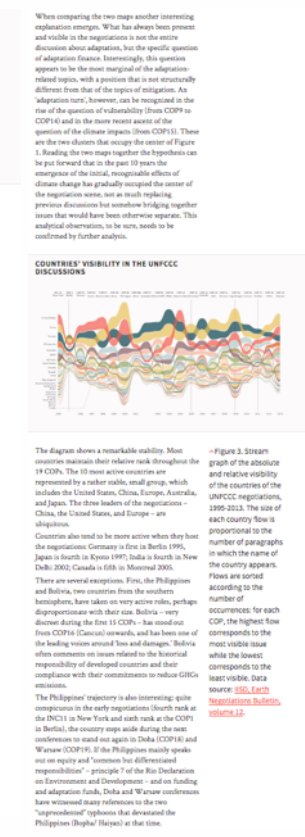
CM in Research

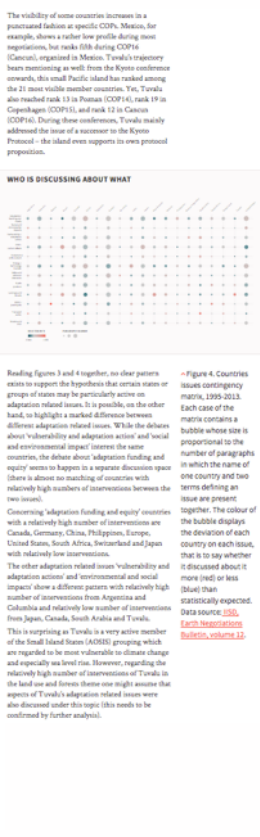
EMAPS project – climaps.eu

A Global Atlas of Climate Change Adaptation



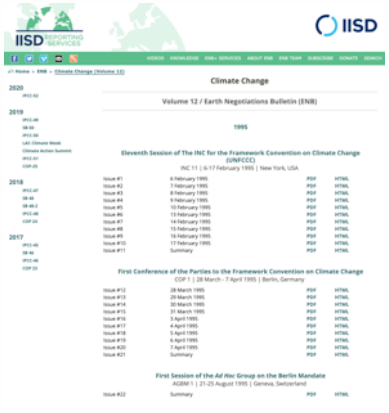


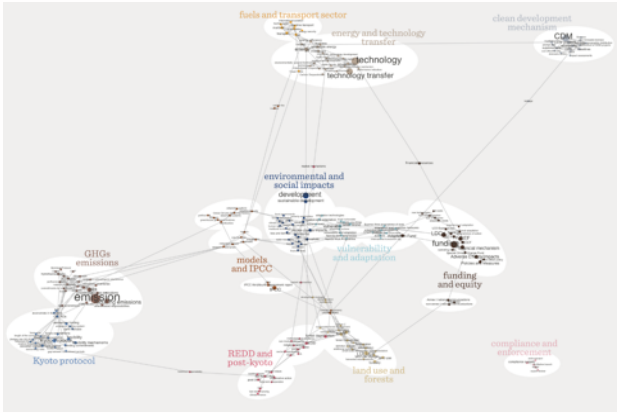


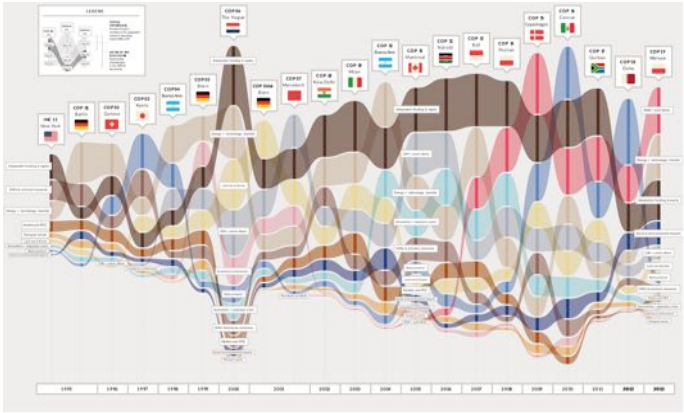


CM in Research

Venturini, T., Baya Laffite, N., Cointet, JP., Gray, I., Zabban, V. & De Pryck, K. (2014) Three Maps and Three Misunderstandings: A Digital Mapping of Climate Diplomacy *Big Data & Society* 1(2).







CM in Research

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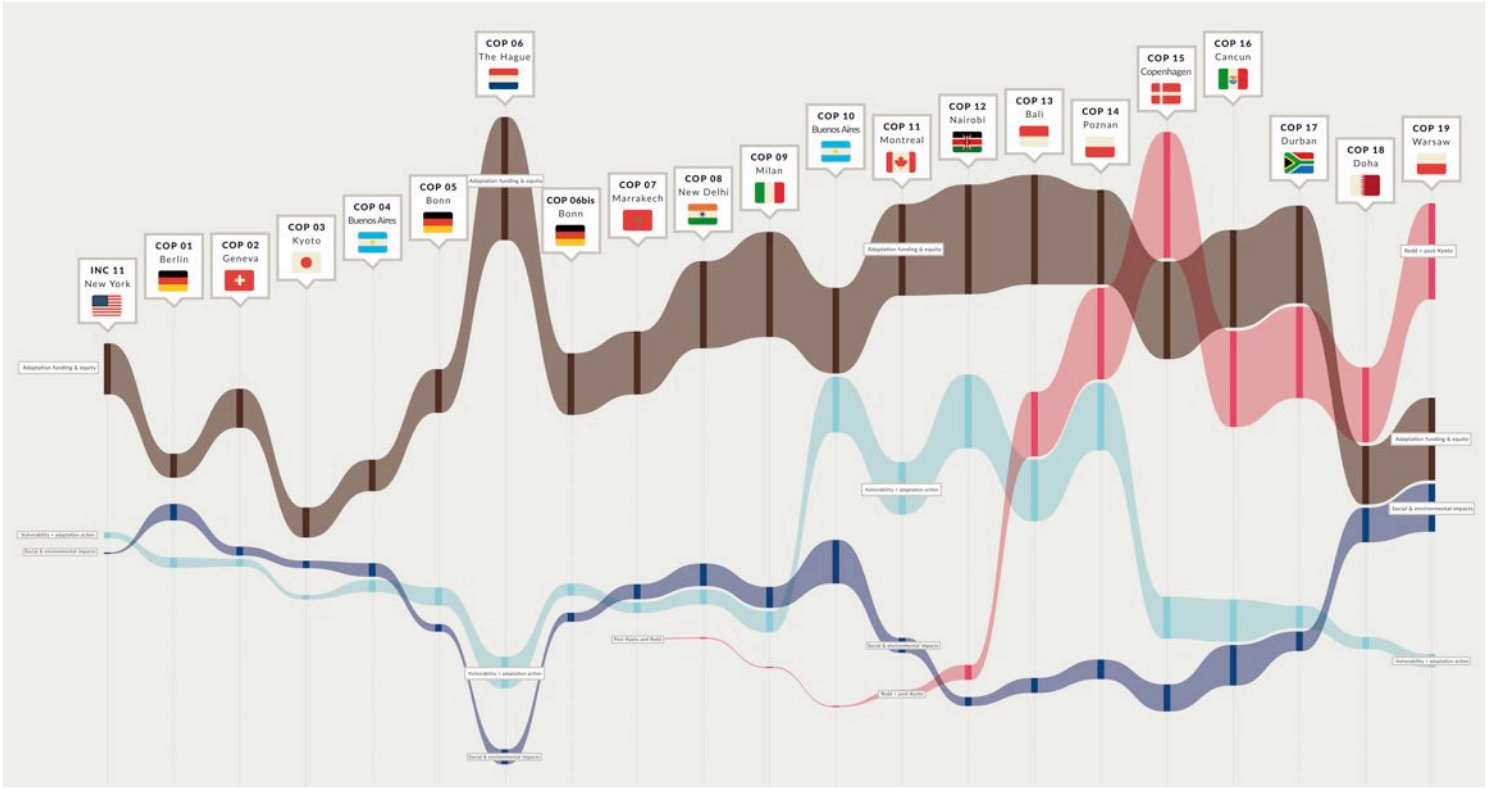
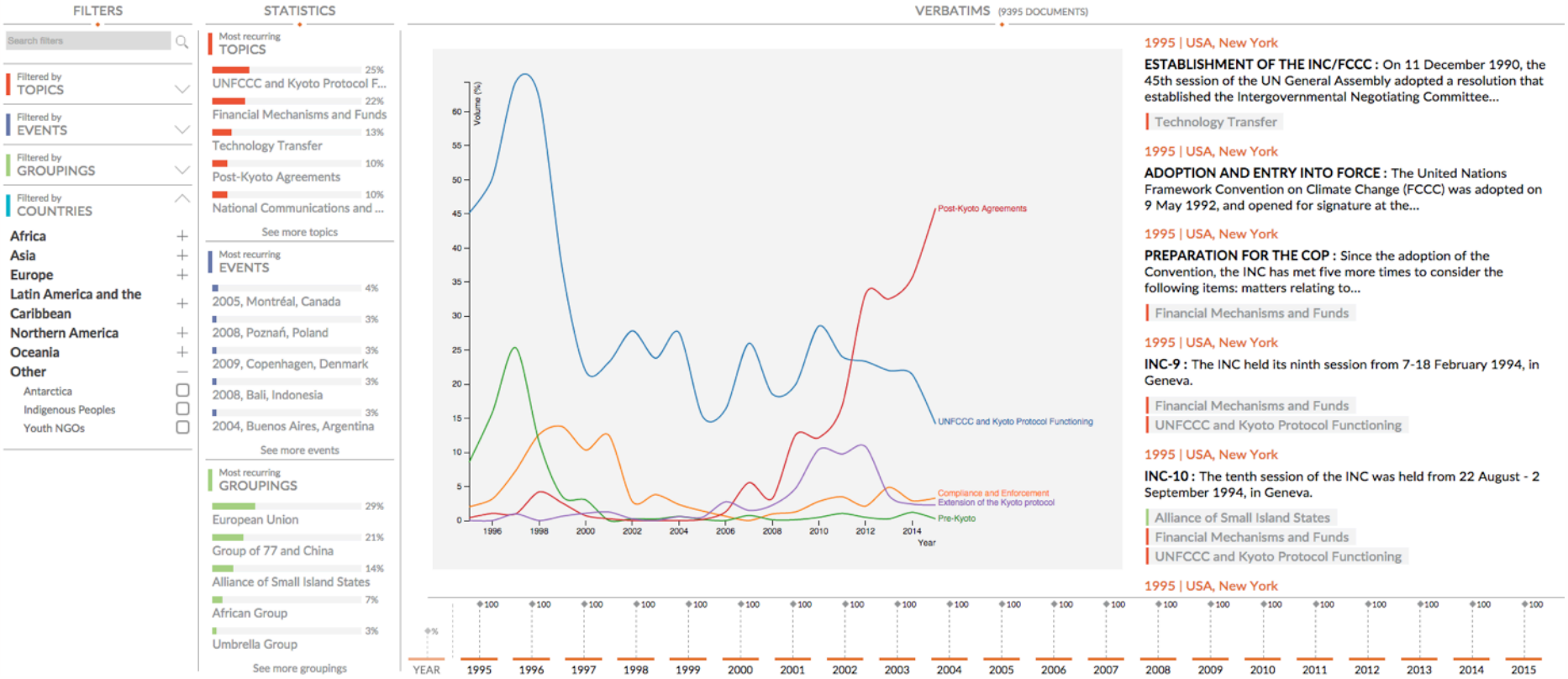


CM in Society

Climate Negotiation Browser
climatenegotiations.org

CLIMATE NEGOTIATIONS BROWSER · SciencesPo MÉDIALAB · EPFL ÉCOLE POLYTECHNIQUE FÉDÉRALE DE LAUSANNE · atelier ICEBERG · iisd Reporting Services



www.publicdatalab.org

Public Data Lab

The Public Data Lab seeks to facilitate **research, democratic engagement and public debate** around the **future of the data society.**

We want to develop and disseminate **innovative research, teaching, design and participation formats** for the **creation and use of public data**.

We work in collaboration with an **interdisciplinary network** of researchers, practitioners, journalists, civil society groups, designers, developers and public institutions across the world.

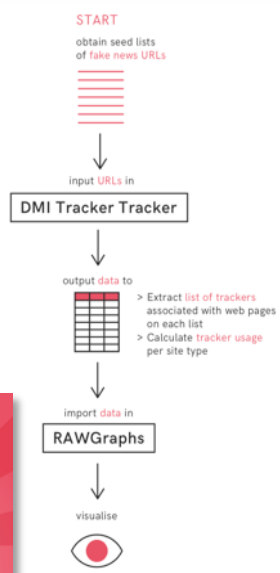
Our approach characterized by an interest in:

- **Intervention** around social, political, economic and ecological issues;
- **Participation** through involving different publics in the co-design of our work;
- **Artisanship** in advancing the craft of developing data projects and experiences;
- **Openness** in sharing our research, data and code for all to use.

CM in Society

fakenews.publicdatalab.org

Bounegru, Liliana, Jonathan Gray, Tommaso Venturini, and Michele Mauri. 2018
A Field Guide to "Fake News" and Other Information Disorders.
Amsterdam: Public Data Lab.



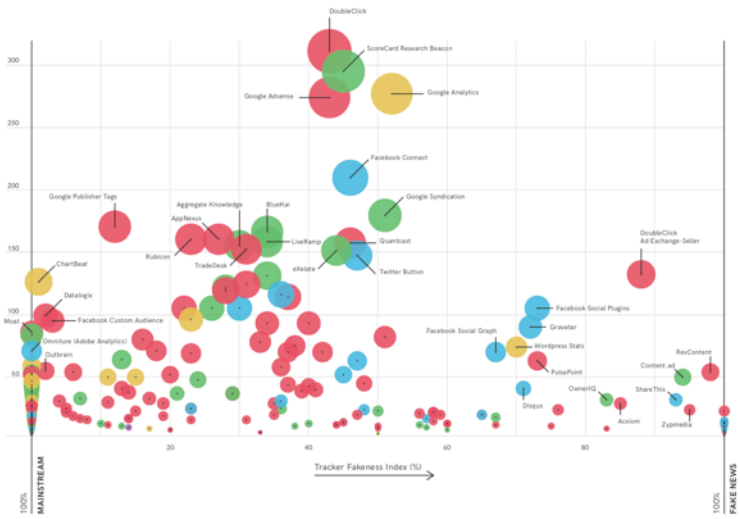
CHAPTER 3 -> RECIPE 1

CALCULATE TRACKER USAGE PER SITE TYPE

From the source code of web pages it is often possible to see which third-party tracking services are used.

- Collect data about trackers associated with the web pages on each list. You may use the -> **DMI Tracker Tracker** tool to collect this information.
- Count the usage of each tracker in fake news websites and in mainstream news websites.
- You may use a scatter plot to visualise the resulting data. Each circle represents one tracker coloured by category. On the horizontal axis, you can show, for example, the distribution of trackers usage by mainstream media and fake news websites. On the vertical axis, you can indicate the overall usage of the tracker. We used the -> **RAWGraphs** tool to generate this visualisation.

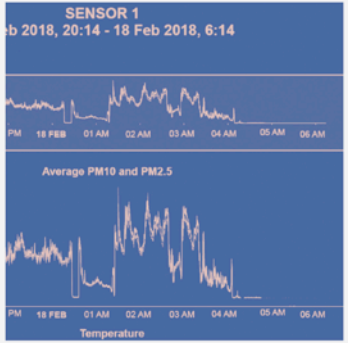
DO MAINSTREAM MEDIA AND FAKE NEWS WEBSITES SHARE THE SAME TRACKER ECOLOGY?



CM in Society

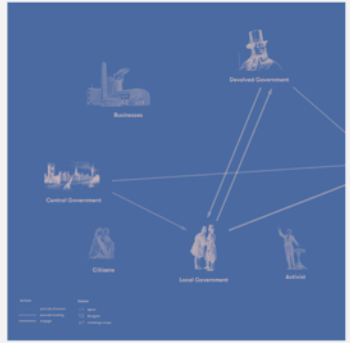
Save Our Air
saveourair.publicdatalab.org

Focussing on air quality, SaveOurAir explored three ways to make urban data more "local" and "politically relevant" and developed three experiments in data activation.



MyAir

Mobilizing our Air



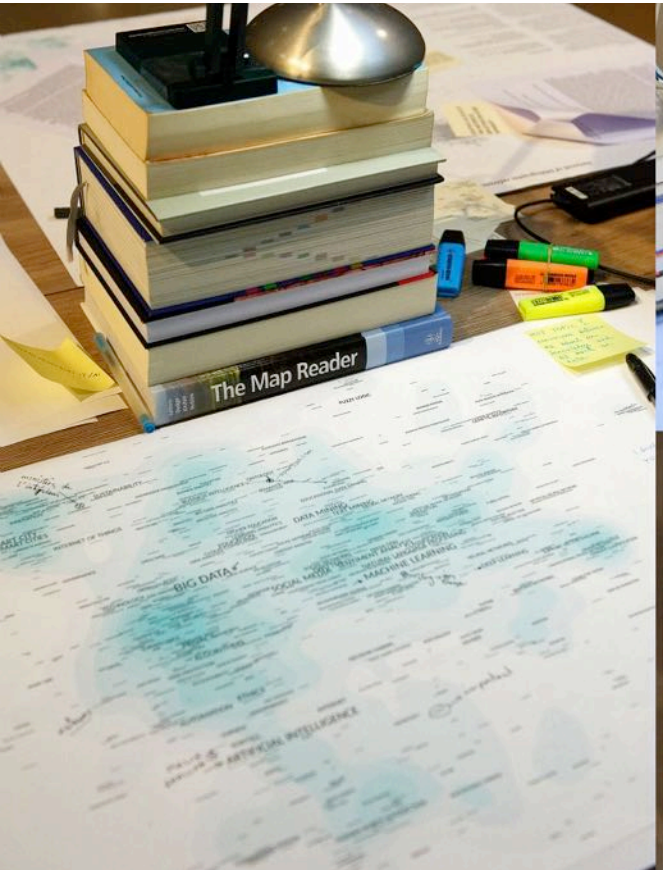
Hot Potato Machine

CM in Society

tommasoventurini.it/AI

Drafting an atlas of artificial intelligence's matters of reflection

Cartographic intervention at the *Global Forum on Artificial Intelligence For Humanity*



CM & Digital Methods

tommv.github.io/bibliograph/

Bibliograph

Bibliograph allows you turn a corpus of scientometrics records from ISI Web of Science or Scopus into a landscape of bibliographic coupling. Such a landscape consists in:

1. A base map network of references co-occurring in the records of the corpus - weighted by the frequency of their co-occurrence;
2. A layer of metadata extracted from the records (e.g. authors, subject areas, keywords) and positioned in the graph according to their co-occurrence with the references of the base map.

Upload your corpus, choose the period you want to investigate, select the filtering thresholds and explore your bibliographic landscape.

Drag and drop here your CSV files or their folder
(currently 1 selected file)

Only parse papers published between 1900 and 2100

These CSVs come from Scopus

Filters

Use the sliders to chose how many nodes of each type should be included in your network based on the number of records in which they appears. It is strongly recommended NOT to include the references occurring in one record only.

References

Keep the 2129 References occurring in at least 2 records

0 108989

Sources

Keep the 86 Sources occurring in at least 3 records

0 470

Index keywords

Keep the 0 Index keywords occurring in at least 99 records

0 3

Authors

Keep the 111 Authors occurring in at least 4 records

0 5327

Affiliation institutions

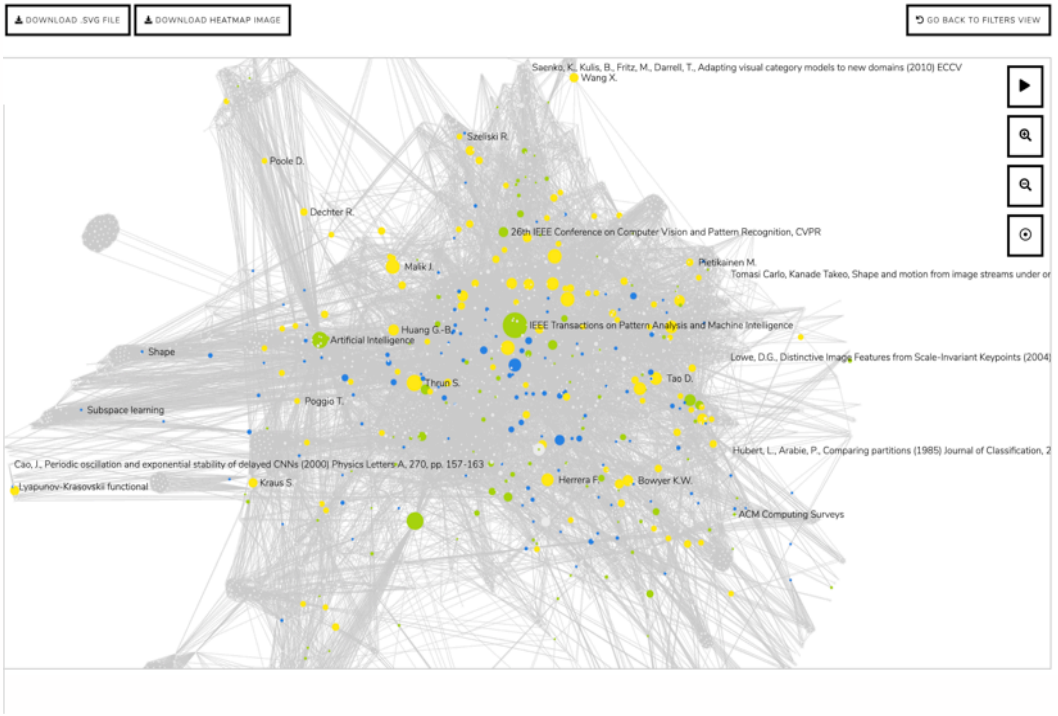
Keep the 0 Affiliation institutions occurring in at least 10 records

0 2679

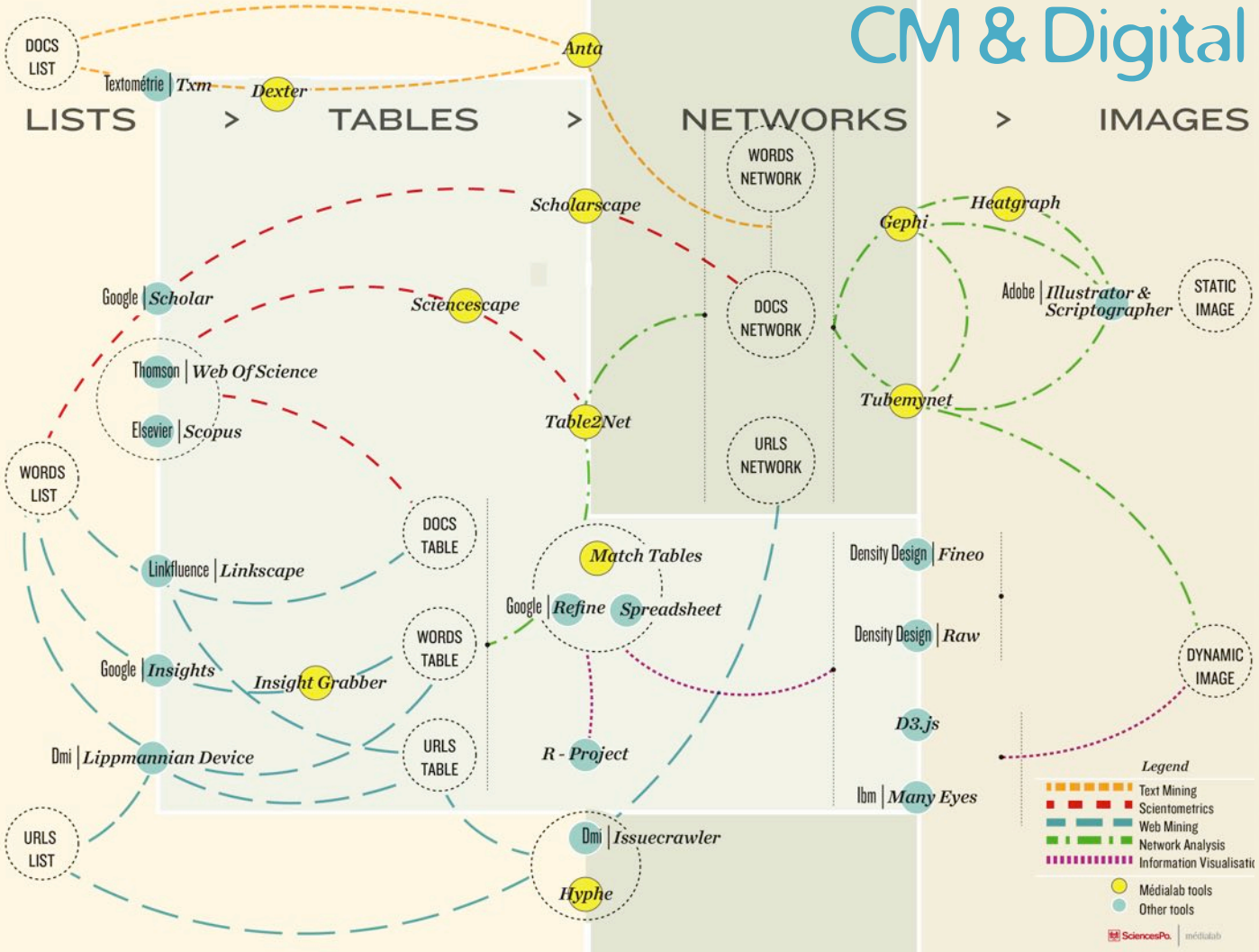
Affiliation countries

Keep the 0 Affiliation countries occurring in at least 91 records

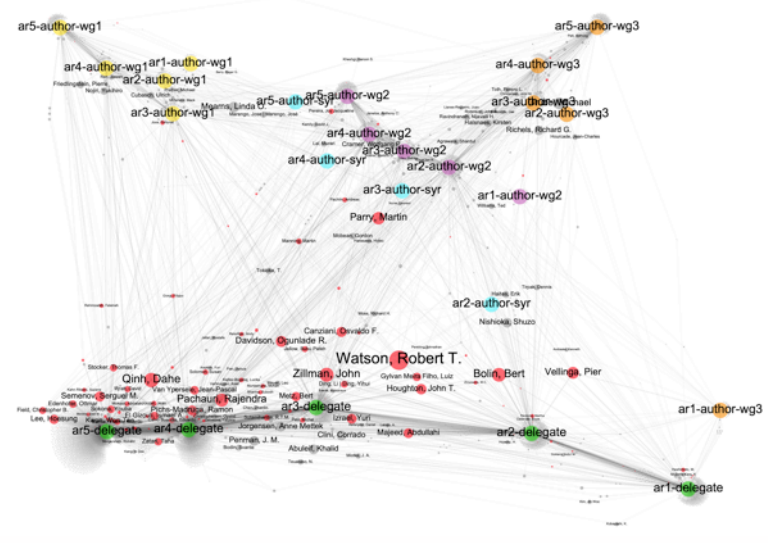
0 1



CM & Digital Methods

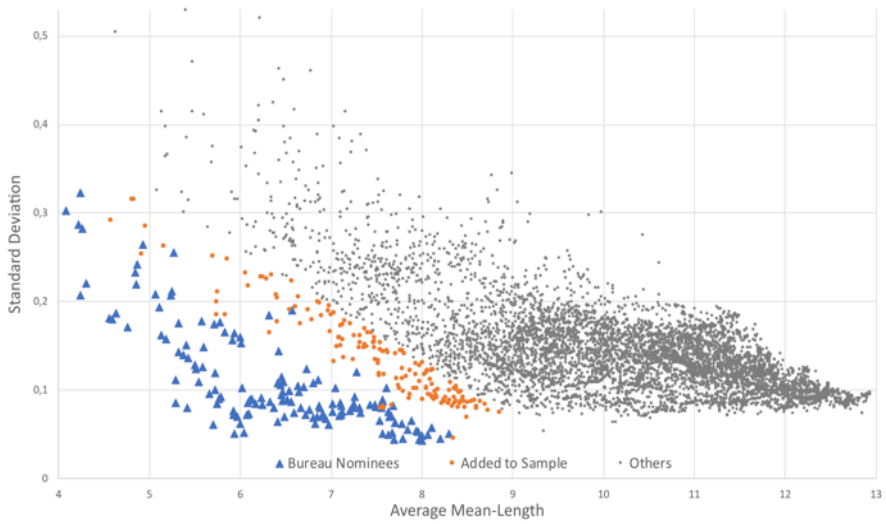


CM & Digital Methods



$$BB(n) = \sum_{i,j} \frac{|\,neighbours(i) \cup neighbours(j)\,|}{|\,neighbours(i) \cap neighbours(j)\,|}$$

$$= \sum_{i,j} \frac{1}{Jaccard(neighbours(i), neighbours(j))}$$

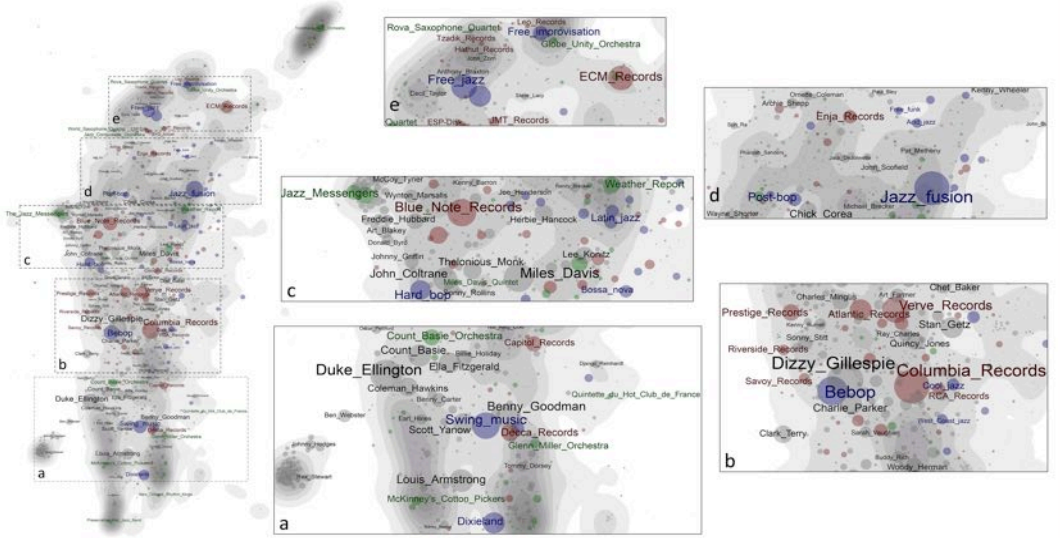


Venturini T., De Pryck K. & Ackland De Pryck K.
"Bridging in Network Organisations the Case of International Panel on Climate Change (IPCC)"
Under review at *Social Networks*

Venturini T., Blanke T., & De Pryck K.
"Similarity Sampling by Machine Learning A Social Science Experiment with Artificial Intelligence and IPCC Leadership"
Under review at *Social Science Computer Review*

CM & Design

Jacomy, M., Venturini, T., Heymann, S., & Bastian, M. 2014. "ForceAtlas2, a Continuous Graph Layout Algorithm for Handy Network Visualization Designed for the Gephi Software". *PloS One*



Venturini, Tommaso, Mathieu Jacomy, Liliana Bounegru, and Jonathan Gray. 2018. "Visual Network Exploration for Data Journalists." In *The Routledge Handbook to Developments in Digital Journalism Studies*

Venturini, T., Jacomy M., & Jensen P., 2021 "What Do We See When We Look at Networks: an Introduction to Visual Network Analysis and Force-Directed Layouts". *Big Data and Society*.

CM & Design

1. HYPOTHESIS

alpha users suggest relevant questions ▶ *data experts* suggest feasible answers

▼

2. SKETCHING

data experts propose operationalisation ▶ *design experts* sketch mockups ▶ *alpha users* evaluate mockups

▼

3. DATA COLLECTION

alpha users provide existing data ▶ *data experts* make old data compatible

alpha users suggest new data sources ▶ *data experts* extract new data

▼

4. ANALYSIS

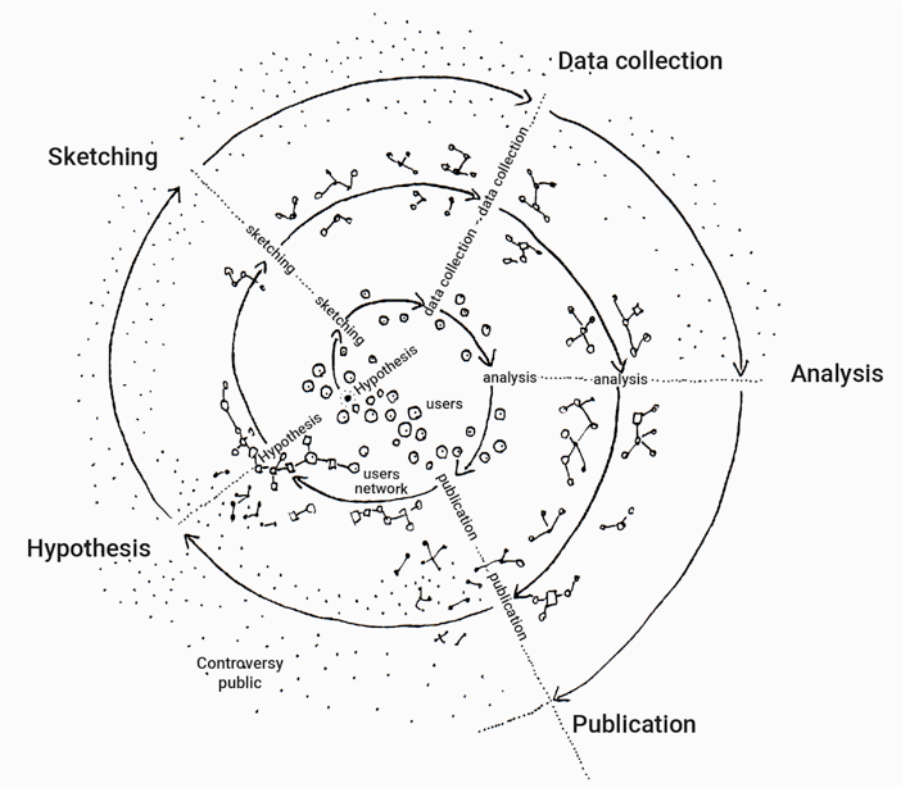
data experts explore data ◀ ▶ *design experts* visualize data

data experts propose interpretation ▶ *design experts* render intepretation

▼

5. PUBLICATION

design experts publish maps ▶ *beta users* react to maps



Venturini, Tommaso et al. 2015.
"Designing Controversies and Their Publics"
Design Issues 31(3): 74–87

Venturini, Tommaso, Anders Munk, and Axel Meunier. 2018.
"Data-Sprint: A Public Approach to Digital Research"
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CM & Design

Venturini, Tommaso, and Bruno Latour. 2010. “The Social Fabric: Digital Traces and Quali-Quantitative Methods.” In *Proceedings of Future En Seine* 2009

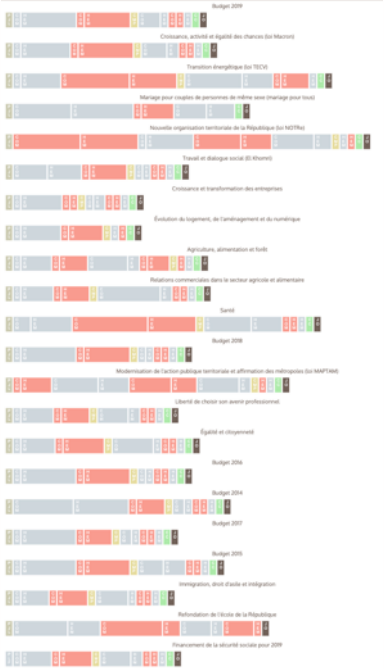
Venturini, Tommaso. 2019 “The Fish Tank Complex of Social Modelling”. *Frontiers of Social Science: A Philosophical Reflection*

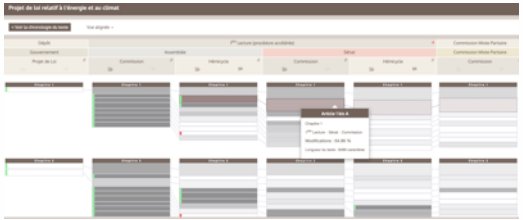
CM & STS

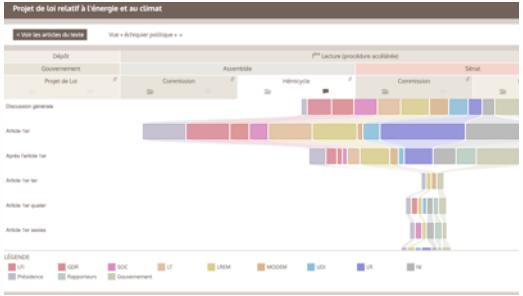
lafabriquedelaloi.fr

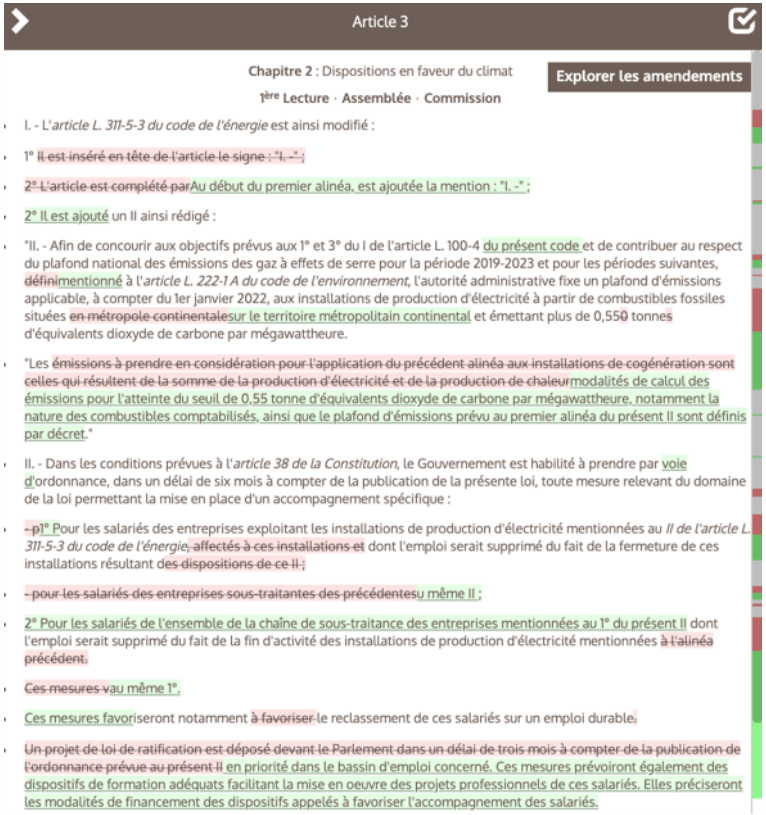
Explorer 1008 lois promulguées*

* parmi 1081 depuis 2008
faute d'OpenData officielle

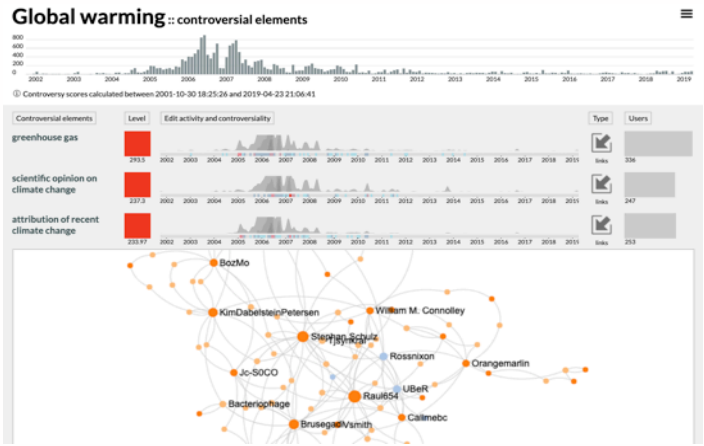








Contropedia.net



CM & digital STS

Venturini, Tommaso, and Richard Rogers. 2019. "'API-Based Research' or How Can Digital Sociology and Journalism Studies Learn from the Facebook and Cambridge Analytica Data Breach". Digital Journalism 7(4): 532–40.

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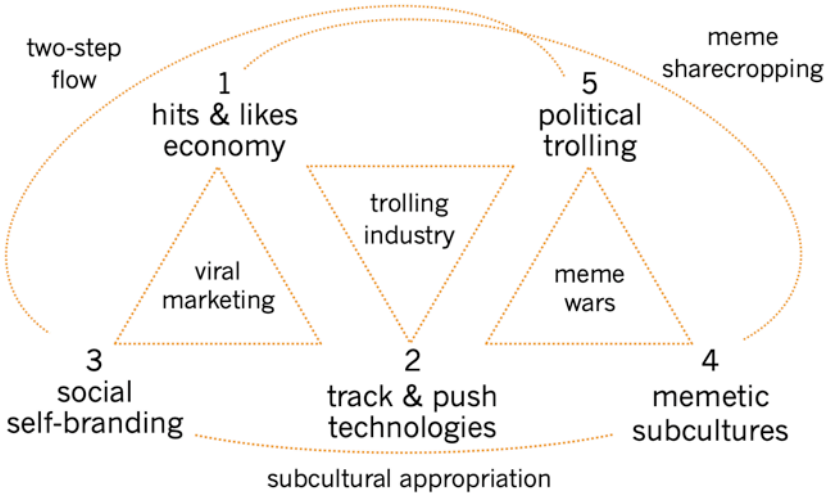
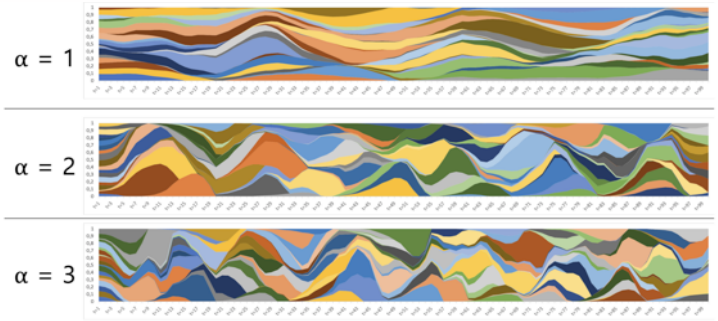
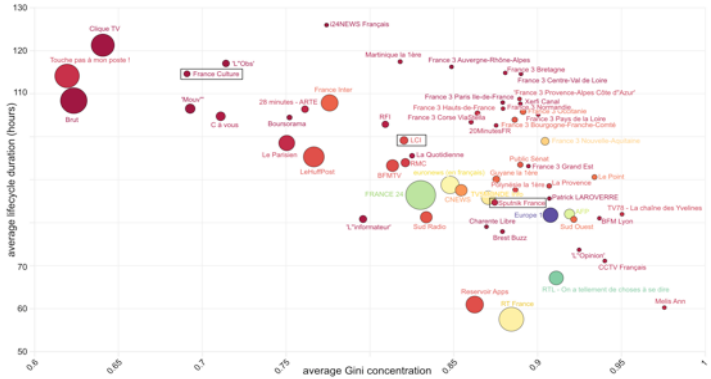
CM & digital STS



Venturini, Tommaso. 2019.
"From Fake to Junk News, Data Politics of Online Virality"
In Didier Bigo, Engin Isin, and Evelyn Ruppert (eds)
Data Politics: Worlds, Subjects, Rights
London: Routledge, 123–44.

$$\hat{\pi}^i_{t+1} = \max(\pi^i_t + \alpha(\pi^i_t - \pi^i_{t-1}) + x, 0) \qquad \pi^i_t = \frac{\hat{\pi}^i_t}{\sum_j \hat{\pi}^j_t}$$





Castaldo M, Venturini T, Frasca P & Gargiulo F. 2021 "Junk News Bubbles: Modelling the Rise and Fall of Attention in Online Arenas." *New Media & Society*

Summing up:
CM and digital methods to learn and manage innovation

in the classroom		for networked organisations
An authentic immersion in social and technical complexity	—	A conceptual toolkit to navigate technoscientific uncertainties and conflicts
A hands-on training in data wrangling and digital fieldwork	—	A series of methods for making sense of digital data rather being driven by them
A practice in interdisciplinary, innovative and quali-quantitative methods	—	Visual and network analytics for exploratory data analysis
An occasion to meet actors and experience situations outside academia	—	A format for agile workshopping and research-society collaboration

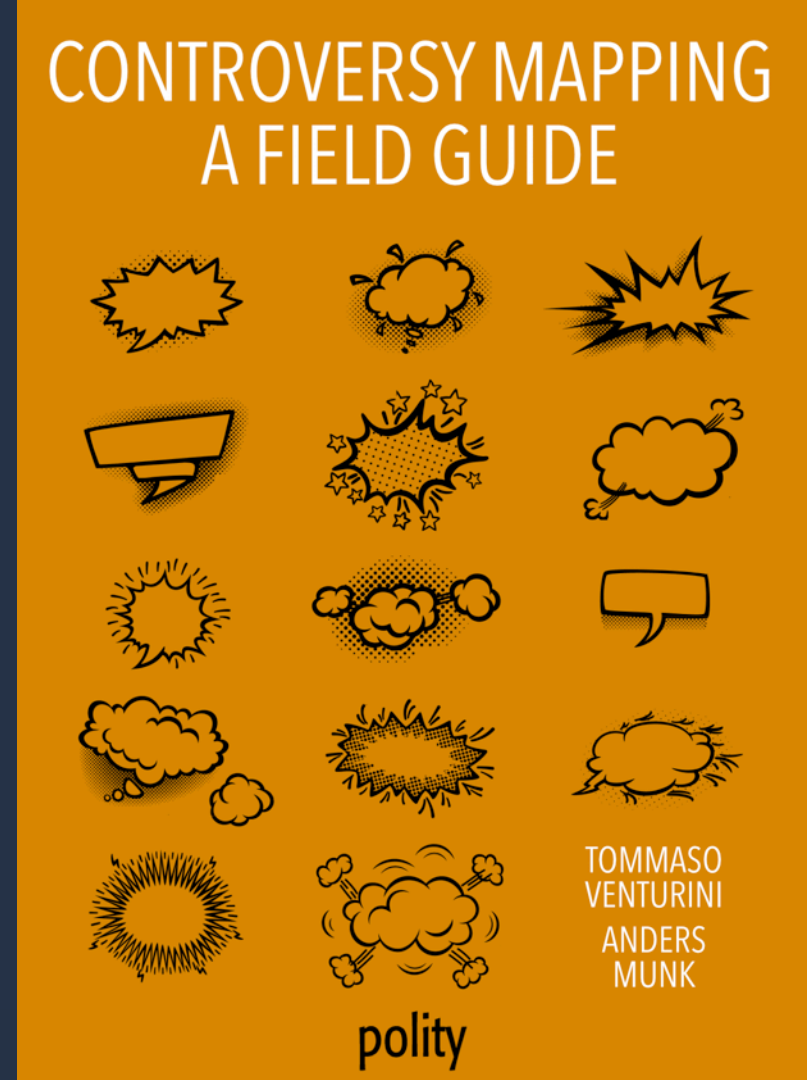
Bruno Latour, 03/11/2020

"In the science studies, we always knew that you need societies, administrations and institutions in good order to agree about scientific facts.

With the new climatic regime, we realize that you also need a common world to build this society and then have facts agreed on. This is what climate change has shown to us: that if you have no common word, no matter how the society is organized, it is not possible to stabilize the facts...

We don't live on the same planet: people are now saying "whatever you say is wrong, there's no climate change, there's no covid, it's a chinese invention". Conspiracism, for me, is not a cognitive defect but the complete irrelevance of a notion of common word.

So here is a new task for controversy mapping: to redraw the line that allowed us to build a common word. "




tak for din
opmærksomhed
tommasoventurini.it