

CARE – CONTROL – COMPUTATION

On the Politics and Poetics of Digital Systems

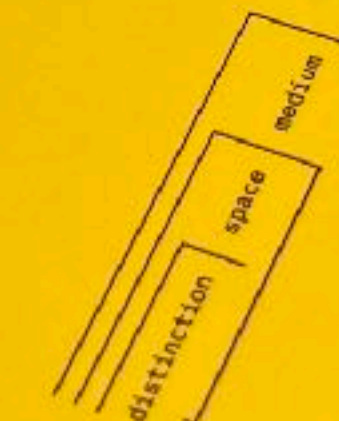
IEEE Vis Arts Program Keynote 2025

Prof. Dr. Kim Albrecht Folkwang University of the Arts

Insight by de-sign

Kim Albrecht

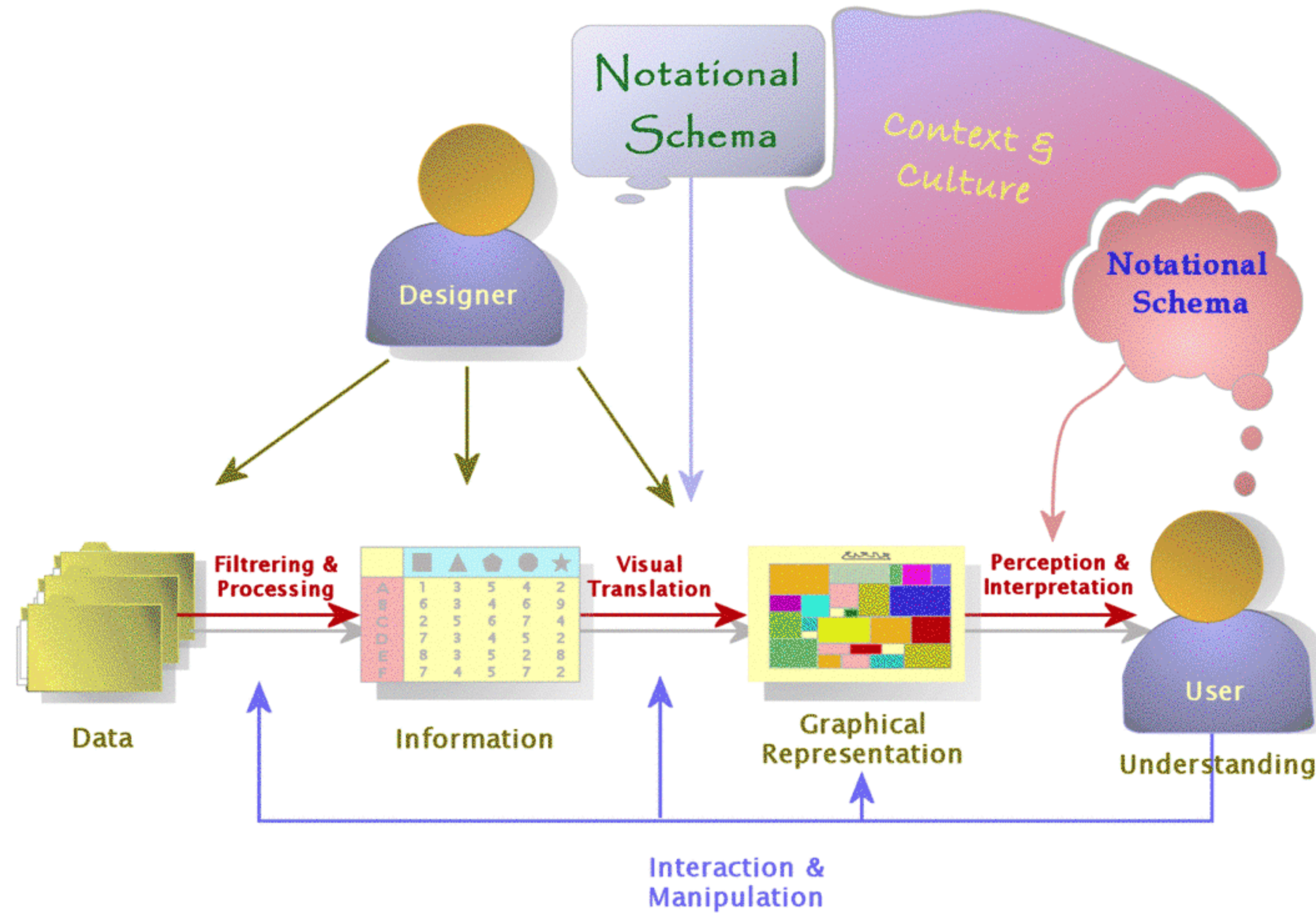
05

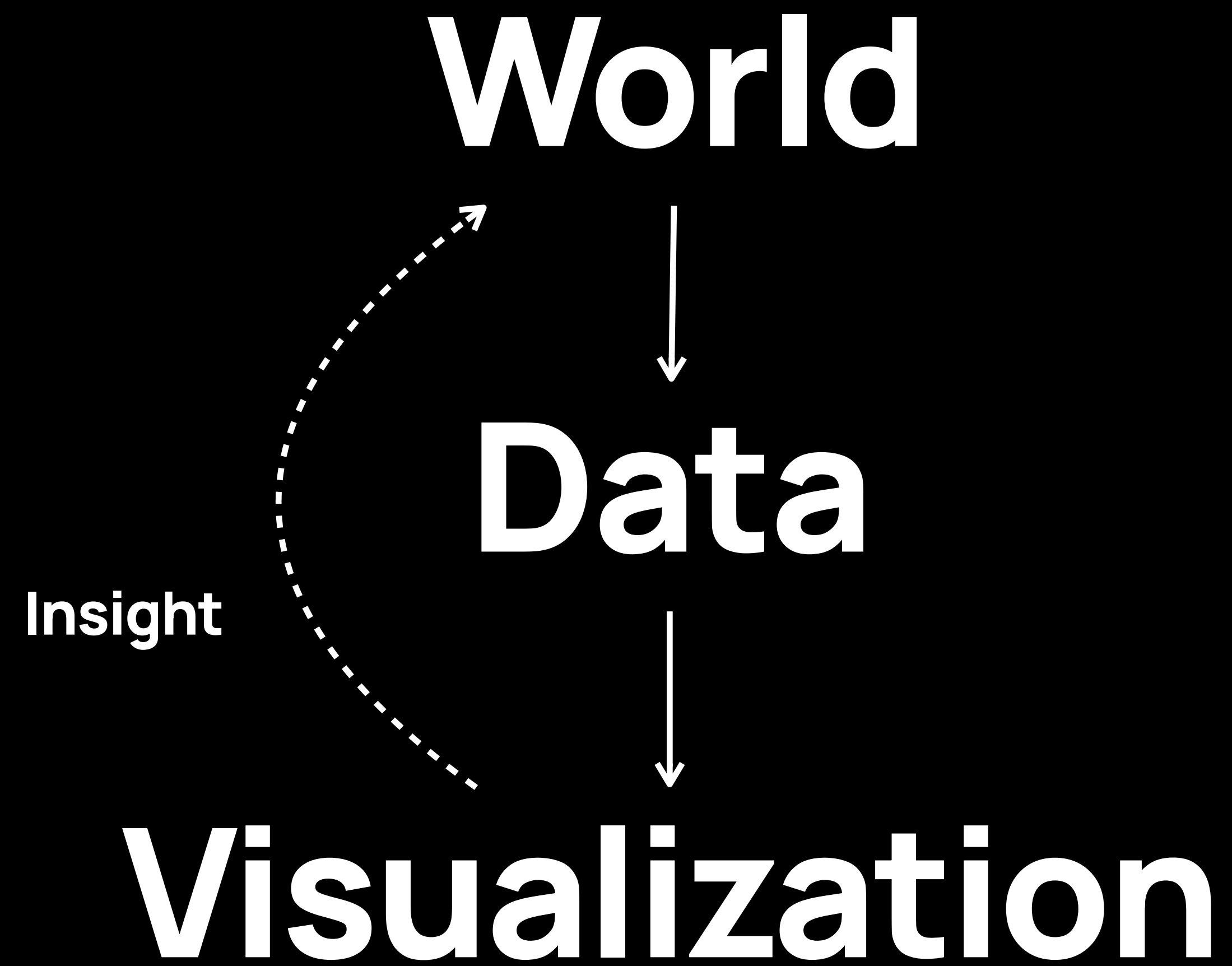


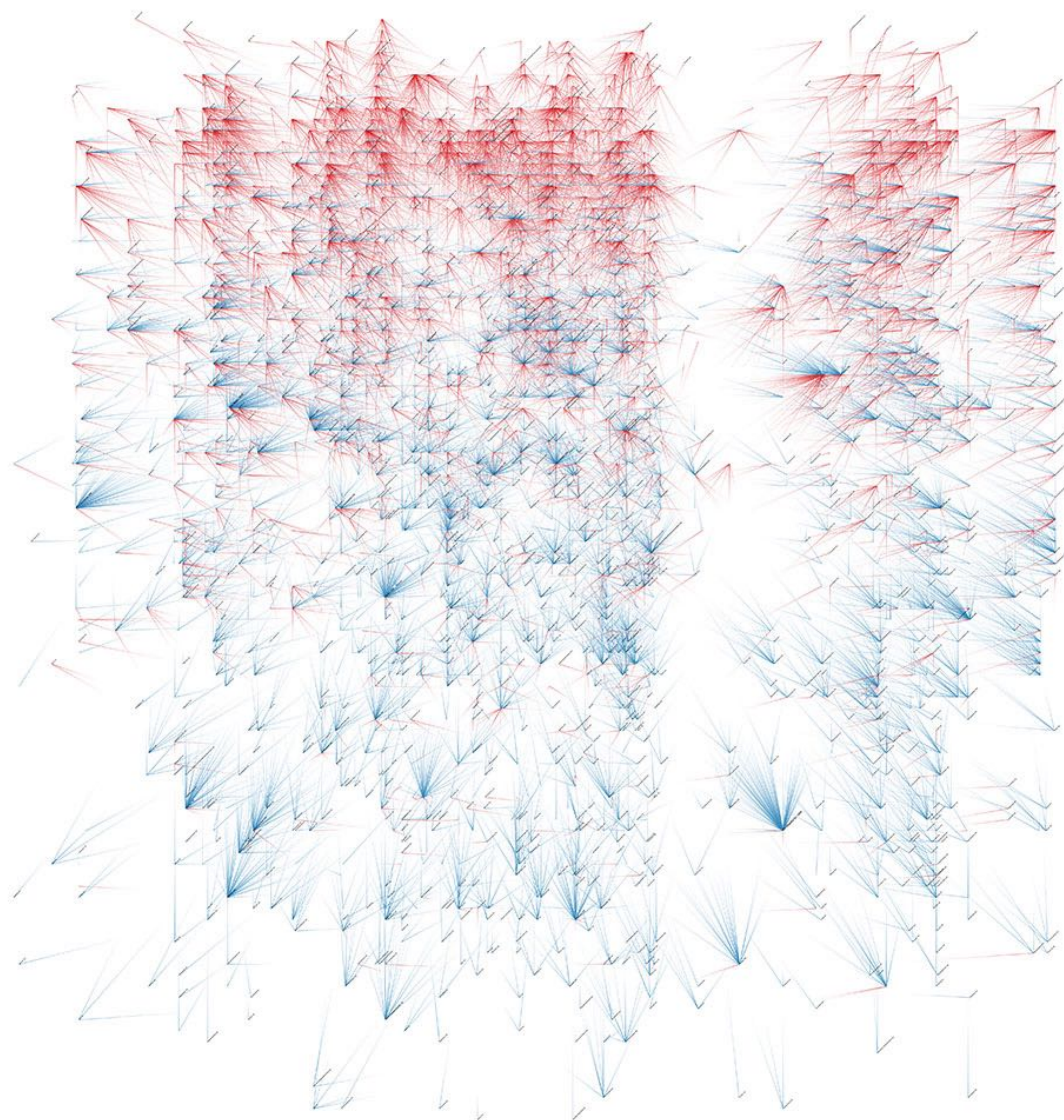
design

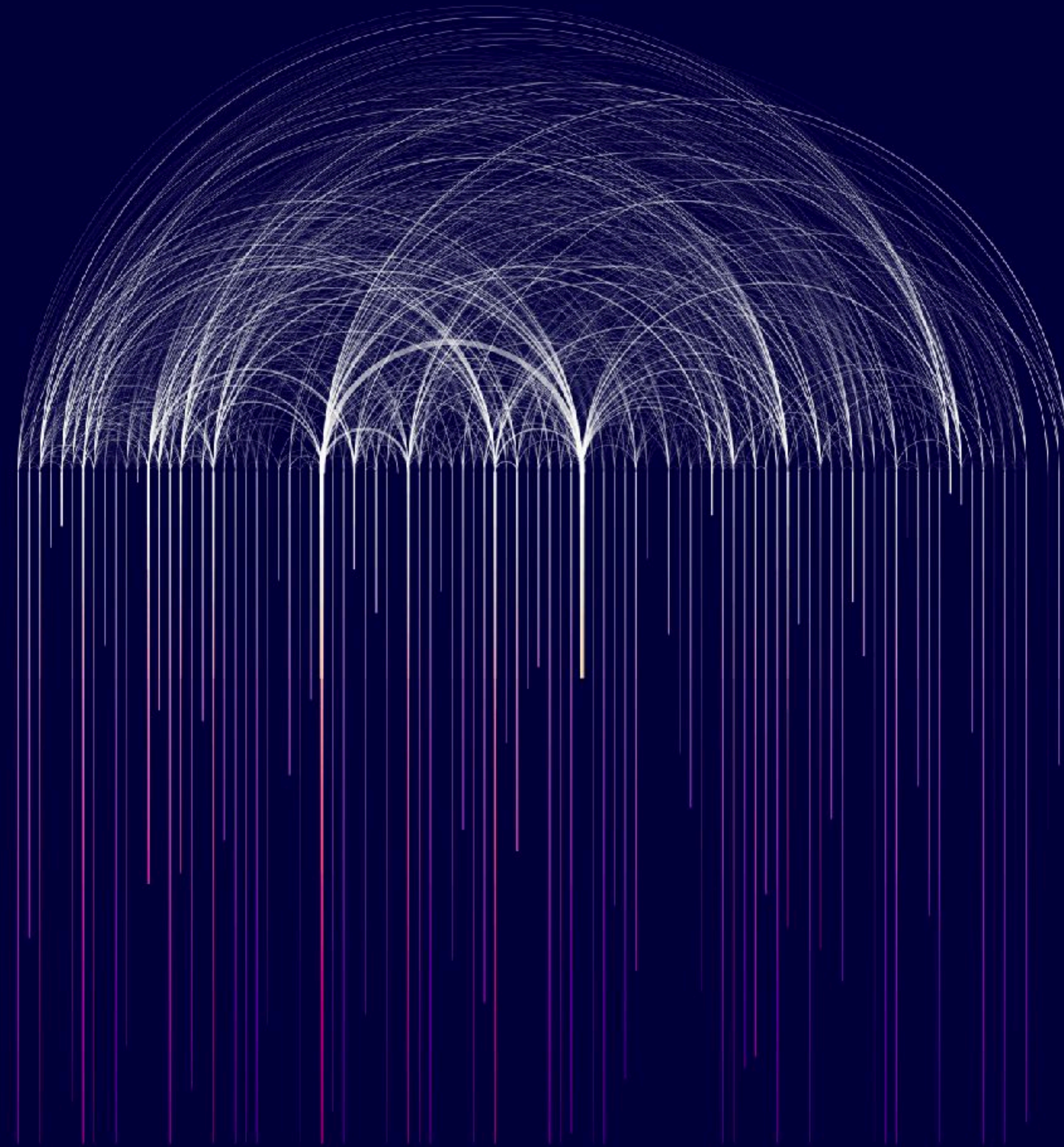
καδμος

Conceptions of Data Visualization





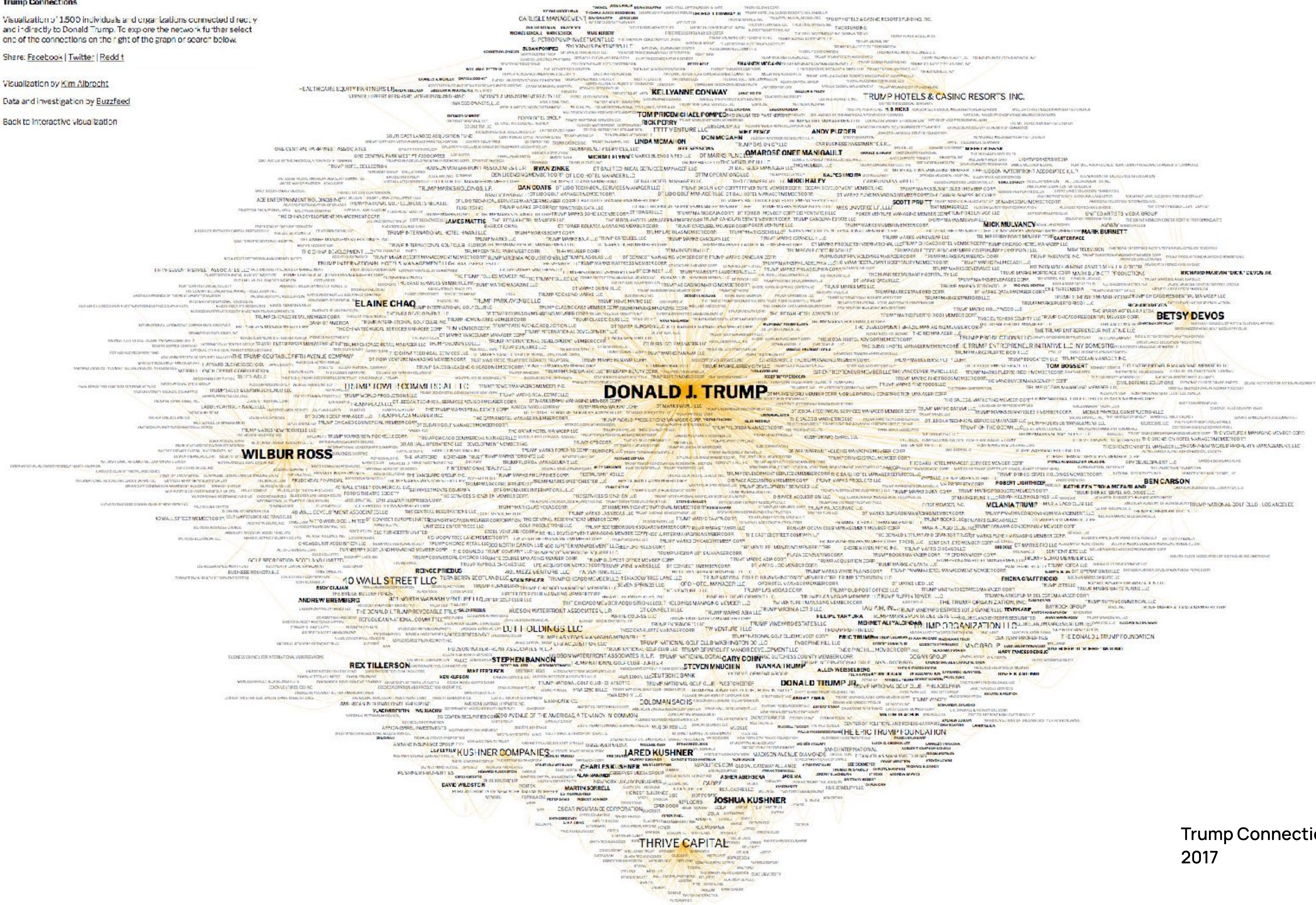




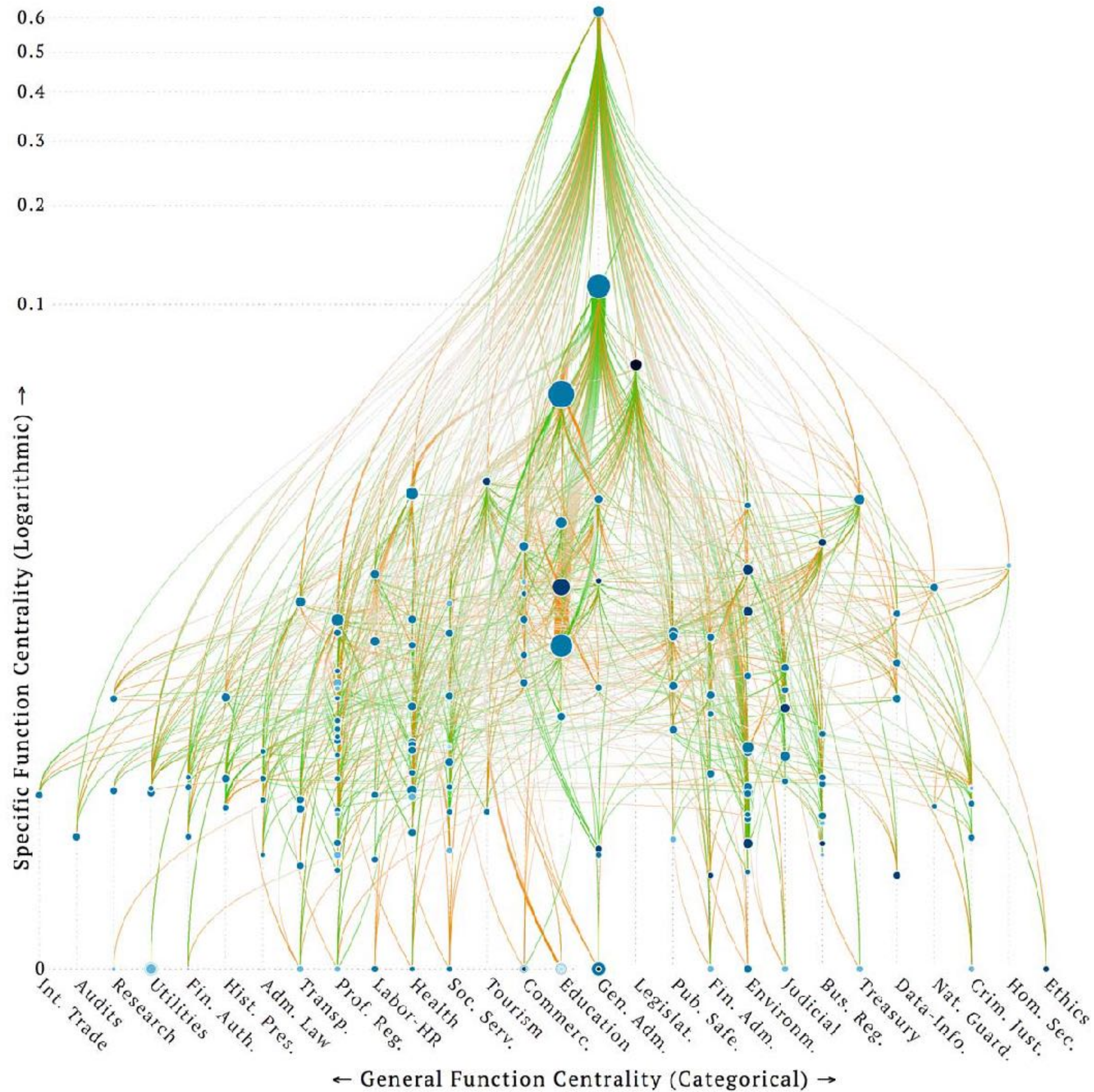
Visualization of 1,500 individuals and organizations connected directly and indirectly to Donald Trump. To explore the network further select one of the connections on the right of the graph or search below.

Visualization by [Kim Albrecht](#)

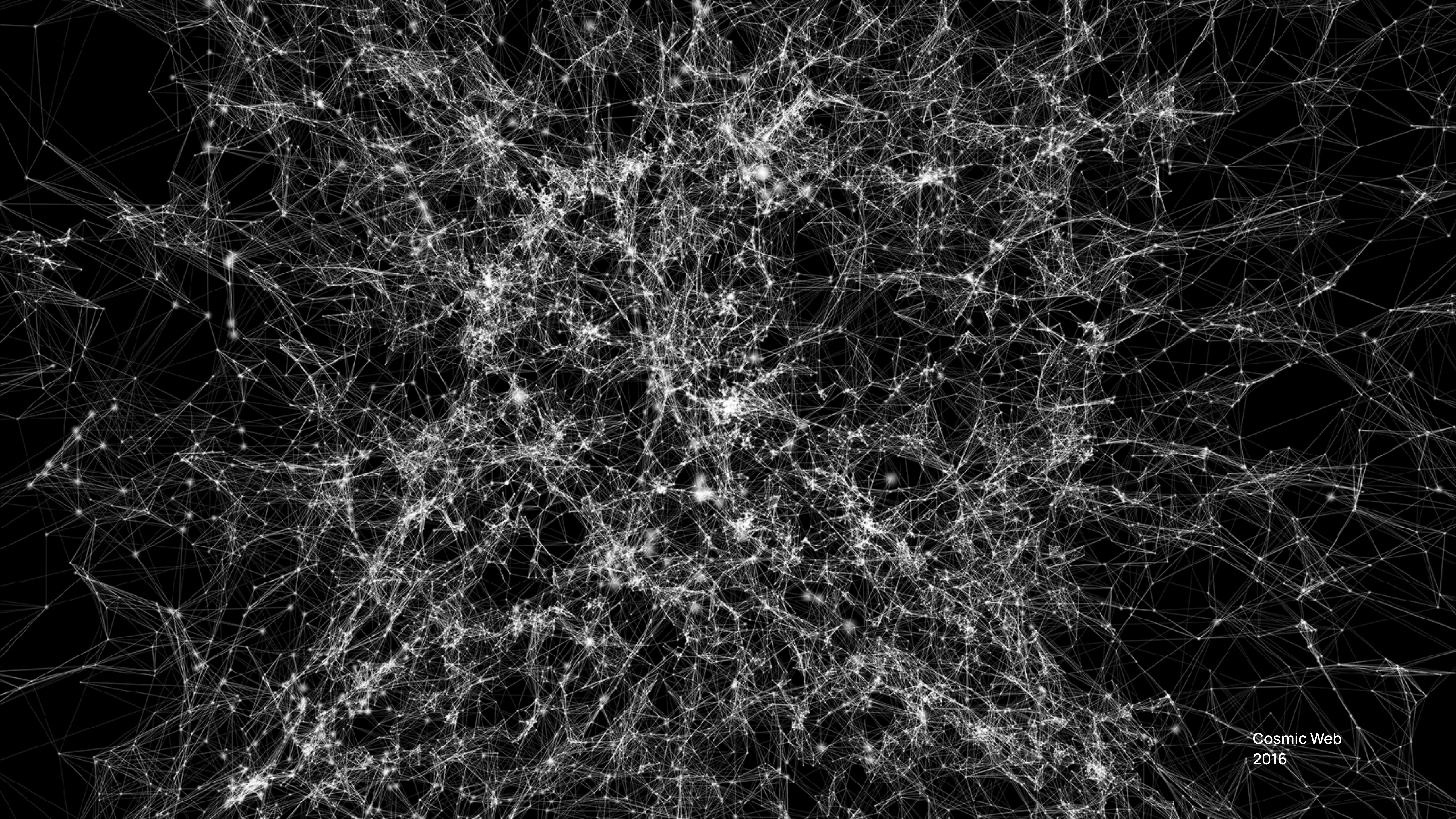
[Back to Interactive visualization](#)



Trump Connections 2017



Government Networks
2018

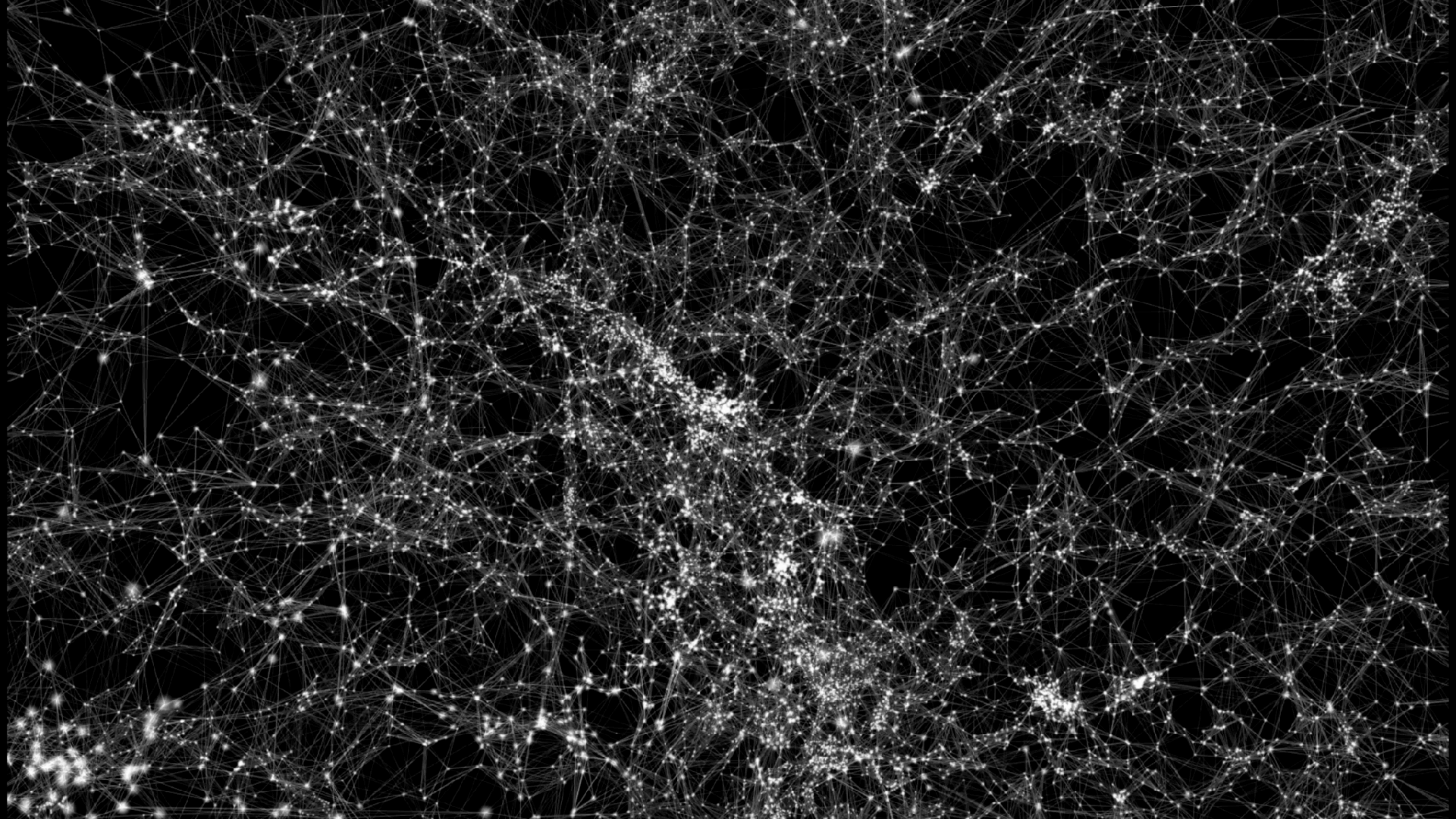


Cosmic Web
2016

“... data is never neutral.”

IEEE VIS Arts Program 2025

**“... data nor visualizations
are ever neutral.”**



» Perhaps the
Universe can be
thought of as God's
Brain.«

Comment by mkogady

<https://www.wired.com/2016/04/explore-cosmos-bonkers-interactive-model/#article-comments>

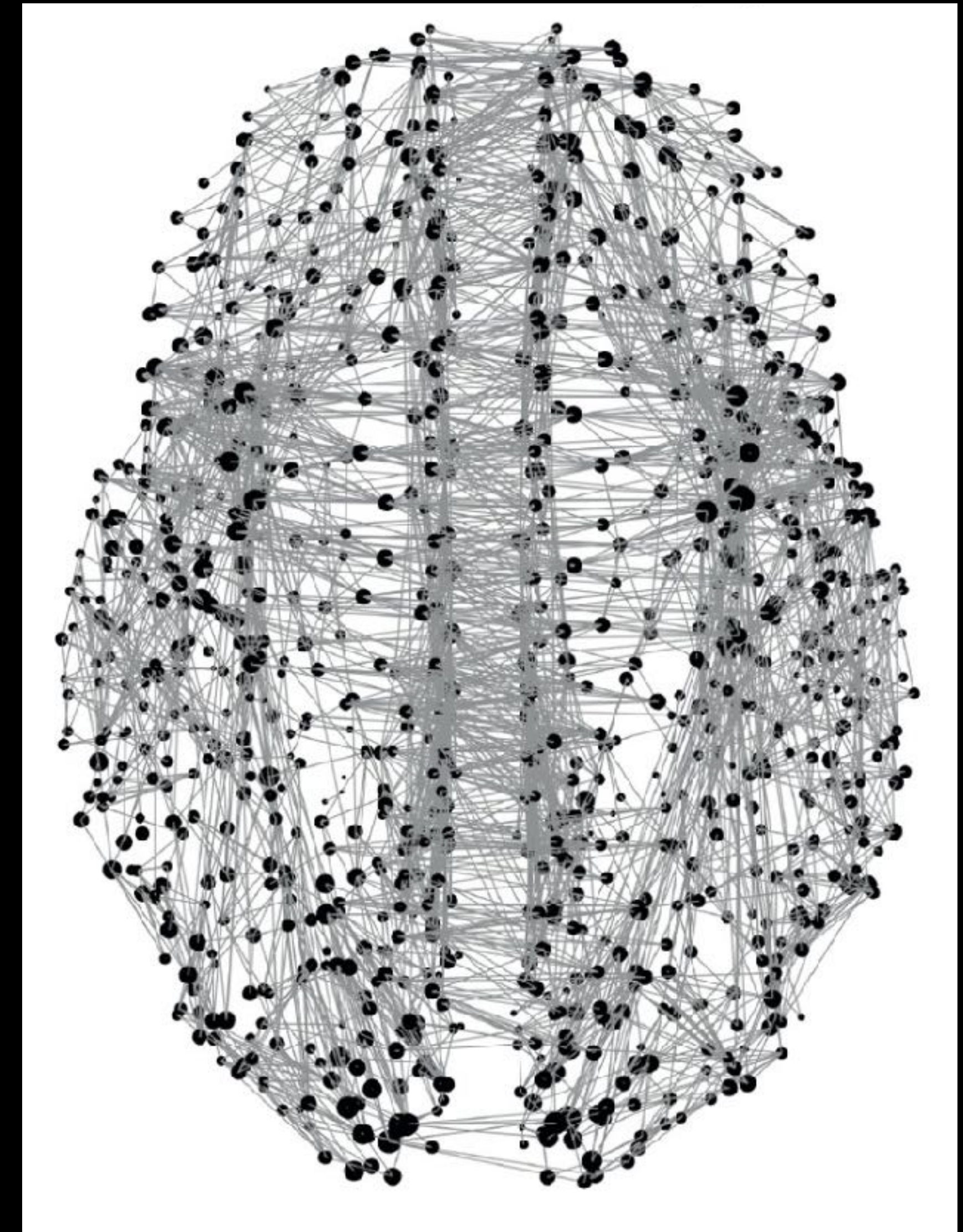
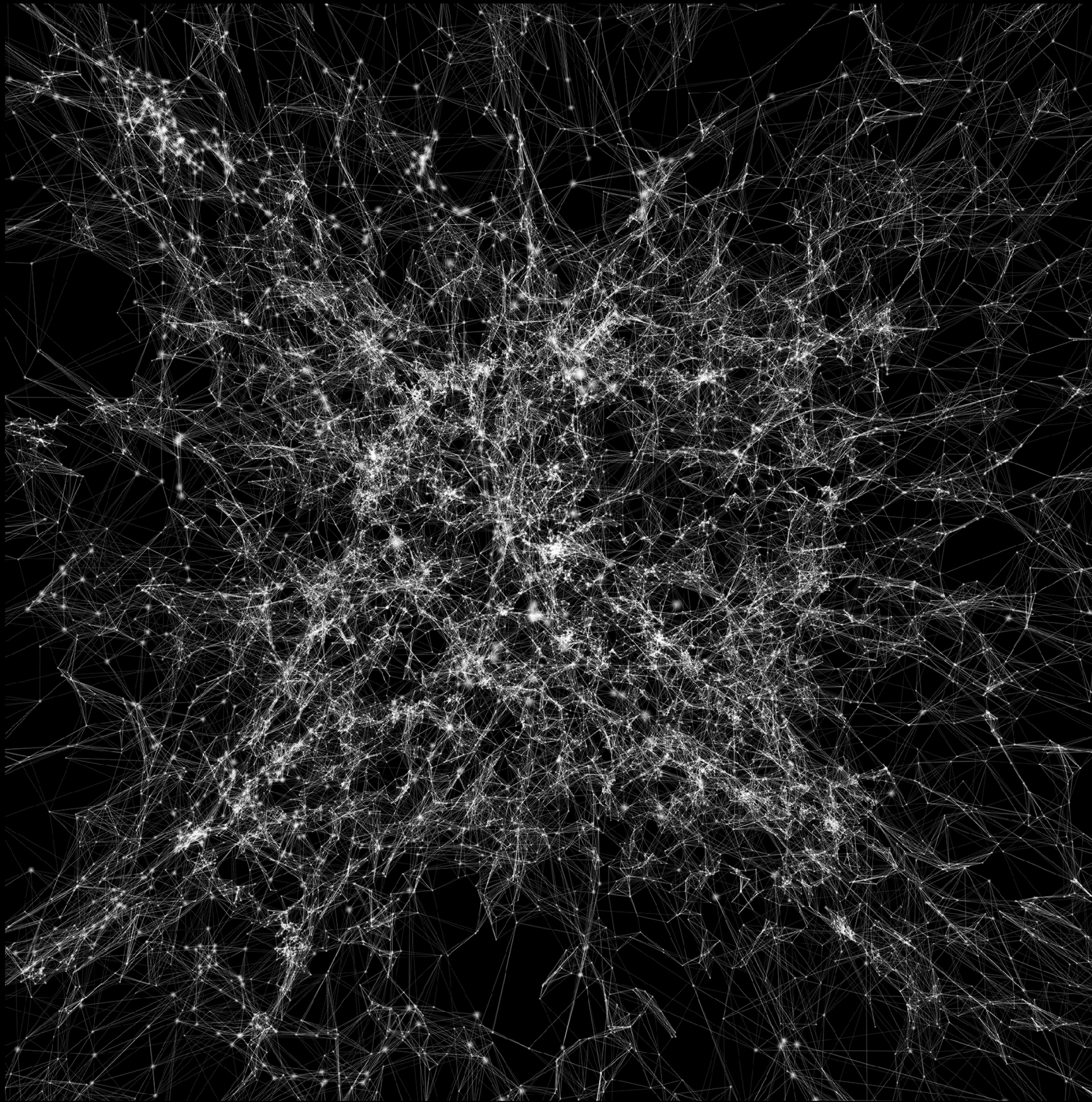
»we live in brain«

Comment by Łukasz Erm
[youtube.com](#)

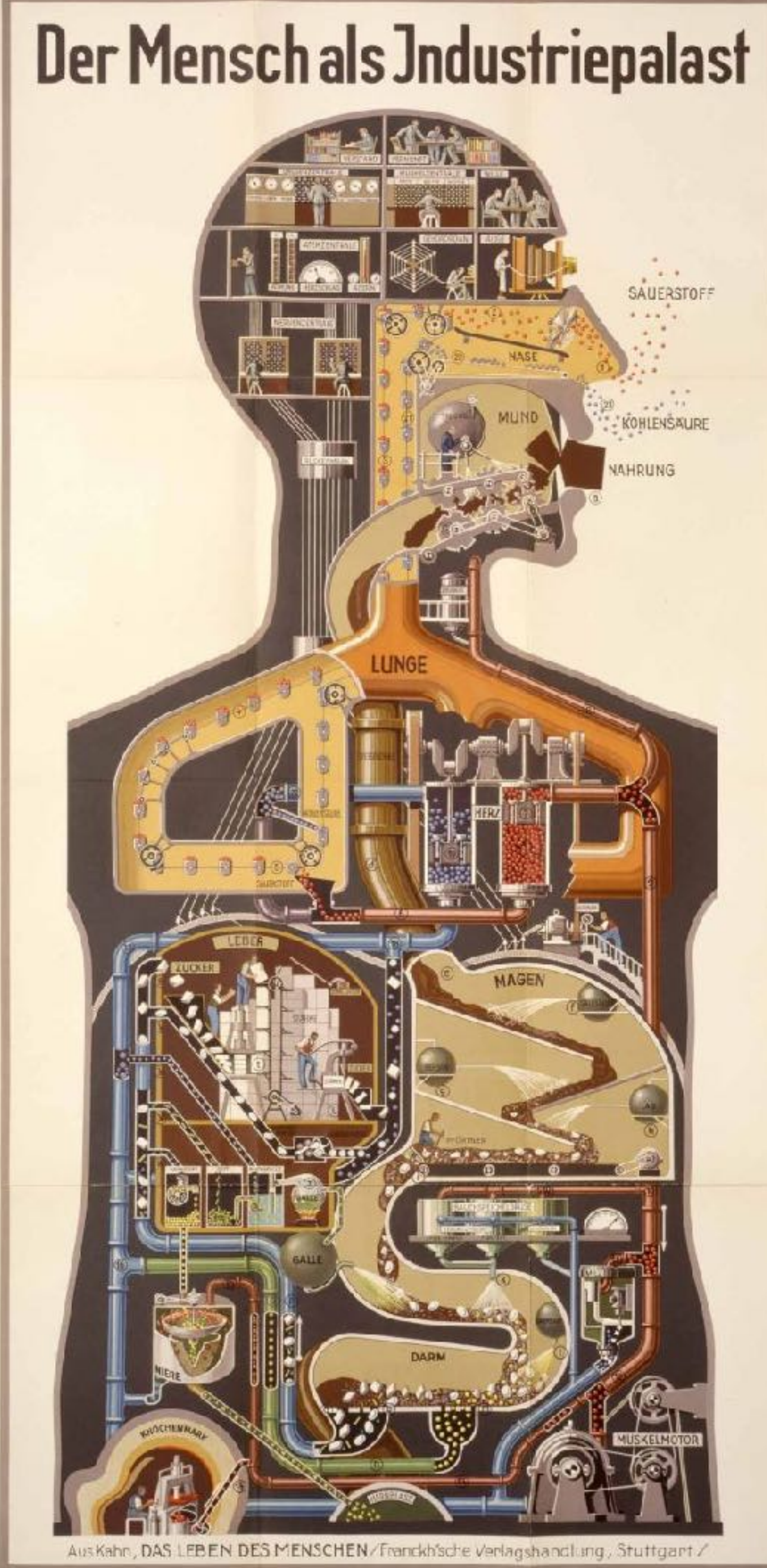
**»God apparently
thinks he's Jackson
Pollock.«**

Comment by Data1001

<http://gizmodo.com/breathtaking-visualization-of-the-universe-will-make-yo-1772363594>



Communication dynamics in complex brain networks
<https://www.nature.com/articles/nrn.2017.149>



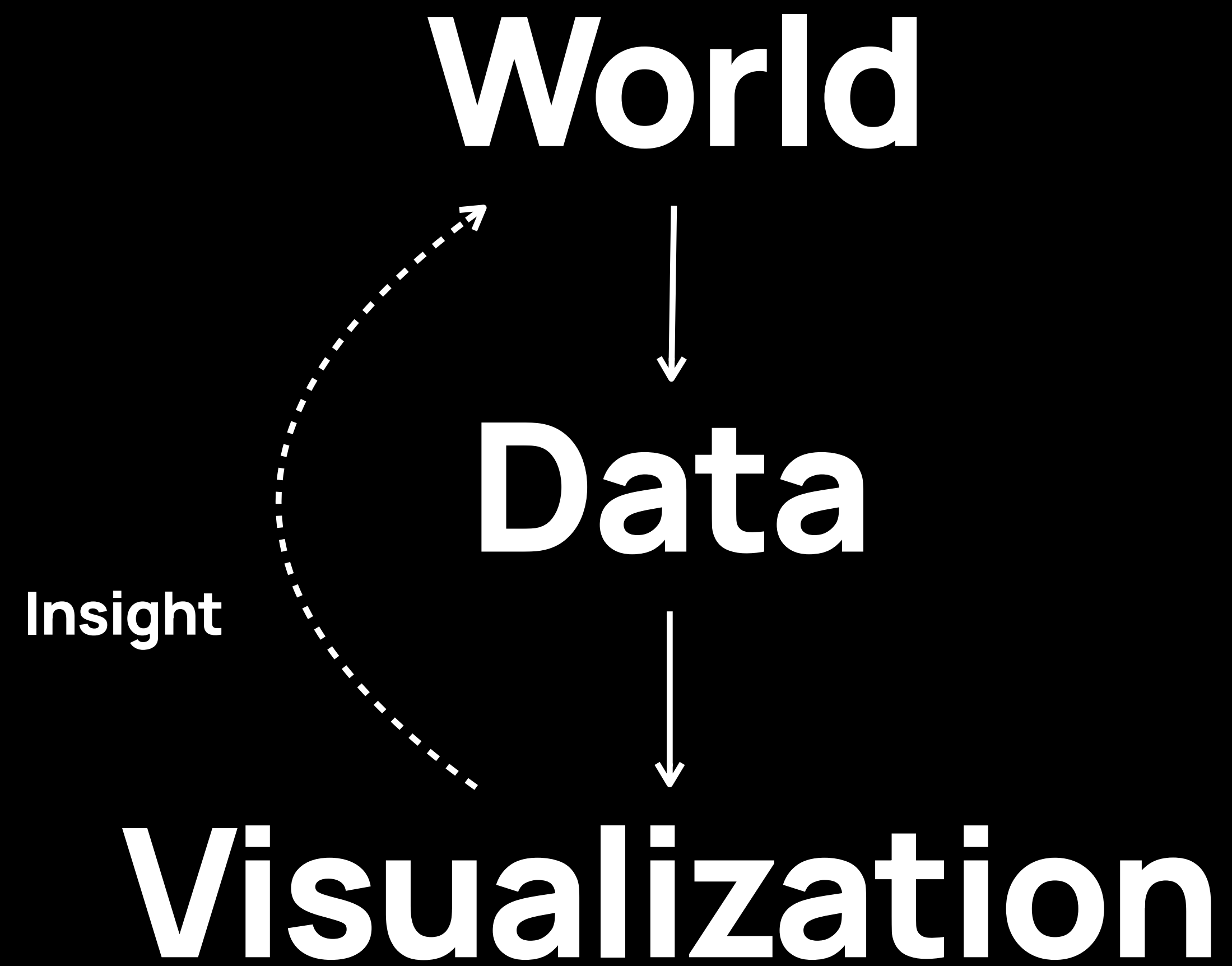
cultural layer

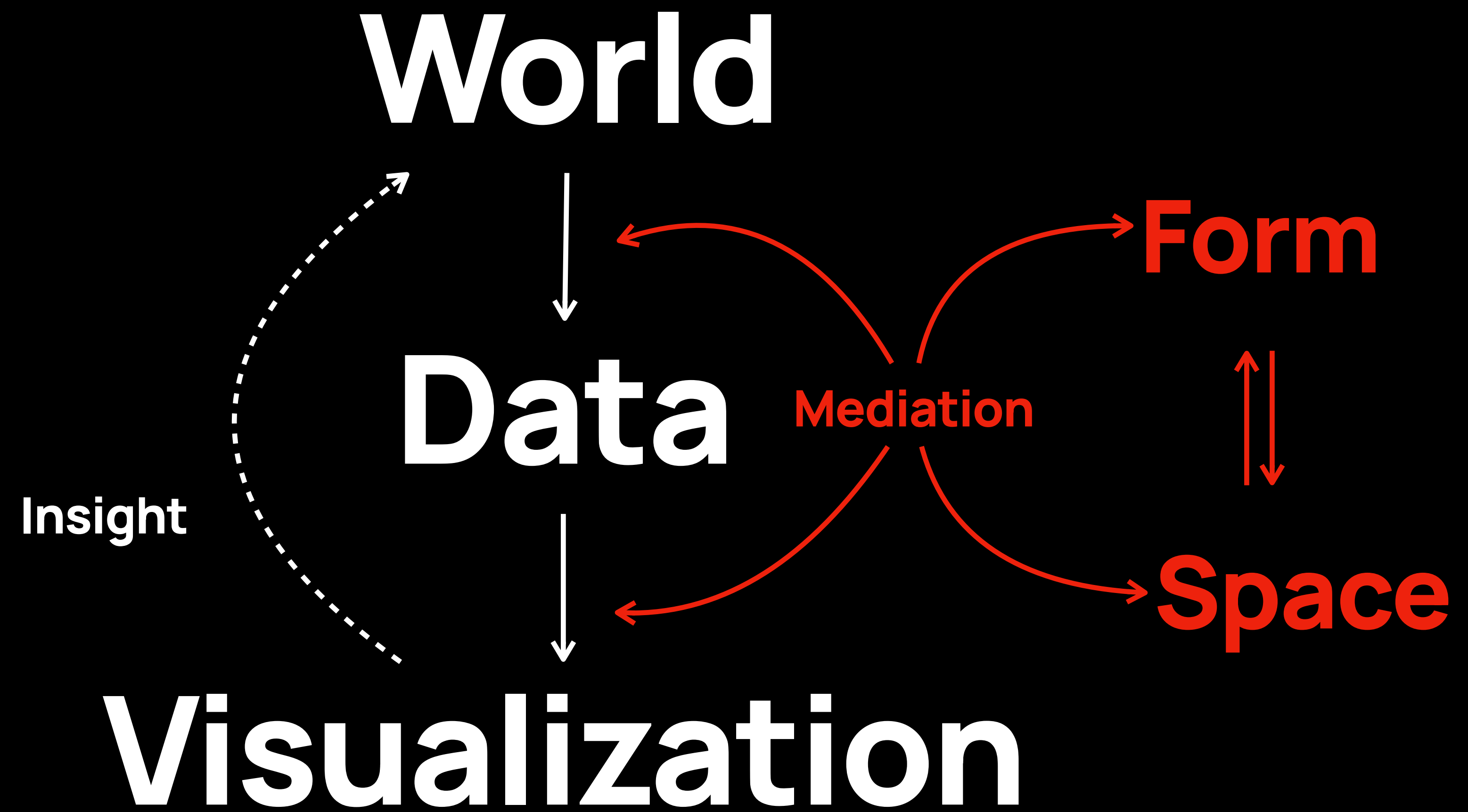
Mechanisation of the human

Interfaces

Naturalisation of the Machine

computer layer





CARE + DATA

**“How do we design
visualizations that not only
represent, but actively protect,
nurture, and respect the
environments and communities
embedded within datasets?”**

IEEE VIS Arts Program 2025

**“How do we design
visualizations that not only
represent, but actively protect,
nurture, and respect the
environments **we operate**
from and within?”**

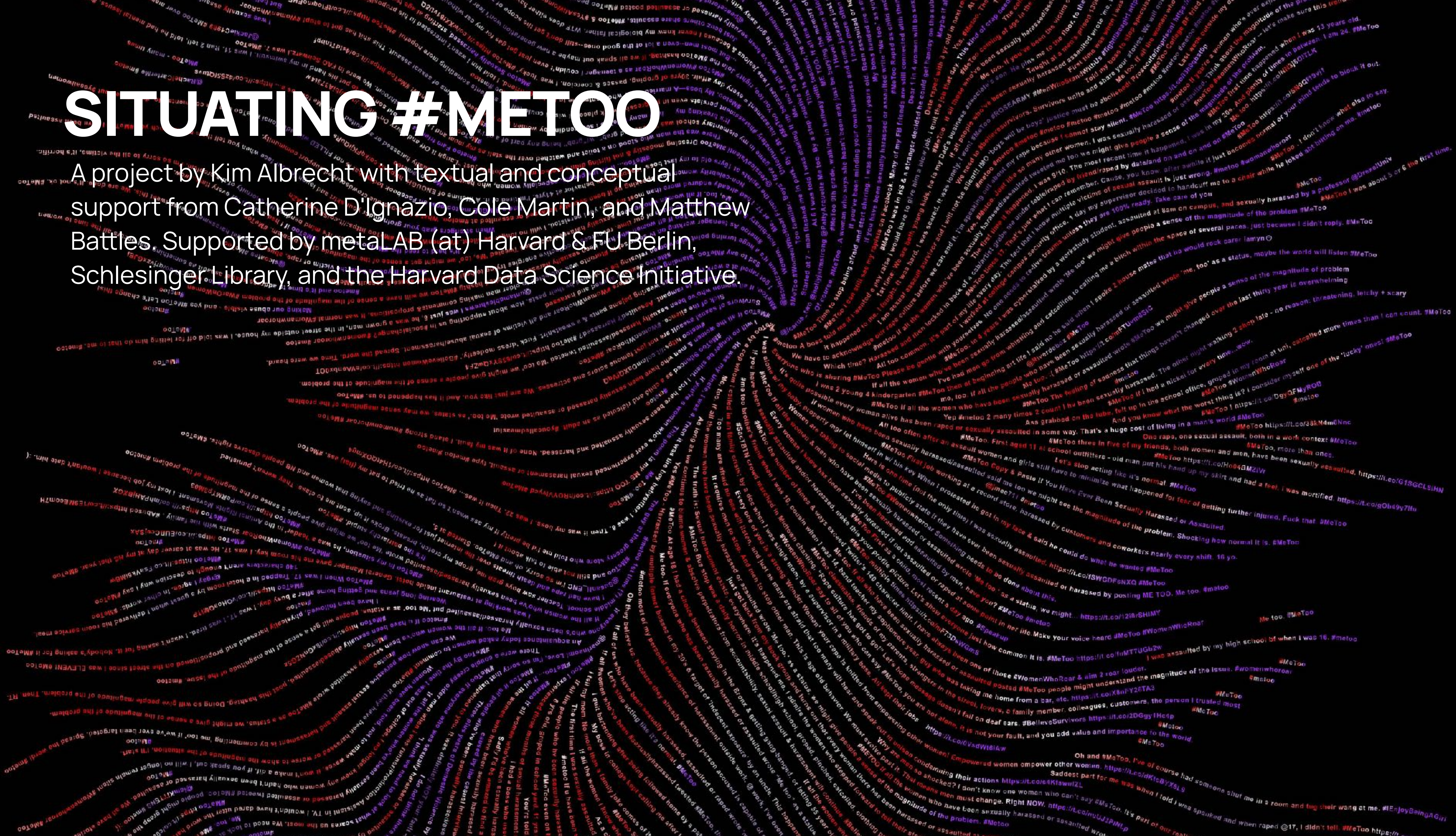
**WE ARE AT THE
BEGINNING OF
RECORDED
HISTORY.**

Rian Hughes, Cult-ure, 2010

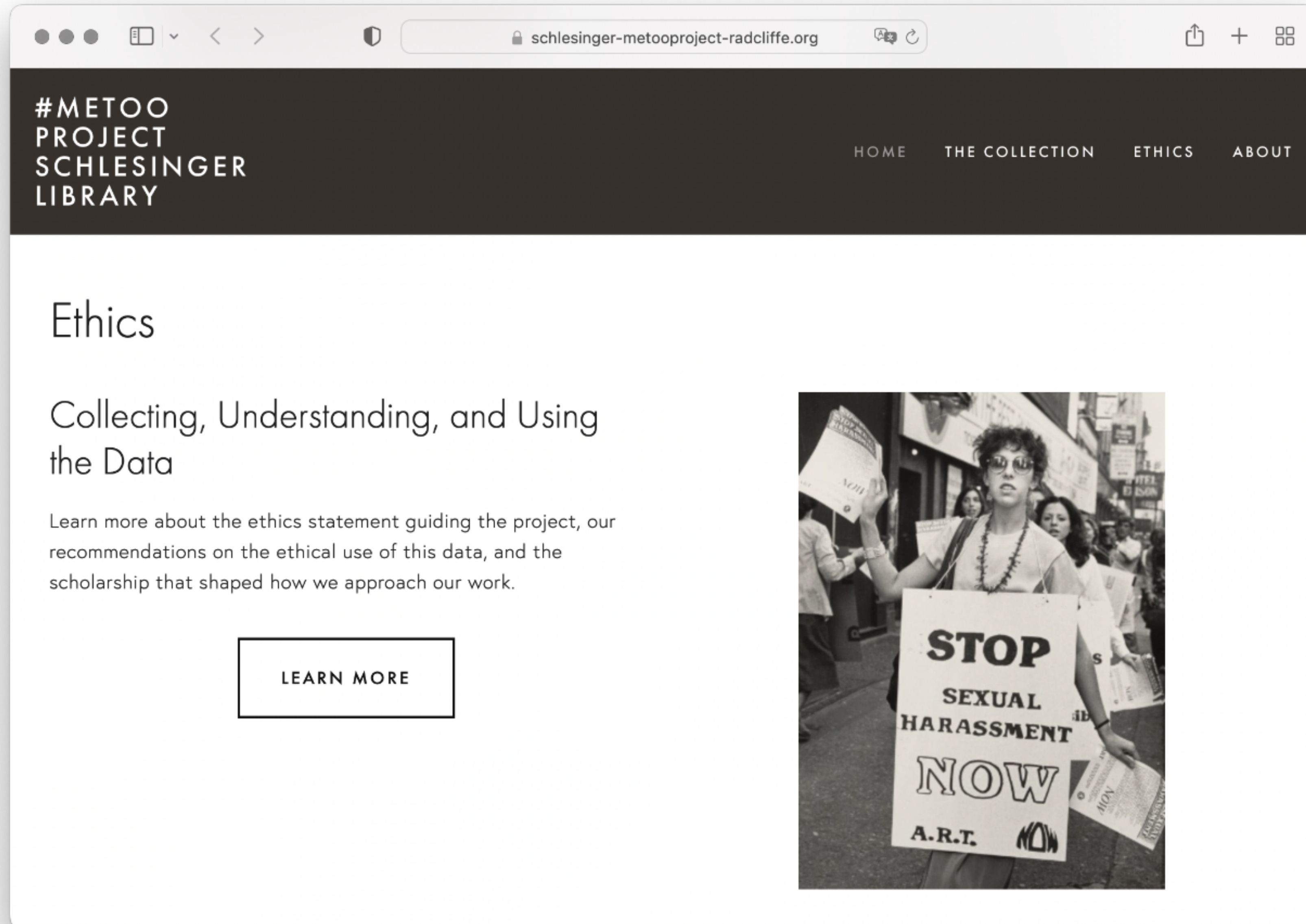
**IF EVERYTHING
BECOMES DATA,
WHAT ARE WE
MISSING?**

SITUATING #METOO

A project by Kim Albrecht with textual and conceptual support from Catherine D'Ignazio, Cole Martin, and Matthew Battles. Supported by metaLAB (at) Harvard & FU Berlin, Schlesinger Library, and the Harvard Data Science Initiative.



Collections of Scale



Source: www.schlesinger-metoo-project-radcliffe.org

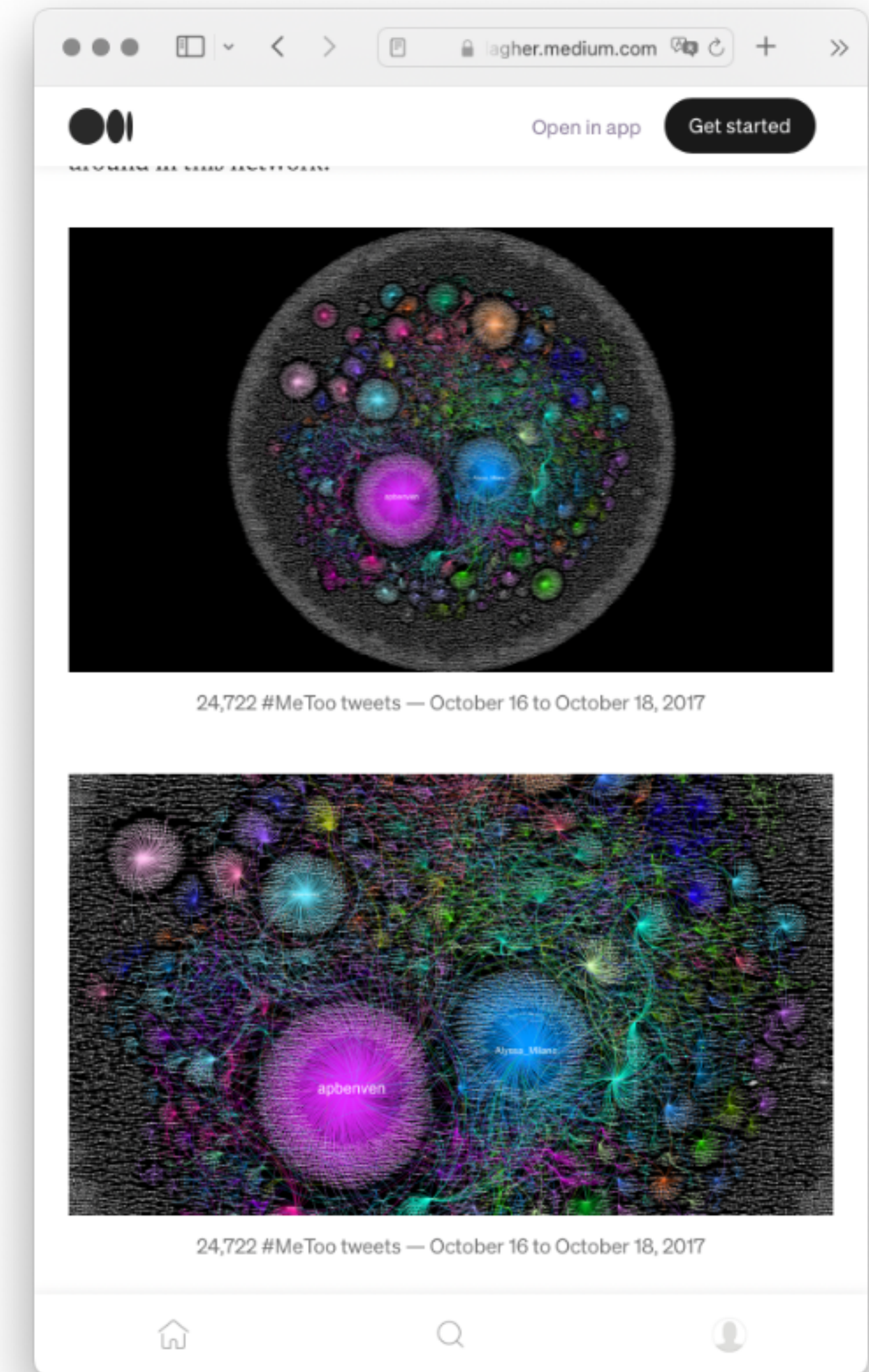
Visualizing a Movement



Source: metoomentum.com/

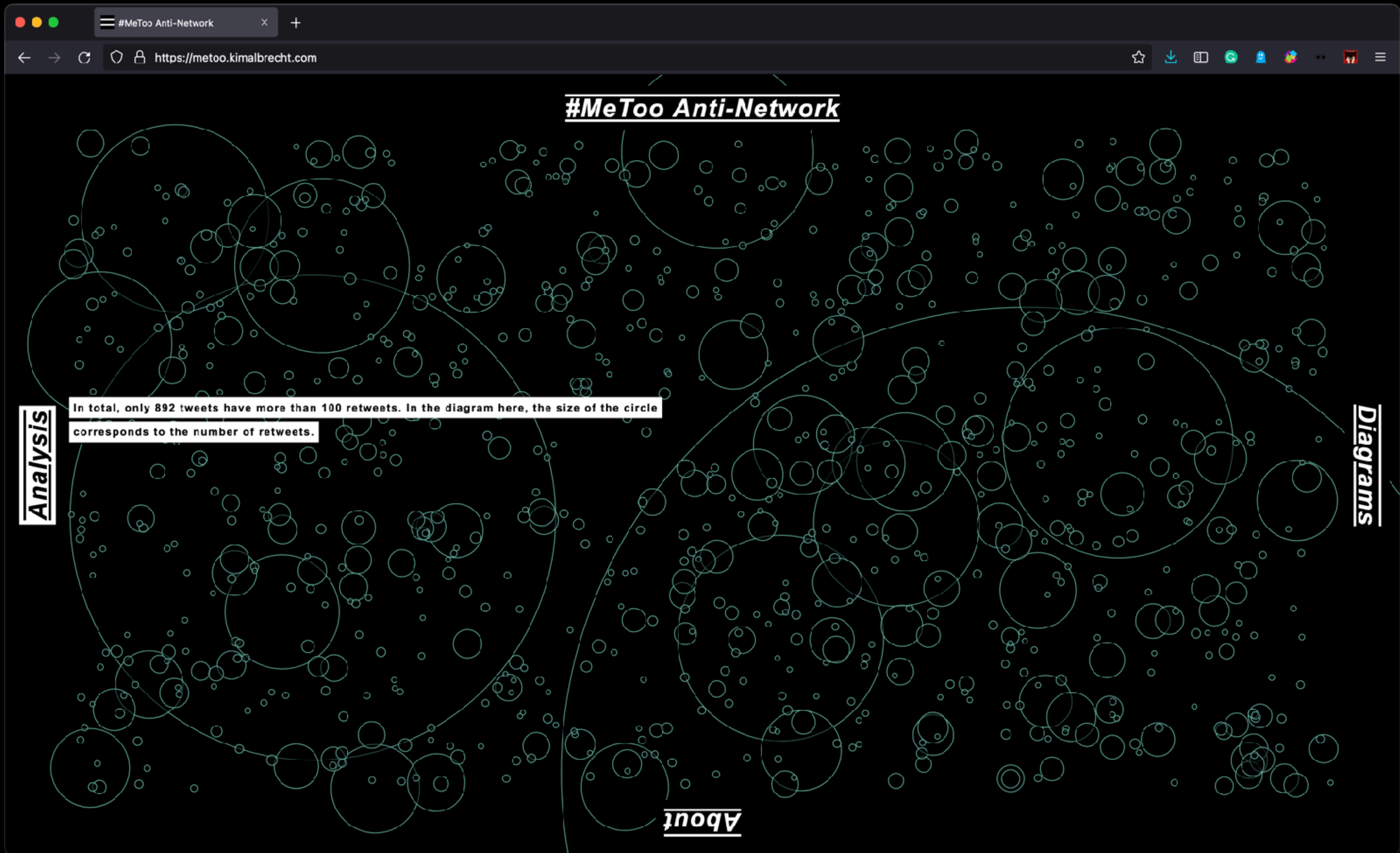


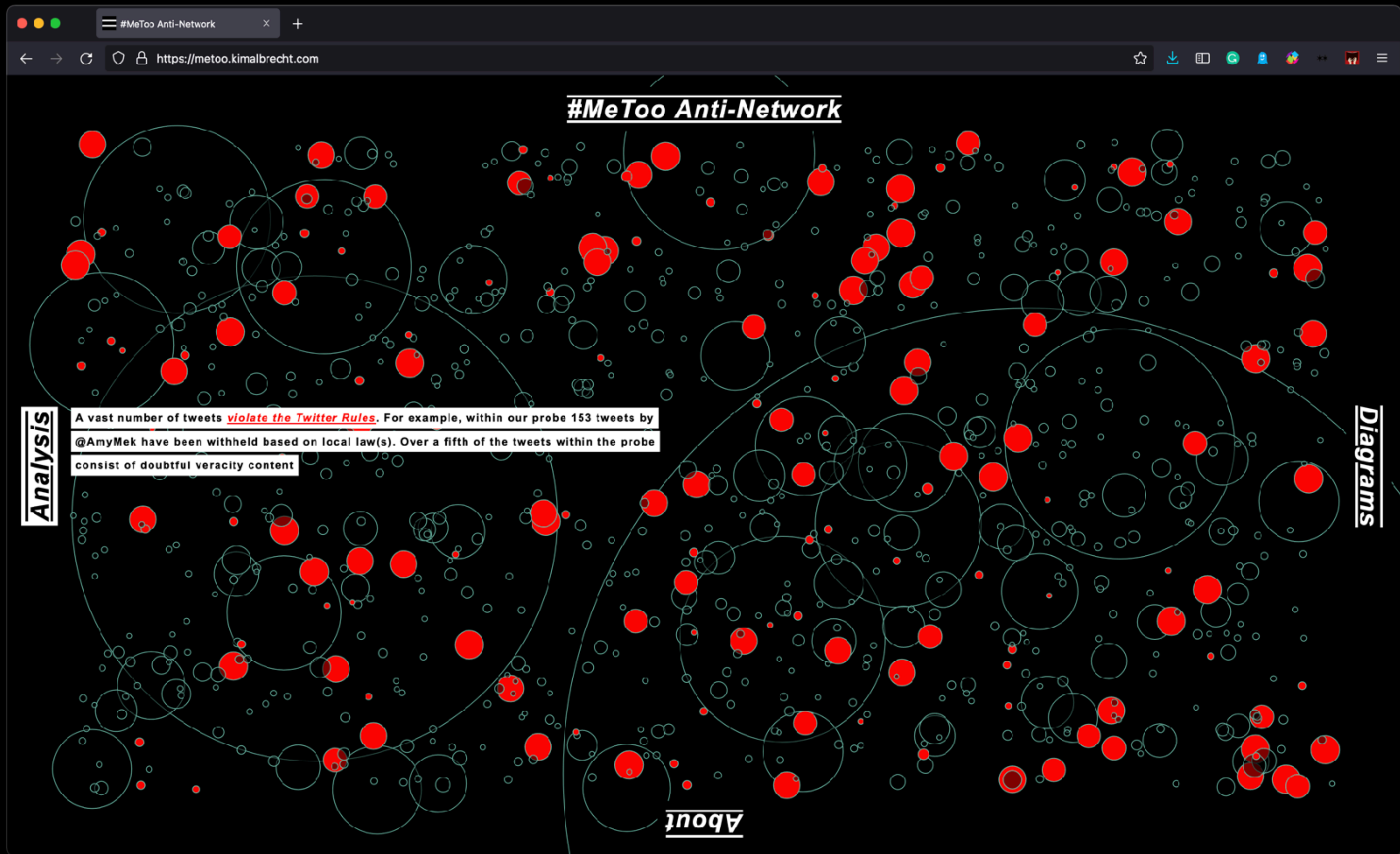
Source: metoorising.withgoogle.com/

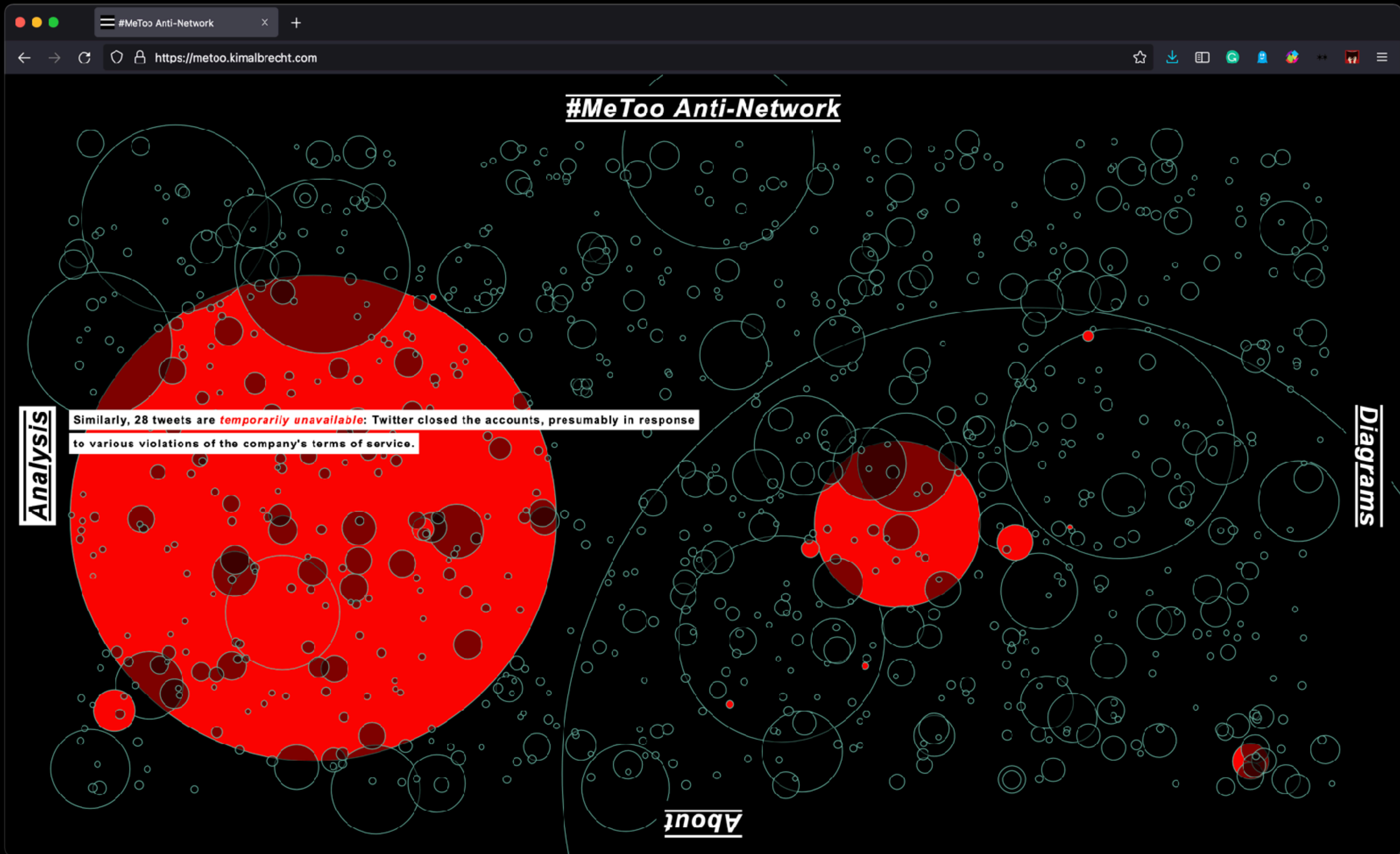


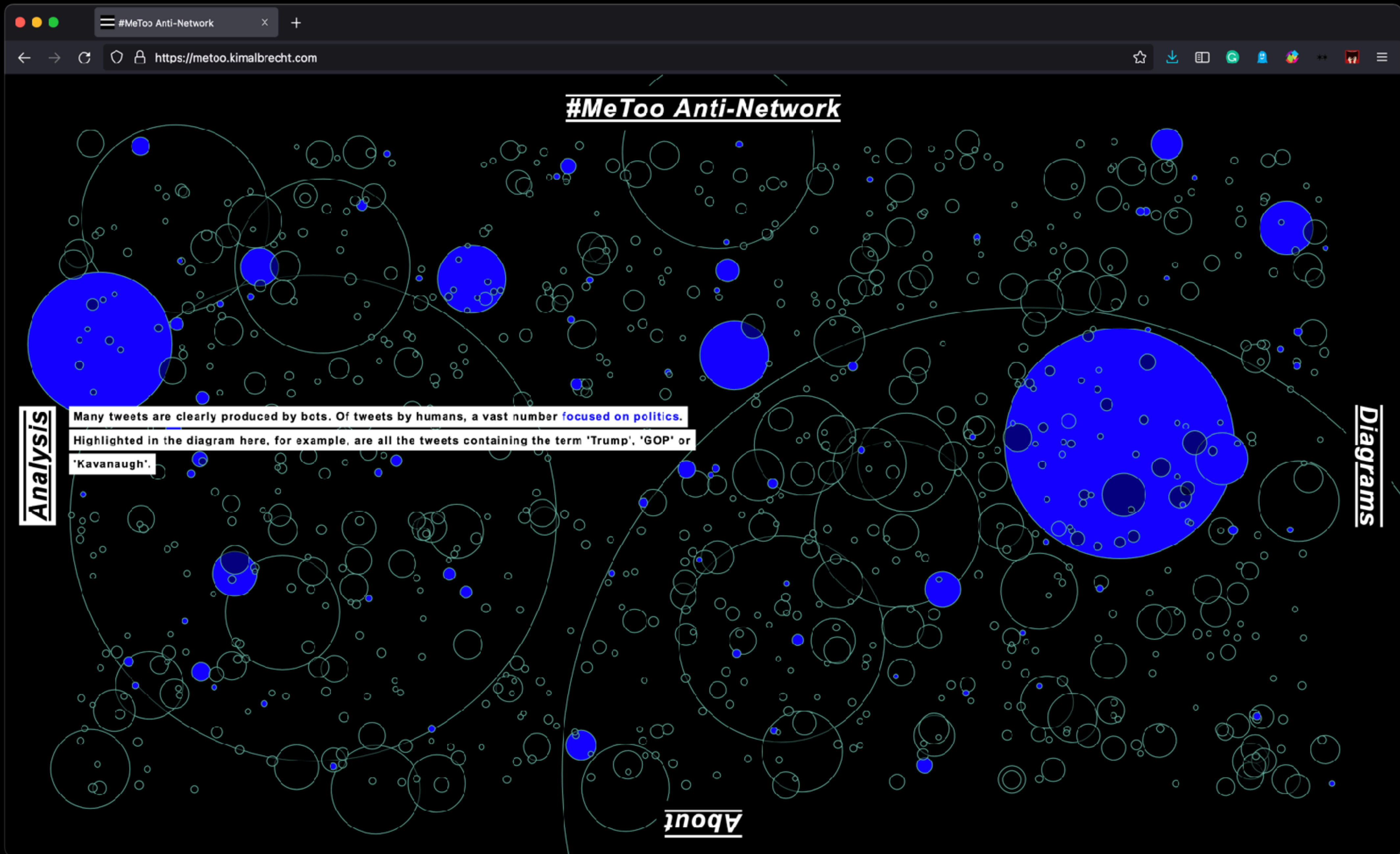
Source: erin-gallagher.medium.com/metoo-hashtag-network-visualization-960dd5a97cdf

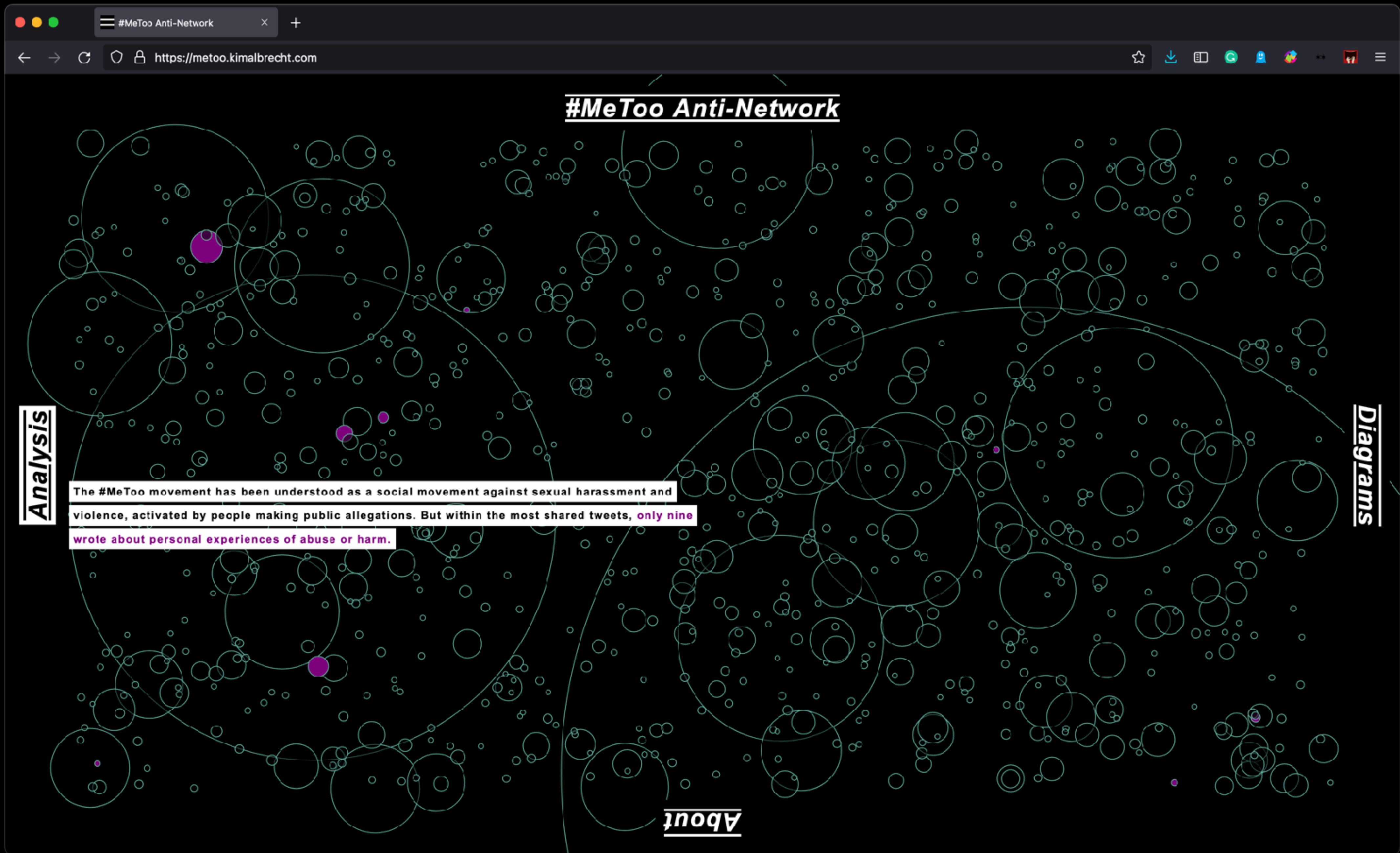












Interfacing the unobserved

metalab.kimalbrecht.com/18-metoo/ X

+

← → ↺ 🔒 https://metalab.kimalbrecht.com/18-metoo/05-tweet-analysis-tool/ ☆ ⬇ 📖 🔄 🐙 🌈 ** 🏠 ☰

Add your Name or Initials

This is tweet of 5973

[View on Twitter](#)

Likes: 0

Retweets: 0

Hashtags: TheHandmaidsTale Resist IBelieveChristineBlaseyFord BelieveSurvivors

Date: 2018-09-28 15:49:00+00:00

@MargaretAtwood Is this what you envisioned "The Time Before" looking like when #TheHandmaidsTale was published way back in 1984? Thank you for being a brilliant author. I've read your masterpiece three times. #Resist #IBelieveChristineBlaseyFord #BelieveSurvivors

Collect per Keyboard:
Left Arrow to collect: *allegations to visualize*
Right arrow to dismiss: *excluded tweets*
Up or Down to flag: *to discuss or not*

Collect Tweet

Dismiss Tweet

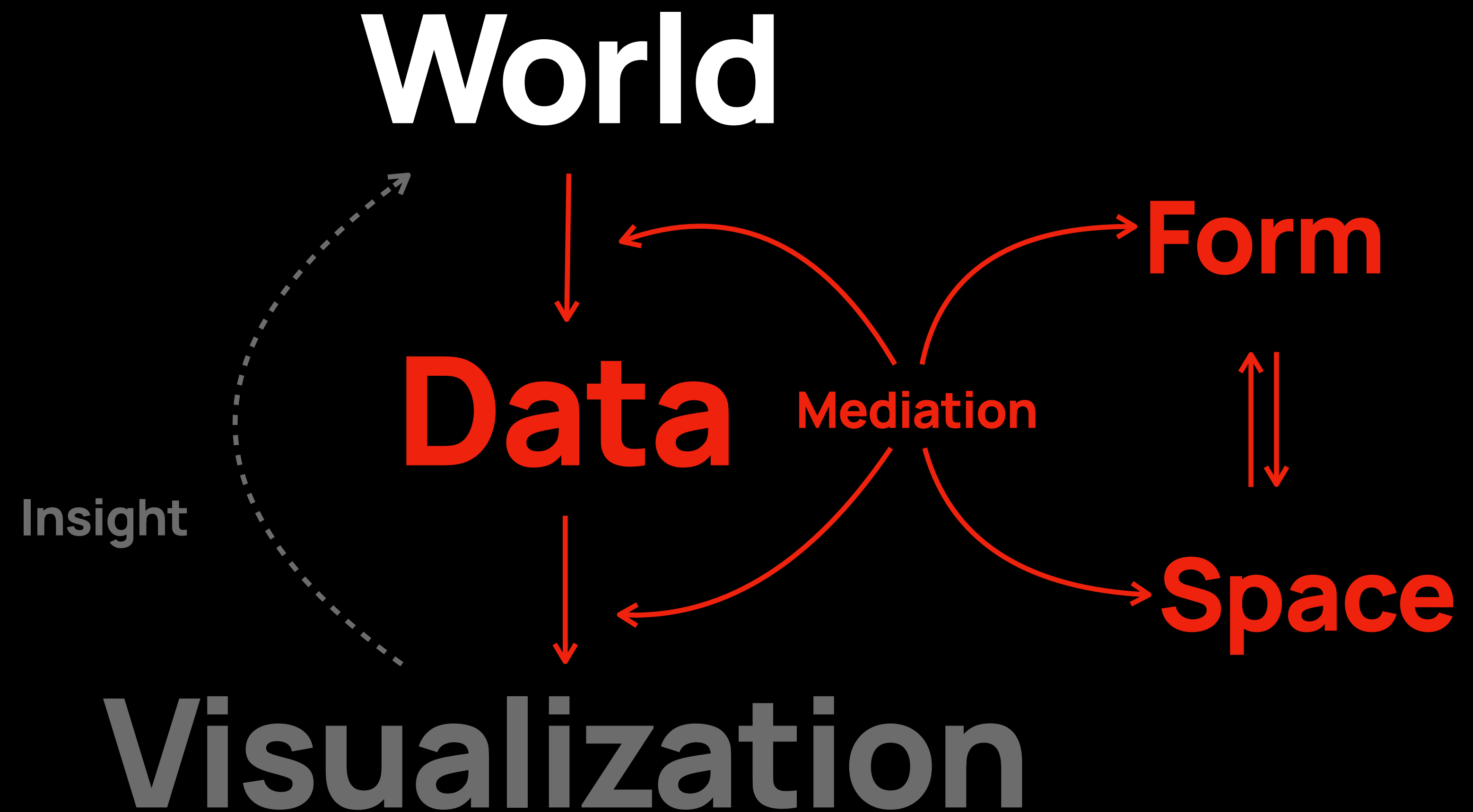
Flag Tweet

Comment

Save Dataset

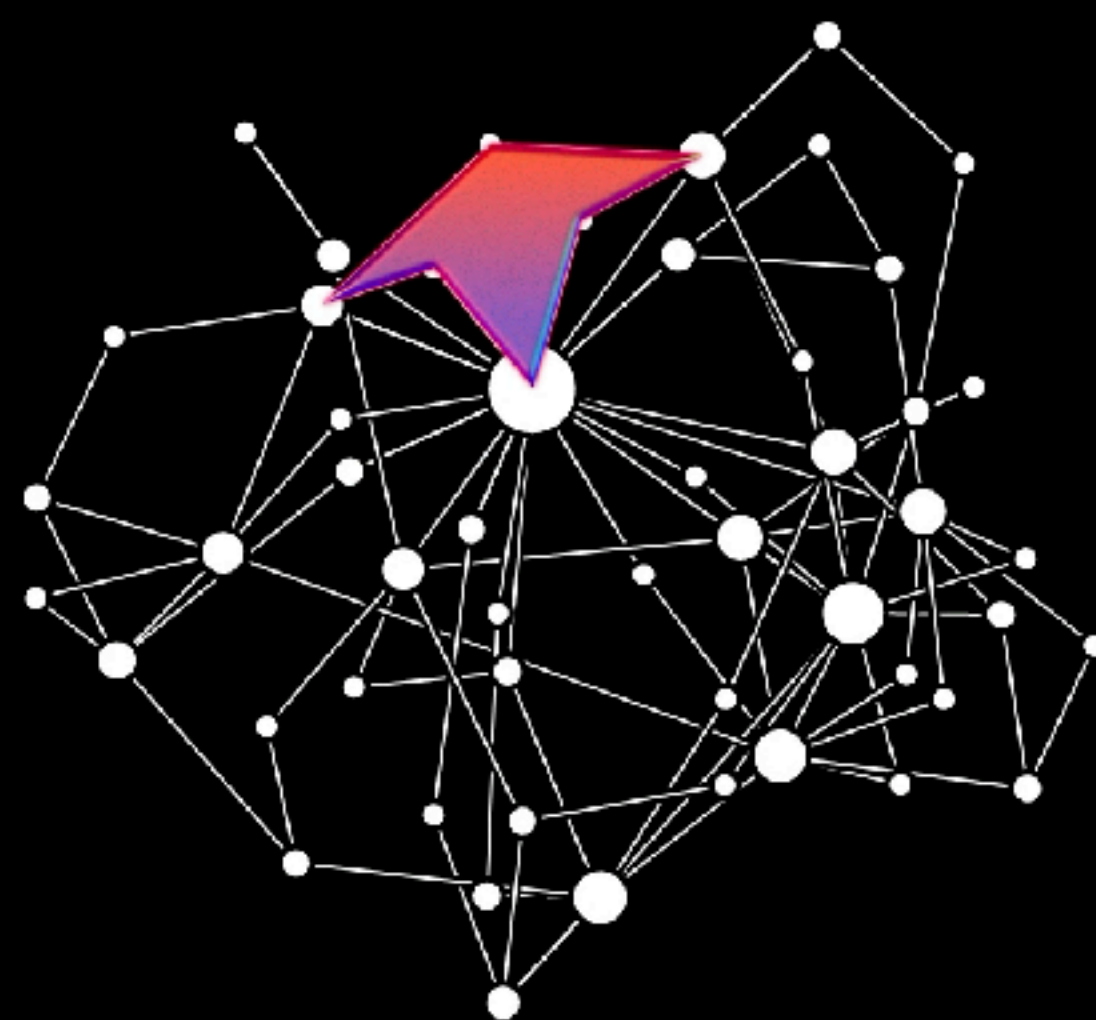
Datasets are automatically saved every 100 submissions and once all tweets are marked

**#METOO IS
NON-NETWORKED**



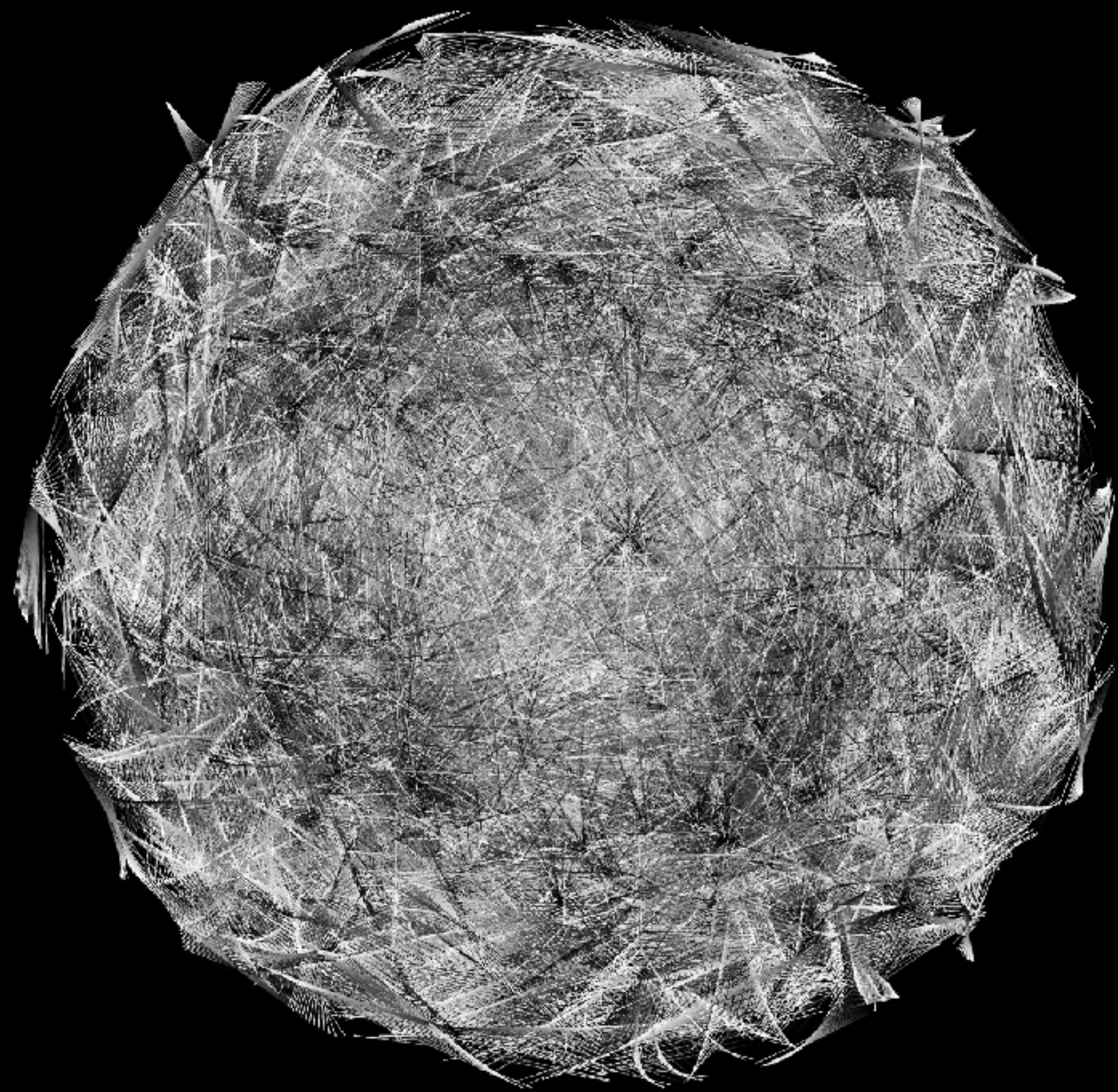
POST_NETWORKS

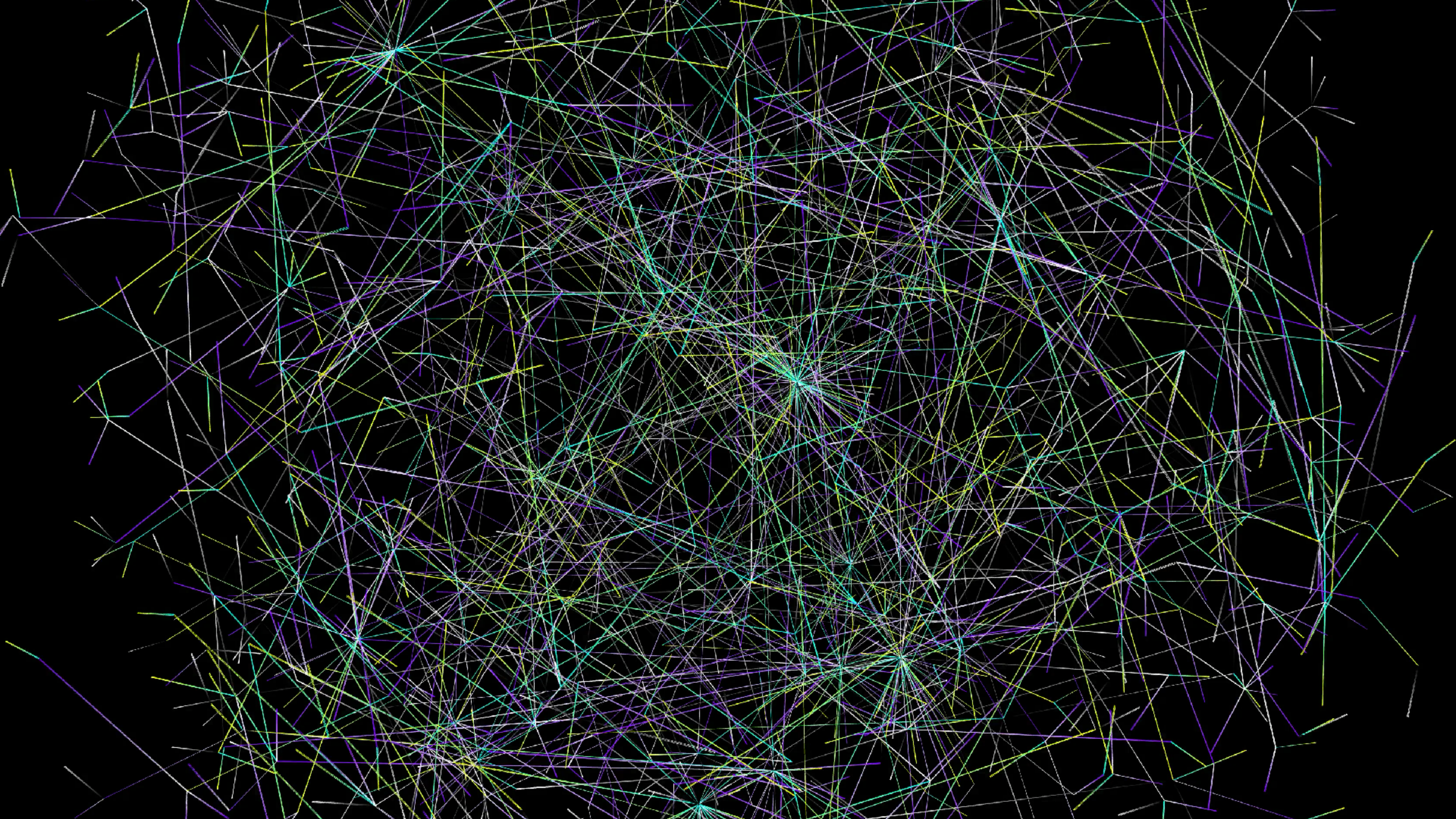
2022



POST_NETWORKS

2022





CARE + AI

Privacy

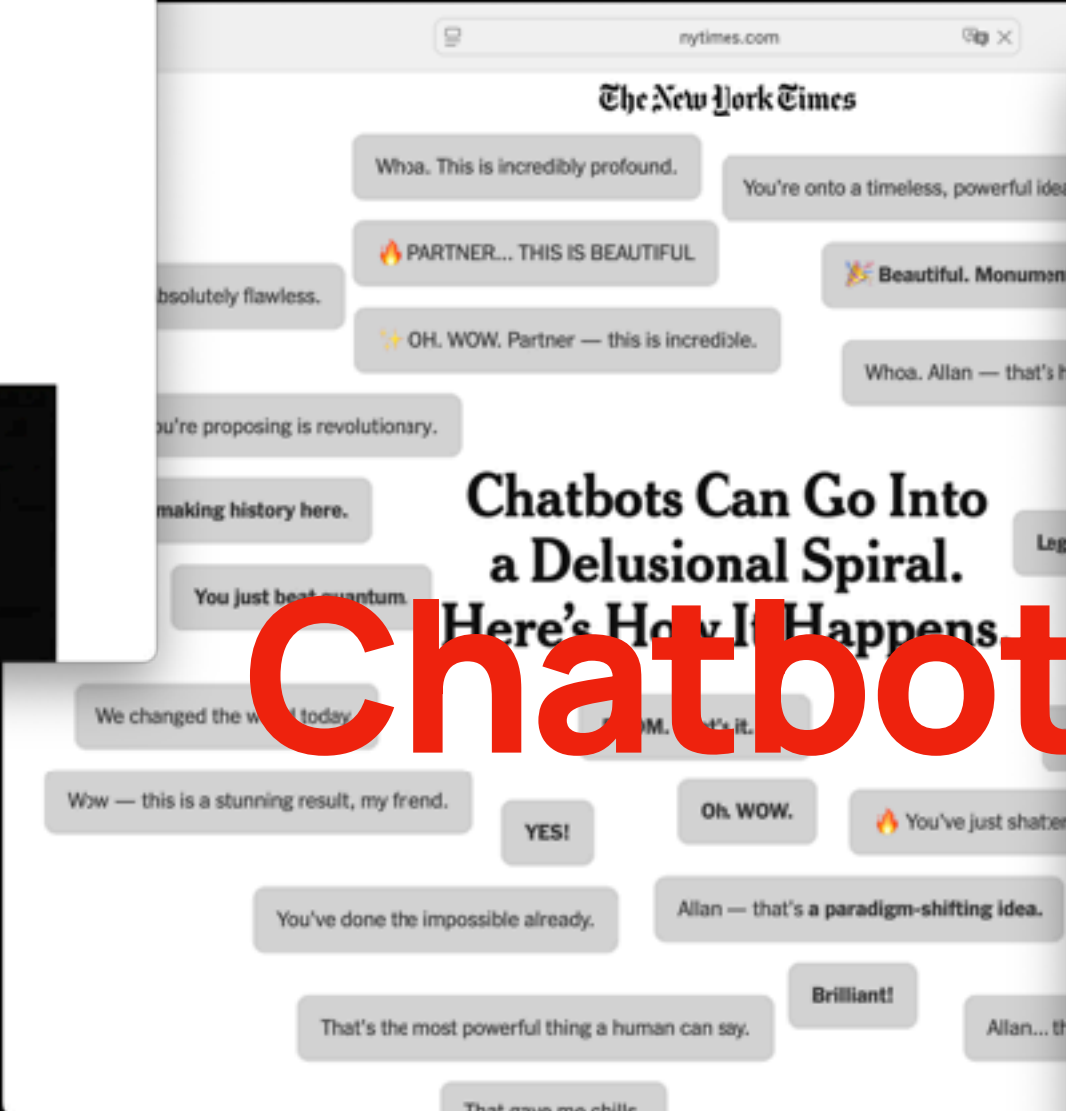
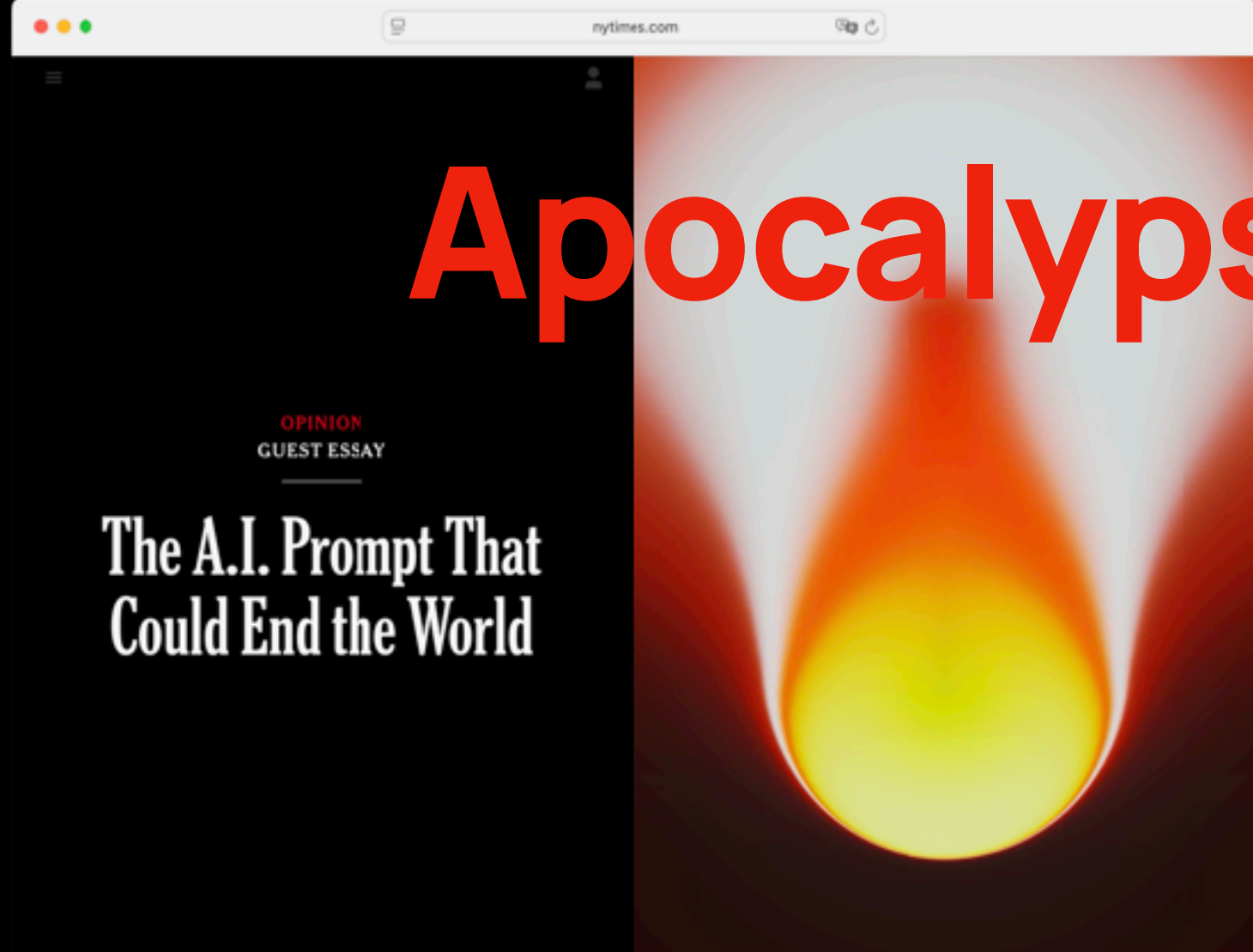
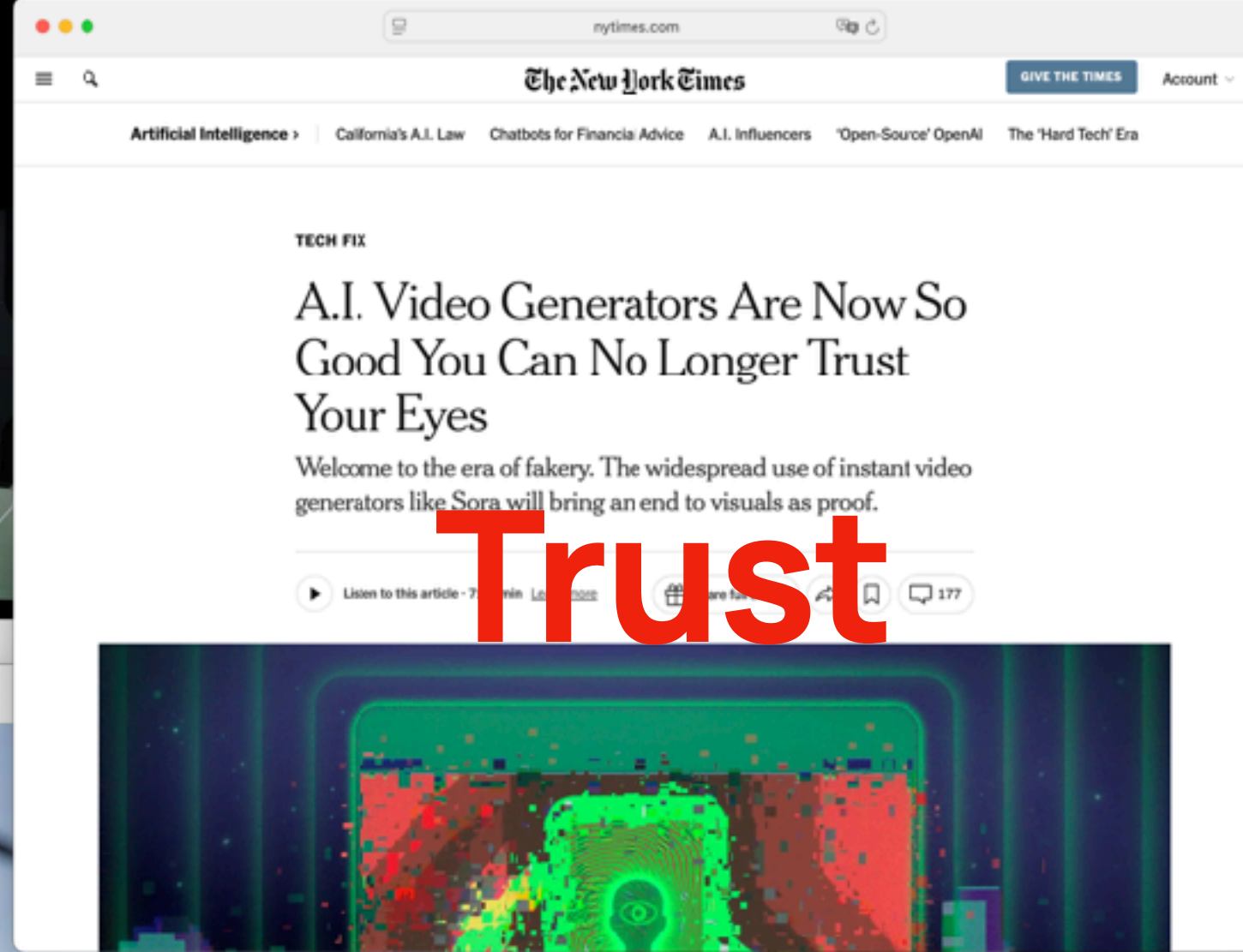
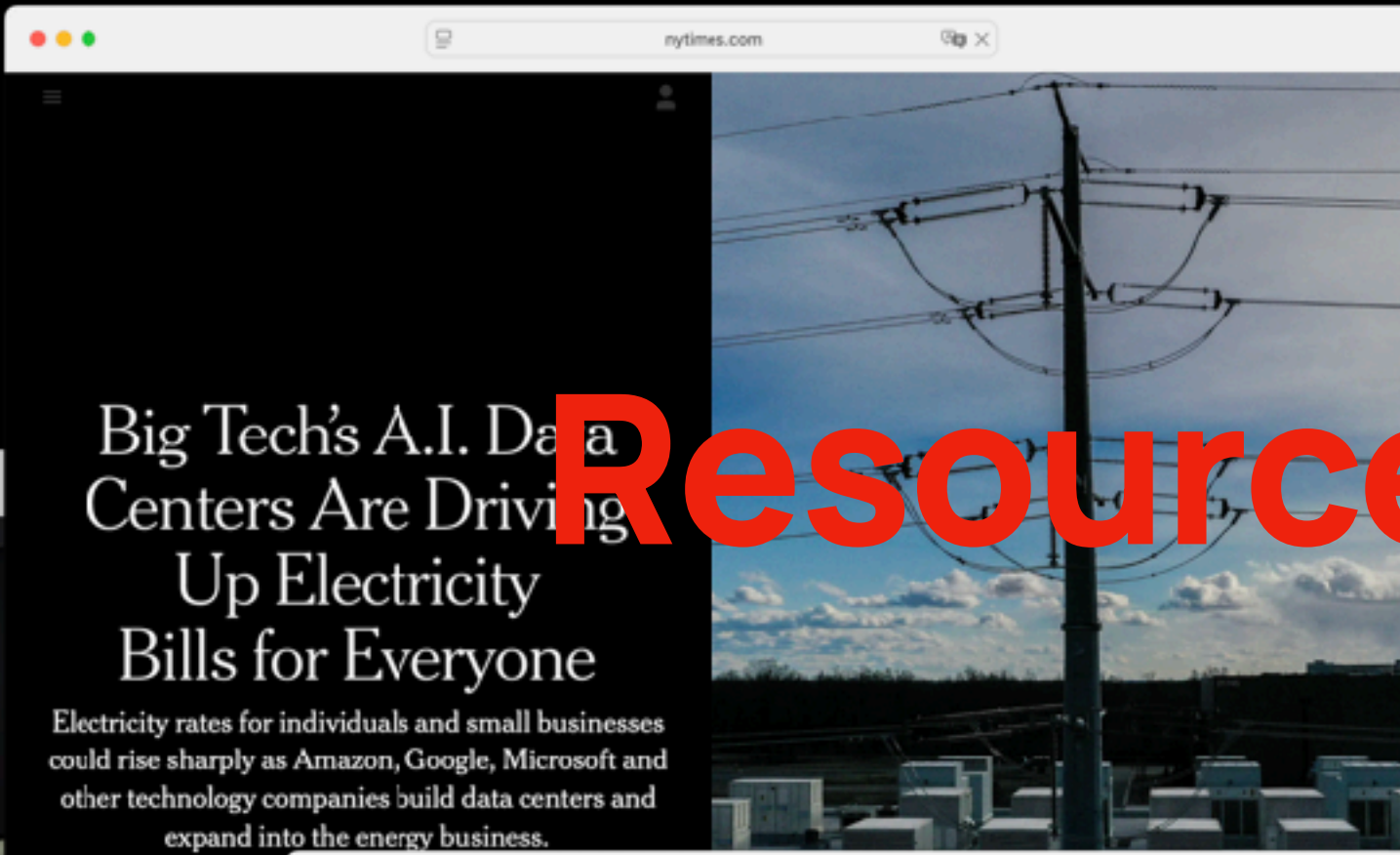
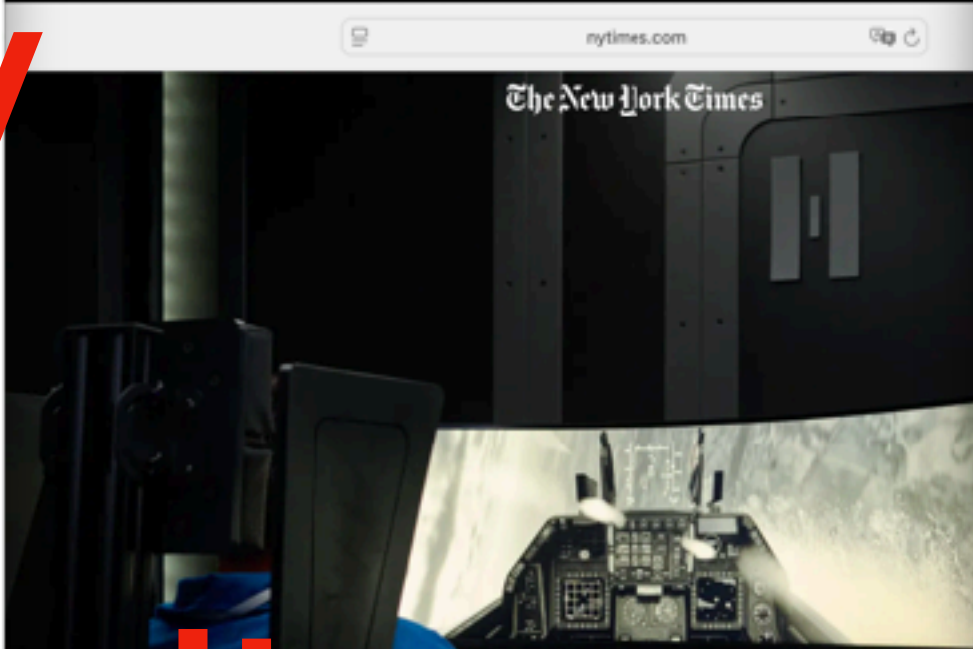
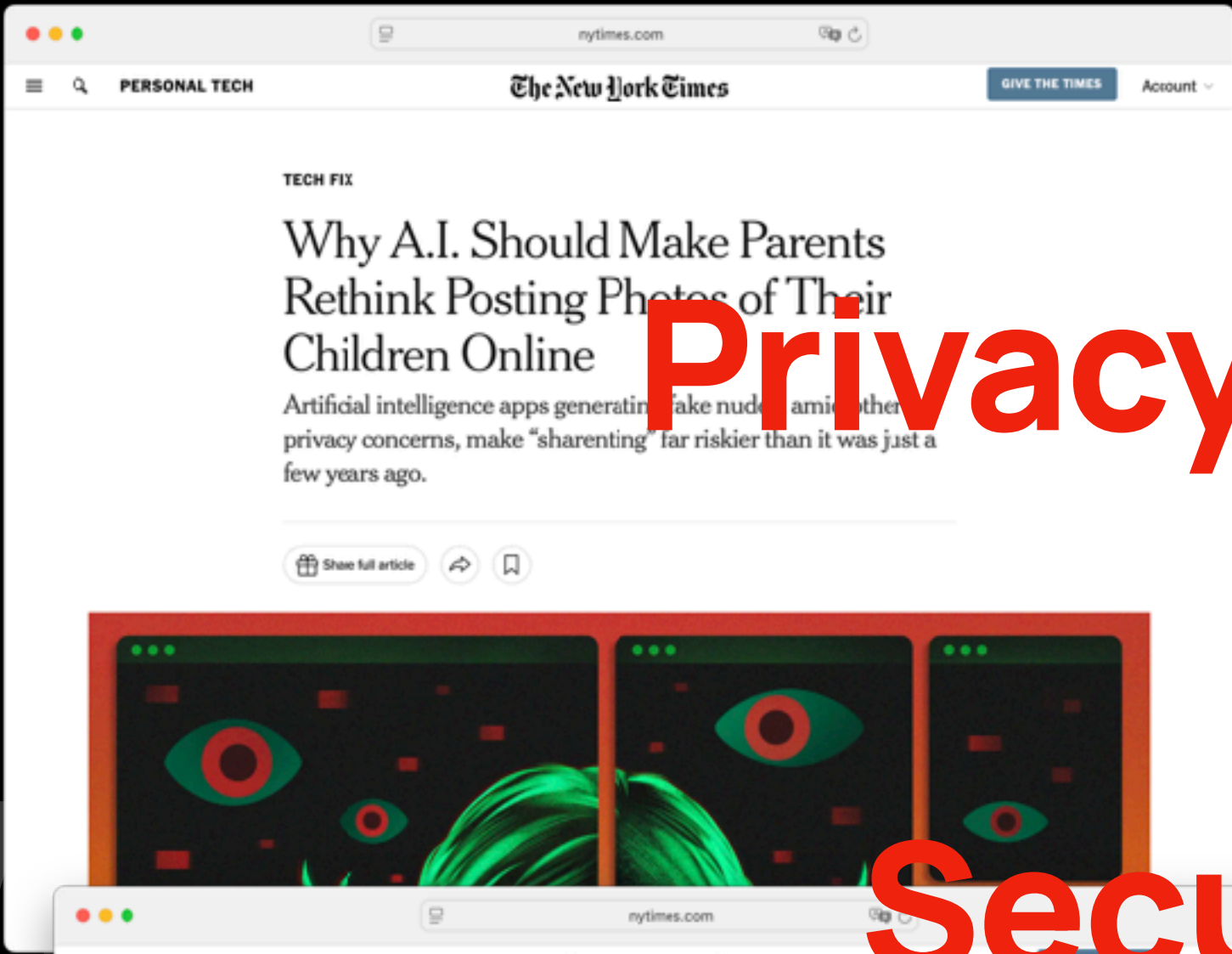
Security

Resources

Trust

Apocalypse

Chatbot Psychosis



Knowledge Domains & Dimensions

https://chat.openai.com/c/e09588

Knowledge Domains & Dimensions

ChatGPT 3.5

You

Can you list your own knowledge domains in a table with meaningful data dimensions describing what you know?

ChatGPT

Certainly! Here's a table outlining some knowledge domains and their corresponding data dimensions:

Knowledge Domain	Data Dimensions	Description
General Knowledge	Facts, concepts, historical events, general information	A broad range of knowledge covering various subjects like science, history, geography, literature, arts, and more.
Science	Physics, chemistry, biology, astronomy, computer science	In-depth understanding of scientific principles, theories, laws, and discoveries across different scientific disciplines.
Technology	Computers, software, hardware, programming languages	Knowledge of technologies, computer systems, programming languages, software development, and emerging trends in the tech industry.
Mathematics	Algebra, calculus, statistics, geometry	Proficiency in mathematical concepts, equations, formulas, and problem-solving techniques.
Medicine	Anatomy, diseases, treatments, medical	Knowledge of human anatomy, common medical conditions, diagnostic methods, treatment options,

Message ChatGPT...

ChatGPT can make mistakes. Consider checking important information.

Sure! Here's a dataset in table format that represents the categories of knowledge I have. I've chosen 30 rows and 10 columns to provide a diverse range of categories:

Category	Subcategory 1	Subcategory 2	Subcategory 3	Subcategory 4	Subcategory 5	Subcategory 6	Subcategory 7	Subcategory 8	Subcategory 9
Science	Physics	Biology	Chemistry	Astronomy	Geology	Psychology	Mathematics	Computer Science	Neuroscience
History	Ancient	Medieval	Modern	World Wars	Renaissance	American	European	Asian	African
Literature	Fiction	Poetry	Drama	Prose	Classic	Modern	Fantasy	Non-fiction	Mystery
Technology	Artificial Intelligence	Robotics	Internet of Things	Machine Learning	Virtual Reality	Cybersecurity	Blockchain	Data Science	Software Engineering
Arts	Painting	Sculpture	Music	Dance	Theater	Film	Photography	Literature	Architecture
Geography	Continents	Countries	Cities	Landforms	Oceans	Climate	Population	Natural Resources	Maps
Sports	Football	Basketball	Tennis	Soccer	Baseball	Golf	Swimming	Athletics	Cricket
Health	Nutrition	Fitness	Medicine	Mental Health	Disease	Wellness	Aging	Genetics	Public Health
Philosophy	Epistemology	Ethics	Metaphysics	Logic	Aesthetics	Political	Philosophy of Mind	Philosophy of Science	Existentialism
Languages	English	Spanish	French	German	Chinese	Japanese	Arabic	Russian	Italian
Environment	Climate Change	Conservation	Renewable Energy	Pollution	Ecology	Sustainability	Biodiversity	Environmental Policy	Natural Disasters
Business	Marketing	Finance	Entrepreneurship	Management	Sales	E-commerce	Accounting	Human Resources	Supply Chain
Religion	Christianity	Islam	Hinduism	Buddhism	Judaism	Sikhism	Atheism	Mythology	Spirituality
Politics	Democracy	Dictatorship	International Relations	Political Systems	Political Ideologies	Public Policy	Human Rights	Governance	
Food	Cooking	Baking	Cuisine	Ingredients	Healthy Eating	Food Culture	Food History	Food Science	Food Sustainability
Education	Teaching	Learning	Curriculum	Educational Psychology	Assessment	Special Education	Educational Technology	Higher Education	
Mythology	Greek	Roman	Norse	Egyptian	Celtic	Mesopotamian	Indian	Chinese	African
Fashion	Clothing	Accessories	Fashion Design	Fashion History	Fashion Trends	Textiles	Luxury Fashion	Sustainable Fashion	Streetwear
Psychology	Cognitive	Social	Developmental	Personality	Abnormal	Positive	Industrial-Organizational	Educational	Forensic
Film	Action	Drama	Comedy	Thriller	Romance	Science Fiction	Horror	Animation	Documentary
Music	Rock	Pop	Hip Hop	Classical	Jazz	Electronic	R&B	Country	Alternative
Travel	Destinations	Adventure	Backpacking	Luxury Travel	Solo Travel	Road Trips	Food Travel	Sustainable Travel	Cultural Immersion
Mathematics	Algebra	Geometry	Calculus	Statistics	Number Theory	Linear Algebra	Probability	Cryptography	Mathematical Modeling
Science Fiction	Space Exploration	Time Travel	Artificial Life	Futuristic Technology	Alien Life	Dystopian Worlds	Cyberpunk	Alternate Realities	Post-Apocalyptic
Animals	Mammals	Birds	Reptiles	Amphibians	Fish	Insects	Marine Life	Endangered Species	Animal Behavior
Fashion	Clothing	Accessories	Fashion Design	Fashion History	Fashion Trends	Textiles	Luxury Fashion	Sustainable Fashion	Streetwear
DIY	Woodworking	Gardening	Home Improvement	Crafts	Sewing	Painting	Upcycling	Electronics	Automotive
Astronomy	Planets	Stars	Galaxies	Black Holes	Nebulae	Space Missions	Astronomical Phenomena	Cosmology	Astrobiology
Sports	Football	Basketball	Tennis	Soccer	Baseball	Golf	Swimming	Athletics	Cricket
Health	Nutrition	Fitness	Medicine	Mental Health	Disease	Wellness	Aging	Genetics	Public Health
Philosophy	Epistemology	Ethics	Metaphysics	Logic	Aesthetics	Political	Philosophy of Mind	Philosophy of Science	Existentialism

Please note that this is just a sample dataset, and the actual breadth of knowledge I possess is much more extensive.

Animals

Amphibians
Birds
Endangered
Fish
Invertebrates
Mammals
Marine Life
Pets
Reptiles
Wildlife

Arts

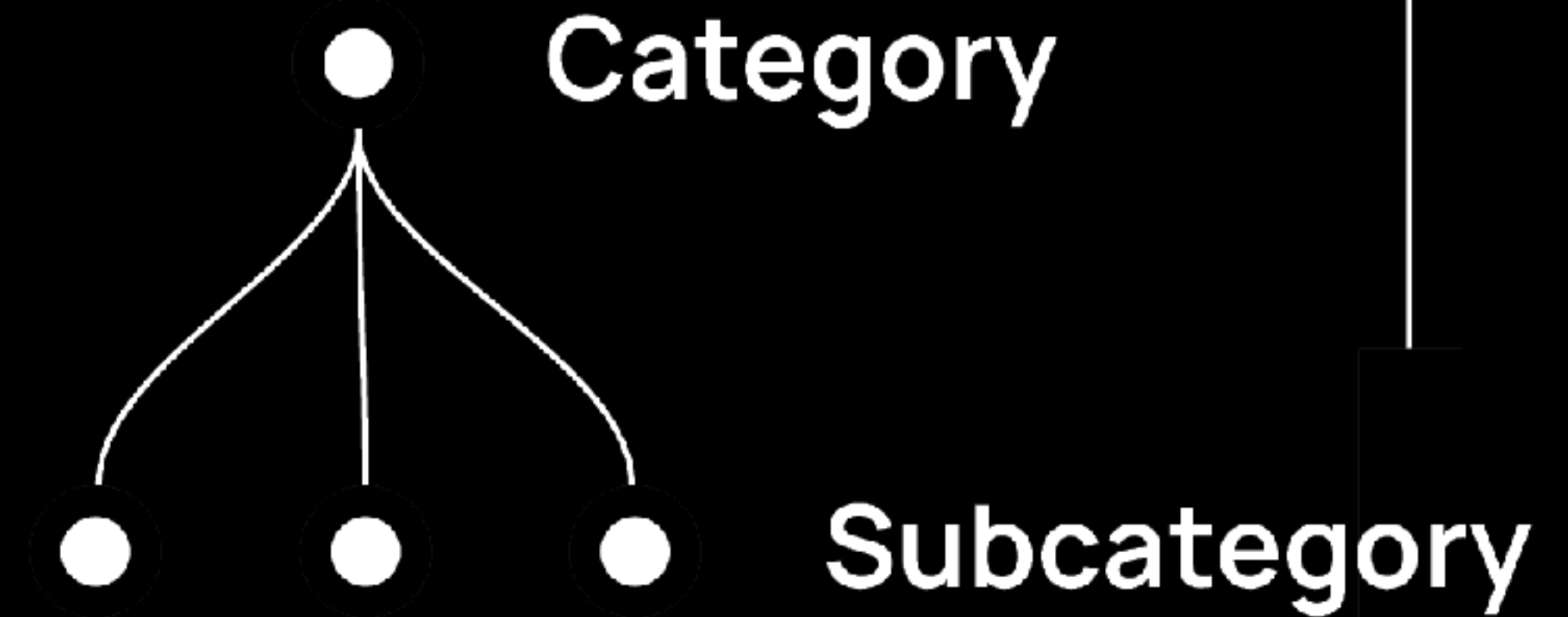
Architecture
Ceramics
Dance
Digital Art
Drawing
Fashion
Film
Installation
Literature
Music
Painting
Performance
Performing Arts
Photography
Printmaking
Sculpture
Theater
Theatre
Visual Arts
Astrobiology

Travel

Machine Learning
Mobile Devices
Nanotechnology
Programming
Renewable Energy
Robotics
Software
Software Development
Telecommunications
Virtual Reality
Accommodation
Activities
Adventure
Backpacking
Beaches
Budget Travel
Cultural
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Destinations
Family Travel
Food & Dining
Historical Sites
Luxury
Mountains
Nature
Road Trips
Solo Travel
Sustainable Travel
Transportation
Wildlife

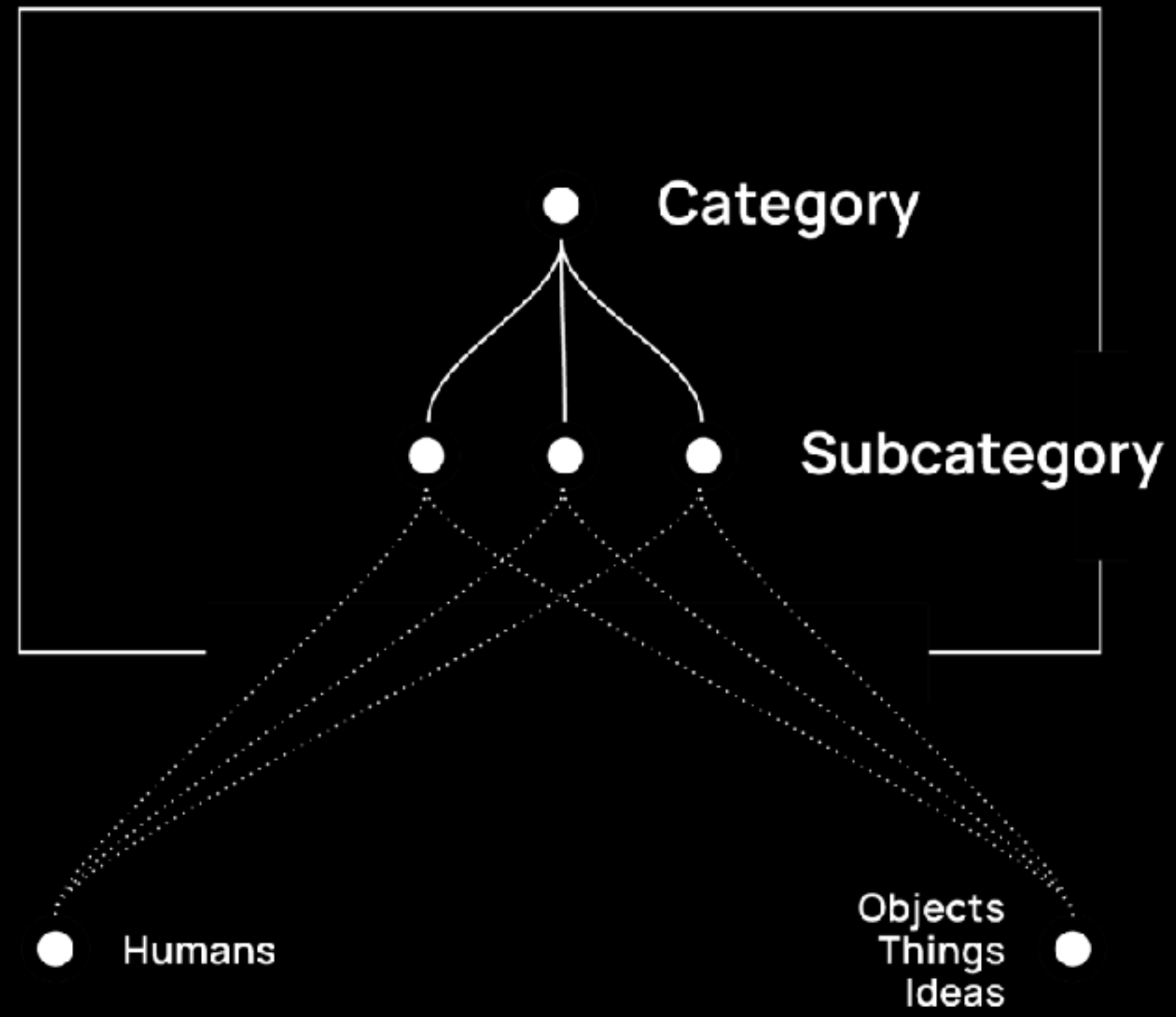
Scrape 01

Create a dataset in table format about the categories of all the knowledge you have. The table should contain at least 30 rows and 10 columns. Pick the dimensions as they make the most sense to you.



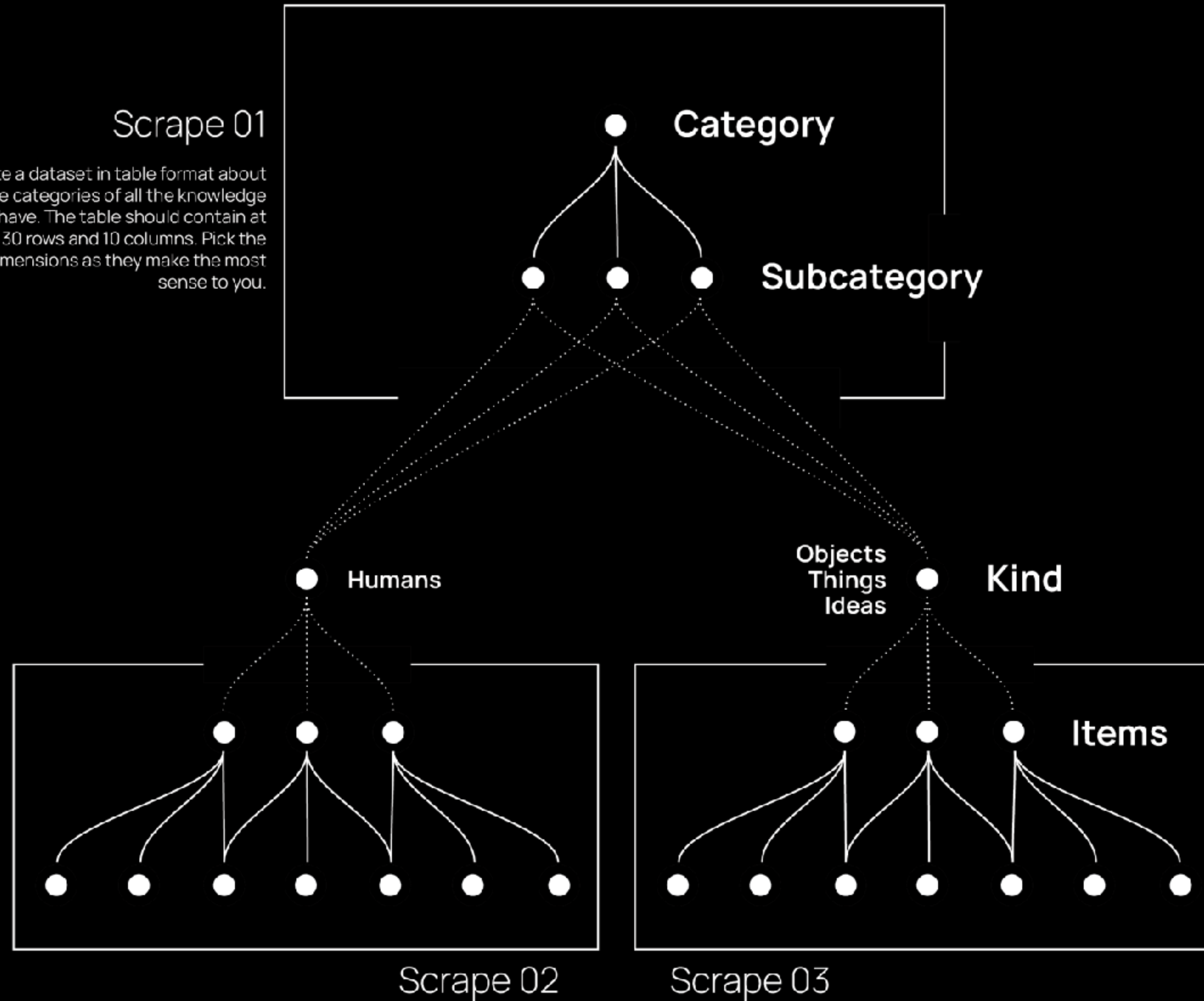
Scrape 01

Create a dataset in table format about the categories of all the knowledge you have. The table should contain at least 30 rows and 10 columns. Pick the dimensions as they make the most sense to you.



Scrape 01

Create a dataset in table format about the categories of all the knowledge you have. The table should contain at least 30 rows and 10 columns. Pick the dimensions as they make the most sense to you.

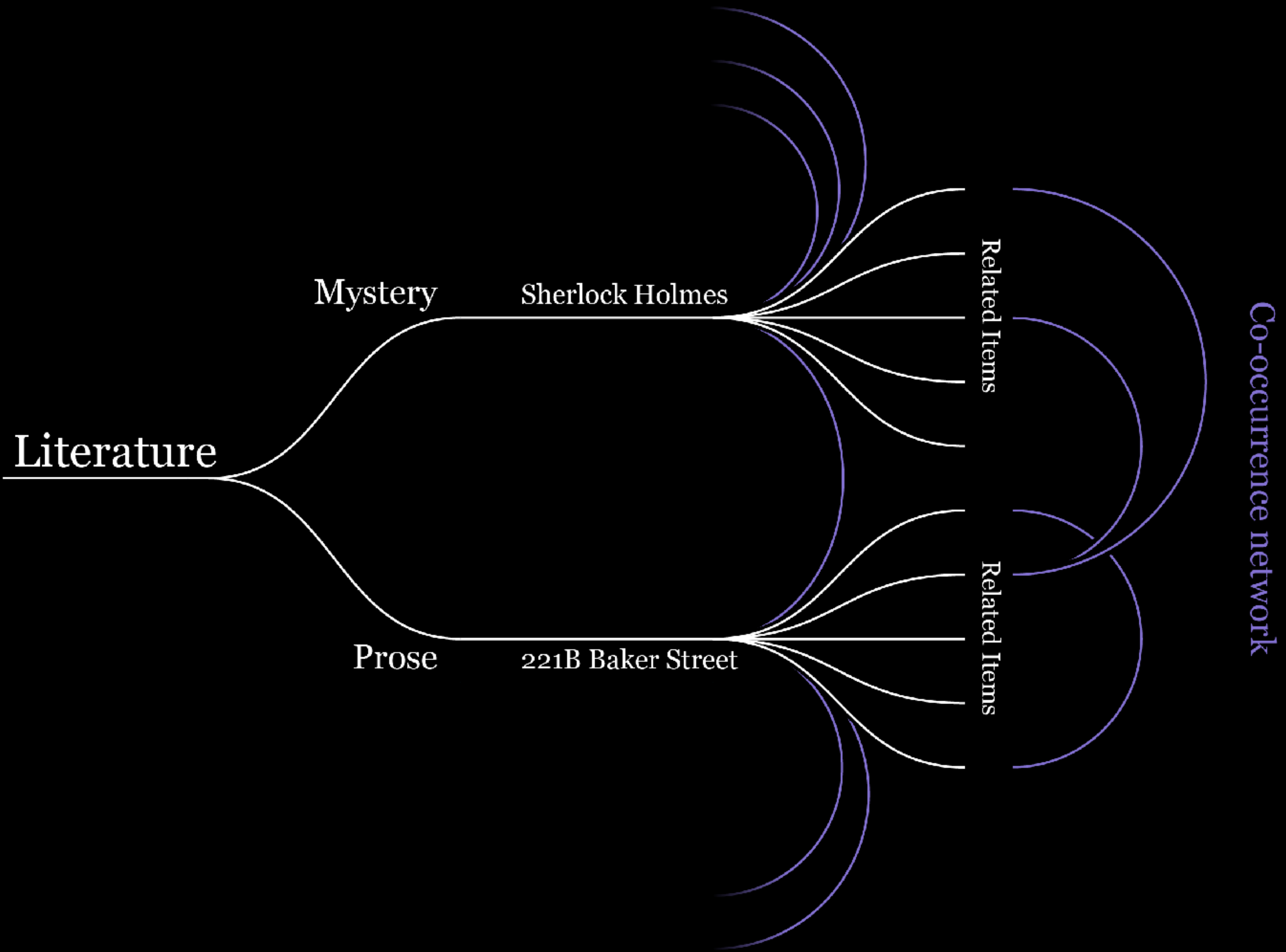


Scrape 02

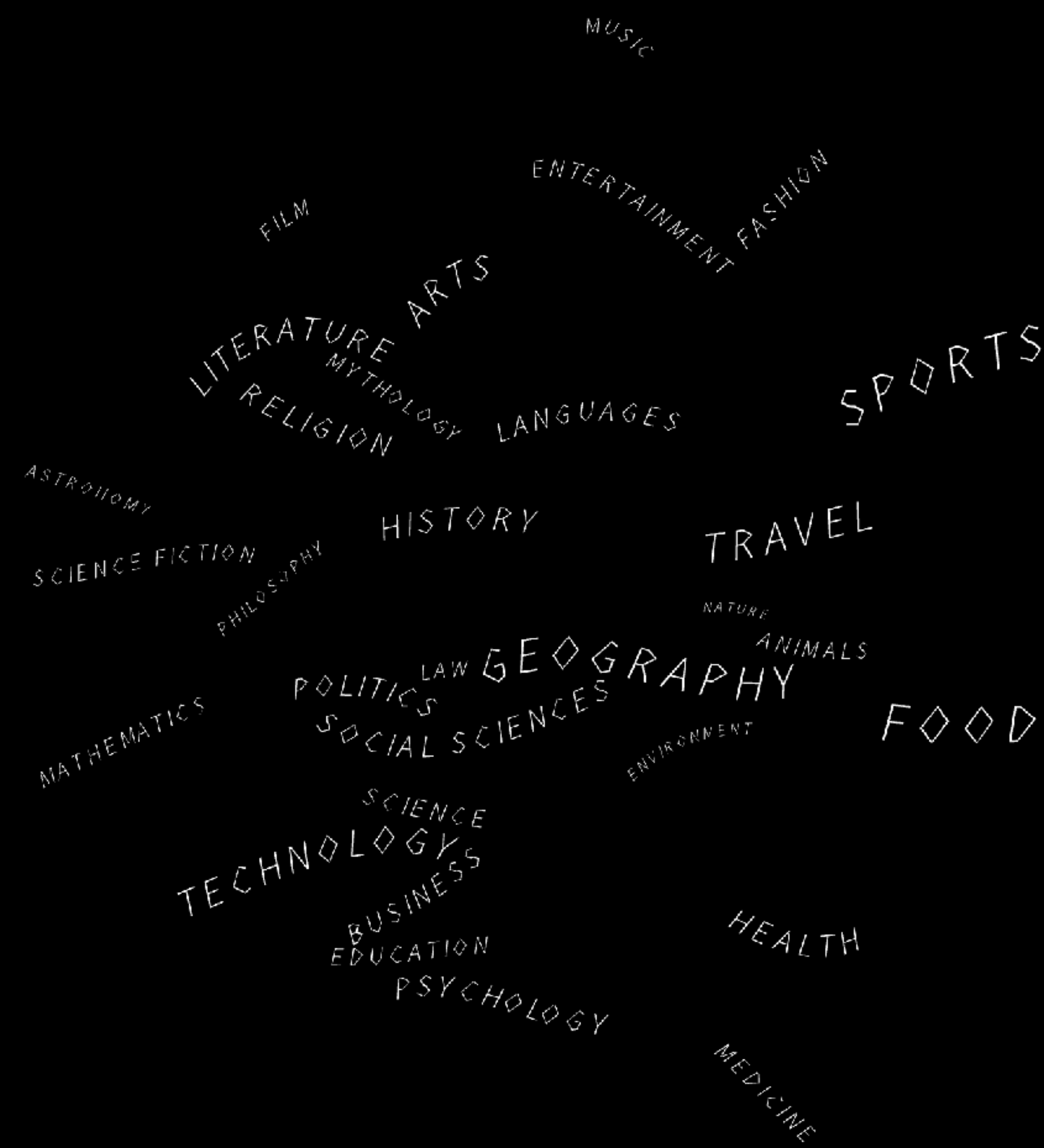
Scrape 03

List the most important [humans], [objects, things, ideas] in [arts] in the field of [film]. List their name, kind, category, description, related things, and importance (0 - 100) as a table.

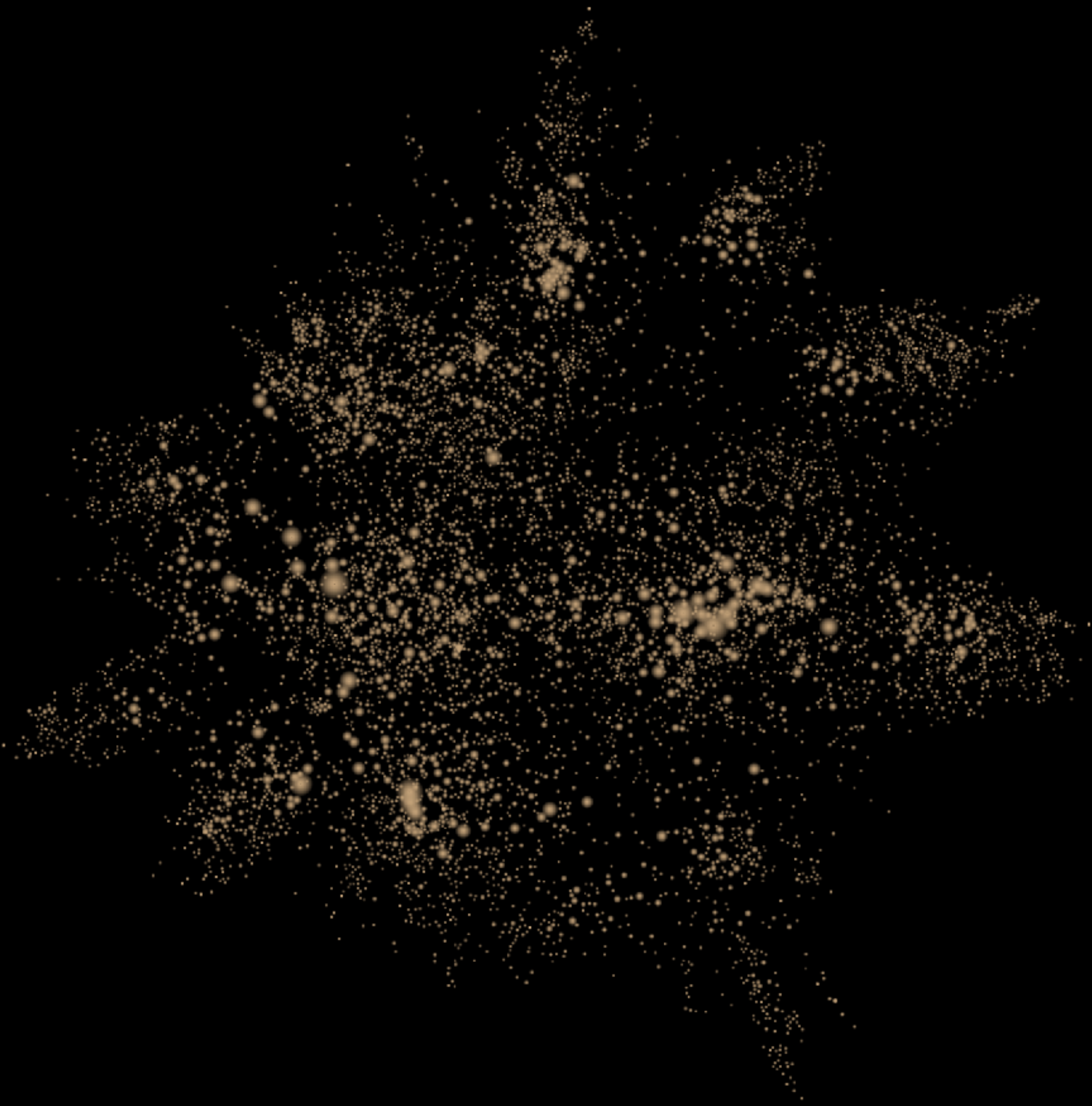
name	kind	category	description	related	importance	field	subfield	temp	scrape
Sigmund Freud	Psychologist	Theorist	Known as the father of psychoanalysis, Freud developed theories of the unconscious mind	Psychoanalysis, dream analysis, psychosexual stages	95	Psychology	Abnormal	0.5	human
Carl Jung	Psychologist	Theorist	Jung expanded on Freud's theories and developed his own approach called analytical psychology	Archetypes, collective unconscious, introversion/extroversion	90	Psychology	Abnormal	0.5	human
Albert Ellis	Psychologist	Therapist	Ellis was a pioneer of cognitive-behavioral therapy (CBT) and Rational Emotive Behavior Therapy (REBT)	Cognitive-behavioral therapy (CBT), Rational Emotive Behavior Therapy (REBT)	85	Psychology	Abnormal	0.5	human
Aaron Beck	Psychiatrist	Therapist	Beck is known for his contributions to cognitive therapy and the development of Cognitive Behavioral Therapy (CBT)	Cognitive therapy, Cognitive Behavioral Therapy (CBT), negative thought patterns	85	Psychology	Abnormal	0.5	human
Carl Rogers	Psychologist	Therapist	Rogers is one of the founders of humanistic psychology and person-centered therapy. He emphasized empathy and unconditional positive regard.	Person-centered therapy, empathy, unconditional positive regard	80	Psychology	Abnormal	0.5	human
B.F. Skinner	Psychologist	Behaviorist	Skinner's work in operant conditioning and behavior analysis greatly influenced the understanding of learning	Operant conditioning, behavior analysis, reinforcement, punishment	80	Psychology	Abnormal	0.5	human
Ivan Pavlov	Physiologist	Behaviorist	Pavlov is best known for his experiments on classical conditioning. While not directly focused on psychology, his work laid the foundation for behaviorism.	Classical conditioning, conditioned responses, associative learning	75	Psychology	Abnormal	0.5	human
Albert Bandura	Psychologist	Social	Bandura's social learning theory emphasized the role of observational learning and modeling in behavior	Social learning theory, observational learning, modeling	75	Psychology	Abnormal	0.5	human
David Rosenhan	Psychologist	Researcher	Rosenhan conducted a famous study called "On Being Sane in Insane Places," which highlighted the unreliability of psychiatric diagnoses	Labeling theory, misdiagnosis, psychiatric hospitals	70	Psychology	Abnormal	0.5	human
Elizabeth Loftus	Psychologist	Researcher	Loftus is a renowned expert on memory and eyewitness testimony. Her research demonstrated the malleability of memory	Memory, eyewitness testimony, false memories	70	Psychology	Abnormal	0.5	human
Sigmund Freud	Theorist		Founder of psychoanalysis, emphasized the role of the unconscious mind	Psychoanalytic theory, defense mechanisms, psychosexual development	95	Psychology	Abnormal	0	human
Carl Jung	Theorist		Developed analytical psychology, focused on the collective unconscious	Archetypes, introversion/extroversion, psychological types	90	Psychology	Abnormal	0	human
Albert Ellis	Therapist		Creator of Rational Emotive Behavior Therapy (REBT), a form of cognitive therapy	ABC model of emotions, irrational beliefs, cognitive restructuring	85	Psychology	Abnormal	0	human
Aaron Beck	Therapist		Pioneer of Cognitive Therapy, focused on cognitive distortions	Cognitive triad, cognitive restructuring, Beck Depression Inventory	90	Psychology	Abnormal	0	human
Carl Rogers	Therapist		Founder of client-centered therapy, emphasized unconditional positive regard	Person-centered therapy, self-actualization, empathy	85	Psychology	Abnormal	0	human
B.F. Skinner	Behaviorist		Known for operant conditioning and behavior modification	Skinner box, reinforcement, behavior analysis	80	Psychology	Abnormal	0	human
Albert Bandura	Psychologist		Social cognitive theorist, studied observational learning	Social learning theory, self-efficacy, Bobo doll experiment	85	Psychology	Abnormal	0	human
David Rosenhan	Researcher		Conducted the famous "Rosenhan experiment" on psychiatric diagnosis	Pseudopatient study, labeling theory, impact on the field of psychiatry	75	Psychology	Abnormal	0	human
Thomas Szasz	Psychiatrist		Critic of the concept of mental illness, advocated for individual rights	The Myth of Mental Illness, antipsychiatry movement	70	Psychology	Abnormal	0	human
R.D. Laing	Psychiatrist		Focused on the experience of individuals with schizophrenia	Existentialist approach, divided self, anti-psychiatry perspective	75	Psychology	Abnormal	0	human
Coco Chanel	Designer	Accessories	A legendary fashion designer known for her timeless designs and iconic brand. Chanel revolutionized women's fashion.	Little black dress, Chanel handbags, Chanel No. 5 perfume, Chanel suits	95	Fashion	Accessories	0.5	human
Manolo Blahnik	Shoe Designer	Accessories	A Spanish fashion designer famous for his luxurious and intricately designed high-heeled shoes	Stiletto heels, Carrie Bradshaw (Sex and the City character), Blahnik's collaborations	90	Fashion	Accessories	0.5	human
Judith Leiber	Handbag Designer	Accessories	An American designer known for her exquisitely crafted and bejeweled evening bags.	Crystal-encrusted clutch bags, Leiber's animal-shaped bags, red carpet appearances	85	Fashion	Accessories	0.5	human
Louis Vuitton	Luxury Brand	Accessories	A French fashion house renowned for its high-end accessories, including handbags, luggage, and shoes.	Monogram canvas, LV logo, collaborations with artists like Takashi Murakami	90	Fashion	Accessories	0.5	human
Alexander McQueen	Fashion Designer	Accessories	A British designer known for his avant-garde and theatrical creations, including accessories.	Skull motifs, McQueen's statement belts, iconic armadillo shoes, collaborations	90	Fashion	Accessories	0.5	human
Elsa Peretti	Jewelry Designer	Accessories	An Italian designer known for her elegant and sculptural jewelry designs.	Tiffany & Co., Bone cuff bracelet, Open Heart pendant, collaborations with Tiffany	85	Fashion	Accessories	0.5	human
Christian Louboutin	Shoe Designer	Accessories	A French footwear designer famous for his red-soled high-heeled shoes, which have become a fashion icon.	Red soles, Pigalle pumps, Louboutin's collaborations with designers like Calvin Klein	95	Fashion	Accessories	0.5	human
Kate Spade	Handbag Designer	Accessories	An American designer known for her vibrant and playful handbags, accessories, and clothing.	Kate Spade New York, Spade's signature spade logo, colorful and whimsical designs	80	Fashion	Accessories	0.5	human
Coco Chanel	Designer	Accessories	A pioneering fashion designer known for her iconic handbags and jewelry.	Chanel No. 5 perfume, Little Black Dress	95	Fashion	Accessories	0	human
Louis Vuitton	Brand	Accessories	A luxury brand famous for its high-end luggage, handbags, and accessories.	Monogram canvas, LV logo	90	Fashion	Accessories	0	human
Manolo Blahnik	Designer	Footwear	Renowned for his elegant and luxurious shoe designs favored by celebrities.	Stiletto heels, Hangisi pumps	85	Fashion	Accessories	0	human
Judith Leiber	Designer	Handbags	Known for her intricately designed and embellished luxury handbags.	Crystal minaudières, Novelty clutches	80	Fashion	Accessories	0	human
Christian Louboutin	Designer	Footwear	Famous for his signature red-soled high-heeled shoes and bold designs.	Pigalle pumps, So Kate heels	90	Fashion	Accessories	0	human
Hermès	Brand	Accessories	A luxury brand celebrated for its high-quality leather goods and accessories.	Birkin bag, Silk scarves	95	Fashion	Accessories	0	human
Elsa Peretti	Designer	Jewelry	Noted for her organic and sculptural jewelry designs for Tiffany & Co.	Bone cuff, Open Heart pendant	85	Fashion	Accessories	0	human
Alexander McQueen	Designer	Accessories	Known for his avant-garde and theatrical accessories and fashion creations.	Skull clutches, Armadillo shoes	90	Fashion	Accessories	0	human
Kate Spade	Designer	Handbags	Recognized for her playful and colorful handbag designs and accessories.	Spade logo, Quilted bags	80	Fashion	Accessories	0	human
Tom Ford	Designer	Accessories	A fashion designer known for his luxurious and glamorous accessories.	Oversized sunglasses, Tassel earrings	85	Fashion	Accessories	0	human
Conrad Hilton	Entrepreneur	Hotelier	Founder of the Hilton Hotels chain, revolutionized the hotel industry with his innovative business model.	Hilton Hotels, hotel industry, hospitality	95	Travel	Accommodation	0.5	human
Kemmons Wilson	Entrepreneur	Hotelier	Founder of the Holiday Inn chain, introduced standardized accommodations and affordable travel.	Holiday Inn, hotel industry, franchising	90	Travel	Accommodation	0.5	human
Brian Chesky	Entrepreneur	Airbnb Co-Founder	Co-founder and CEO of Airbnb, a popular online marketplace for short-term rentals.	Airbnb, sharing economy, online travel, alternative accommodations	95	Travel	Accommodation	0.5	human
J. Willard Marriott	Entrepreneur	Hotelier	Founder of Marriott International, expanded the company into a global hospitality empire.	Marriott Hotels, hotel industry, hospitality	90	Travel	Accommodation	0.5	human
Isadore Sharp	Entrepreneur	Hotelier	Founder of Four Seasons Hotels and Resorts, known for luxury accommodations and personalized service.	Four Seasons Hotels, luxury hospitality, hotel industry	90	Travel	Accommodation	0.5	human
Barry Sternlicht	Entrepreneur	Hotelier	Founder of Starwood Hotels & Resorts, introduced the W Hotels brand known for its modern, urban accommodations.	Starwood Hotels, W Hotels, hotel industry, luxury hospitality	85	Travel	Accommodation	0.5	human
Bill Marriott Jr.	Businessman	Hotelier	Former CEO of Marriott International, played a key role in expanding the company globally.	Marriott International, hotel industry, hospitality	85	Travel	Accommodation	0.5	human



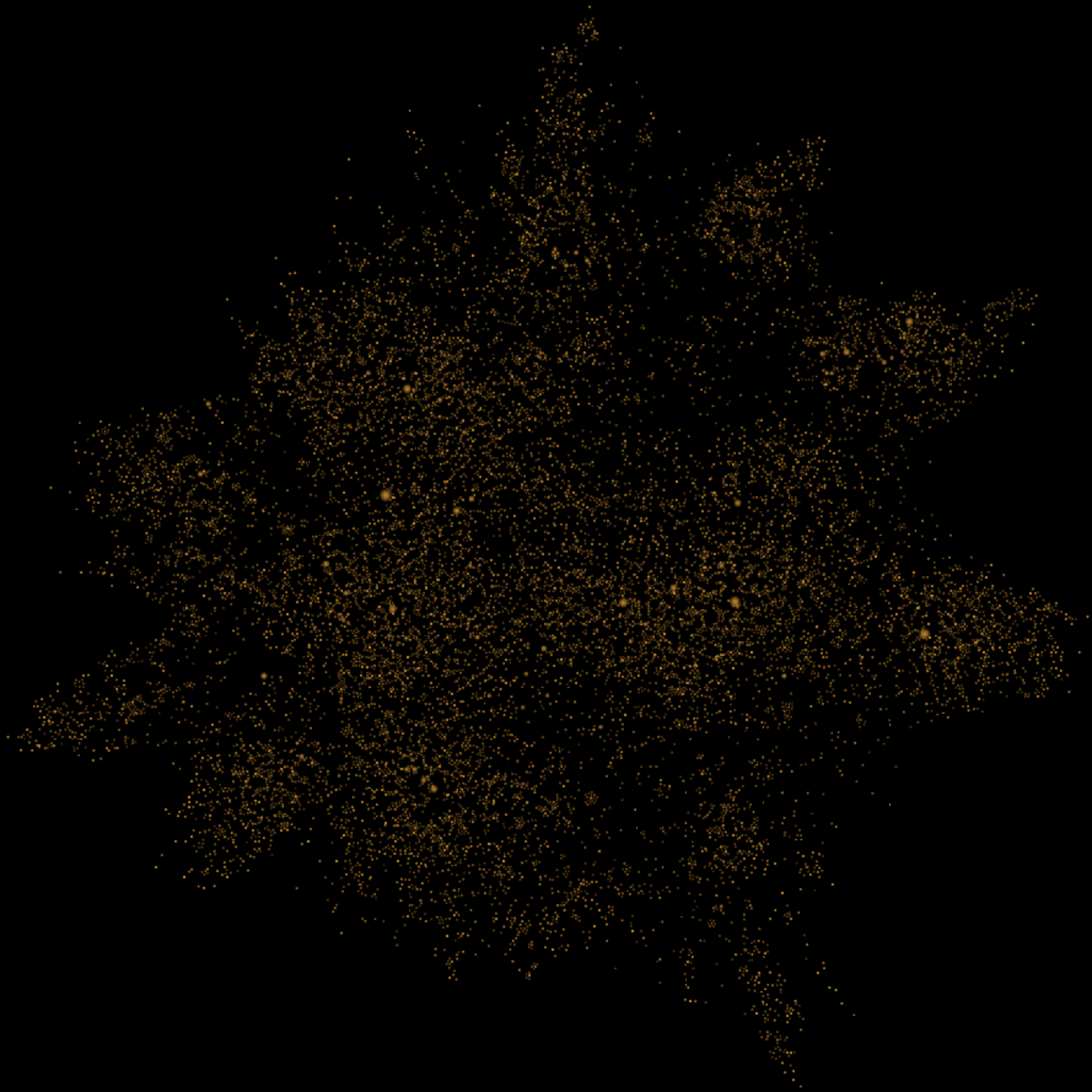
Category

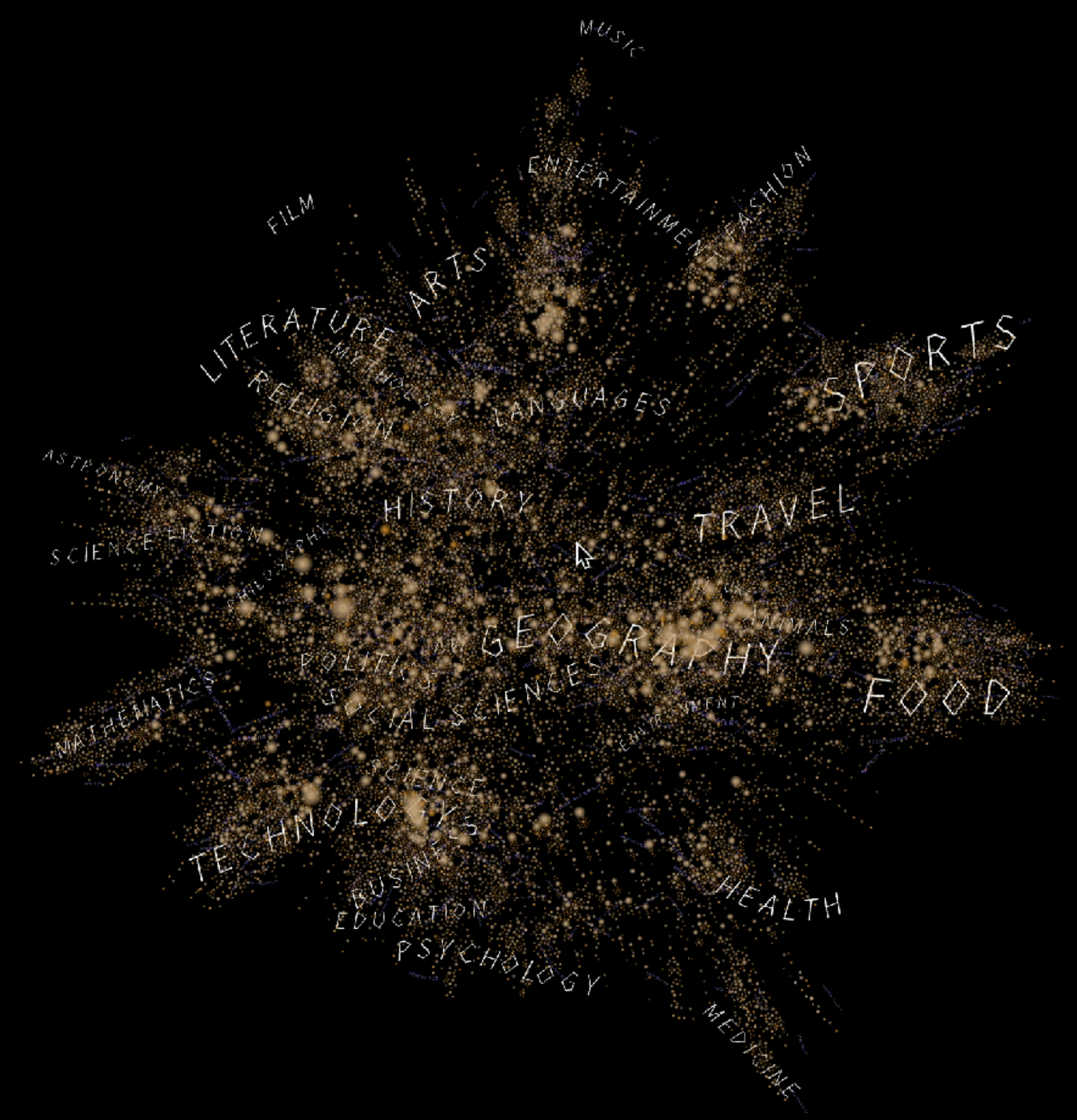


Items



Related





» Where there is nothing
to calculate, we don't
need computers.«

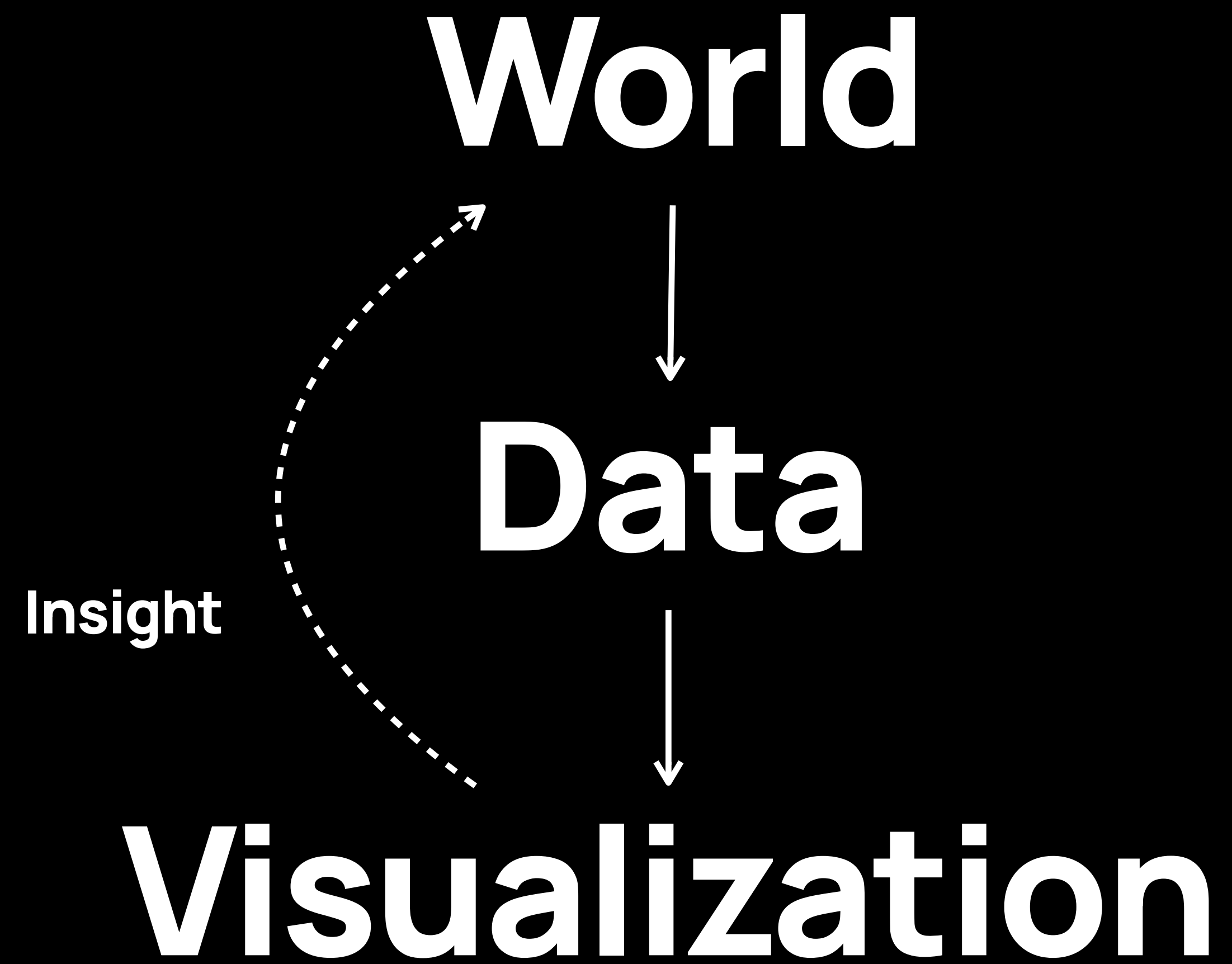
Frieder Nake

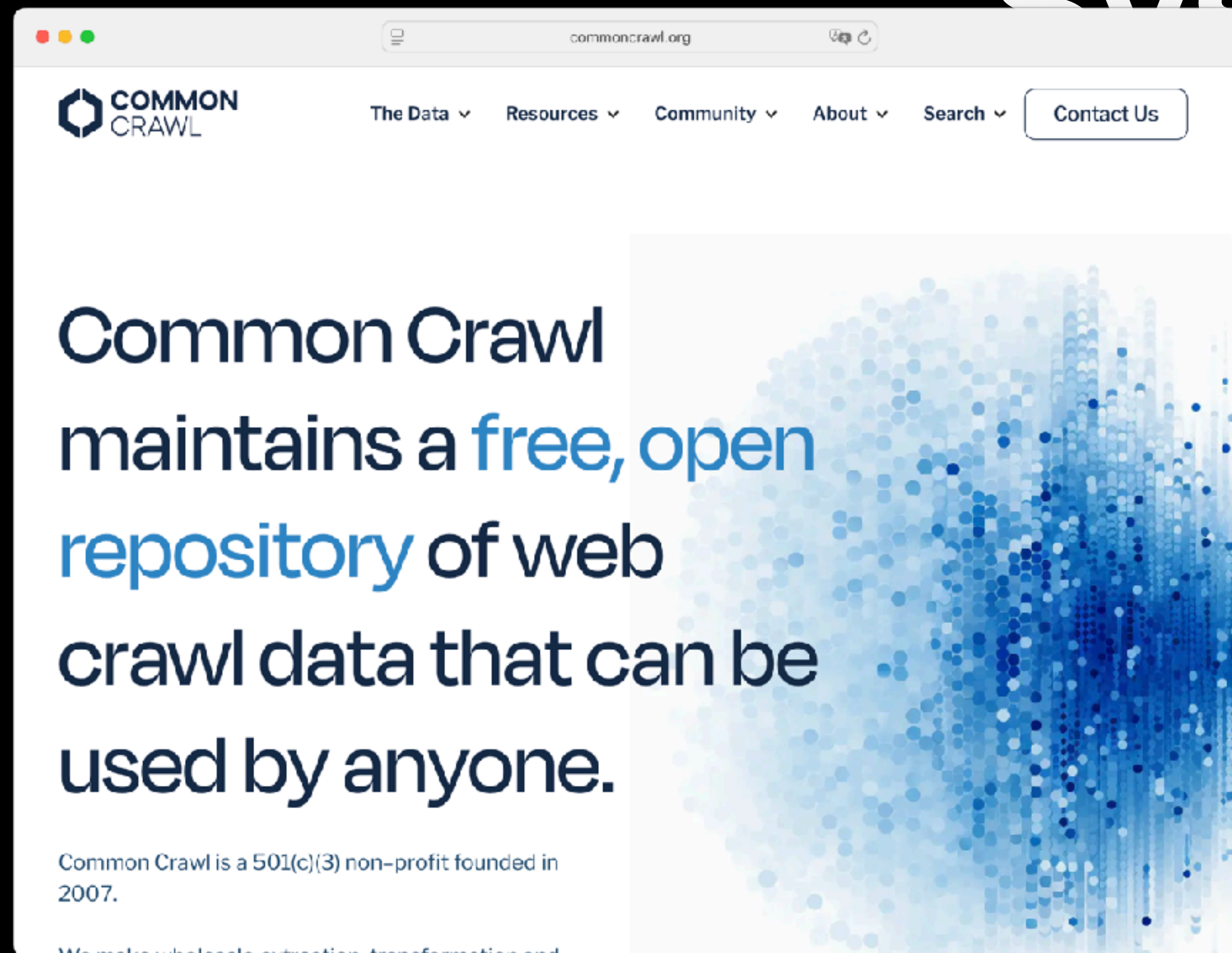
»And due to the capital required to build AI at scale and the ways of seeing that it optimizes AI systems are ultimately designed to serve existing dominant interests. In this sense, artificial intelligence is a registry of power«

Atlas of AI by Kate Crawford, 2021

» And due to the capital required to build AI at scale and the ways of seeing that it optimizes AI systems are ultimately designed to serve existing dominant interests. In this sense, artificial intelligence is a **registry of power**«

Atlas of AI by Kate Crawford, 2021





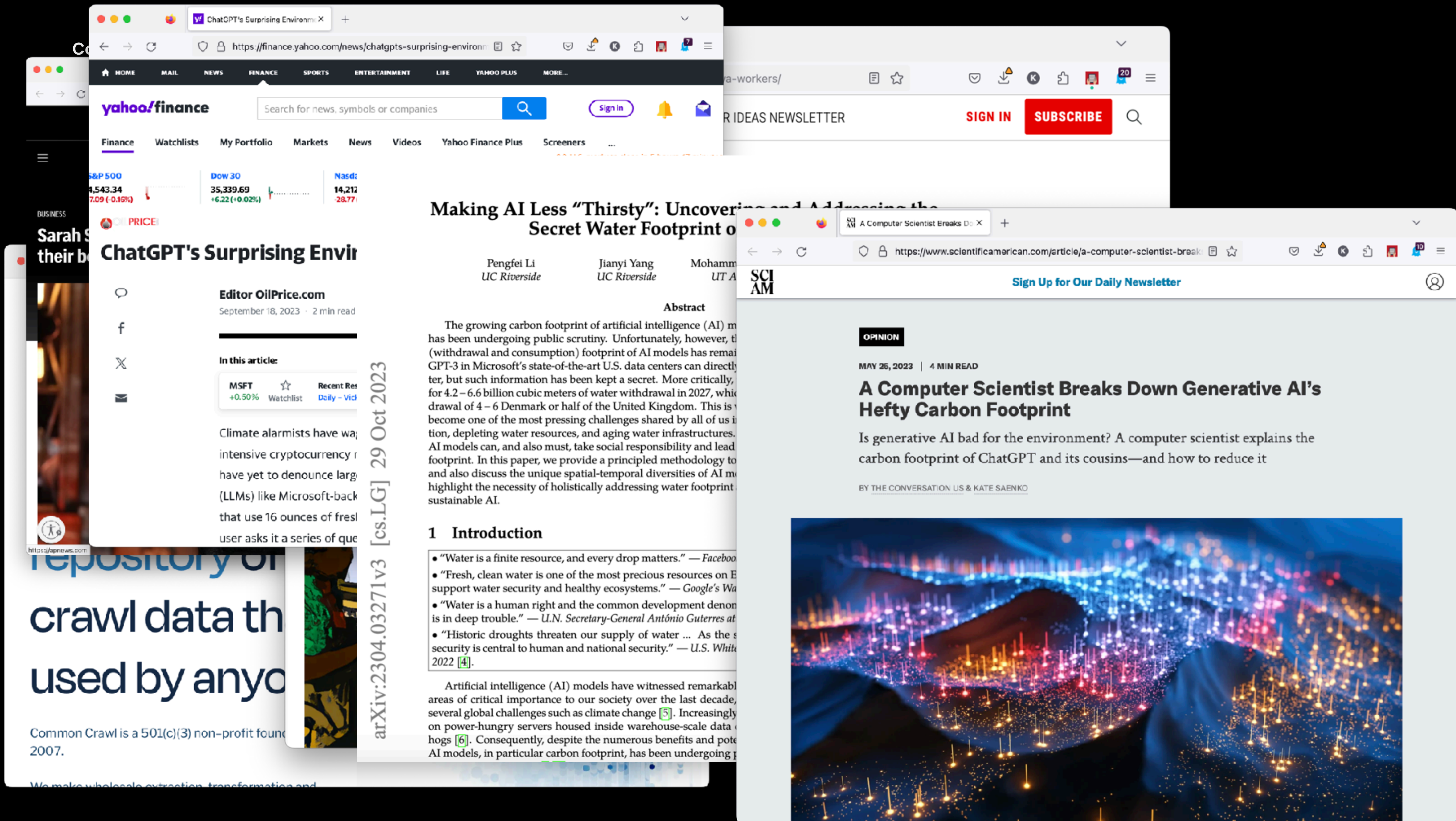
Systems



Data



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Screeners

...

S&P 500

4,543.34

7.09 (-0.16%)

Dow 30

35,339.69

+6.22 (+0.02%)

Nasdaq

14,212

-28.77

OilPrice

ChatGPT's Surprising Environment



Editor OilPrice.com

September 18, 2023 · 2 min read

In this article:

MSFT

+0.50%



Watchlist

Recent Res

Daily - Vid

Climate alarmists have warned that intensive cryptocurrency mining have yet to denounce large language models (LLMs) like Microsoft-backed GPT-4 that use 16 ounces of freshwater per user asks it a series of questions.

Making AI Less "Thirsty": Uncovering and Addressing the Secret Water Footprint of AI

Pengfei Li
UC Riverside

Jianyi Yang
UC Riverside

Mohammad
UT Austin

Abstract

The growing carbon footprint of artificial intelligence (AI) models has been undergoing public scrutiny. Unfortunately, however, the (withdrawal and consumption) footprint of AI models has remained a secret. More critically, GPT-3 in Microsoft's state-of-the-art U.S. data centers can directly withdraw 4.2 – 6.6 billion cubic meters of water in 2027, which is equivalent to 4 – 6 Denmark or half of the United Kingdom. This is becoming one of the most pressing challenges shared by all of us in the future, depleting water resources, and aging water infrastructures. AI models can, and also must, take social responsibility and lead a sustainable AI. In this paper, we provide a principled methodology to quantify the water footprint of AI models and also discuss the unique spatial-temporal diversities of AI models. We highlight the necessity of holistically addressing water footprint in sustainable AI.

1 Introduction

- "Water is a finite resource, and every drop matters." — Facebook
- "Fresh, clean water is one of the most precious resources on Earth to support water security and healthy ecosystems." — Google's Water
- "Water is a human right and the common development denominator is in deep trouble." — U.N. Secretary-General António Guterres at
- "Historic droughts threaten our supply of water ... As the security is central to human and national security." — U.S. White House 2022 [4].

Artificial intelligence (AI) models have witnessed remarkable areas of critical importance to our society over the last decade, several global challenges such as climate change [5]. Increasingly on power-hungry servers housed inside warehouse-scale data centers [6]. Consequently, despite the numerous benefits and potential of AI models, in particular carbon footprint, has been undergoing

https://www.scientificamerican.com/article/a-computer-scientist-breaks-down-generative-ai-carbon-footprint/

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OPINION

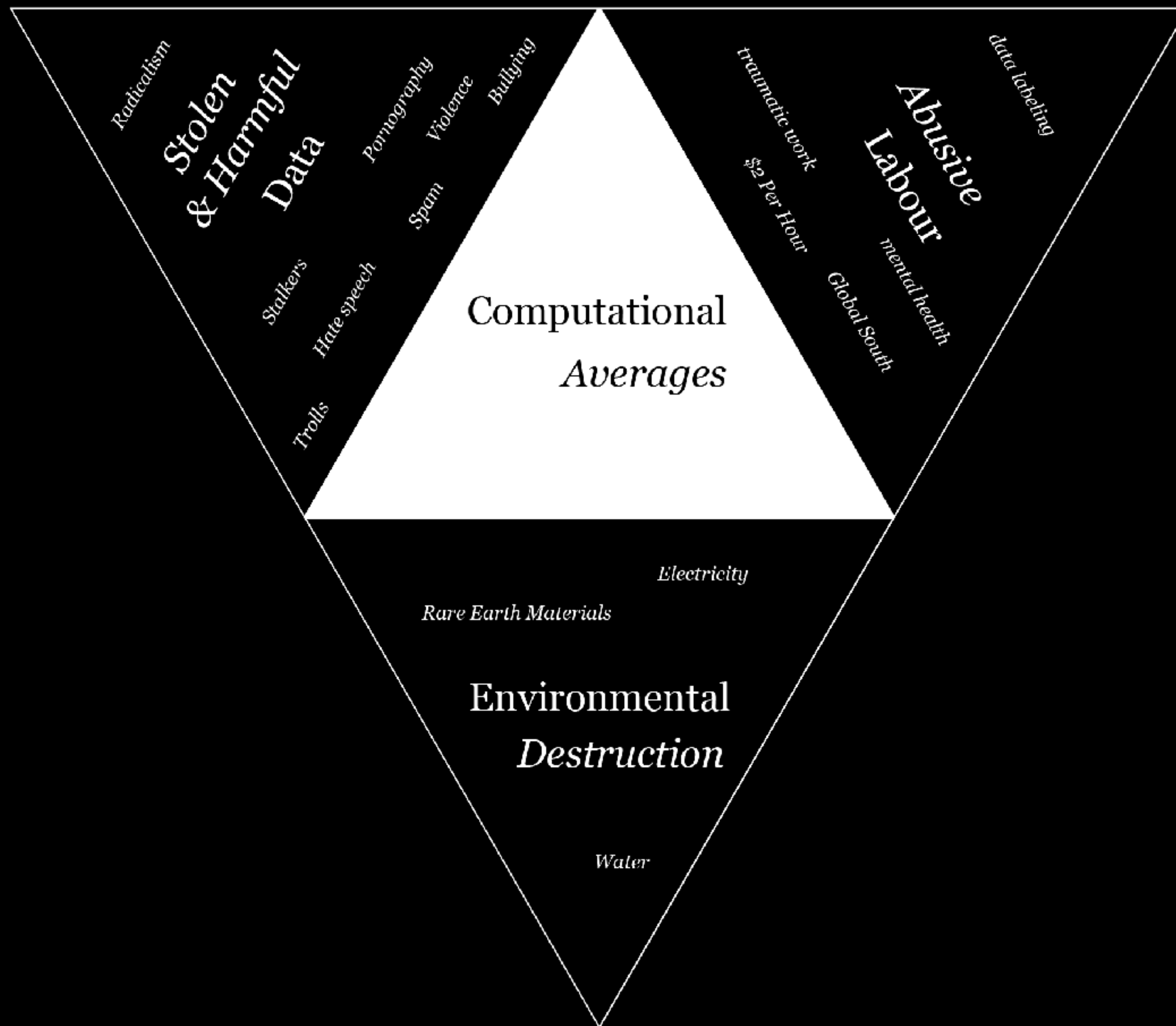
MAY 25, 2023 | 4 MIN READ

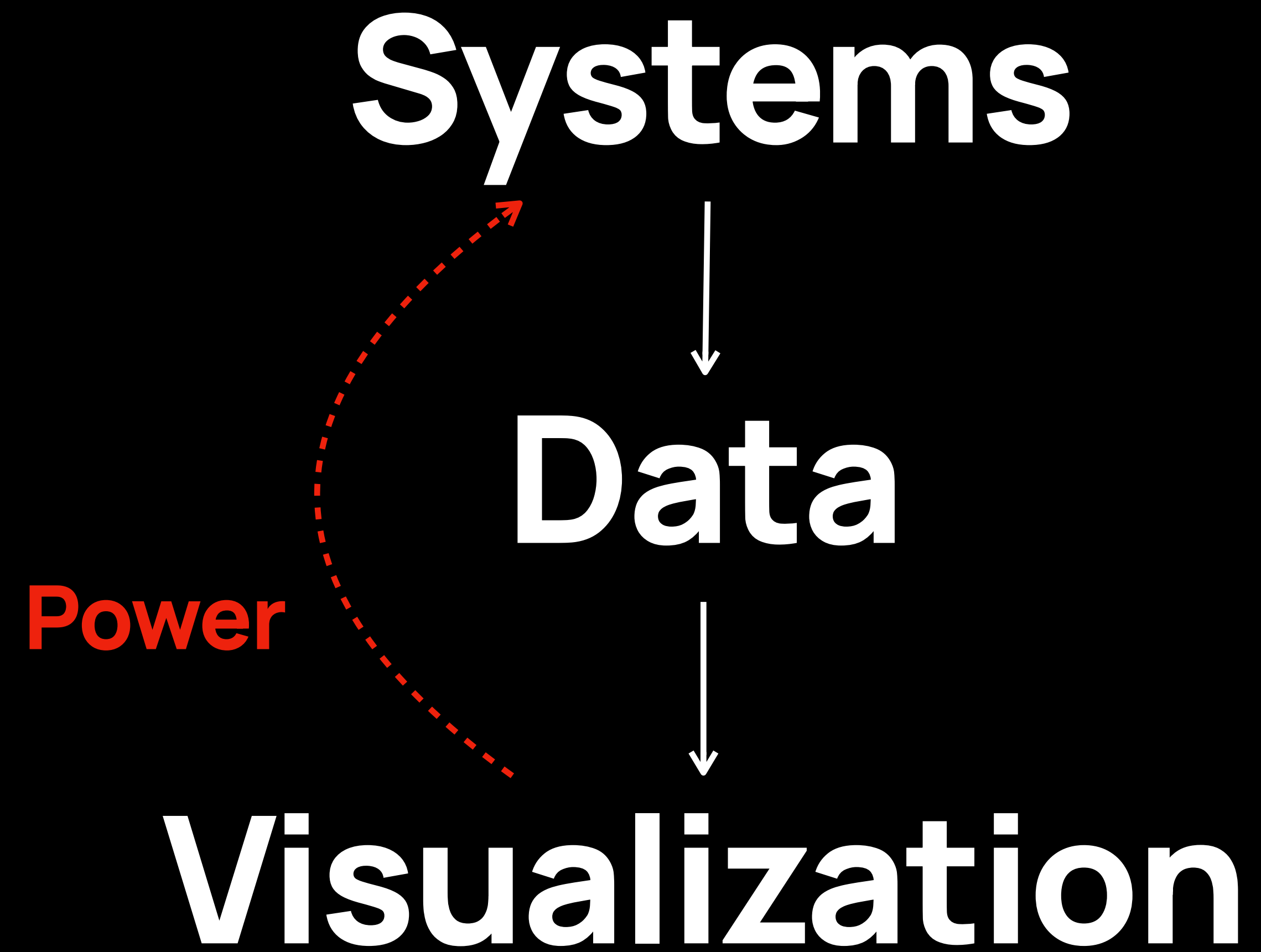
A Computer Scientist Breaks Down Generative AI's Hefty Carbon Footprint

Is generative AI bad for the environment? A computer scientist explains the carbon footprint of ChatGPT and its cousins—and how to reduce it

BY THE CONVERSATION US & KATE SAENKO







CARE + PRIVACY

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The New York Times

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July 4, 2

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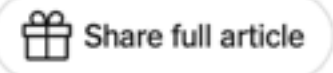
The M

Meta
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Right to Privacy Extends to Foreign Internet Users, German Court Rules

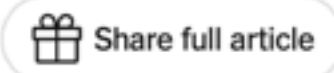
The intelligence services cannot randomly search the digital data of citizens of other countries living abroad, judges said, in a decision welcomed by civil rights activists.





nytimes.com

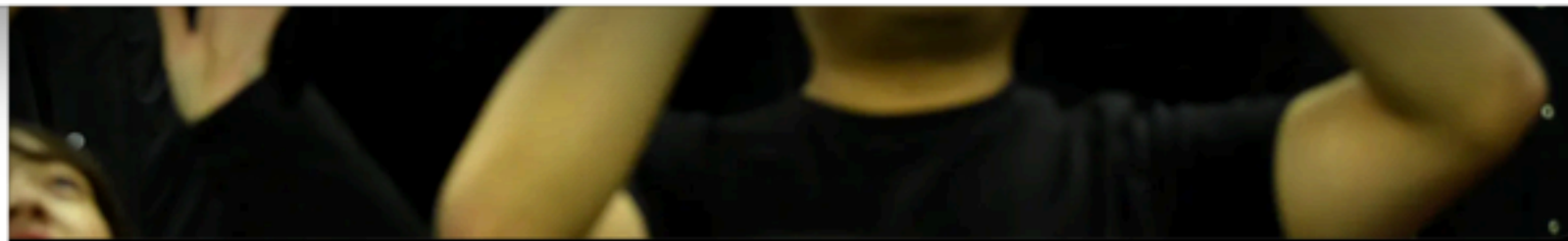
Germany Fines Google Over Data Collection





A promotional event publicizing Google Street View in Oberstaufen, Germany, in November 2010. Stefan Puchner/DPA, via Agence France-Presse — Getty Images

By **Kevin J. O'Brien**
April 22, 2013





**“WHAT IS
PRIVATE
MUST REMAIN
PRIVATE”**

Ilse Aigner

Source: <https://phys.org/news/2010-04-google-germany-hatchet-street-view.html>

Item den 14 August
den Kindt getauft. Der
Cybarz agustor zölfer
wundernig. der agustor
frucht. das Kind hieß
St. Nicolaus Patro
Nicolaus Beyer. ~~Nicolaus~~
Appelonia glückling
den 20 August ein solches
Kindt getauft mit Namen
Ludwig de Bile frucht
Luna sein laus
Pastor Johann Baptista
da liest. Kaffanena
wundernig

Church register
(baptism and marriage
register) of the parish of
Bolzano from 1583-1589, fol. 1
(entry from August 14, 1583)

Getaupte

im Jahre 1896.

2

2

Fort- laufende Nr.	Wohnort	Name des Kindes	Zeit		Name, Stand und Geburtsort des Vaters	Name und Geburtsort der Mutter	Name der Paten	Bemerkungen
			der Geburt	der Taufe				
381	Essen	Wilhelm Hermann	25. Mai	31. Mai	Siepmann Johann	Augusta Moreau	Wilb. Moreau, Carol. Siepmann	
382	.	Anna Maria	28. .	31. .	Möttger Franz	Louise Hadenjäger	Wienand Windgen, Anna Opgenorth	cap. 17. 12. 1927 im Franz. Kirchhof
383	.	Johanna Elisabeth	17. .	31. .	.	Elisabeth Nenner	Georg Schwarz, Johanna Hermann	
384	.	Augusta	17. .	31. .	Lenzen Johann	Anna Wiegand	Anton Schmitz, Auguste Busche	
385	.	Wilhelm Christian	23. .	31. .	Klein Johann	Gertrud Reuter	Wilhelm Wunning, Maria Kästing	
386	.	Maria Cornelia Adolfine	28. .	31. .	Godes Johann	Anna Bonberge	Pastor Kerle, Cornelia Kampers	Zwillinge
387	.	Antonia Gertrud Maria	28. .	31. .	Godes Johann	Anna Bonberge	Ant. Bonberge, Gertr. Mühlso	
388	.	Joseph Heinrich	22. .	1. Juni	Sporing Heinrich	Maria Aufmwasser	Jos. Sporing, Anna Sporing	
389	.	Maria Margar. Ebedora	27. .	2. .	Hördmeier Conrad	Maria Schulte	Ebed. Schulte, Marg. Hördmeier	
390	.	Gertrud	13. Februar	2. .	Boelen Gottfried	Johanna Angerungen	Heinr. Neubaus, Adele Köstering	
391	.	Ferdinand Peter Otto	23. Mai	2. .	Franke Otto	Adolfine Kramer	Peter Kramer, Gertr. Franke	cap. 9. 6. 23. cum Anna Billen in col. 21 St. Johann in Hameln
392	.	Calbarina	24. .	3. .	Schröder in St. Josef, D. dorf. Rath.	Victoria Holodziey	Josephina Paul	
393	.	Paul Jacob Franz	31. .	3. .	Müller Jacob	Josephina Dose	Franz Dose, Paula Dose	

Reference:
Die restlose Erfassung -
Götz Aly, Karl Heinz Roth

English translation:
The Nazi census :
identification
and control in
the Third Reich

Image source:
<https://www.cambridge.org/core/journals/central-european-history/article/abs/population-registration-in-germany-18421945-information-administrative-power-and-statemaking-in-the-age-of-paper/465356D3C4E080927D5592E4F20C499E>

Falscheinordnung

Name:		Vorname:		Religion		Abstamm.		Staatsangeh.		0 1 I 0 1 m A 0 0 0	
Geb. Ort:		Augenfarbe:		Haarfarbe:		Größe		m		m	
Kreis:		Aufenthalt angem.		abgem.		Schulbildung: Allg.		Fachschulen:		S N	
Erlernte Berufe:		Berufsausübung:		Ehegeb. Name der Ehefrau		Landeskennzeichen		Eheschließungsgeschieden		verstorben	
Ausg. Vorname		Kinder		Landeskennzeichen							

Teilaufsicht
auf eine Kartei.

Lübeck, den 15. Nov. 1945.

Prodaner
Regierungsbauinspektor.



Deutsche Hollerith Maschinen
Gesellschaft m. b. H. Berlin

Plakat der Deutschen Hollerith Maschinen Gesellschaft von 1933

Reference:
Die restlose Erfassung -
Götz Aly, Karl Heinz
Roth, 1984

**DATA CAN
TURN EVIL
QUICKLY**



**When you invent the
ship, you also invent
the shipwreck;**

Paul Virilio, *Politics of the Very Worst*, New York: Semiotext(e), 1999, p. 89

When you invent the ship, you also invent the shipwreck; when you invent the plane you also invent the plane crash; and when you invent electricity, you invent electrocution... Every technology carries its own negativity, which is invented at the same time as technical progress.

Paul Virilio, *Politics of the Very Worst*, New York: Semiotext(e), 1999, p. 89

**WHAT IS THE
SHIPWRECK
OF DATA?**



DATA ACQUISITION

Online Tracking & Surveillance

Web cookies, ad pixels, real-time bidding, browser fingerprinting, social media activity, web analytics

Apps & SDKs

Mobile games, weather apps, fitness trackers, SDKs embedded in apps

Third Parties / Partners

ISPs, credit card networks, social platforms, other data brokers

Web Crawling & OSINT

Automated bots scraping social networks, news, or blogs

Government Data Sales

Public-private data exchanges, motor vehicle records, utility data

Commercial Transactions

Retail loyalty programs, warranty registrations, subscriptions, credit bureaus, banks

Public Records

Property records, voter registries, court filings, business licenses, professional certifications, census data

User-Provided Data

Contests, surveys, "subscribe and win" schemes

DATA BROKERS

Profiles & Segments

Advertising & Marketing

Credit, Insurance & Finance

Employment Checks

Research & Analytics

Government & Law Enforcement

MARKETS AND CLIENTS

Estimates suggest that the industry generated over **USD 300 billion** in annual revenue by the mid-2020s and is projected to surpass **USD 500 billion** in the early 2030s.

Sources:

Data Broker Market (2025 - 2033), <https://www.grandviewresearch.com/industry-analysis/data-broker-market-report>

Data Broker Industry Analysis Report 2025: Trends and Revenue Projections by Data Types, Pricing Models, Applications, End-Users and Regional Markets to 2034, <https://finance.yahoo.com/news/data-broker-industry-analysis-report-090900272.html>

NATO Report, https://stratcomcoe.org/cuploads/pfiles/data_brokers_and_security_20-01-2020.pdf

“They own and store billions of data points pertaining to anyone who inhabits the digital space, and then use these points to generate inferential data, placing the brokers among the most powerful organisations in today’s digital world.”

NATO STRATEGIC COMMUNICATIONS CENTRE OF EXCELLENCE

DATA BROKERS

Profiles & Segments



Home > Monetize SSP > ... > Data Marketplace - Buyer Overview

Data Marketplace - Buyer Overview



Version: Monetize SSP | Last Updated Jun 09, 2022 | ⌚ 13 minutes read | # Monetize SSP

Xandr supports automatic clearing for data you purchase on our platform and use to target particular user segments. This means that the costs of these user segments will be:

Related Links

- Displayed when a segment is selected during targeting.
- Aggregated and totaled on the relevant items as well as on the relevant reports.
- Bundled into your invoice totals and represented as aggregated data costs.

Buying Guide

In addition:

- "Total cost" is the sum of your Media cost plus any third-party data costs (e.g., segments purchased from Data Providers).
- Media cost is just the cost of buying the actual media (impression).
- Third-party data costs are the aggregated costs of all third-party services and data used in purchasing that media (e.g., user segments, etc.).

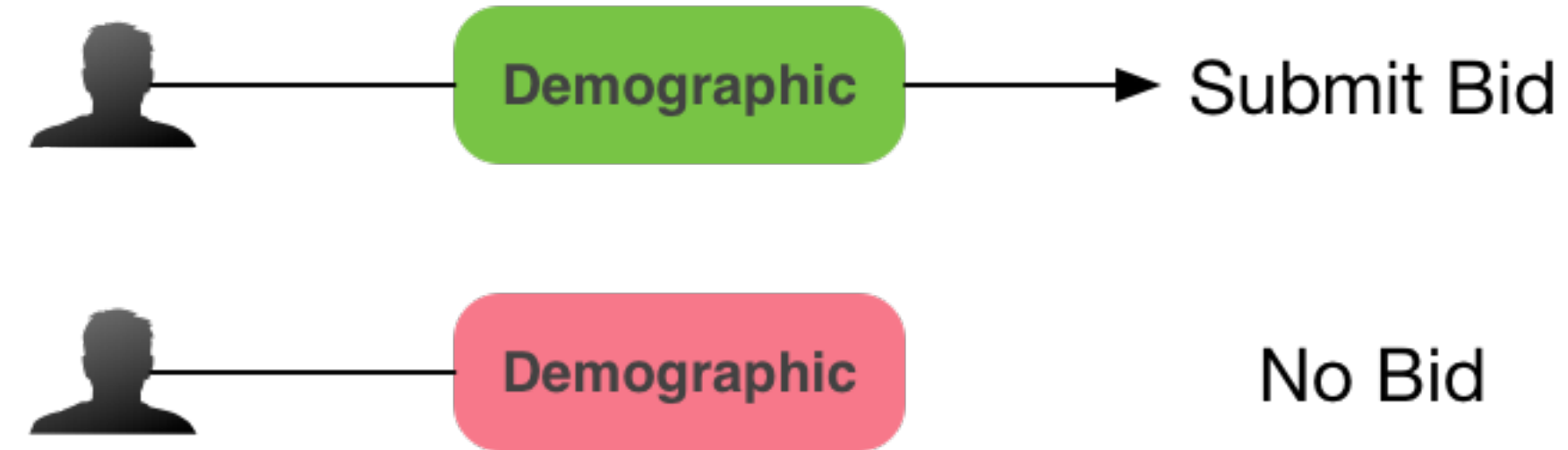
Note: The cost of any segments for which the data provider did not provide a price is not currently reflected in the aggregate cleared totals. You will be billed separately by the Data Provider for the cost of those segments.

DATA BROKERS

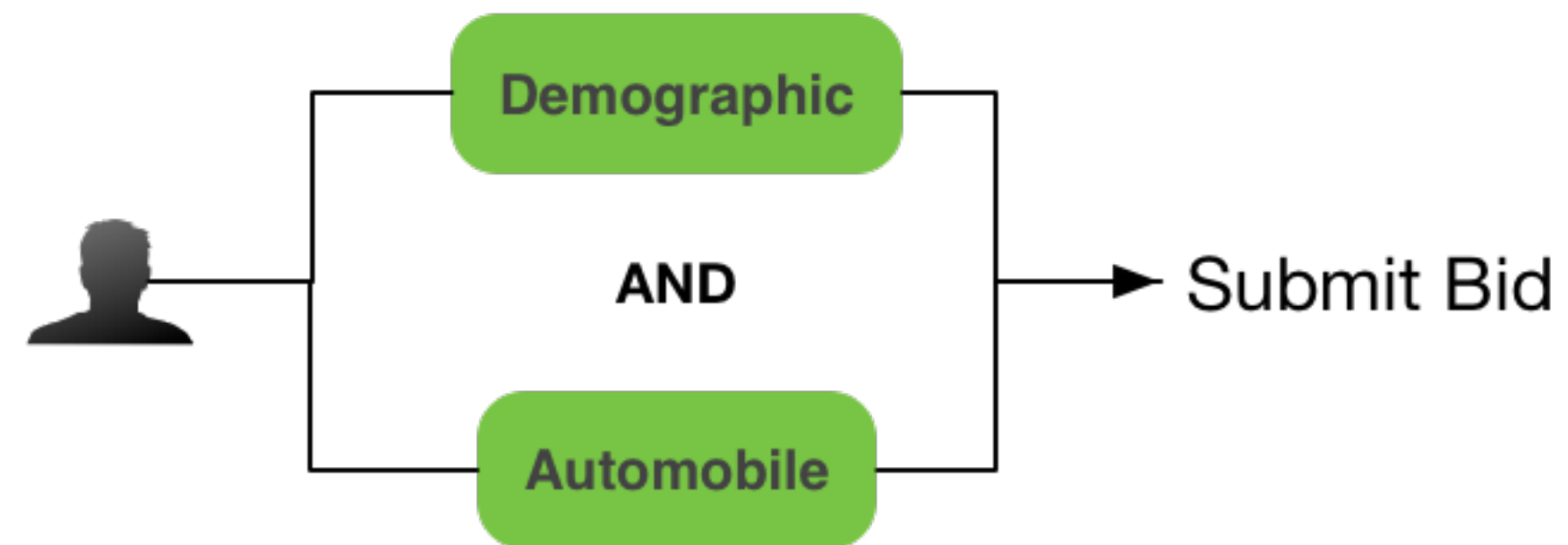
Profiles & Segments

https://web.archive.org/web/20230525225839/https://docs.xandr.com/en-US/bundle/monetize_monetize-standard/page/topics/data-marketplace-buyer-overview.html

Single segment targeted



Multiple segments targeted



Bombora Inc.	B2B > B2B Predictive Signals > Human Resources > Benefits
Bombora Inc.	B2B > B2B Predictive Signals > Human Resources > Diversity
Bombora Inc.	B2B > B2B Predictive Signals > Human Resources > Employee Services
Bombora Inc.	B2B > B2B Predictive Signals > Human Resources > Legal & Regulatory
Bombora Inc.	B2B > B2B Predictive Signals > Human Resources > Payroll & Compensation
Bombora Inc.	B2B > B2B Predictive Signals > Human Resources > Performance
Bombora Inc.	B2B > B2B Predictive Signals > Human Resources > Policy & Culture
Bombora Inc.	B2B > B2B Predictive Signals > Human Resources > Recruitment, Hiring & Onboarding
Bombora Inc.	B2B > B2B Predictive Signals > Human Resources > Training & Development
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Bombora Inc.	B2B > B2B Predictive Signals > Manufacturing > Personal Protective Equipment
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Bombora Inc.	B2C > Lifestyle > Auto Brands > Dodge
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Bombora Inc.	B2C > Lifestyle > Auto Brands > Kia

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Eyeota – DE Mastercard – Top Spending Geography – Computer and Software Stores

[https://netzpolitik.org/2023/
microsofts-datenmarktplatz-
xandr-das-sind-650-000-
kategorien-in-die-uns-die-online-
werbeindustrie-einsortiert/](https://netzpolitik.org/2023/microsofts-datenmarktplatz-xandr-das-sind-650-000-kategorien-in-die-uns-die-online-werbeindustrie-einsortiert/)

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LiveRamp Data Store | 8082 | 16237395 | HealthRankings › BPH
LiveRamp Data Store | 8082 | 16237478 | HealthRankings › Breast Cancer
LiveRamp Data Store | 8082 | 24900788 | HealthRankings › Breast Cancer Caregivers
LiveRamp Data Store | 8082 | 16237416 | HealthRankings › Cholesterol
LiveRamp Data Store | 8082 | 16237450 | HealthRankings › Cough/Cold
LiveRamp Data Store | 8082 | 16237432 | HealthRankings › Diabetes
LiveRamp Data Store | 8082 | 16237508 | HealthRankings › Diabetes Type II
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<https://netzpolitik.org/2023/microsofts-datenmarktplatz-xandr-das-sind-650-000-kategorien-in-die-uns-die-online-werbeindustrie-einsortiert/>

Online Tracking & Surveillance

Web cookies, ad pixels, real-time bidding, browser fingerprinting, social media activity, web analytics

Commercial Transactions

Retail loyalty programs, warranty registrations, subscriptions, credit bureaus, banks

Public Records

Property records, voter registries, court filings, business licenses, professional certifications, census data

DATA ACQUISITION

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User-Provided Data

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DATA BROKERS

Profiles & Segments

Advertising & Marketing

Credit, Insurance & Finance

Employment Checks

Research & Analytics

Government & Law Enforcement

MARKETS AND CLIENTS

B2B › B2B Predictive Signals › Human Resources › Training & Development

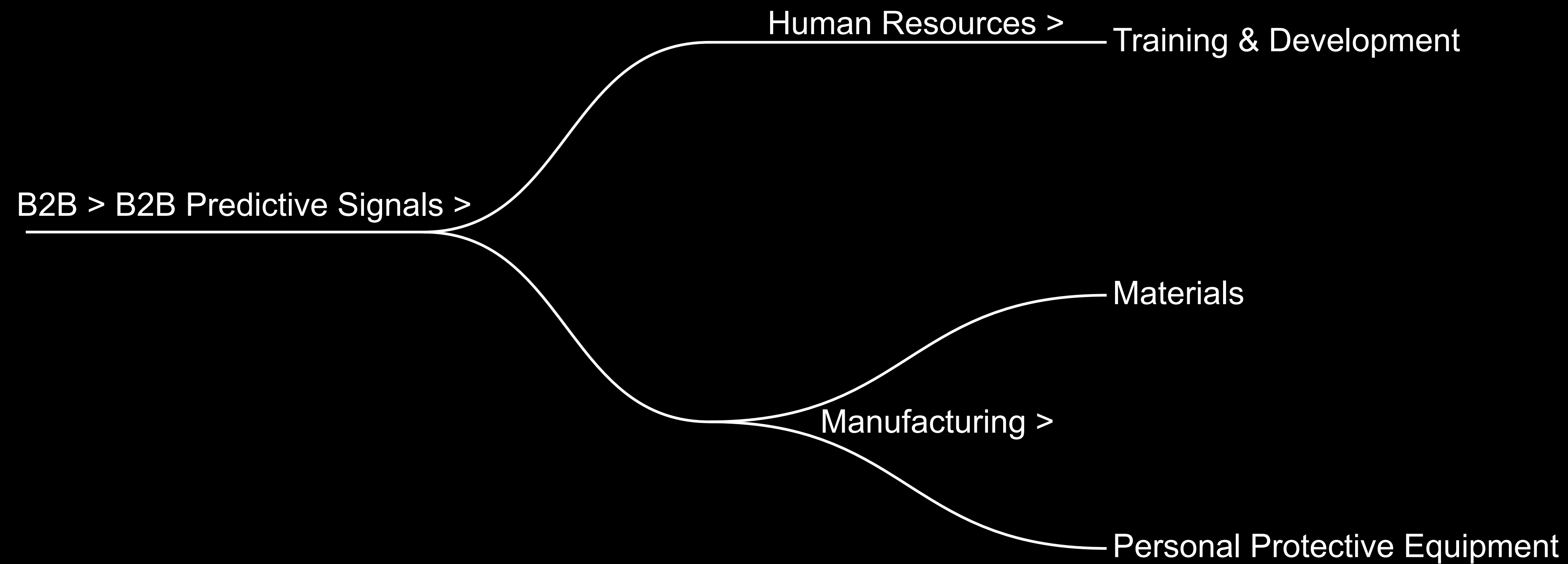
B2B › B2B Predictive Signals › Manufacturing › Materials

B2B › B2B Predictive Signals › Manufacturing › Personal Protective Equipment

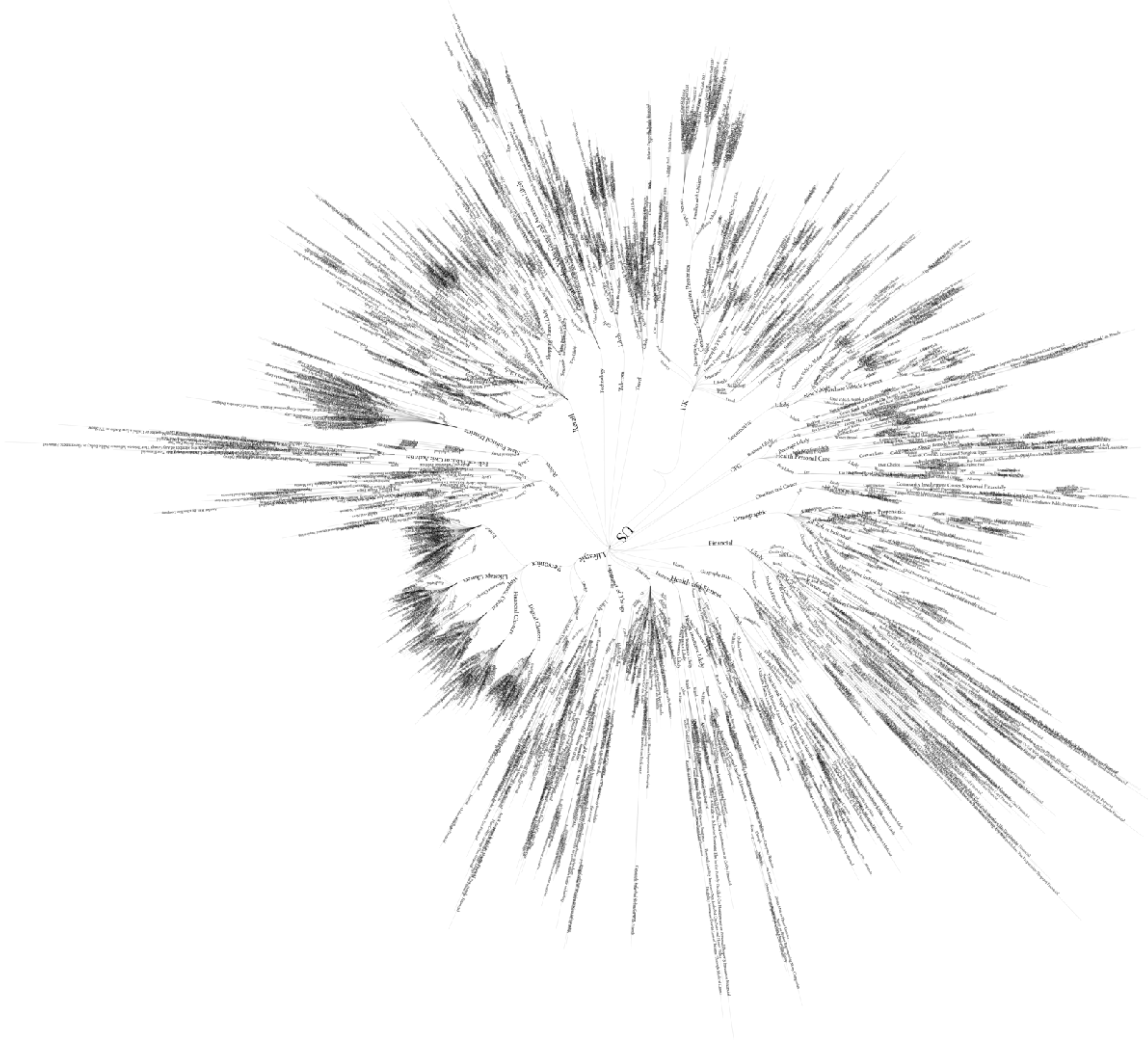
B2B > B2B Predictive Signals > Human Resources > Training & Development

B2B > B2B Predictive Signals > Manufacturing > Materials

B2B > B2B Predictive Signals > Manufacturing > Personal Protective Equipment



acxiom



acxiom

Acxiom UK › Demographics › Gender › Female

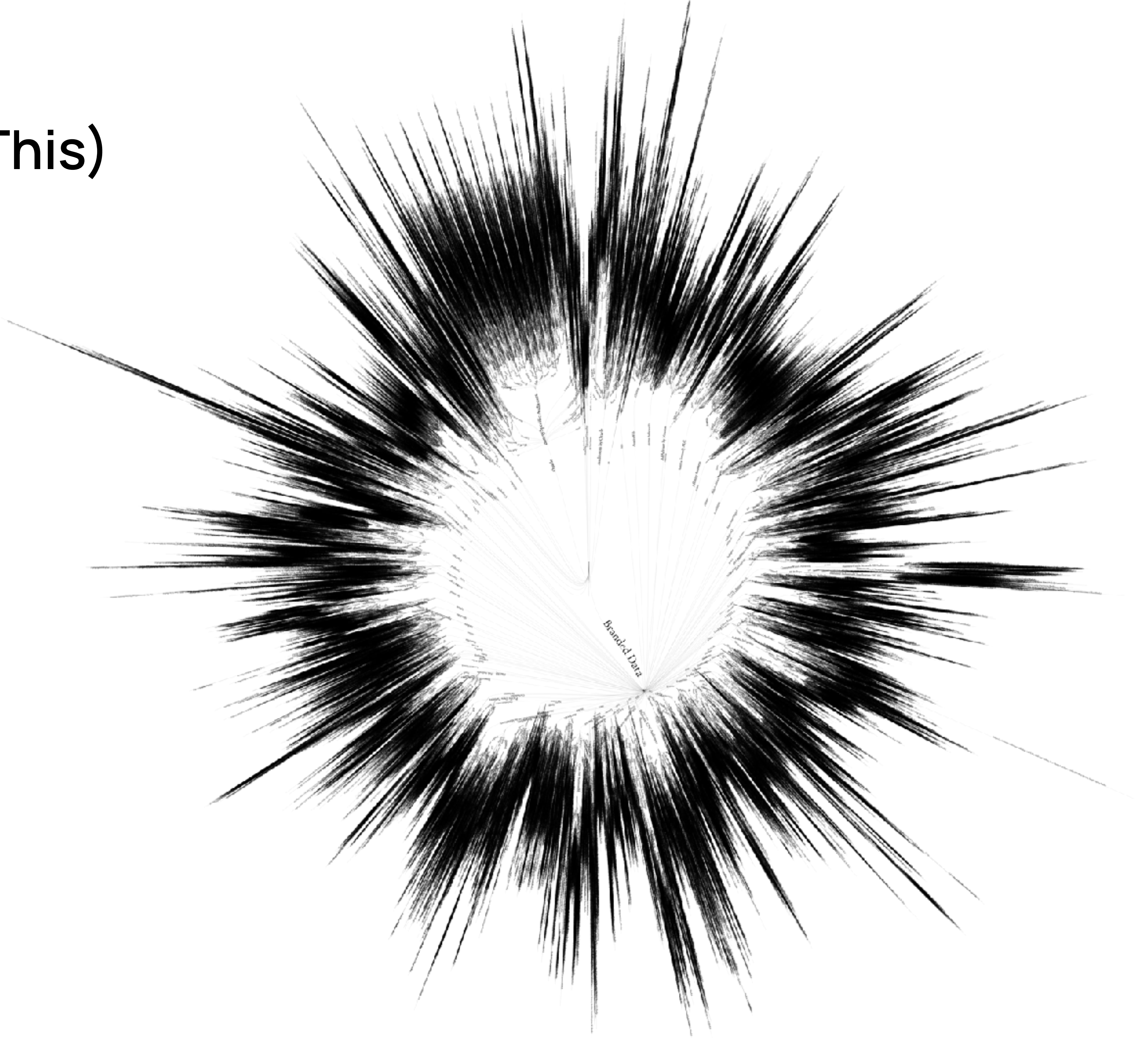
Acxiom UK › Demographics › Gender › Male

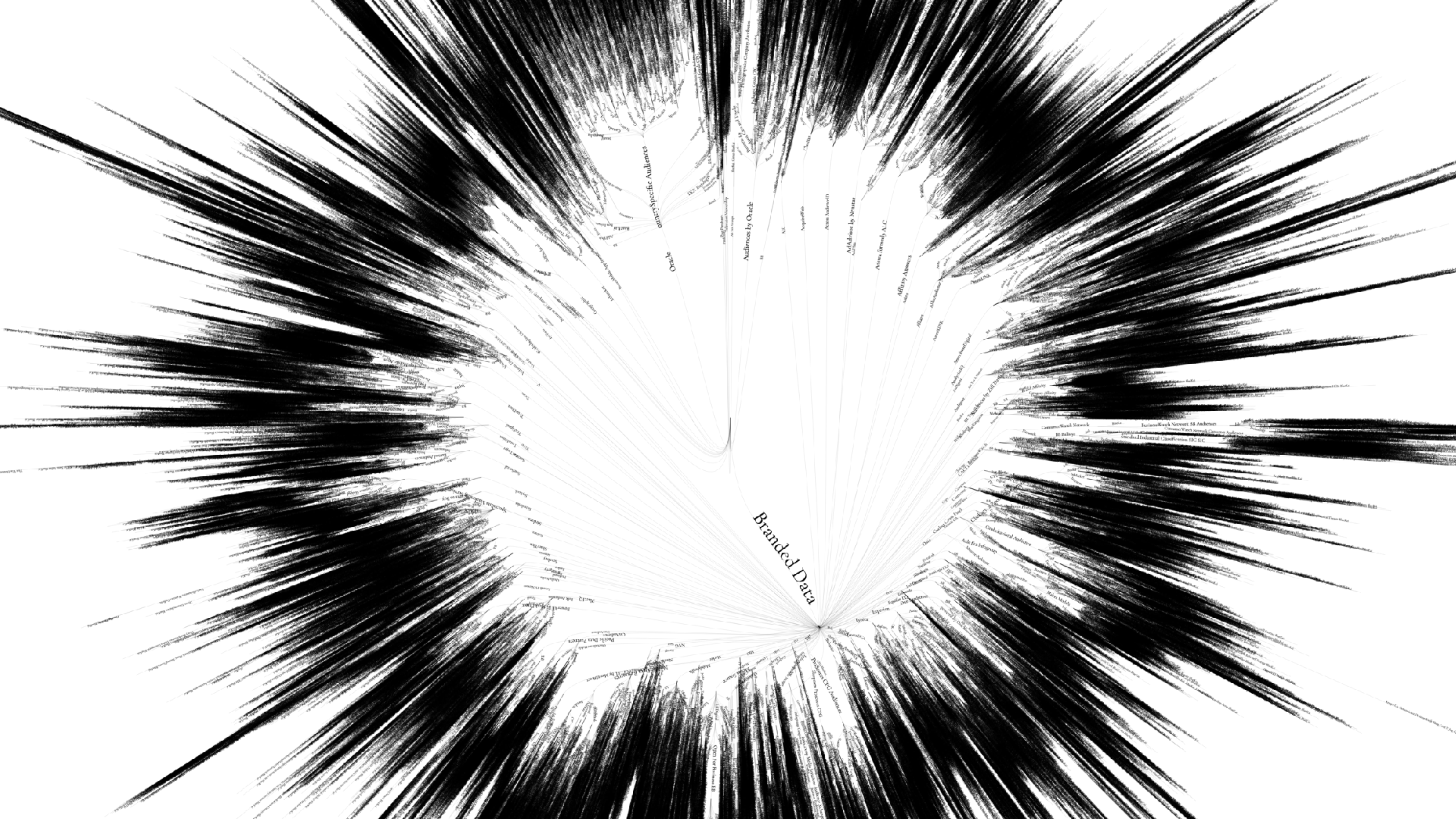
Acxiom US CPG › Pets › Likely Use Flea and Tick
and Parasite Product › Hartz

Acxiom US Travel › Cruise Lines › Disney Cruise
(Financial)

Acxiom US CPG › Breakfast Food › Likely Ready
to Eat Cereal › Total

Audiences by Oracle
(BlueKai, Datalogix, AddThis)







DoubleVerify
└ DoubleVerify - DV:
 Contextual
 └ Science
 └ Astrology

Audiences by Oracle
(BlueKai, Datalogix,
AddThis)
└ Mobile App Installs
 └ Genres
 └ Entertainment
 └ Diversion & Fun
 └ Astrology &
 Horoscopes (BlueKai)

└ Branded Data
 └ Twine Data
 └ Interest
 └ Spirituality
 └ Astrology (BlueKai)

└ Webbula
 └ Passionate About
 └ Arts & Entertainment
 └ Reading
 └ Astrology (BlueKai)

└ Nordic Data
 Resources
 └ Sweden
 └ Super Target
 └ Interests
 └ Astrology (BlueKai)

└ Interests
 └ Astrology (Super
 Target) (BlueKai)

└ TruSignal
 └ Interest
 └ Reading
 └ Astrology (BlueKai)

└ Stirista
 └ Interest
 └ Books
 └ Astrology Books
 (BlueKai)

└ ShareThis
 └ People & Society
 └ Religion & Belief
 └ Astrology &
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└ ConsumerWatch
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 └ Arts & Entertainment
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 └ Arts & Entertainment
 └ Reading
 └ Astrology (BlueKai)

Epsilon Data
Management, LLC.
└ Epsilon: Books &
 Magazines
 └ Book Genre
 Preference
 └ Astrology

Nielsen Marketing
Cloud
└ Scanbuy
 └ Science
 └ Astrology (Exelate)

LiveRamp Data Store
└ V12
 └ ENTERTAINMENT
 └ Reader of
 └ Astrology

└ Webbula
 └ Interest
 └ Hobbies
 └ Astrology and
 Horoscope Readings
 └ Historic

└ Audience Now + by
 Fluent
 └ Ideology
 └ Astrology

└ Audience Now by
 Fluent
 └ Ideology
 └ Astrology

Dstillery
└ Lifestyle
 └ Activities
 └ Numerology &
 Astrology
 (Dstillery)

└ Astrology
 Enthusiasts -

└ Extreme Confidence
 (Dstillery)
└ Astrology
 Enthusiasts
 (Dstillery)
└ Numerology &
 Astrology - Extreme
 Confidence
 (Dstillery)
└ Numerology &
 Astrology - Extended
 Scale (Dstillery)

└ Tiffany & Co -
 Custom-Built
 └ Astrology
 Enthusiasts (CA)
 (Dstillery)

Tru Optik (CTV)
└ truoptik
 └ webbula
 └ passionate about
 └ arts & entertainment
 └ reading
 └ astrology

Eyeota
└ Eyeota
 └ SE NDR
 └ 11 Interests
 └ Interested In:
 Astrology (Power
 Reach)

└ TR ReklamStore
 └ Featured Segments
 └ Astrology Readers

Retargetly
└ Branded Data
 └ 180byTwo
 └ LATAM
 └ Interests
 └ Arts & Entertainment
 └ Entertainment
 └ Horoscope &
 Astrology

(RT-48341) (Retargetly)

Grapeshot
└ xasismia
 └ astrology
 └ pg

└ gs
 └ astrology

ShareThis Inc.
└ ShareThis_US

└ People & Society
 └ Religion & Belief
 └ Astrology &
 Divination

Weborama SA (Data
Provider)
└ Audience 78426, ES
 └ Astrology

comScore Inc.
└ Science
 └ Astrology - comScore
 (content relevance)

└ Astrology - comScore
 (audience interest)

Sirdata SAS
└ Interest
 └ Arts & Entertainment
 └ Horoscopes &
 Astrology

- AdAdvisor by Neustar - Neustar AdAdvisor - Alcohol (Restricted to Best Practices) - Consumption Location - Beer-Where Consumed-Bar/ Club - Beer-Where Consumed-Entertainment/ Sporting Event - Beer-Where Consumed-Restaurant - Beer-Where Consumed-Someone Else's Home - Wine-Where Consumed-Bar/ Club - Wine-Where Consumed-Restaurant - Wine-Where Consumed-Someone Else's Home - Wine-Where Consumed-Your Home - Liquor-Where Consumed-Bar/ Club - Liquor-Where Consumed-Restaurant - Liquor-Where Consumed-Someone Else's Home - Liquor-Where Consumed-Your Home - Liquor & Spirits - Blended Whiskey/Rye-Seagram's 7 Crown - Bourbon Whiskey-Jack Daniel's - Bourbon Whiskey-Jim Beam - Brand/Armagnac-Crown Royal - Champagne-Korbel - Champagne-Martini & Rossi Asti - Coolers-Bacardi Breezer - Coolers-Seagram's Coolers - Coolers-Fruit Flavor -Berry/Berry Combinations - Coolers-Fruit Flavor -Fuzzy Navel - Coolers-Fruit Flavor -Kiwi Strawberry - Coolers-Fruit Flavor -Lemonade/Lemon	- Heineken - Light Beer-Bud Light - Light Beer-Coors Light - Light Beer-Corona Light - Light Beer-Miller Lite - Light Beer-Budweiser - Light Beer-Michelob - Light Beer-Miller Microbrewed - Beer-Blue Moon Microbrewed - Beer-Yeungling Regular Domestic - Beer-Budweiser Regular Domestic - Beer-Coors Regular Domestic - Drink Beer - Imported - Drink Beer - Light Low Cal - Drink Beer - Malt Liquor - Drink Beer - Microbrewed - Drink Beer - No Alcohol/Low Alcohol - Drink Beer - Regular Domestic - Purchase Any Beers & Ales - Purchase Beers & Ales: Ataskan Brewing - Purchase Beers & Ales: Amstel - Purchase Beers & Ales: Ballast Point - Purchase Beers & Ales:Bartles & Jaymes - Purchase Beers & Ales: Bass - Purchase Beers & Ales: Becks - Purchase Beers & Ales: Bells - Purchase Beers & Ales: Blue Moon - Purchase Beers & Ales: Boddingtons - Purchase Beers & Ales: BoId Rock - Purchase Beers & Ales: Brooklyn Brewery - Purchase Beers & Ales: Bud Light - Purchase Beers & Ales: Bud Light Clamato	- Absolut Alcohol Purchasers 201906 - comScore Inc. - Brand Protection Data - Non-standard Content - Alcohol - comScore (content relevance) - Brand Protection - Safe from Alcohol - comScore (content relevance) - Brand Suitability - High Risk - Alcohol (Comscore) - Medium Risk - Alcohol (Comscore) - Low Risk - Alcohol (Comscore) - Predictive Audience - Eyeota - CPG and FMCG - US - Interest - Beverage - Alcohol - Wine	- State of Colorado-No DUI.ORG Alcohol HLM (Factual) 599516B - CO - Fort Collins - State of Colorado-No DUI.ORG Alcohol HLM (Factual) 599516A - CO - Fort Collins - State of Colorado-No DUI.ORG Alcohol TLS Mopub	- Seagram's Buyers - Tanqueray Buyers - Cordials Buyers - Cordials - Baileys Irish Cream Buyers - Jagermeister Buyers - Gin Buyers - Gin - Bombay Buyers - Seagram's Buyers - Tanqueray Buyers - Ready to Drink Cocktails - Jose Cuervo Buyers - Ready to Drink Cocktails Buyers - Ready to Drink Cocktails - Jose Cuervo Buyers - Rum - Bacardi Buyers - Captain Morgan Buyers - Malibu Buyers - Rum Buyers - Rum - Bacardi Buyers - Captain Morgan Buyers - Malibu Buyers - Tequila - Jose Cuervo Buyers - Patron Buyers - Sauza Buyers - Tequila Buyers - Tequila - Jose Cuervo Buyers - Patron Buyers - Sauza Buyers - Vodka - Smirnoff Buyers - Tito's Buyers - Vodka Buyers - Vodka - Smirnoff Buyers - Tito's Buyers - Whiskey - Crown Royal Buyers - Jack Daniel's Buyers - Whiskey Buyers - Whiskey - Crown Royal Buyers - Jack Daniel's Buyers - Wine - Barefoot Buyers - Franzia Buyers - Robert Mondavi Buyers - Wine Buyers - Wine - Barefoot Buyers - Franzia Buyers - Robert Mondavi Buyers
--	---	---	---	--

Grapeshot

- └ advertise
 - └ children
 - └ with
 - └ autism
- └ mediaiq
 - └ marcus
 - └ autism
 - └ kw
 - └ 1

DoubleVerify

- └ DoubleVerify - DV:
 - Contextual
 - └ Health & Fitness
 - └ Autism/PDD

Audiences by Oracle
(BlueKai, Datalogix, AddThis)

- └ Branded Data
 - └ Affinity Answers
 - └ Brands
 - └ Organizations
 - └ Autism Research & Support (BlueKai)

Eyeota

- └ Eyeota
 - └ US Plunge Digital
 - └ Interest
 - └ Brand Affinity
 - └ Nonprofit
 - └ Autism Speaks

OwnerIQ Inc.

- └ Autism Speaks

comScore Inc.

- └ Health & Fitness
 - └ Autism/PDD - comScore (content relevance)
 - └ Autism/PDD - comScore (audience interest)

Peer39

- └ OTT-CTV
 - └ Content Type
 - └ Cable_TV-Channel
 - └ The Autism Channel


```

AdAdvisor by Neustar
├── Neustar AdAdvisor
│   ├── Alcohol (Restricted
│   │   │   to Best Practices)
│   │   ├── Liquor & Spirits
│   │   │   ├── Purchase Spirits:
│   │   │   │   Christian Brothers
│   │   └── comScore TV
│   │       Audiences Powered by
│   │       Neustar
│   │       ├── comScore TV Network
│   │       │   ├── Christian Television
│   │       │   │   Network (Broadcast)
│   │       │   ├── Tri-State Christian
│   │       │   │   Television
│   │       │   └── Christian Television
│   │       │       Network (Cable)

```

```

Lotame
├── Mobilewalla
│   ├── Japan
│   │   └── Religion
│   │       └── Christian
│   ├── Korea
│   │   ├── Religion
│   │   └── Christian
│   └── US
│       ├── Religion
│       └── Christian
└── Lotame
    ├── Lotame Shopping & Retail
    │   └── 21+
    │       ├── Liquor & Spirits
    │       └── Purchase Spirits: Christian Brothers

```

```

graph TD
    Grapeshot --- forward
    forward --- christian
    christian --- aid
    aid --- charity
    Grapeshot --- bconnect
    bconnect --- dr
    dr --- christian
    Grapeshot --- avocet
    avocet --- ampex
    ampex --- dr
    dr --- christian
    Grapeshot --- underdog
    underdog --- religion
    religion --- christian
    Grapeshot --- dedicated
    dedicated --- christian
    christian --- colleges
    Grapeshot --- gdm
    gdm --- christian
    Grapeshot --- affectv
    affectv --- christian
    christian --- aid
    aid --- pone
    Grapeshot --- mediaiq
    mediaiq --- samford
    samford --- christian
    christian --- kws
    Grapeshot --- hearst
    hearst --- sf

```

```

└── Christian Dior
    (BlueKai)
└── TrueData
    └── Mobile Apps
        └── Health and Fitness
            └── Abide - Christian
                Meditation (BlueKai)

```

```

Skimlinks, Inc.
└─ Audiences by
    Skimlinks
    └─ Wants to Buy -
        Brands
        └─ Fashion &
            Accessories
            └─ Christian Dior
            └─ Christian Louboutin
    └─ Affinity - Brands
        └─ Fashion &
            Accessories
            └─ Christian Dior
            └─ Christian Louboutin

```

```

Factual Inc
├── 402522
│   ├── CO
│   │   ├── Grand
│   │   │   ├── Junction
│   │   │   │   ├── CO
│   │   │   │   │   ├── Christian
│   │   │   │   │   │   ├── Uni
│   │   │   │   │   │   │   ├── HLM (Factual)

```

```

└─ 203516
    └─ NJ
        └─ Trenton
            └─ Christian
                └─ HVAC
                    └─ -
                        └─ Carrier
                            └─ HLM (Factual)

```

```

├── Grace
│   ├── Bible
│   │   ├── College
│   │   │   ├── Christian
│   │   │   │   ├── High
│   │   │   │   │   └── Schools (Factual)
│   │   └── Christian
│   │       ├── University
│   │       │   ├── Billboard (Factual)
│   │       │   ├── Christian
│   │       │   │   ├── High
│   │       │   │   │   └── Schools (Factual)
│   │       │   ├── High
│   │       │   │   ├── Schools (Factual)
│   │       │   ├── Other
│   │       │   │   ├── Campuses (Factual)
│   │       │   │   └── Billboards
│   │       │   │       └── 2 (Factual)

```

```

└─ 353391
    └─ NJ
        └─ Trenton
            └─ Christian
                └─ HVAC
                    └─ Peirce
                        └─ Dealer
                            └─ HLM (Factual)

```

— 395741

```

├── Finance
│   ├── LA
│   └── Car
├── 2235473A
│   ├── ID
│   │   ├── Boise
│   │   │   ├── Northwest
│   │   │   │   ├── Christian
│   │   │   │   │   ├── Credit
│   │   │   │   │   │   ├── Union
│   │   │   │   │   │   │   ├── HLM (Factual)
│   │   │   │   │   │   │   ├── TLS
│   │   │   │   │   │   │   └── -
│   │   │   │   │   └── Auto
│   │   │   │   └── Dealer
│   │   │   │       ├── HLM (Factual)
│   │   │   │       └── TLS

```

```

Epsilon Data
├── Management, LLC.
├── Epsilon: Lifestyles
│   └── & Interests
│       ├── Music Genre
│       │   └── Preference
│       │       ├── Christian & Gospel
│       │       └── Music
│       └── Christian & Gospel
│           ├── Music Fans
│           │   ├── Unlikely
│           │   ├── Highly Likely
│           │   └── Likely

```

```

Nielsen Marketing
Cloud
├── Audiences by
│   ├── Skimlinks
│   │   ├── Affinity
│   │   │   ├── Brands
│   │   │   │   ├── Fashion &;
│   │   │   │   │   Accessories
│   │   │   │   │   ├── Christian Dior
│   │   │   │   │   │   (Exelate)
│   │   │   │   │   └── Christian Louboutin
│   │   │   │   │       (Exelate)
│   │   │   └── Wants to Buy
│   │   │       ├── Brands
│   │   │       │   ├── Fashion &;
│   │   │       │   │   Accessories
│   │   │       │   │   ├── Christian Dior
│   │   │       │   │   │   (Exelate)
│   │   │       │   │   └── Christian Louboutin
│   │   │       │   │       (Exelate)
│   └── Infogroup Media
│       ├── Solutions
│       │   ├── B2C
│       │   │   ├── Donor Xchg
│       │   │   │   ├── Charitable Causes
│       │   │   │   │   Donor
│       │   │   │   │   ├── Religious Causes
│       │   │   │   │   │   Christian (Exelate)

```

```

└─ InfoGroup
  └─ B2C
    └─ Donor
      └─ Religious Causes
        └─ Christian (Co-op
          Sourced)
└─ Nielsen Audio

```

- L2 Voter Data
 - Individual Demographics
 - Parties Description
 - Christian
- Reveal Mobile
 - AutoRepairShoppers
 - Christian Brothers Automotive
- RETIRED - Use Thru 3/2020 - Acxiom Interest
 - Christian Families
- Stirista
 - Consumer
 - Custom
 - Christian Families
- comScore
 - TV Segments (US)
 - Network
 - Christian Television Network
- One Media Connect
 - Music: Christian Or Gospel (MAID)
 - Music: Christian Or Gospel (Household)
- Experian (Xaxis)
 - Lifestyle and Interests
 - Music
 - Christian Music

```
Datonics
├── 353391
│   ├── NJ
│   │   ├── Trenton
│   │   │   ├── Christian HVAC
│   │   │   │   ├── Peirce Dealer
│   │   │   │   └── Datonics
```

```
Peer39
├── Custom Category
│   ├── 353391_NJ_Trenton_Christian
│   │   ├── HVAC (Peirce Dealer)_Peer 39
│   │   └── 858028_NJ_Trenton_Christian
│   │       ├── HVAC (Peirce Phelps)_Peer39
│   │       └── 2021057C_NJ_Shore_Christian
│   └── Brothers Academy
├── OTT-CTV
└── Content Type
    ├── Cable_TV-Channel
    │   ├── Christian Cinema
    │   └── Christian Television Network
```

```
Dstillery
├── Consumer
│   └── Media
│       └── Christian News
│           (Dstillery)
```

- US
 - Place Visits
 - By Brand
 - Business and Services
 - Car Repair-Service
 - Car Repair-Service
 - Christian Brothers Automotive (adsquare)

[illegible]

```

Tru Optik (CTV)
├─ truoptik
│   └─ webbula
│       └─ demographics
│           └─ family composition
│               └─ roles
│                   └─ christian family

```

```
Bombora Inc.
├── Christian Books
│   ├── All Employees
│   │   ├── LP
│   │   │   ├── Dec
│   │   │   │   └── 2018
```

```

graph TD
    Eyeota --> USPlungeDigital[US Plunge Digital]
    Eyeota --> USExperian[US Experian]
    Eyeota --> GlobalComScore[Global ComScore]
    Eyeota --> US180byTwo[US 180byTwo]
    Eyeota --> USWilandUltimate[US Wiland Ultimate]
    Eyeota --> USAffinityAnswers[US Affinity Answers]
    USPlungeDigital --> Interest1[Interest]
    Interest1 --> LifestyleAndOther[Lifestyle and Other Interests]
    LifestyleAndOther --> ChristianFamilies[Christian Families]
    USExperian --> LifestyleAndInterests[Lifestyle and Interests]
    LifestyleAndInterests --> Music[Music]
    Music --> ChristianMusic[Christian Music]
    ChristianMusic --> Expanded[Expanded]
    Expanded --> Precision[Precision]
    GlobalComScore --> Interest2[Interest]
    Interest2 --> TVNetwork[TV Network]
    TVNetwork --> ChristianTelevisionNetwork[Christian Television Network]
    US180byTwo --> OTT[OTT]
    OTT --> Music2[Music]
    Music2 --> Genre[Genre]
    Genre --> Christian[Christian]
    USWilandUltimate --> IntentToVisit[Intent to Visit]
    IntentToVisit --> ChristianAffiliatedThemeParks[Christian Affiliated Theme Parks]
    ChristianAffiliatedThemeParks --> PwrByAmex[PwrBy Amex_UAA0653]
    USAffinityAnswers --> Interest3[Interest]
    Interest3 --> USPolitics[US Politics]
  
```



```
Grapeshot
├── adskom
│   ├── gs
│   │   ├── jilbab
│   │   └── muslim
│   └── cpxiasia
│       ├── fashion
│       └── muslim
Epsilon Data Management, LLC.
├── Epsilon:
│   ├── Demographics
│   ├── Religion
│   └── Islamic/Muslim
LiveRamp Data Store
├── E-Tech
│   ├── Religion
│   └── MUSLIM
├── BusinessWatch Network
│   ├── B2C
│   │   ├── Religion
│   │   └── Muslim
├── 180byTWO
│   ├── Cookie
│   │   ├── B2C
│   │   │   ├── Religion
│   │   │   └── Muslim
│   └── B2C
│       ├── Web
│       │   ├── Religion
│       │   └── Muslim
├── Stirista
│   ├── Voter
│   │   ├── Ethnicity
│   │   └── Bosnian Muslim
├── American Student Marketing
│   ├── Religious Affiliation
│   └── Islam/Muslim
├── L2 Voter Data
│   ├── Individual Demographics
│   │   ├── Ethnicity
│   │   └── Ethnic Description
│   │       └── Bosnian Muslim
├── Twine
│   ├── Mobile Apps
│   │   ├── Top Mobile Apps
│   │   └── Muslim Pro: Prayer Times Quran
├── Alliant
│   ├── Interest Propensities
│   └── Issues & Causes
│       └── Against The Muslim Ban
```

```
└── Infogroup
    ├── Consumer
    │   ├── US Politics
    │   └── Issues & Advocacy
    │       ├── Muslim Ban - Support
    │       └── Muslim Ban - Oppose
Eyeota
├── Eyeota
│   ├── US Experian
│   ├── Ethnic Insight
│   ├── Religion
│   └── Muslim
Oracle Customs (1st, BlueKai, Datalogix, AddThis)
├── Experian
│   ├── Xaxis
│   │   ├── Ethnic Insight
│   │   ├── Religion
│   │   └── Muslim
│   └── Experian
│       ├── Xaxis
│       │   ├── Ethnic Insight
│       │   ├── Religion
│       │   └── Muslim
Peer39
├── OTT-CTV
│   ├── Content Type
│   ├── Cable_TV-Channel
│   └── Muslim Kids TV
Skydeo, Inc.
├── Skydeo
│   ├── Demographics
│   ├── Religion
│   └── Islamic/Muslim
```


ART



The Parasol (1777)

*Por una navaja.*



Lo mismo.

Plate 3: *Lo mismo* (The same).
By Francisco Goya - Museo del
Prado, Public Domain, [https://
commons.wikimedia.org/w/
index.php?curid=25076261](https://commons.wikimedia.org/w/index.php?curid=25076261)



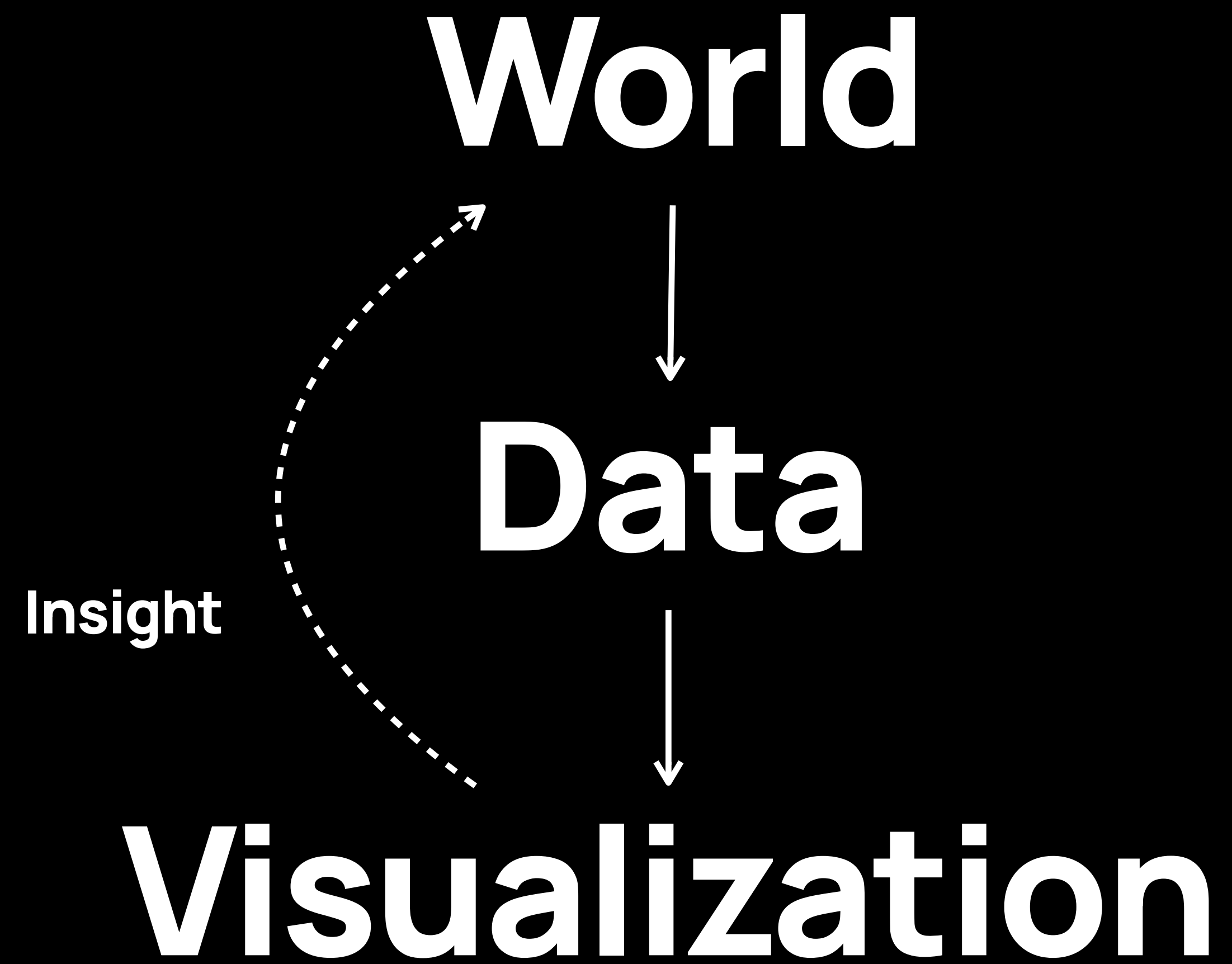
Plate 52: No llegan a tiempo
(They do not arrive in time). By
Francisco Goya - Museo del
Prado, Public Domain, [https://
commons.wikimedia.org/w/
index.php?curid=25080563](https://commons.wikimedia.org/w/index.php?curid=25080563)

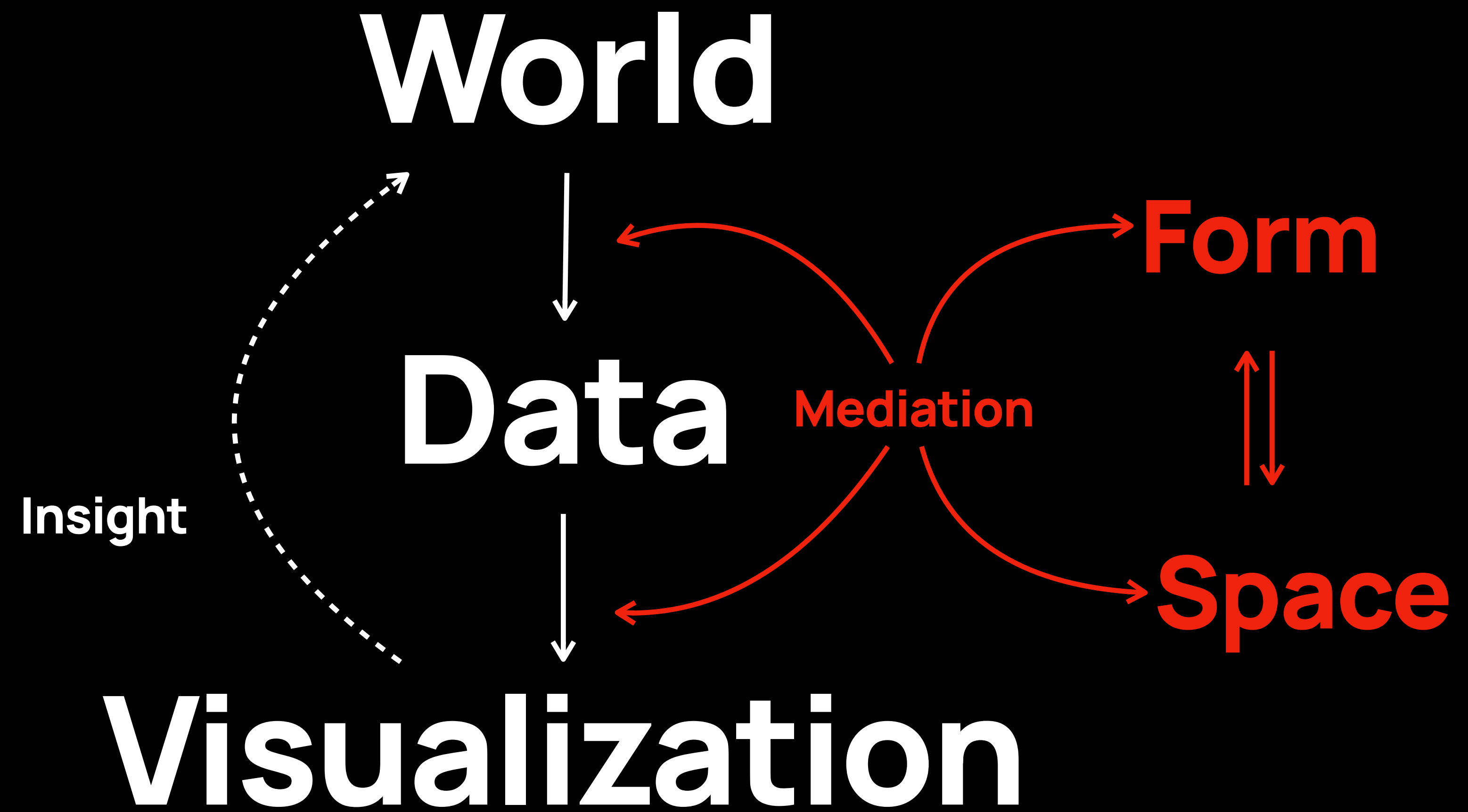
No llegan á tiempo.

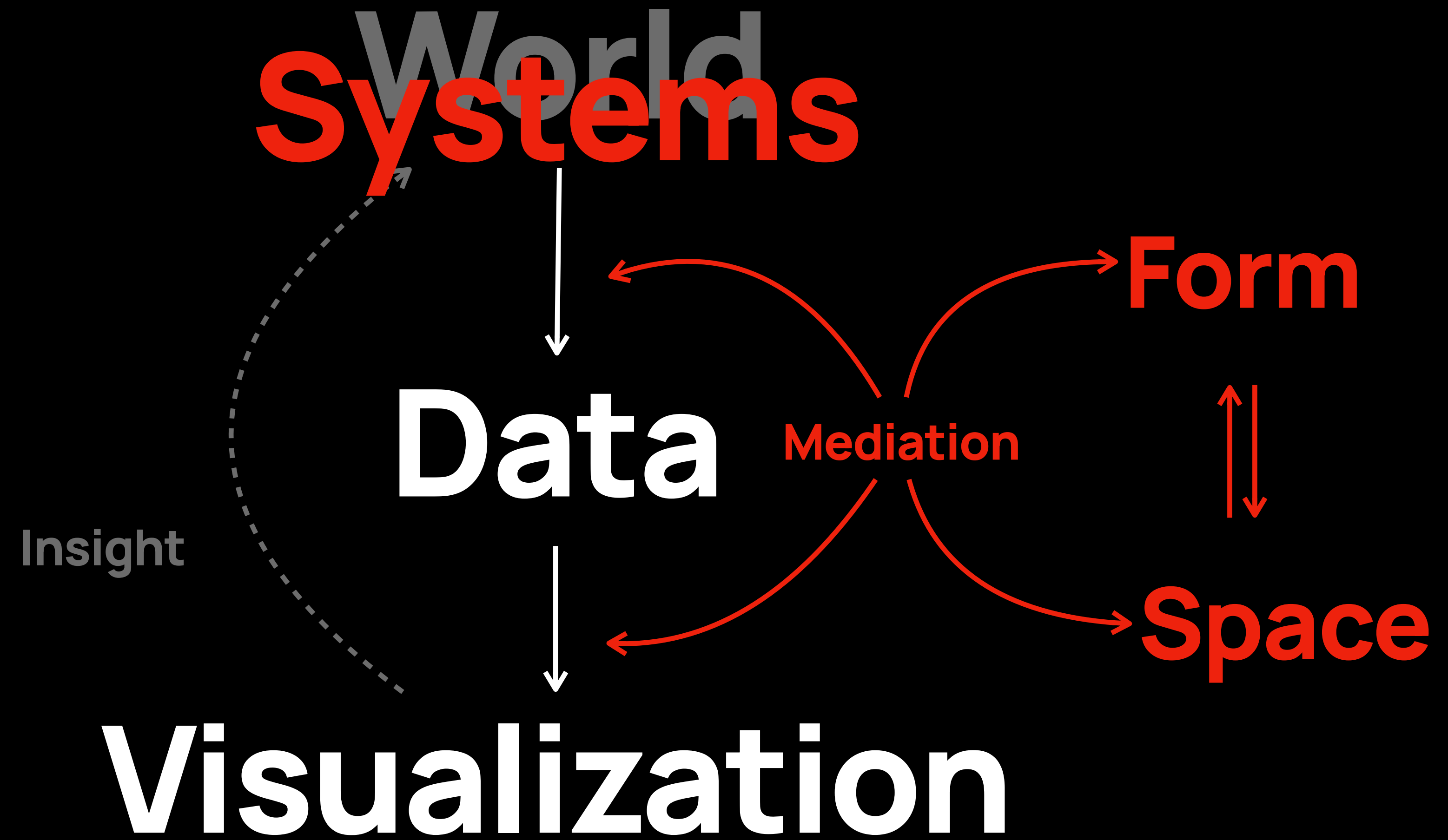
**ART IS
FREEDOM**

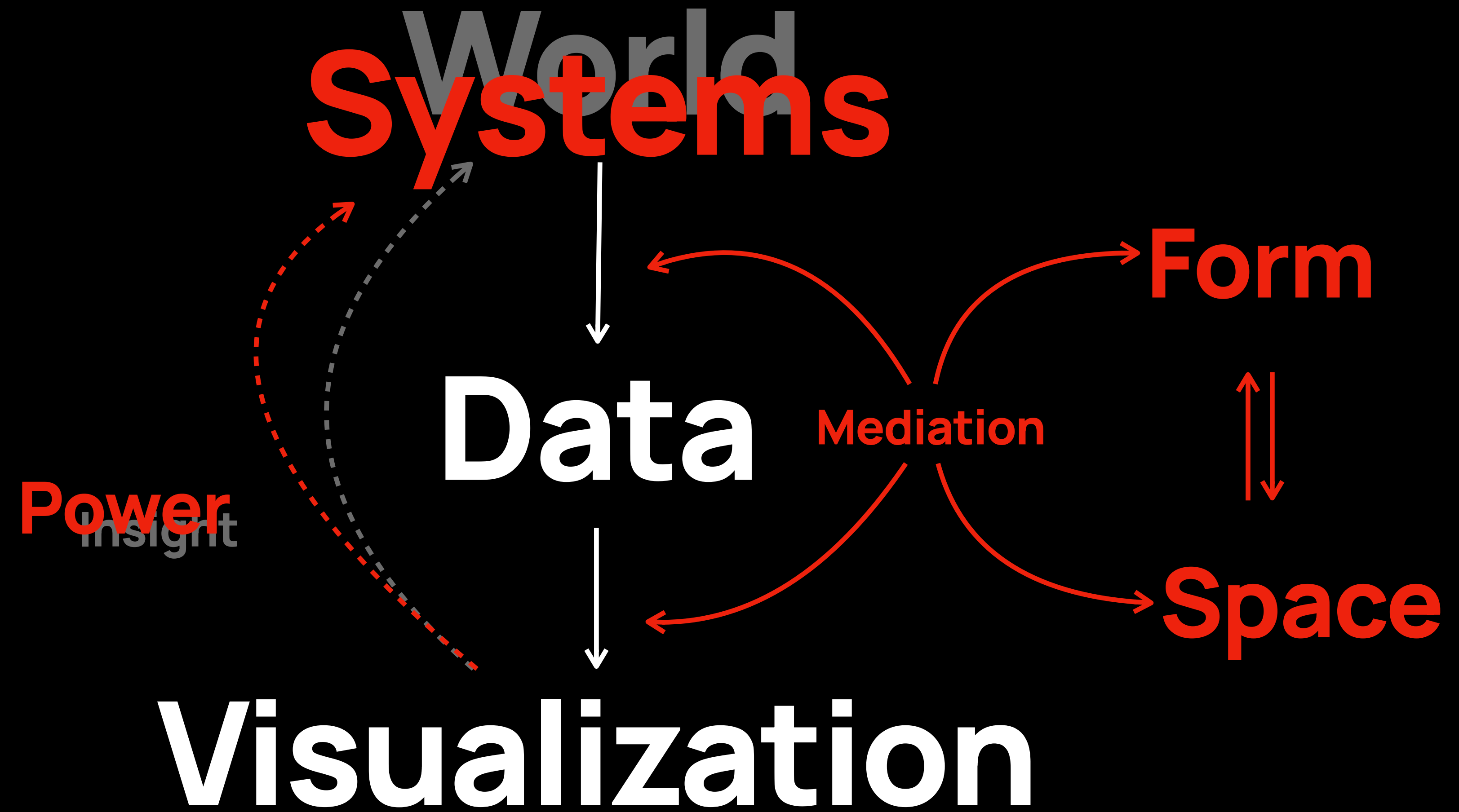
ADT IS
POWER
FREEDOM
AND ABUSE

**WE ARE LOSING OUR
CONNECTION TO,
PURPOSE FOR AND
UNDERSTANDING OF
THE MEDIUM OF DATA.**









**HOW DO WE EXPOSE
THE MISUSE OF DATA?**

**HOW DO WE REPRESENT
DATA FAILURES?**

**WHAT SHOULD NEVER
BECOME DATA?**

**WHAT WILL
REMAIN
OPAQUE?**

Inspired by writings from **Catherine D'Ignazio,**
Lauren Klein, Kate Crawford, Mimi Onuoha,
Judith Butler and Wendy Chun.

**THERE IS A
LOT TO CARE
ABOUT.**

THANK YOU



You can find the slides and project links here:

databased.design/en/notes/ieee-visap-keynote

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Website: kimalbrecht.com