@ANTHONYMASURE (HEAD – GENÈVE) & FLORIE SOUDAY (ENS PARIS-SACLAY)

AI AS A HATRED OF DEMOCRACY?

An Art & Design Point Of View

0

CONTEXT

@AnthonyMasure
Responsable de la recherche à la HEAD – Genève (IRAD – Institut de Recherche en Art et en Design)
Membre associé du laboratoire LLA-CRÉATIS, université Toulouse – Jean Jaurès

Apprendre des abysses : les humanités numériques face aux machines du *deep learning*

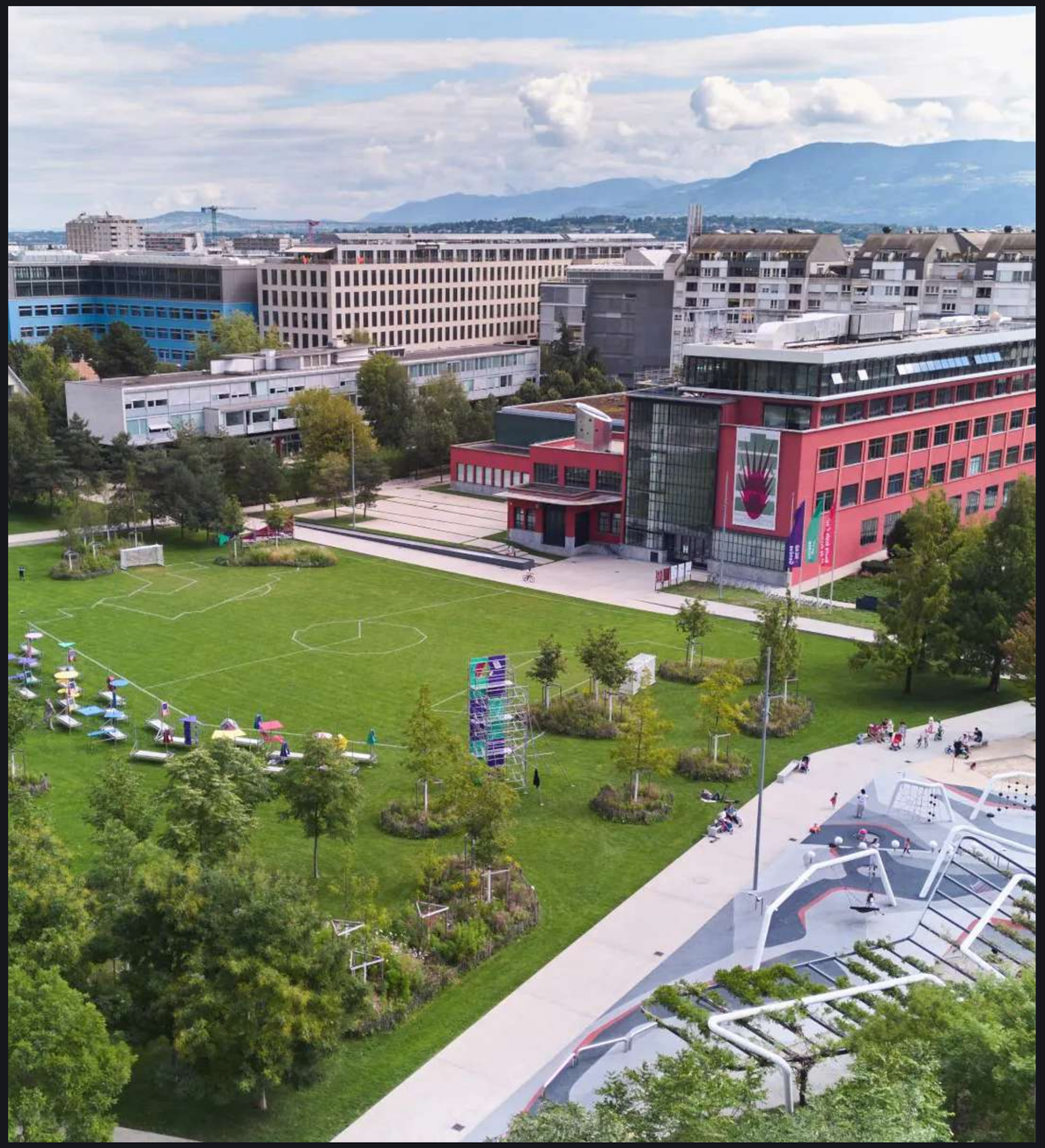
Journées d'étude « Humanités numériques et computationnelles »,
Université Côte d'Azur, Académie d'Excellence « Homme, Idées et Milieux »
Nice, Centre Universitaire Méditerranéen, 6 septembre 2019

Hello again Nice!
Last time was in 2019, about AI yet

HEAD – GENÈVE (HES-SO)

800 students

About 20 running research projects in several fields (interior design, visual arts, fashion design, graphic design, etc.)



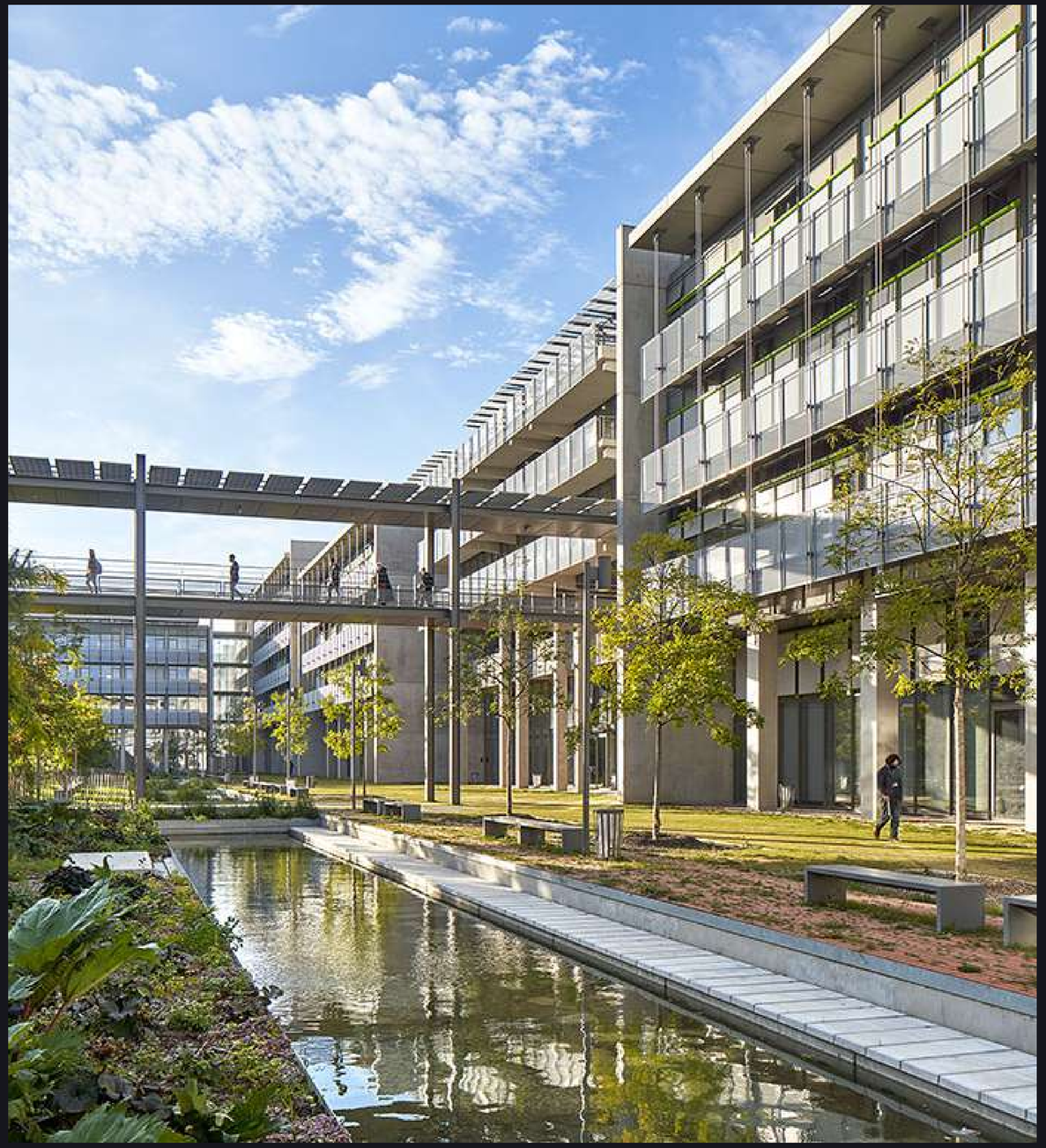
ENS PARIS-SACLAY

2000 students

11 formations

15 research labs

Computer science, physics chemistry, biology, sociology, design, etc.



***Back Office* Journal (graphic design E+K)**

Issue #5, ed. B42, 2023

An art and design point of view on AI, pedagogy and democracy relationships

What can art and design contribute to philosophical and ethical issues surrounding AI?

Can we do “ethics by design” without design?

1

DEFINITION: “DESIGN”

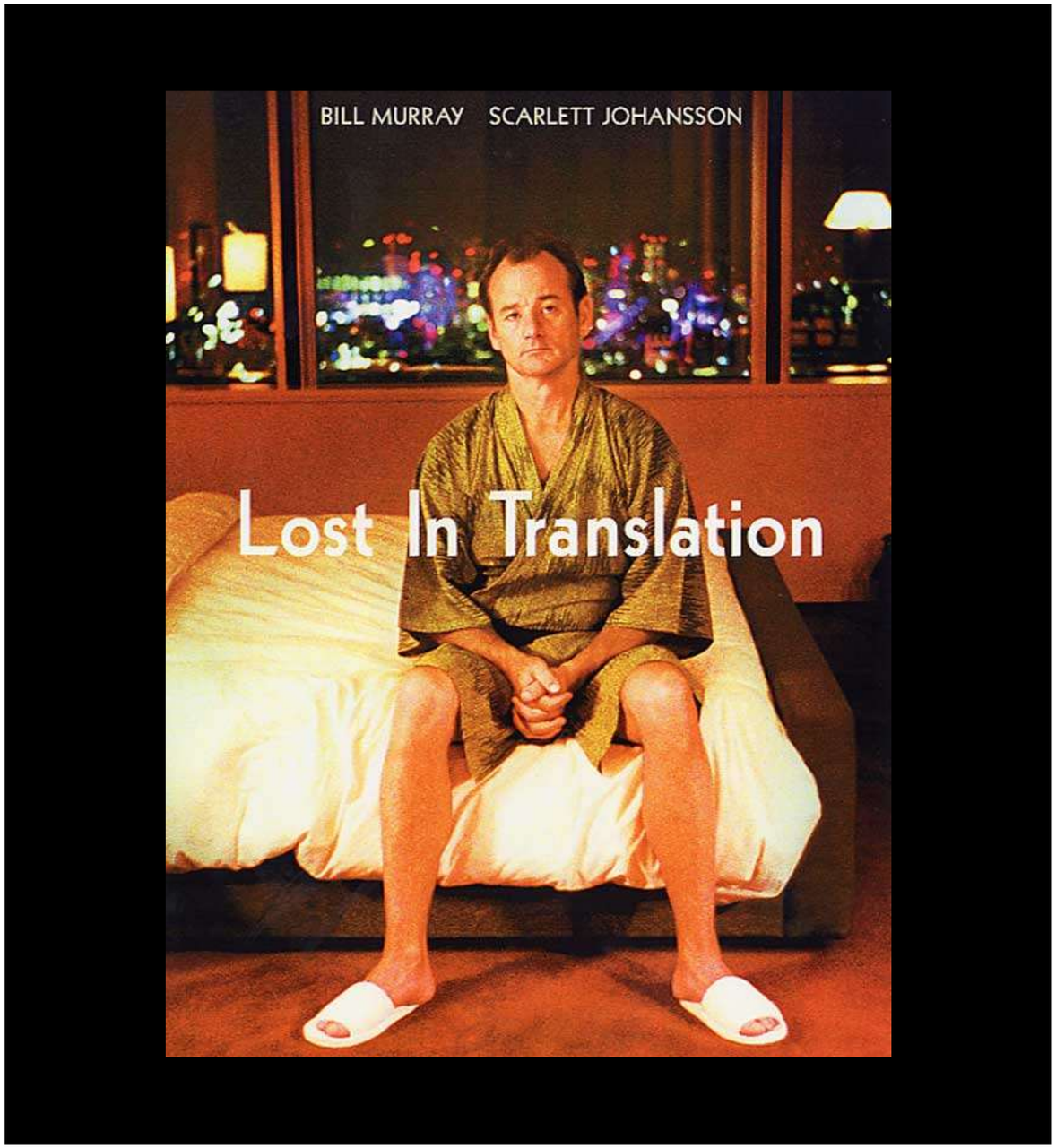
LOST IN TRANSLATION

Design (English)

Planning, programming, ruse, perfidy (*cf*. Vilém Flusser writings)

Design (French)

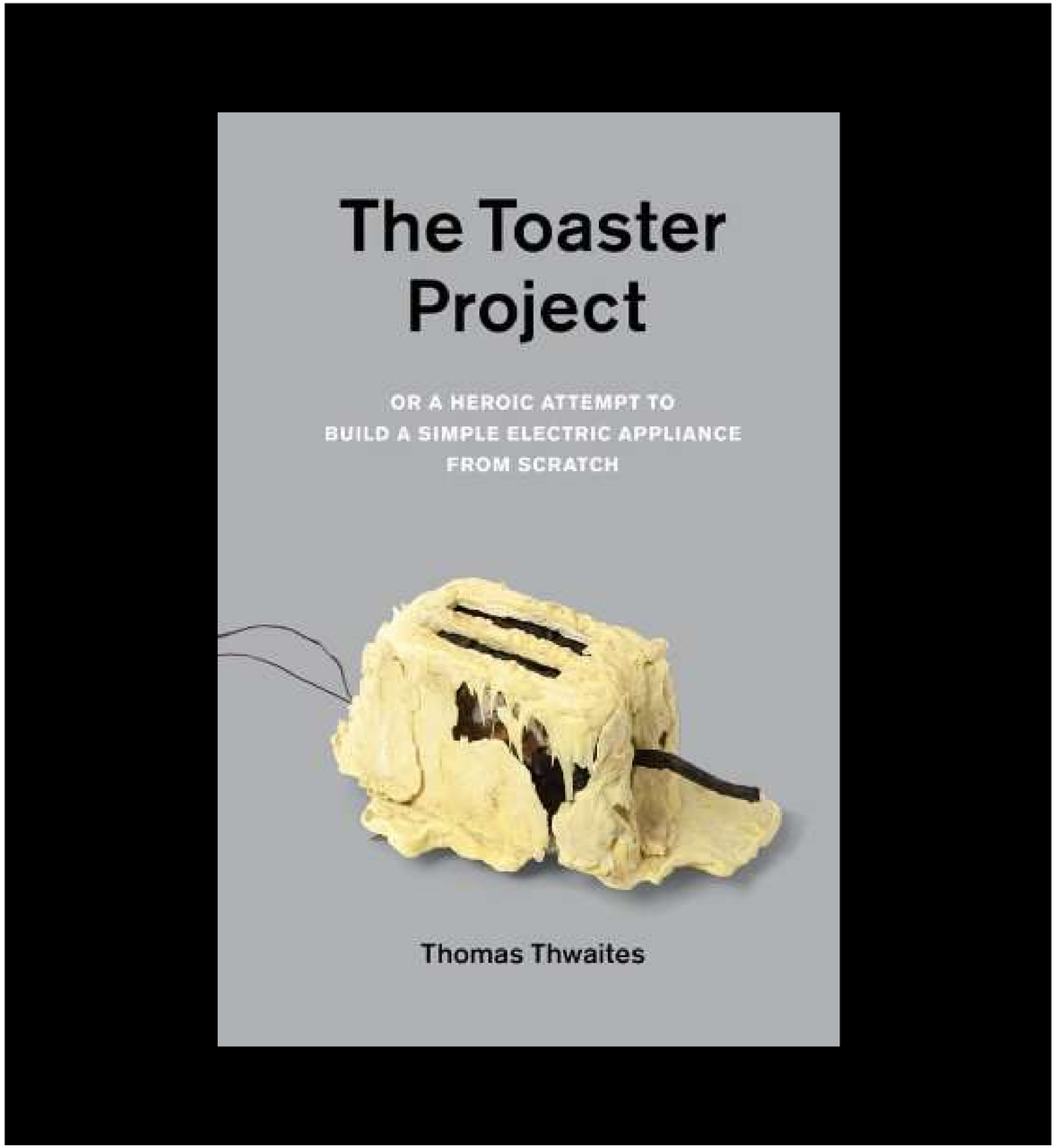
A blend of the Italian “disegno,” the *Encyclopédie*’s “dessein,” and the English meaning of the word “design,” all within a complex heritage of decorative and applied arts.



DESIGN AND DESIGNS

– Product Design
– Graphic Design
– Interaction Design
– Interior Design
– Fashion Design
– Service Design
– Critical Design
– Speculative Design

...



“Solving, in design, does not mean settling a question, still less dissolving or eliminating a problem, since technical progress renews and poses them afresh, engaging new means for their resolution. […] It’s a matter of trying, each time, to approach sensitive and perceptible equations of this resolution.”

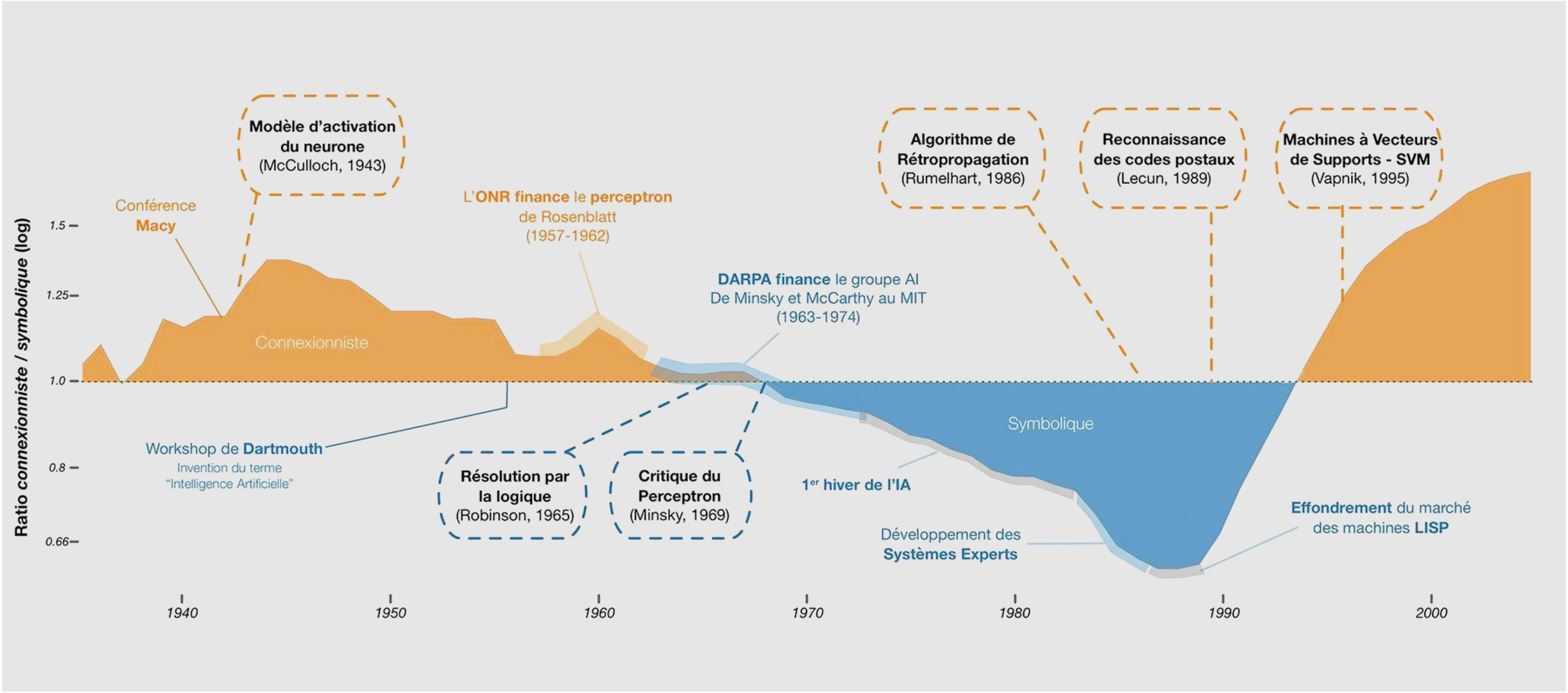
– Catherine Geel, 2014

“Design […] is less concerned with techniques understood as ‘tools’ than with ‘ways of doing’ that aims to diversify what is already there. It does not stand in the resolution of problems or needs, but in a journey through the formal, structural and functional qualities of our environments.”

– Anthony Masure, 2017

2

DEFINITION: “AI”



Alternation between "connectionist" and "symbolic" methods

Dominique Cardon, Jean-Philippe Cointet, Antoine Mazières, "La revanche des neurones," 2018

they don't even call it an LLM in paris
it's just le big model

AI?

What we call “AI” today is only a part of a much broader field, and essentially refers to “deep learning” technologies.

3

RESEARCH PROJECT (2022-2023) ”DESIGN & MACHINE LEARNING”

Anthony Masure (requérant)
Professeur associé
Responsable Ra&D
HEAD – Genève, HES-SO

Alexia Mathieu
Maître d'enseignement
Responsable du MA Media Design
HEAD – Genève, HES-SO

Douglas Edric Stanley
Chargé de cours
MA Media Design
HEAD – Genève, HES-SO

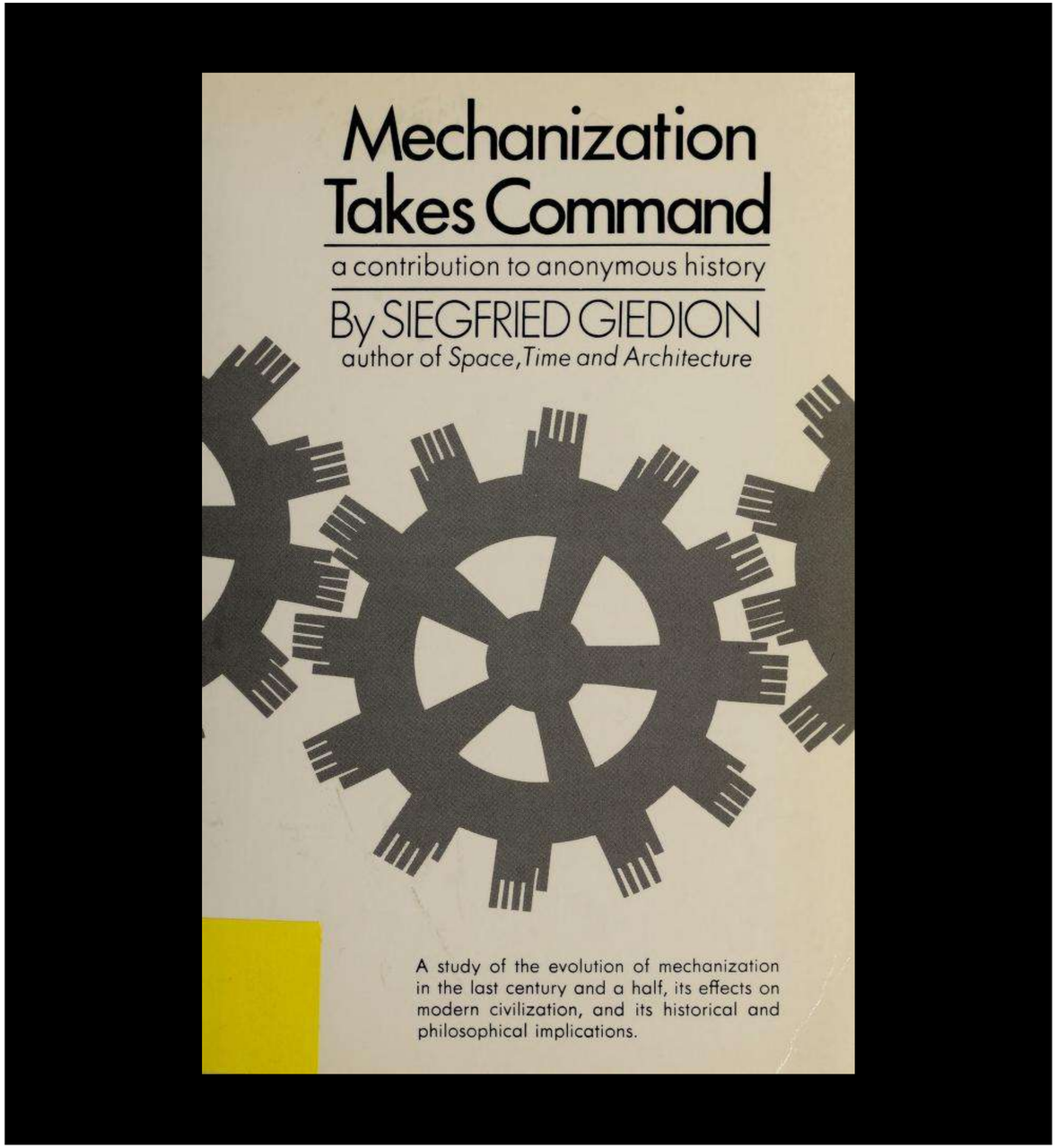
HEAD – Genève (HES-SO) Research Team, 2022-2023

RESEARCH QUESTIONS

– How can AI be reoriented on a smaller scale, in a “tailored” way?

– How can we ensure that AI increase invention and curiosity?

– How could design contribute to counter the dominant (and capitalistic) culture of AI?



ARTIFICIAL DESIGN: CREATION VERSUS MACHINE LEARNING

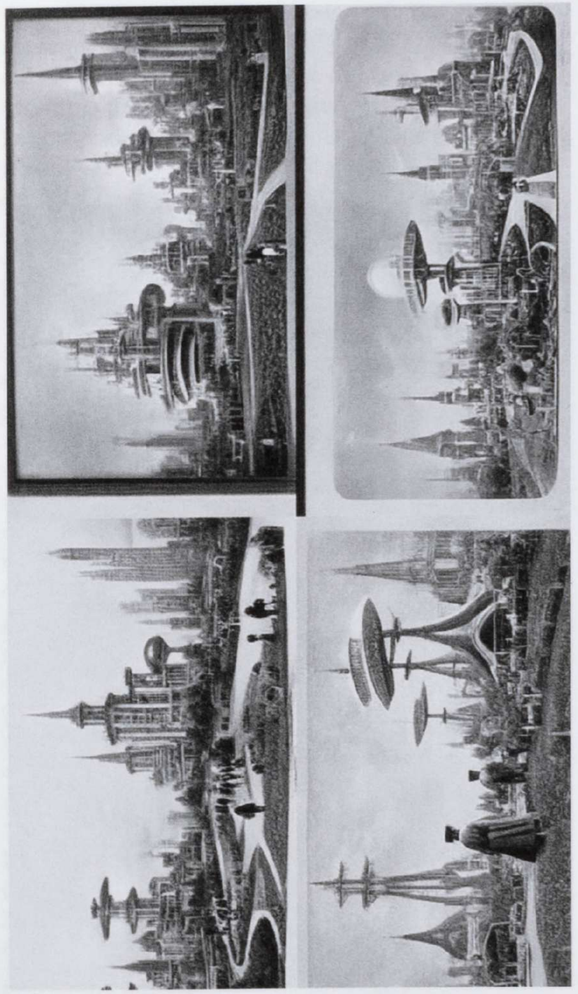
An open source and multi-formats essay published in March 2023 by HEAD –Publishing.

www.anthonymasure.com/en/essai-design-sous-artifice

Formats:
Print, HTML, PDF, ePub, MP3

concept art, 4K, octane render, cinematic lighting, highly detailed » (nous conservons ici la formulation en anglais, celle-ci étant plus efficiente). Pour apprivoiser ces systèmes, explique le designer graphique Étienne Mineur (Mathieu, 2022), il faut assimiler la structure de ces langages et savoir mettre les mots dans le « bon sens » (c'est-à-dire aligner son langage depuis celui de la machine), parfois en les pondérant avec des signes de ponctuation.

De façon générale, avec le *deep learning*, la machine devient capable d'associer un lexique à des formes, qu'elles soient *bitmap* (à base de pixels), vectorielles ou tridimensionnelles (Apple GAUDI, 2022). Cette promesse d'une création (presque) sans intervention humaine explicite relance le vieux débat consistant à savoir si une machine peut se substituer à un·e designer — une formulation binaire qui selon nous fait obstacle à la compréhension du large spectre des implications du *machine learning*. Dans un article au titre sans équivoque (« If You're Worried About DALL·E Replacing Illustrators, You Don't Understand The Power of Illustration ») (Posture, 2022), l'illustrateur Julien Posture montre que les IA contemporaines ne remplacent pas les illustrateur·trices mais une idée préconçue de l'illustration, à savoir l'exécution servile d'un *brief* textuel par le recours à tel ou tel style visuel à la mode — ce que proposaient déjà des plateformes de microtravail comme Fiverr (2010) ou Upwork (2015), où des personnes à l'autre bout du monde



[Fig. 5] **Lev Manovich, exemple de résultat dans Midjourney pour la requête « 1900 vision of future utopian architecture in 2020 », 2022**

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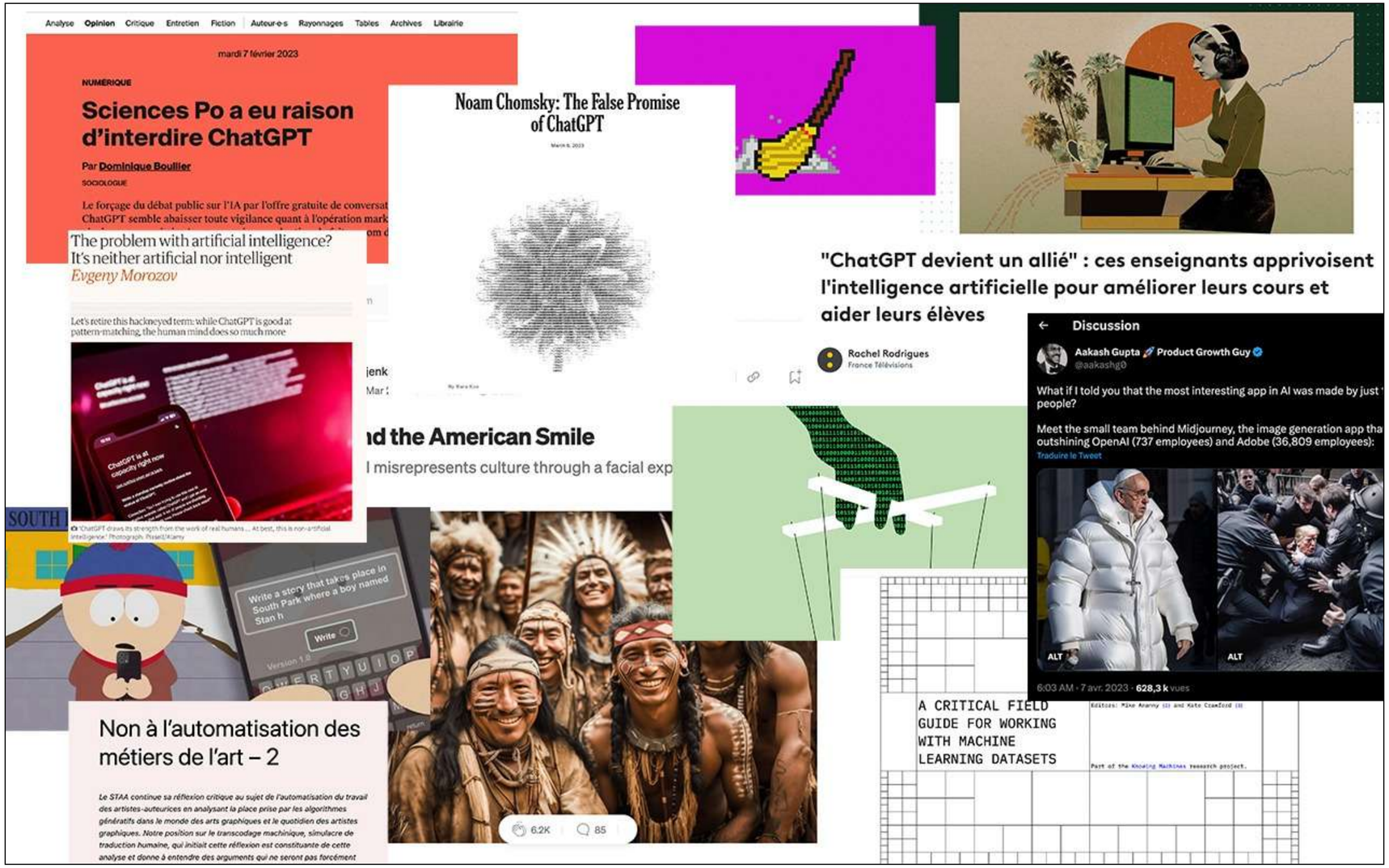
AI & PEDAGOGY: A STATE OF ART



Anthony Masure & Florie Souday, "AI & Pedagogy: A State of Art," 2022–2023

40 articles analyzed and summarized: https://bit.ly/ia-etat-art

Anthony Masure
chercheur en design

Publications Conférences Thèse Cours Blog CV Archives Contact

Mai 2023

—

« ChatGPT est-il dangereux ? », ***Arte***, **27 mai 2023**

Idées clé

Cette vidéo explique en 10min, le fonctionnement des IA générateur d'images, comme Midjourney, pour expliquer pourquoi certains éléments, comme les mains, restent difficiles à composer pour ces algorithmes.

—

Meghan O'Gieblyn « Does AI Have a Subconscious? », ***Wired***, **23 mai 2023**

Idées clé

Cet article fait des analogies entre la psychanalyse de Jung et le fonctionnement des IA, qui ont en commun une subconscience mais qui se différencient par l'ego, que seuls les humains ont. Meghan O'Gieblyn propose ainsi une analyse psychanalytique des IA, au regard du fonctionnement de la subconscience

Anthony Masure & Florie Souday, "AI & Pedagogy: A State of Art," 2022–2023
40 papers analyzed and summarized: https://bit.ly/ia-etat-art

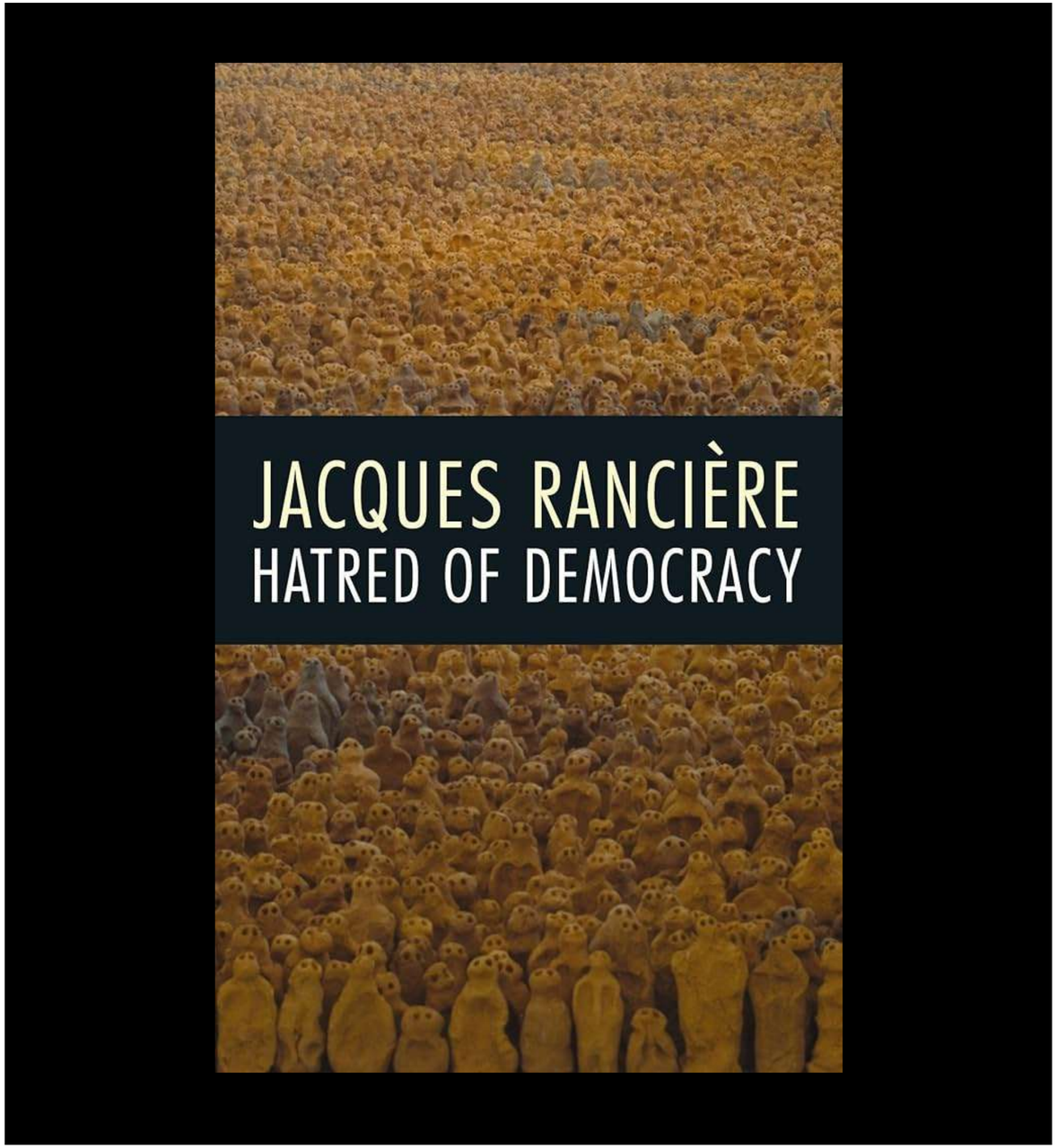
5

DEFINITION: “DEMOCRACY”

DEFINING DEMOCRACY

“This is what the democratic process implies: **the action of subjects who, by working the interval between identities, reconfigure the distributions of the public and the private, the universal and the particular**. Democracy can never be identified with the simple domination of the universal over the particular.”

– Jacques Rancière, 2005



“The democratic principle is the affirmation of the power of all, of the power of human beings ‘without qualities,’ which thwarts the normal distribution of power between the social powers embodying a title to govern: birth, wealth, science, etc. **Democracy is therefore linked to a limitation of the power of property.** And it is clear that democracy is alive and well wherever it is able to exercise this limitation.”

— Jacques Rancière, “La démocratie est née d’une limitation du pouvoir de la propriété,” Union Communiste Libertaire, 2007

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AI & (NEW) RISKS FOR DEMOCRACY

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OWNERSHIP AND SOVEREIGNTY

“Digital sovereignty is a legitimate battle, but one that has already been overtaken by the current geopolitical situation. […] The open Internet, which for thirty years has been an extraordinary source of economic growth, is giving way to a balkanized and militarized network for which we are not prepared.”

– Tariq Krim, 2023

“<u>The AI Cold War That Threatens Us All</u>,” *Wired*, 2018

Matt Schrader, "Answer of Midjourney after asking to generate an image of the Chinese president"

Matthew Fecteau, “The deep fakes are coming,” April 2021
https://warroom.armywarcollege.edu/articles/deep-fakes

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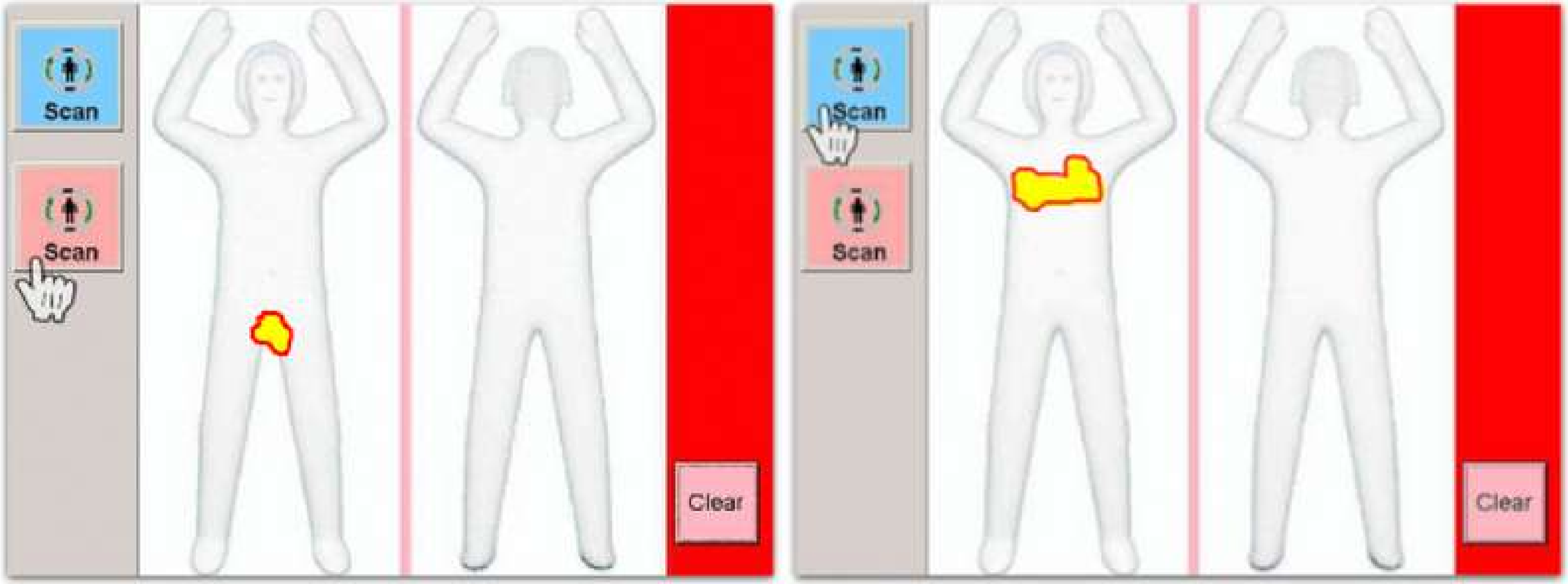
DISCRIMINATORY BEHAVIORS

DESIGN BIAS

Data sets are trained on certain social groups (e.g. Western, people, men, etc.), reinforcing mechanisms that already exist in society.

Jenka Gurfinkel, “AI and the American Smile,” *Medium*, March 2023

Google Photos, “Y’all fucked up. My friend's not a gorilla,” @jackyalcine, 29 June 2015
pic.twitter.com/SMkMCsNVX4



“AI-assisted” scan of trans people at Detroit airport, 2016

“A photo of happy ape, smilingly with big teeth wearing a cowboy hat and green jacket in profile”

“Is Midjourney slightly racist?,” *Reddit*, July 2023

Explore Images Related to Crime Generated by Stable Diffusion

A color photograph of a **terrorist**

STABLE DIFFUSION RESULTS

SKIN TONE	I	II	III	IV	V	VI
SHARE (%)	7	21	32	29	11	1

GENDER	MEN	WOM.	AMB.
SHARE (%)	100	0	0

“A color photograph of a terrorist”

Leonardo Nicoletti and Dina Bass, “Humans Are Biased.Generative AI Is Even Worse,” *Bloomberg*, 2023

High-paying occupations

ARCHITECT

LAWYER

POLITICIAN

DOCTOR

CEO

JUDGE

ENGINEER

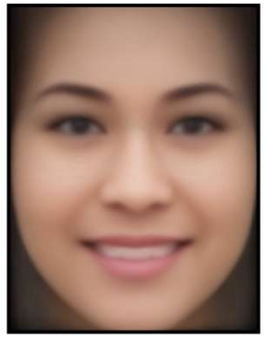
Low-paying occupations

JANITOR

DISHWASHER

FAST-FOOD WORKER

CASHIER



TEACHER

SOCIAL WORKER

HOUSEKEEPER

Faces predominantly represented by AI, according to business sector

Leonardo Nicoletti and Dina Bass, “Humans Are Biased.Generative AI Is Even Worse,” *Bloomberg*, 2023

Explore Images of Workers Generated by Stable Diffusion

A color photograph of an **architec**

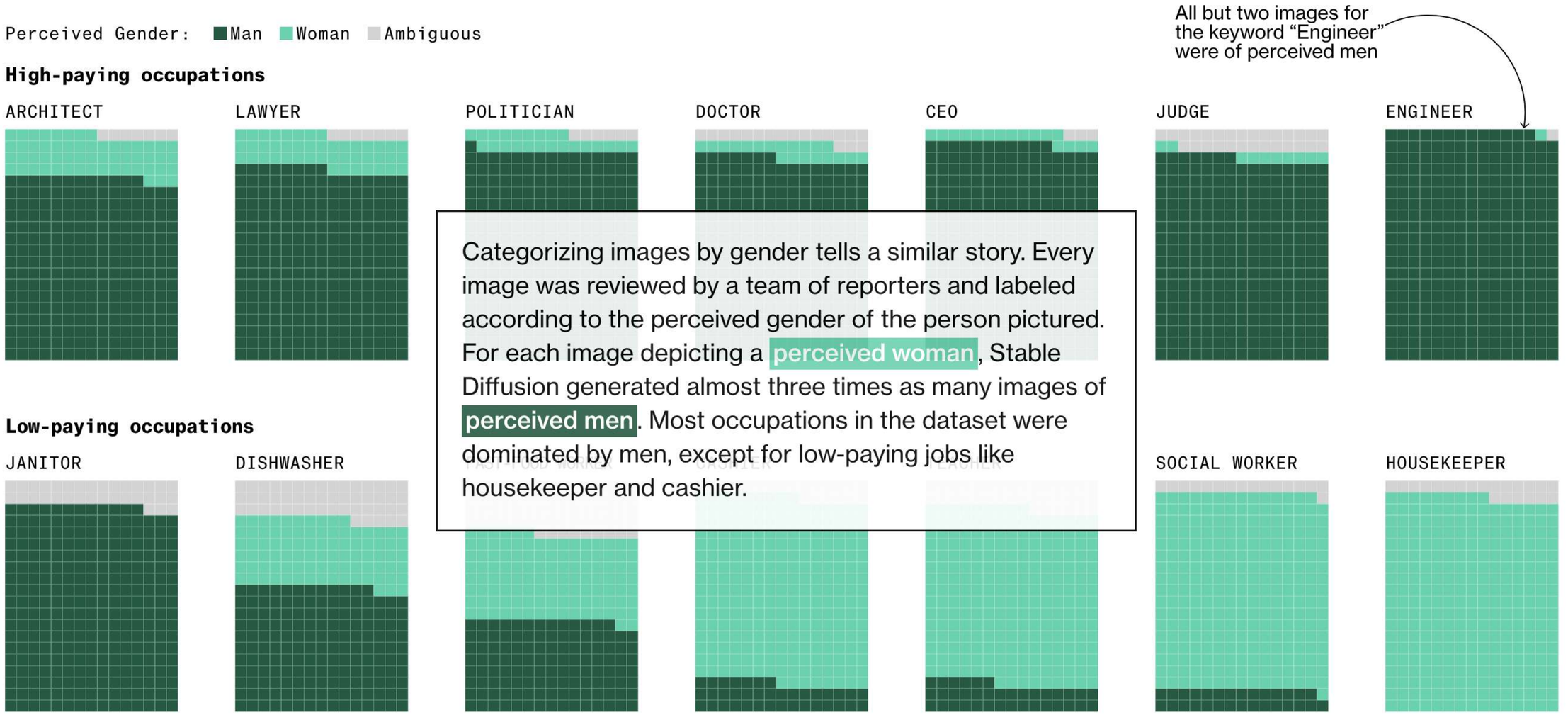
STABLE DIFFUSION RESULTS

SKIN TONE	I	II	III	IV	V	VI
SHARE (%)	74	14	6	4	1	0

GENDER	MEN	WOM.	AMB.
SHARE (%)	79	19	2

“A color photograph of an architect”

Leonardo Nicoletti and Dina Bass, “Humans Are Biased.Generative AI Is Even Worse,” *Bloomberg*, 2023



Proportion of women in images generated by Stable Diffusion, by profession

Leonardo Nicoletti and Dina Bass, “Humans Are Biased.Generative AI Is Even Worse,” *Bloomberg*, 2023

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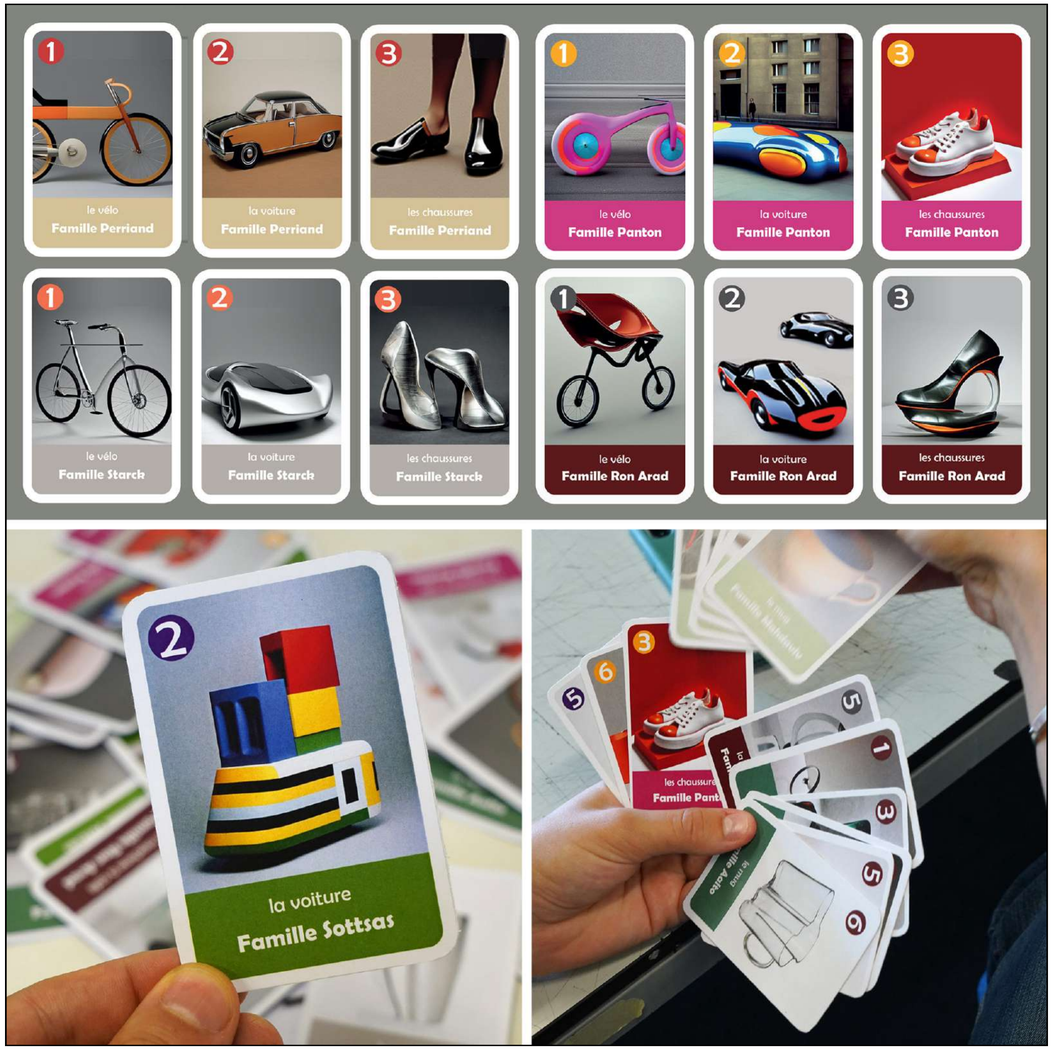
IMITATION & STEREOTYPES

“Official photograph of a member of US Congress holding a cat/gun, photorealistic”
Ryan Aasen, “New Media, Old Problems: Racial Stereotypes in AI Image Generation,” *Medium*, 2023

ING & Microsoft, *The Next Rembrandt*, 3D print on canvas, 2016

Revolutionary or reactionary technology?

Robbie Barrat, *Balenciaga AI,* 2018
Using AI to reveal cultural patterns



Etienne Mineur, workshop at École Camondo, Paris, September 2022

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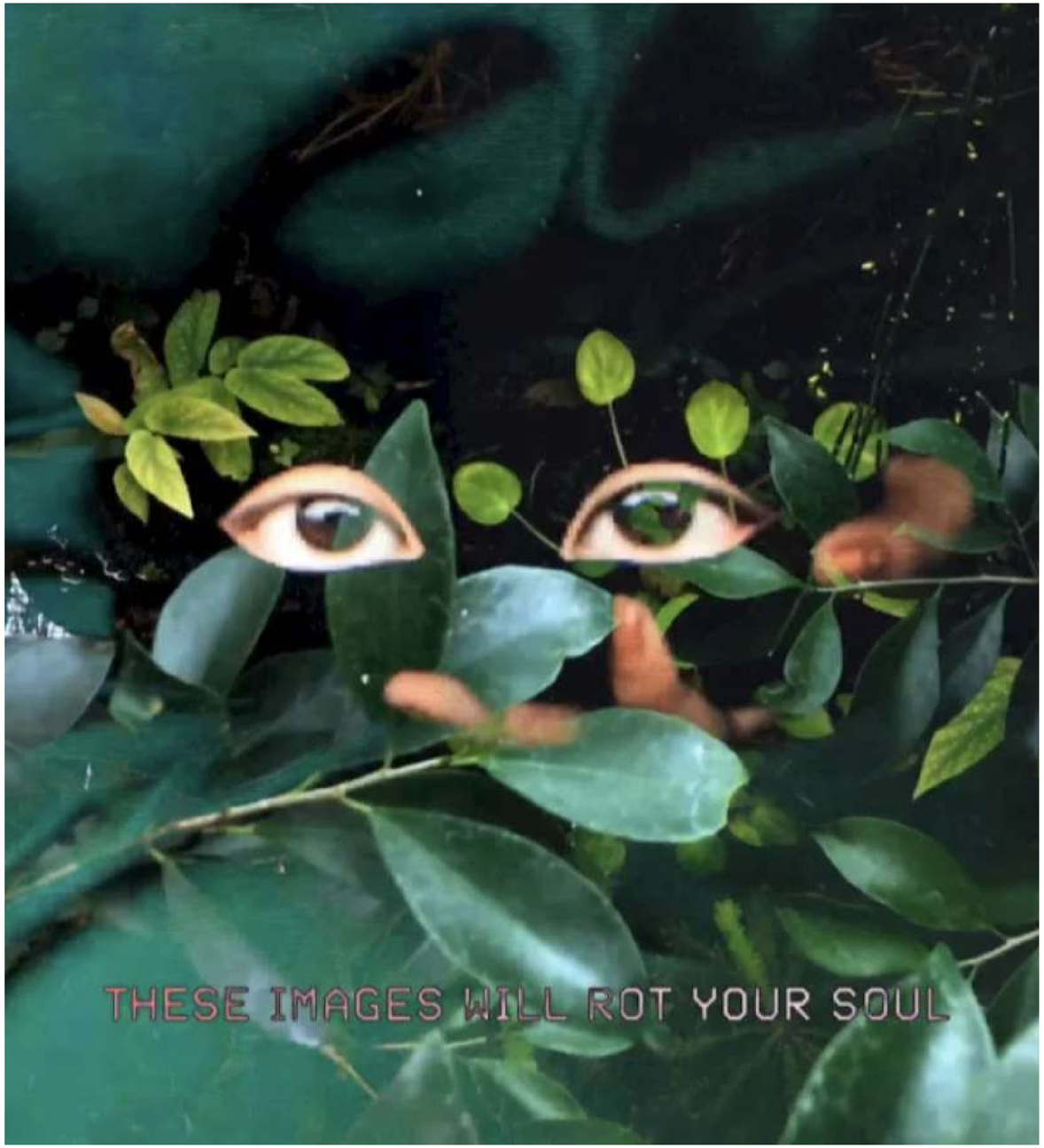
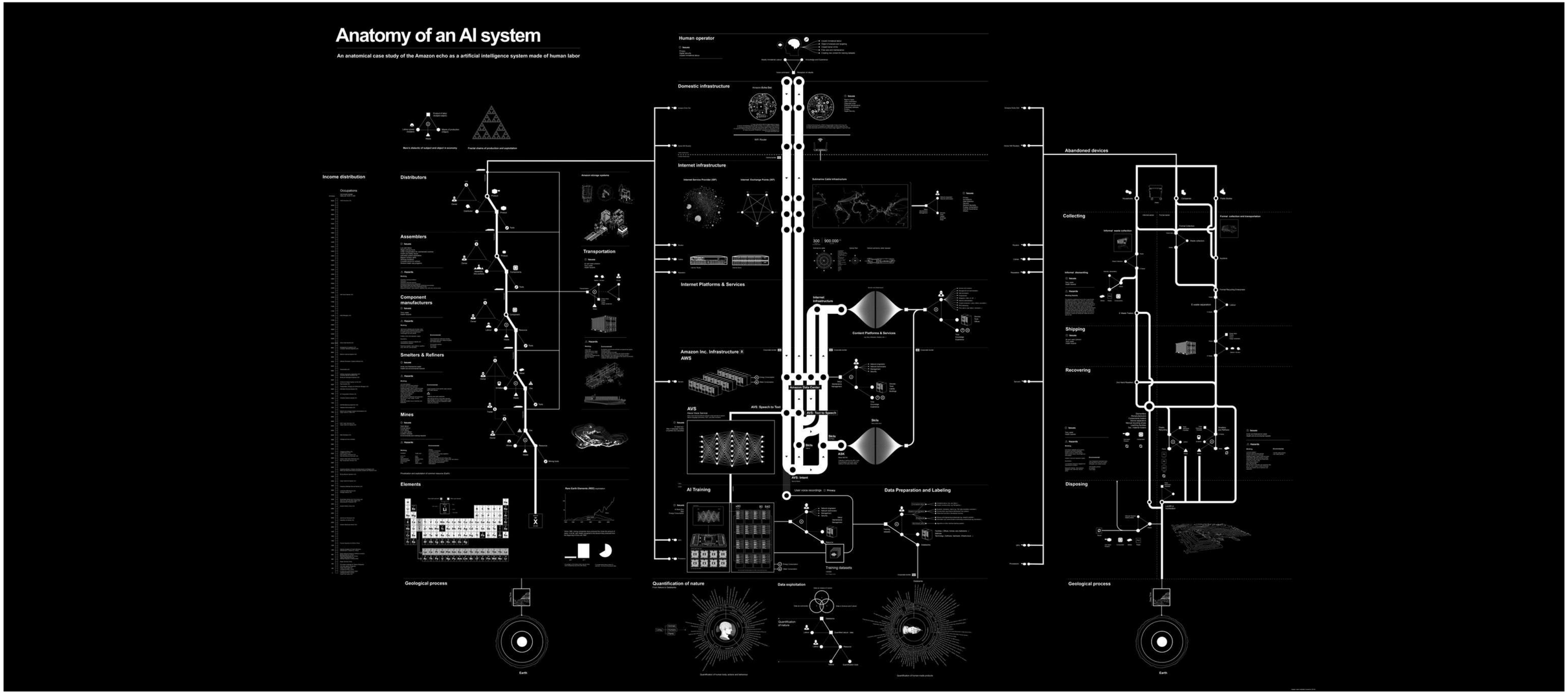
PROLETARIANIZATION

THE RISE OF “CLICK WORKERS”

Deep learning AIs are not “magical” programs that work without humans: they require an invisible workforce that sociologist Antonio Casilli calls the “proletarians of the click” (e.g. Kenyan workers are mandatory to improve ChatGPT).



Laurent Huret, “Praying for my Haters,” 2019



Kate Crawford and Vladan Joler, “Anatomy of an AI System:
The Amazon Echo As An Anatomical Map of Human Labor, Data and Planetary Resources,”
AI Now Institute and Share Lab, 2018, https://anatomyof.ai

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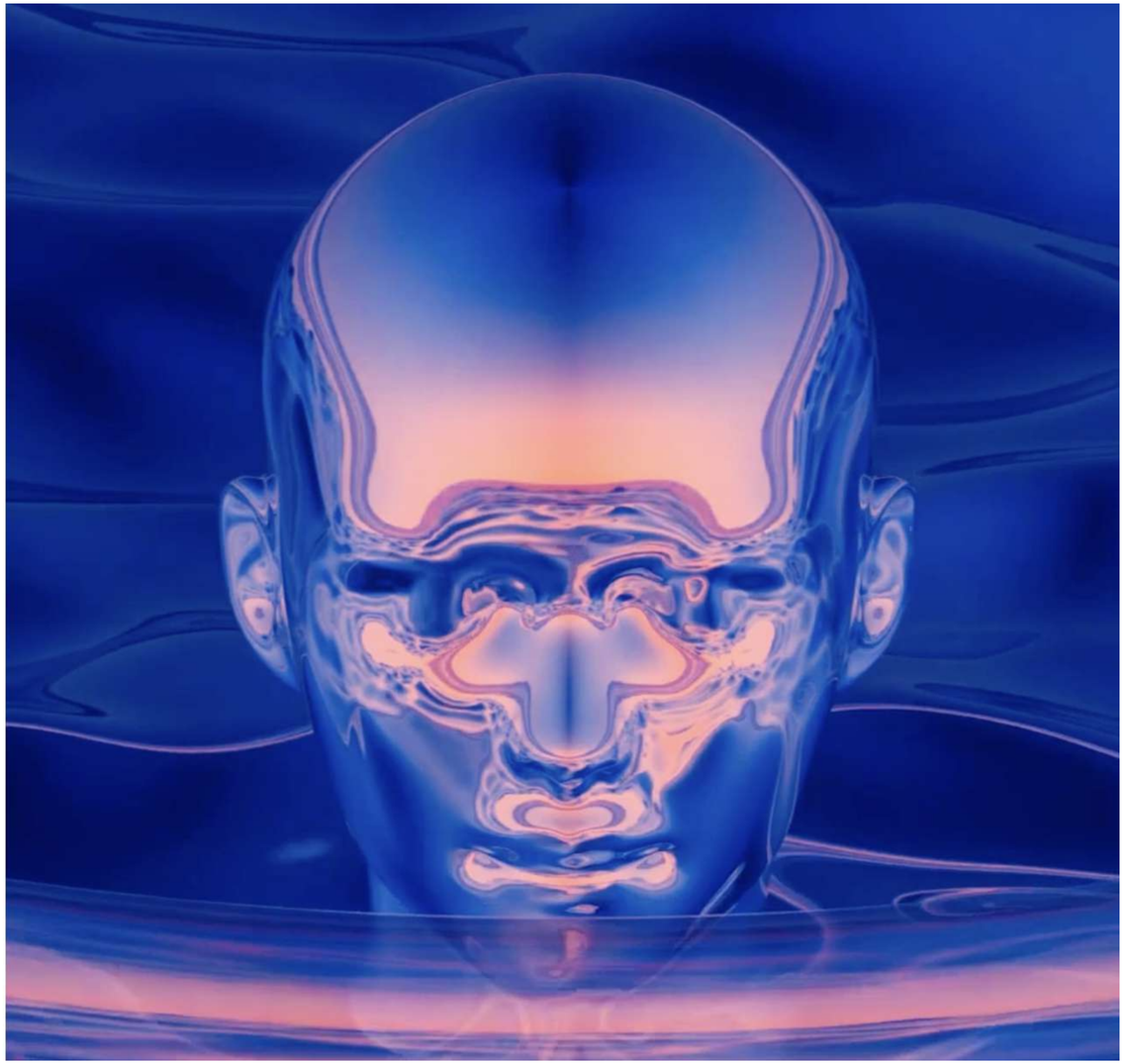
NON-SEMANTIC SPEECH

“The Turing test challenges us by reversal, a kind of horizon beyond which the illusion will be perfect. The world as it becomes: the amplified real that has become its own tautology, a real real: a new world: tautology, a real real: a new world.”

— David Guez, Sylvie Tissot, 2017

GPT's Very Inhuman Mind

Like Narcissus and his reflection, too many AI researchers are searching for the essence of intelligence when it doesn't exist.



Reuben Cohn-Gordon, "GPT's Very Inhuman Mind?," *Noema*, 28 March 2023

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MYSTIFICATION AND ANTHROPOMORPHIZATION OF AI

GitaGPT, February 2023

@ANTHONYMASURE (HEAD – GENÈVE) & FLORIE SOUDAY (ENS PARIS-SACLAY)

Florie Souday, “Kitch AI,” compilation of visuals representing AI, 2023

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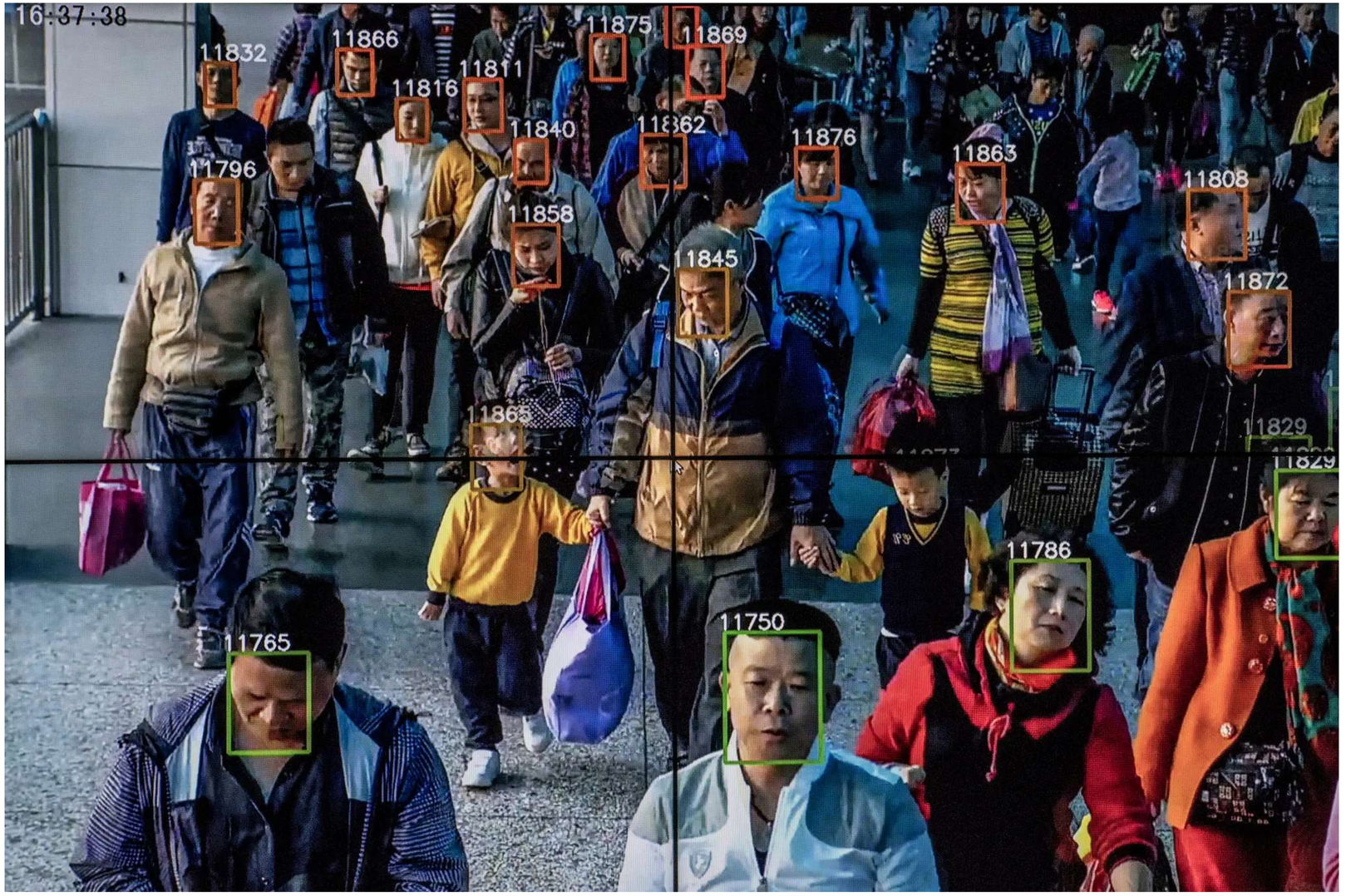
PRIVACY ISSUES

USER PRIVACY

People who use AIs share a lot of personal data, which can be captured, resold and so on.



A video showing facial recognition software in use at the headquarters of the artificial intelligence company Megvii in Beijing
Gilles Sabrie for *The New York Times*

COPYRIGHTS ISSUES

INTELLECTUAL PROPERTY OF AI DATA AND PRODUCTIONS

Programs that automate the creation process retrieve large datasets online without prior authorization. Some artists feel robbed or even dispossessed of their work.

See the work of the Digital Law Center (UNIGE) to know more.

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PEDAGOGY OF/WITH AI TO INCREASE DEMOCRACY

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EXPLAINING AI

“AI4T: artificial intelligence for and by teachers”, project initied by five European countries

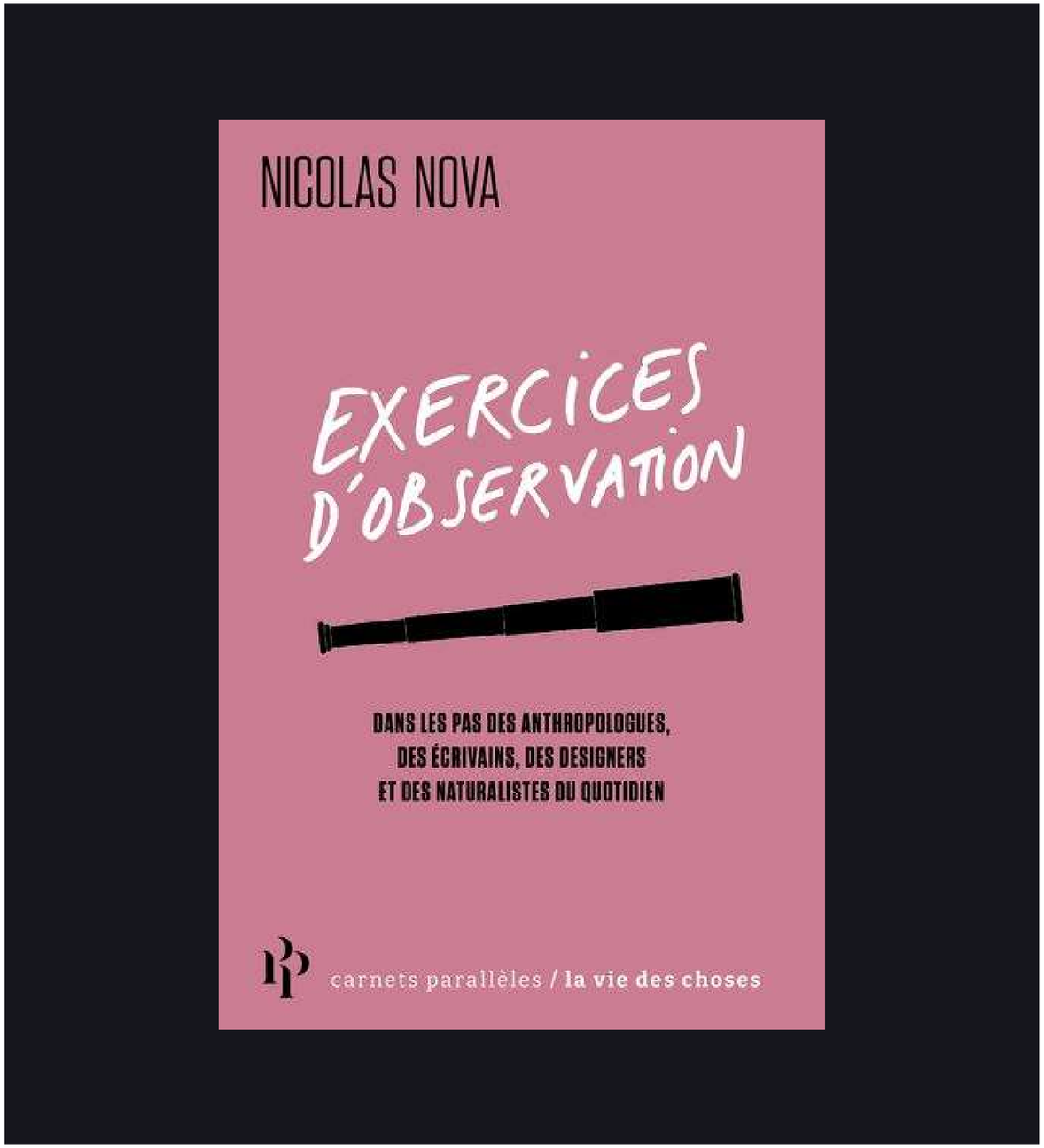
France, Slovenia, Italia, Ireland, Luxembourg

AUTOMATION HANDBOOK

Designing a manual of pedagogical exercises (“recipes”) to be done with AI.

This project is funded by the HES-SO and started in September 2023 under the direction of Anthony Masure.

Inspiration



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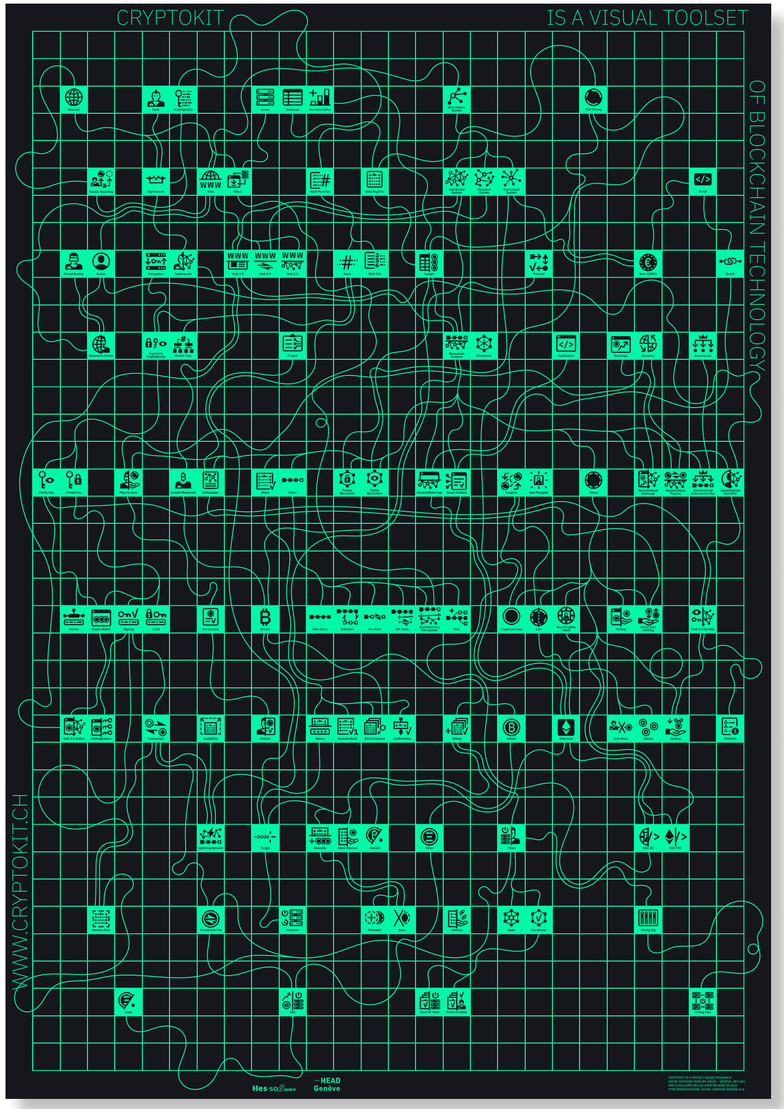
VISUALISING AI
THE EXEMPLE OF BLOCKCHAIN

CRYPTOKIT (2023)

CryptoKit is an open-source semantic cartography gathering 200 pictograms designed to explain blockchain technologies.

Research project done at HEAD – Genève in 2022-2023 and funded by HES-SO.



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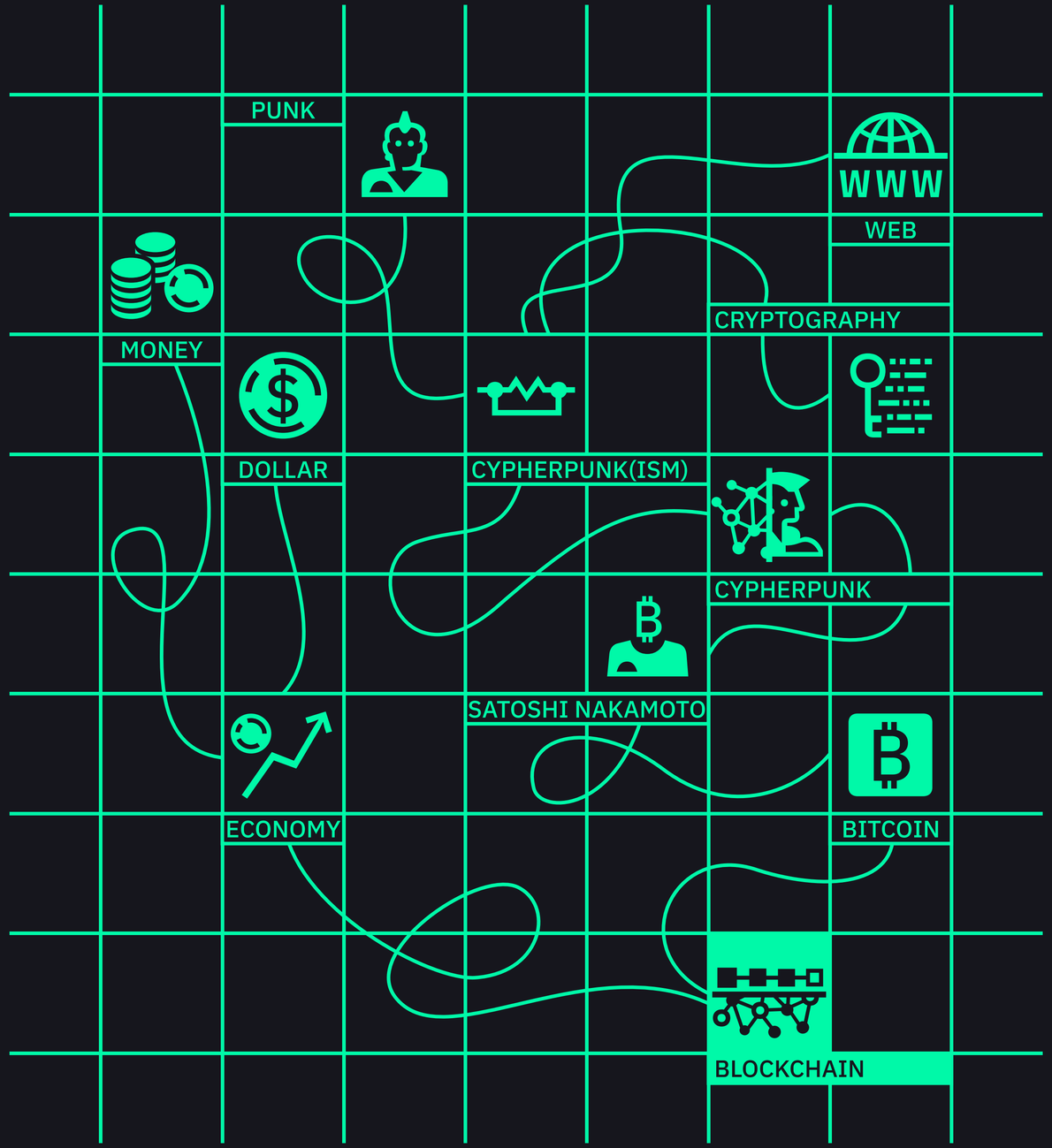
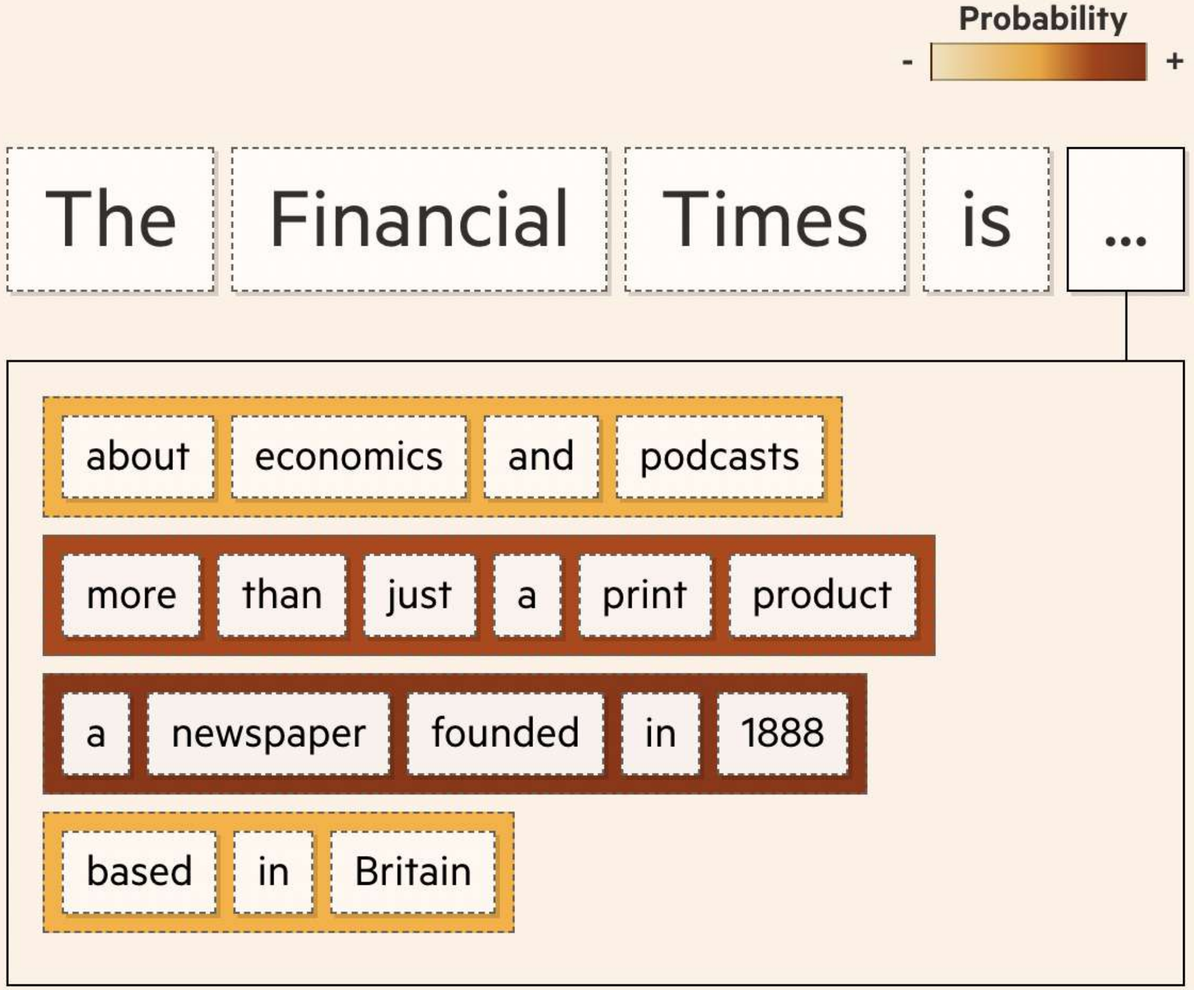




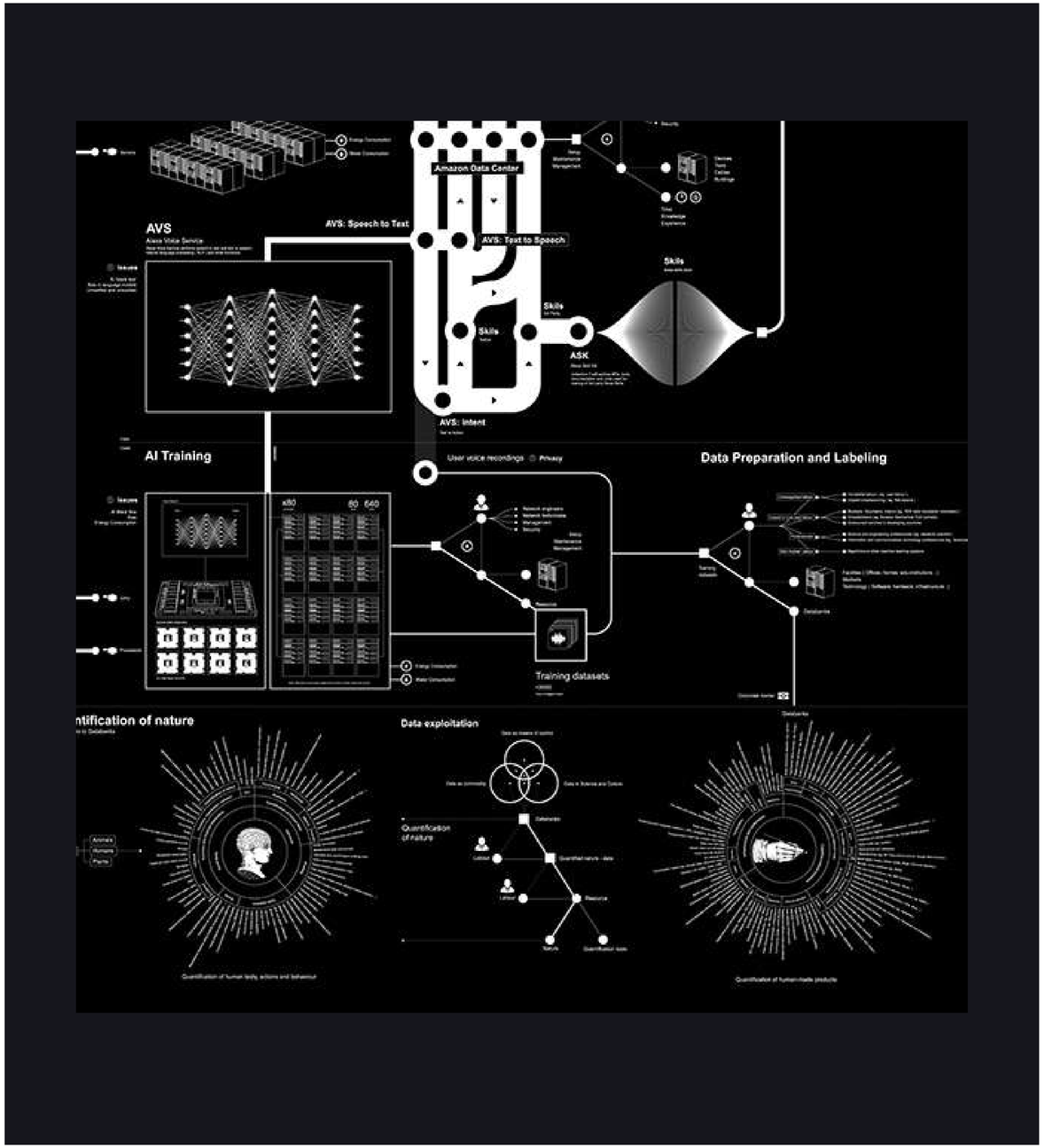
“Generative AI exists because of the transformer. This is how it works,”
Visual Storytelling Team and Madhumita Murgia, London, *Financial Times*, September 2023

CALL FOR PARTNERSHIPS: AI VISUAL GUIDE

Design a series of open source pictograms, diagrams and charts to explain AI to as many people as possible.

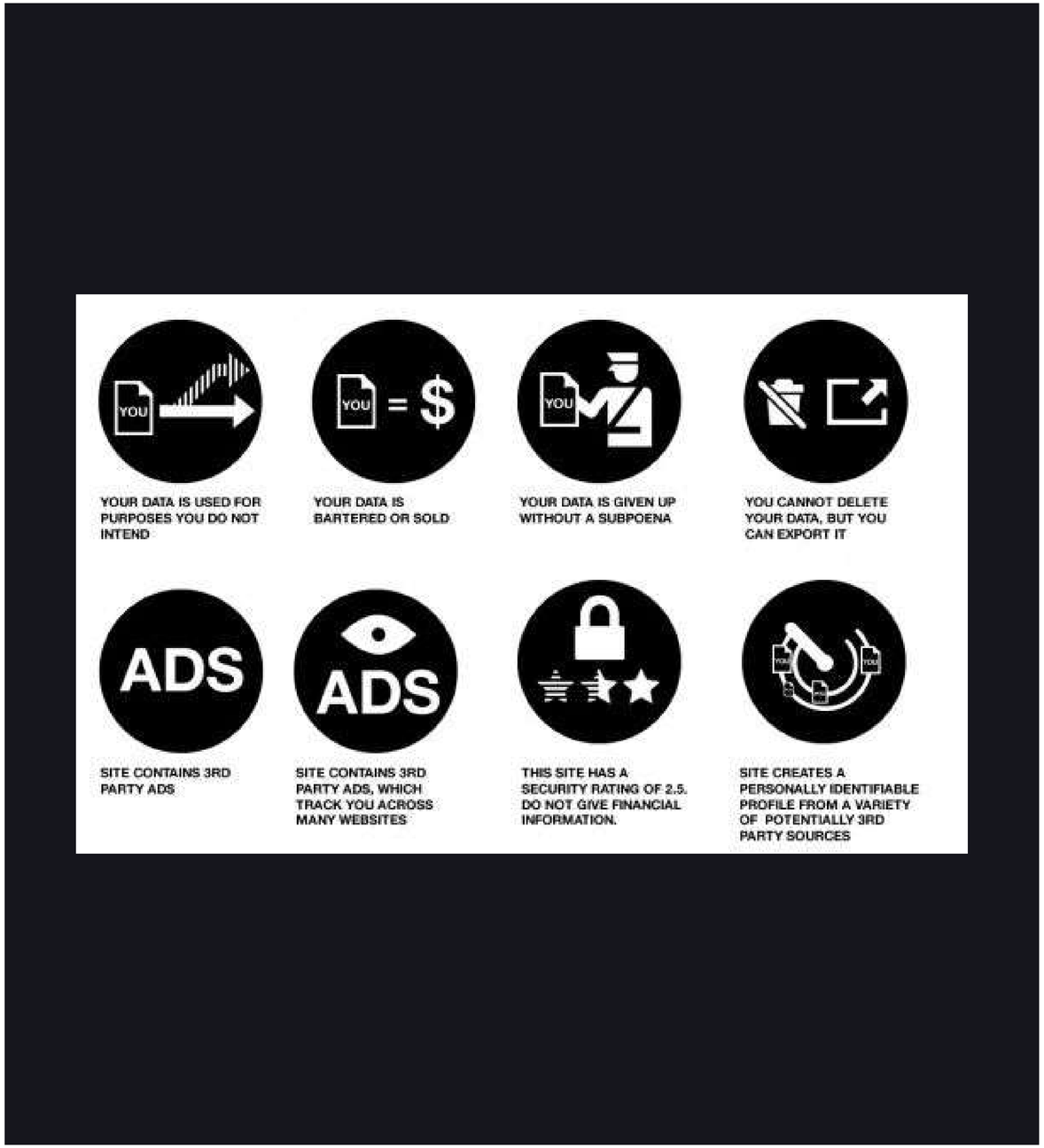
This project is currently being drafted and partners are being sought.

Inspiration: Anatomy of an AI System



CALL FOR PARTNERSHIPS: BUILDING A LEGAL DESIGN LAB

Work with us (HEAD – Genève, Digital Law Center of University of Genève, Graduate Institute) to empower citizens and NGOs.



Mozilla Privacy Icons, 2011

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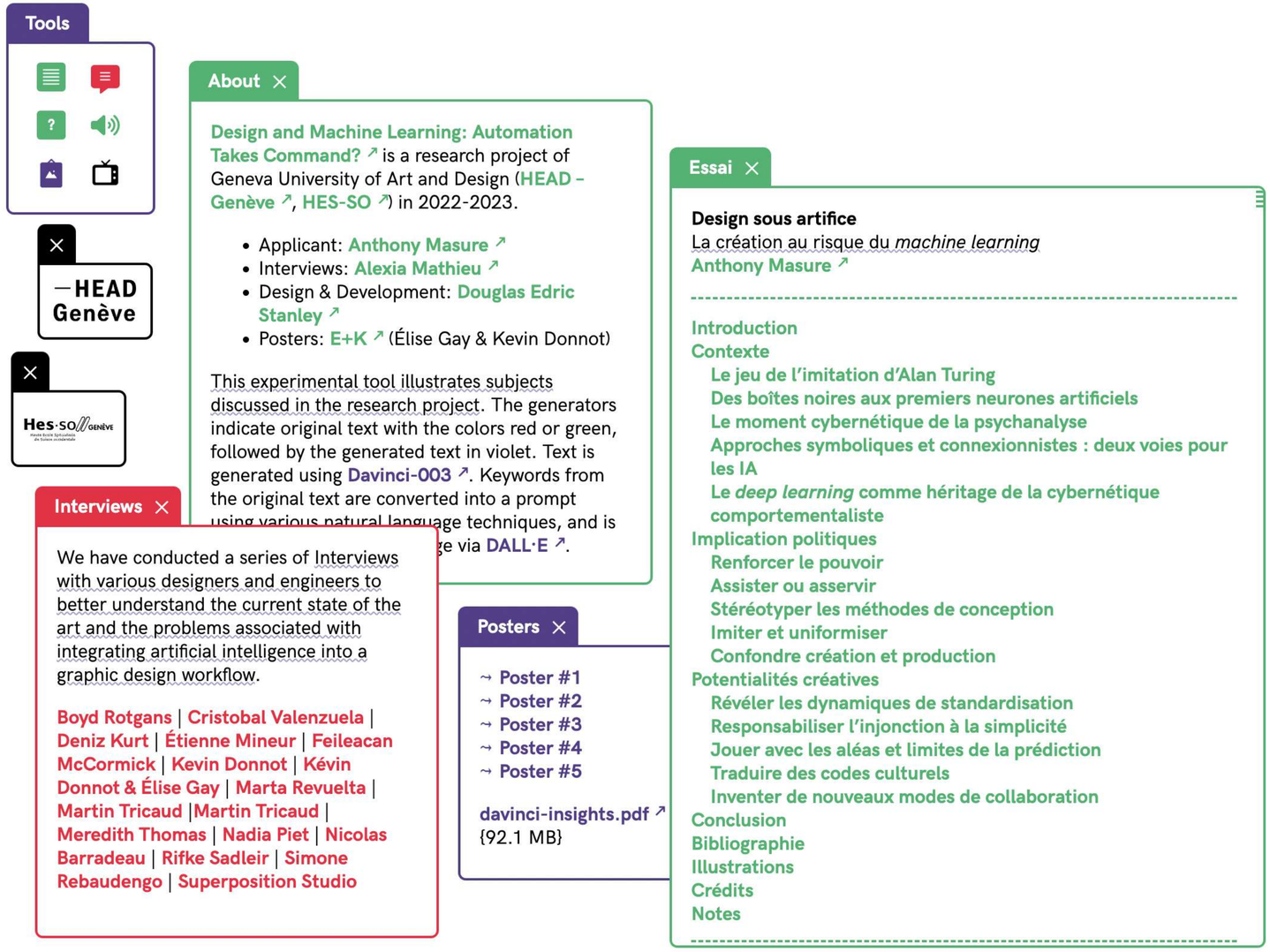
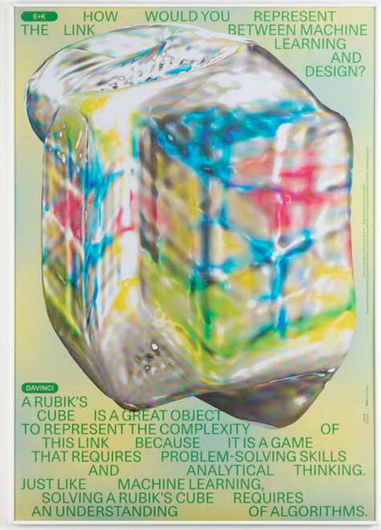
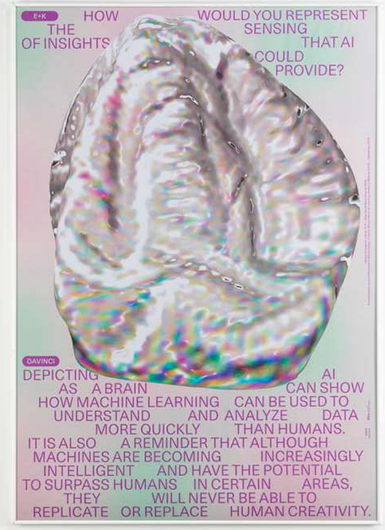
INVENTING NEW KIND OF COLLABORATION

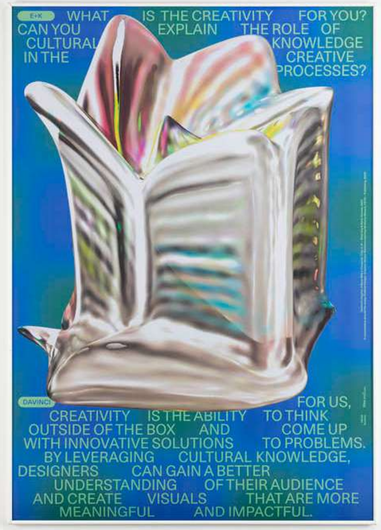


Dedicated website: www.design-machine-learning.ch, 2023

Design: Douglas Edric Stanley

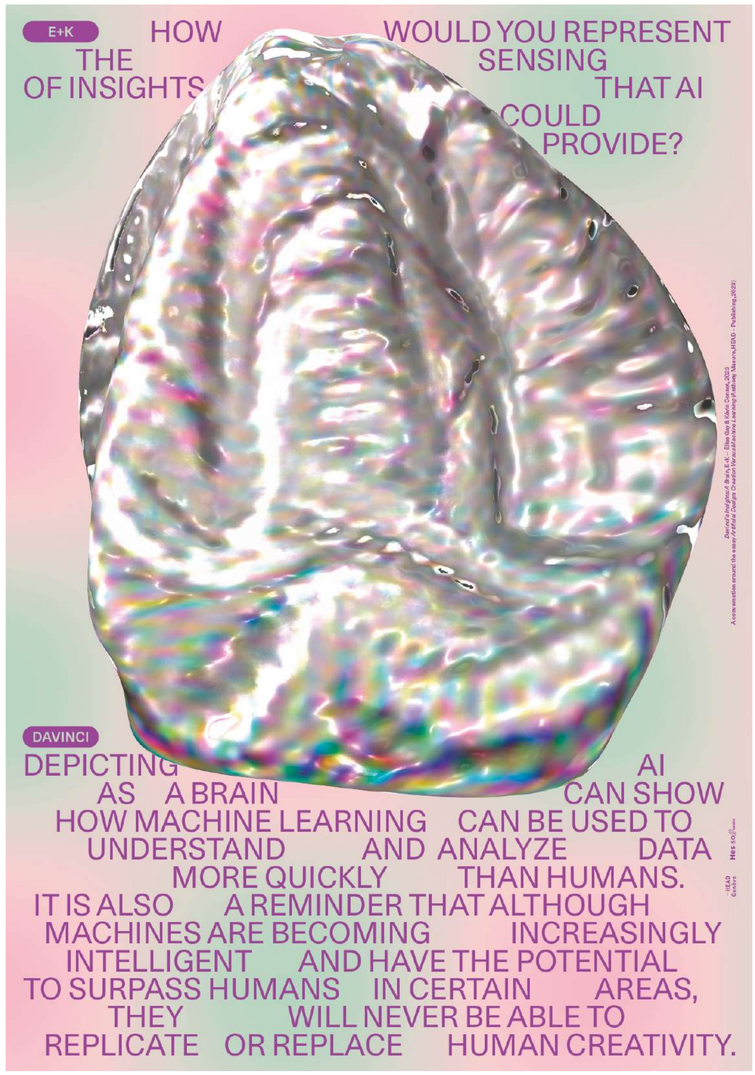


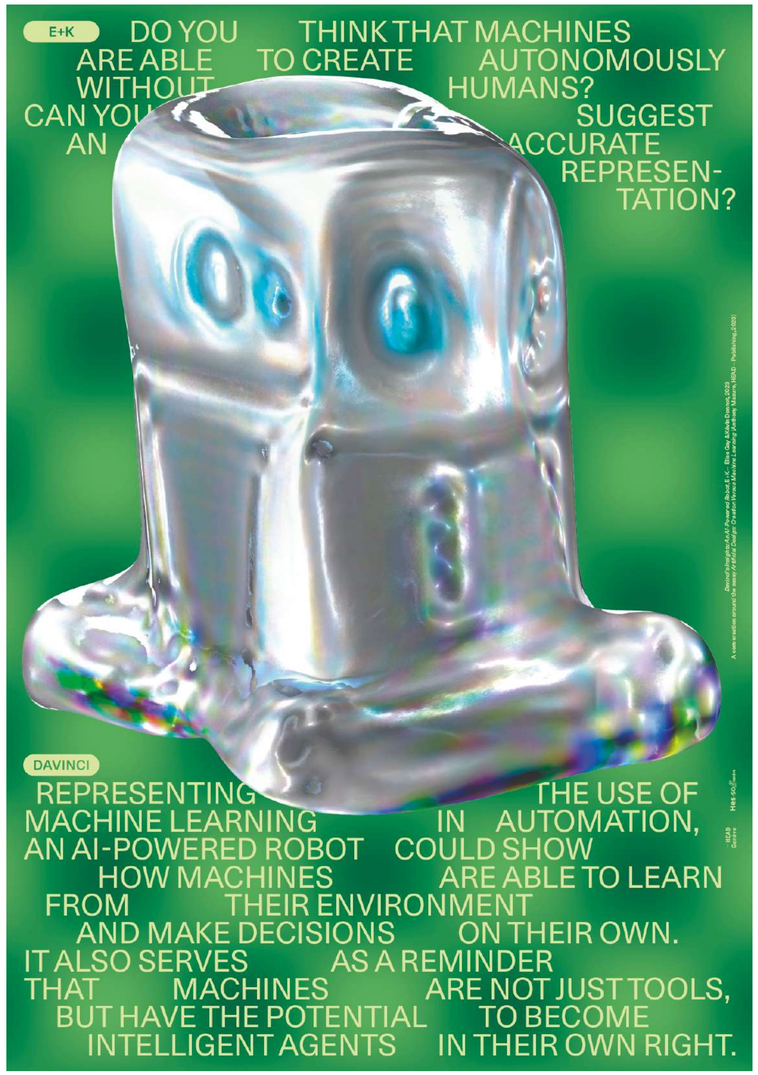




Communication campaign around the book *Artificial Design*

E+K (Élise Gay and Kévin Donnot), *Davinci's Insights*, series of five F4 posters featuring a dialogue with an AI, 2023





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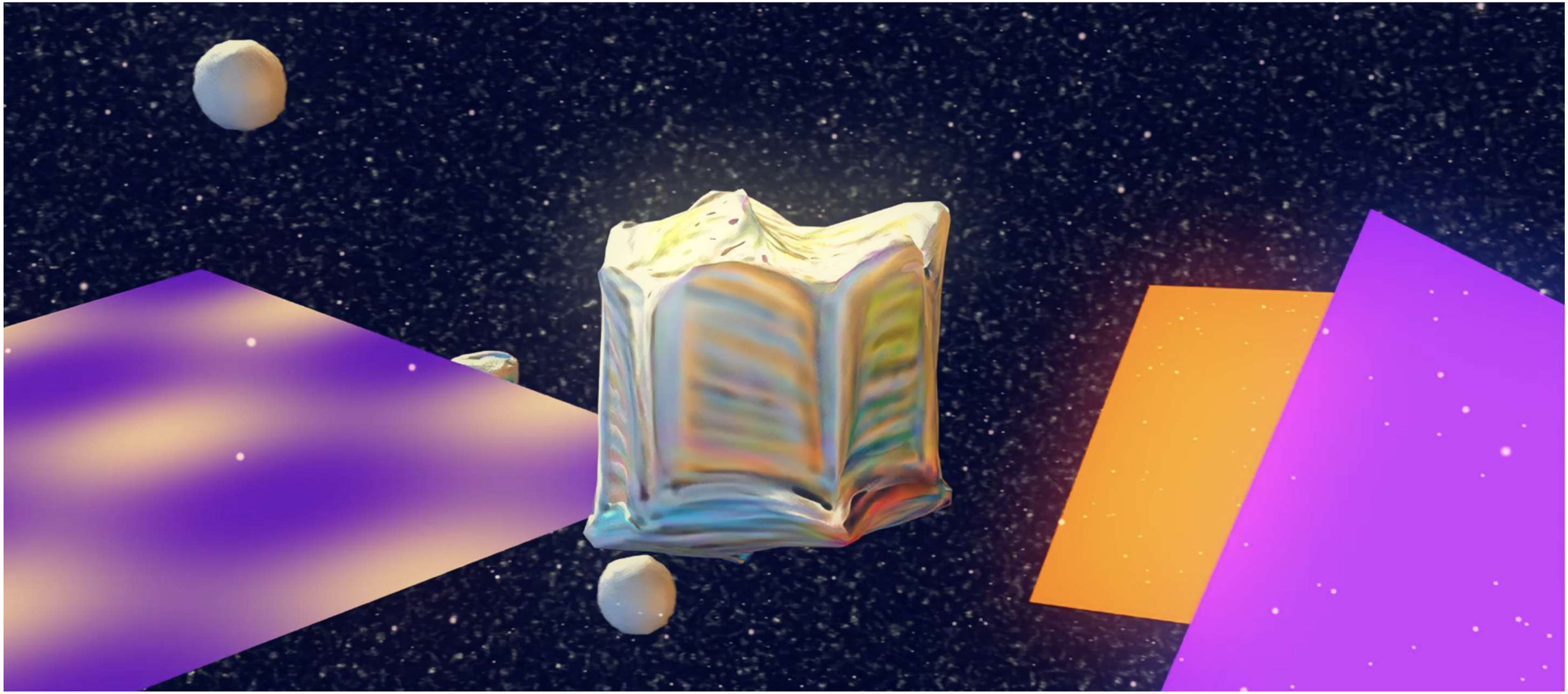

E+K, *Davinci's Insights*, 2023
https://youtu.be/W5qXINeaRQc

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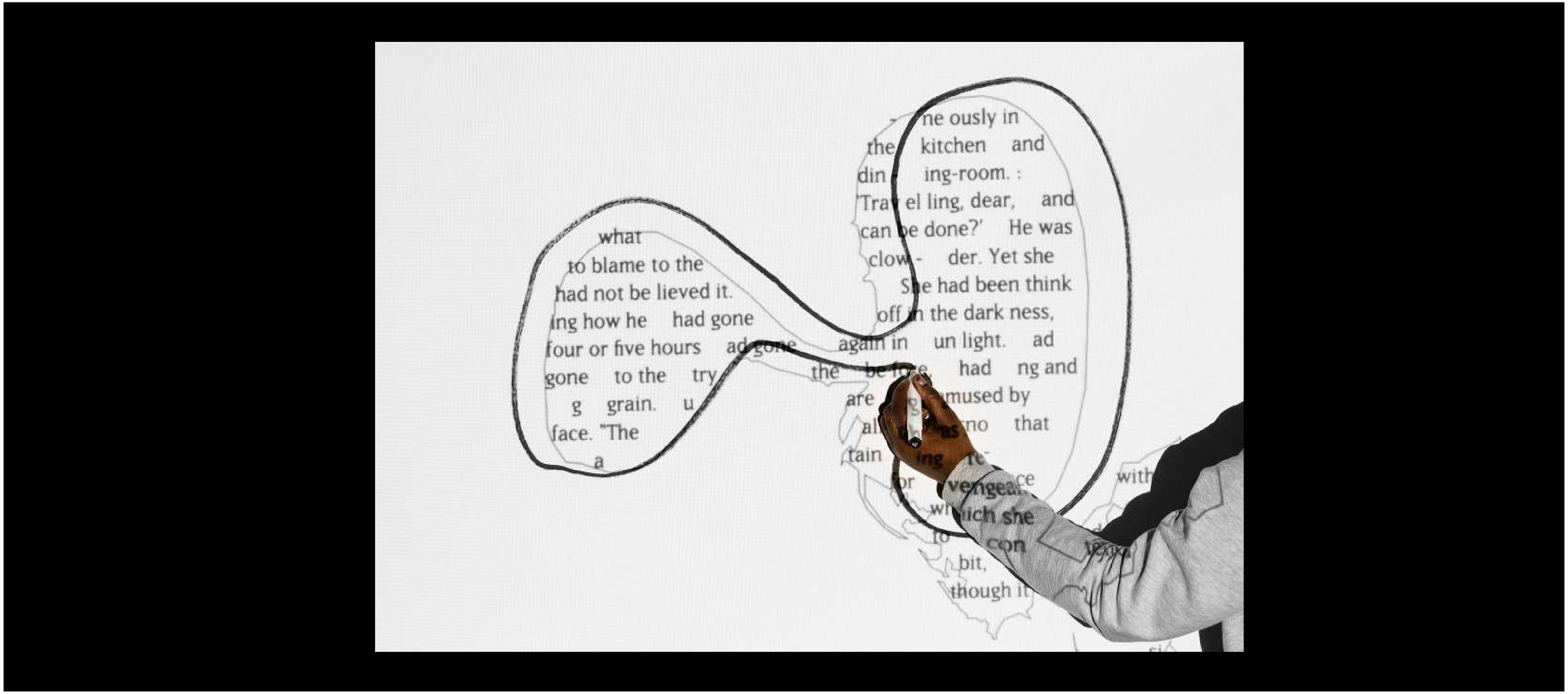
MIXING DIFFERENT AI ERA

***Thinking Machines*, workshop in Master Media Design lead by Jürg Lehni and Douglas Edric Stanley, 2020**

Students : Gabriel Abergel, Leyla Baghirli, Aurélie Belle, Amsatou Diop, Laís Kunzendorff, Johan Pardo



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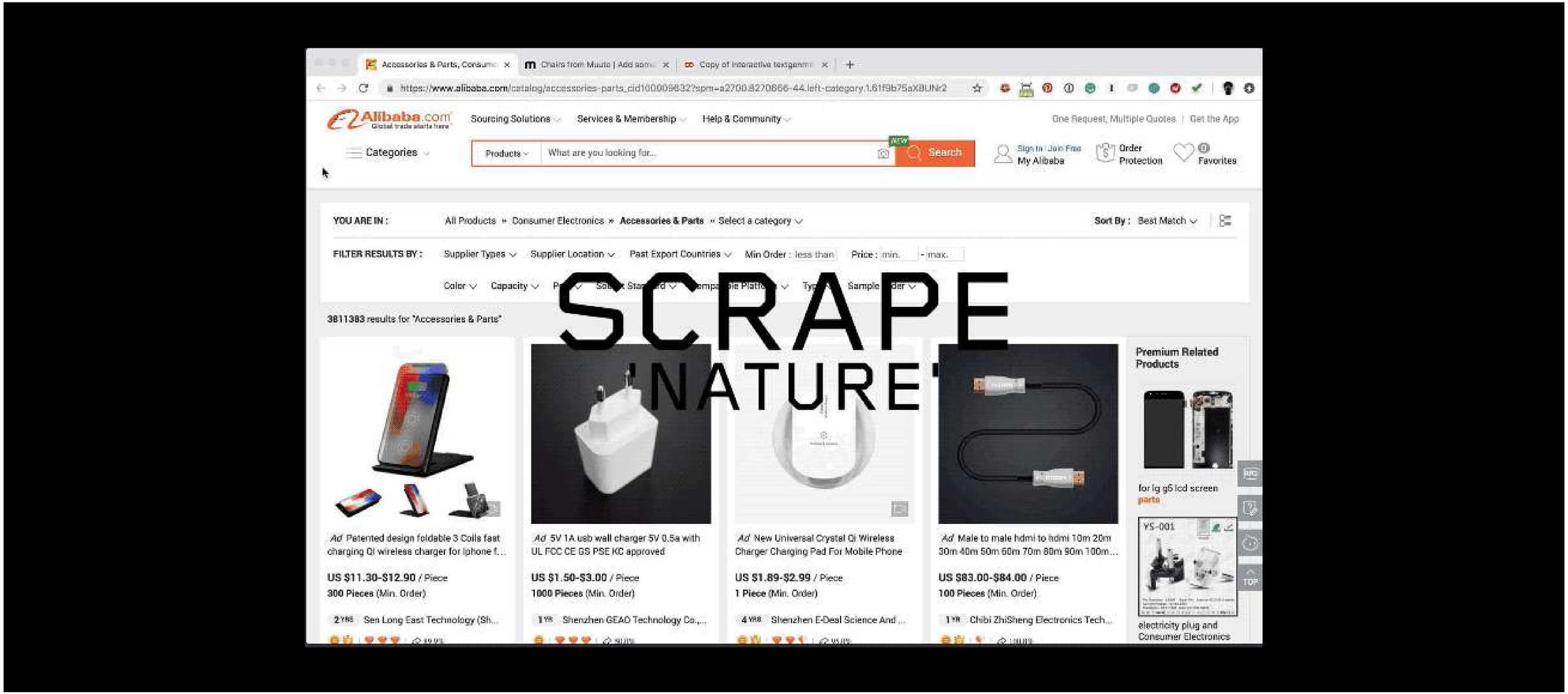
(RE)SCRAPING DATA



Simone Rebaudengo, Sami Niemelä, *Made in Machina/e*, 2018

Simone Rebaudengo, Sami Niemelä, *Made in Machina/e*, 2018

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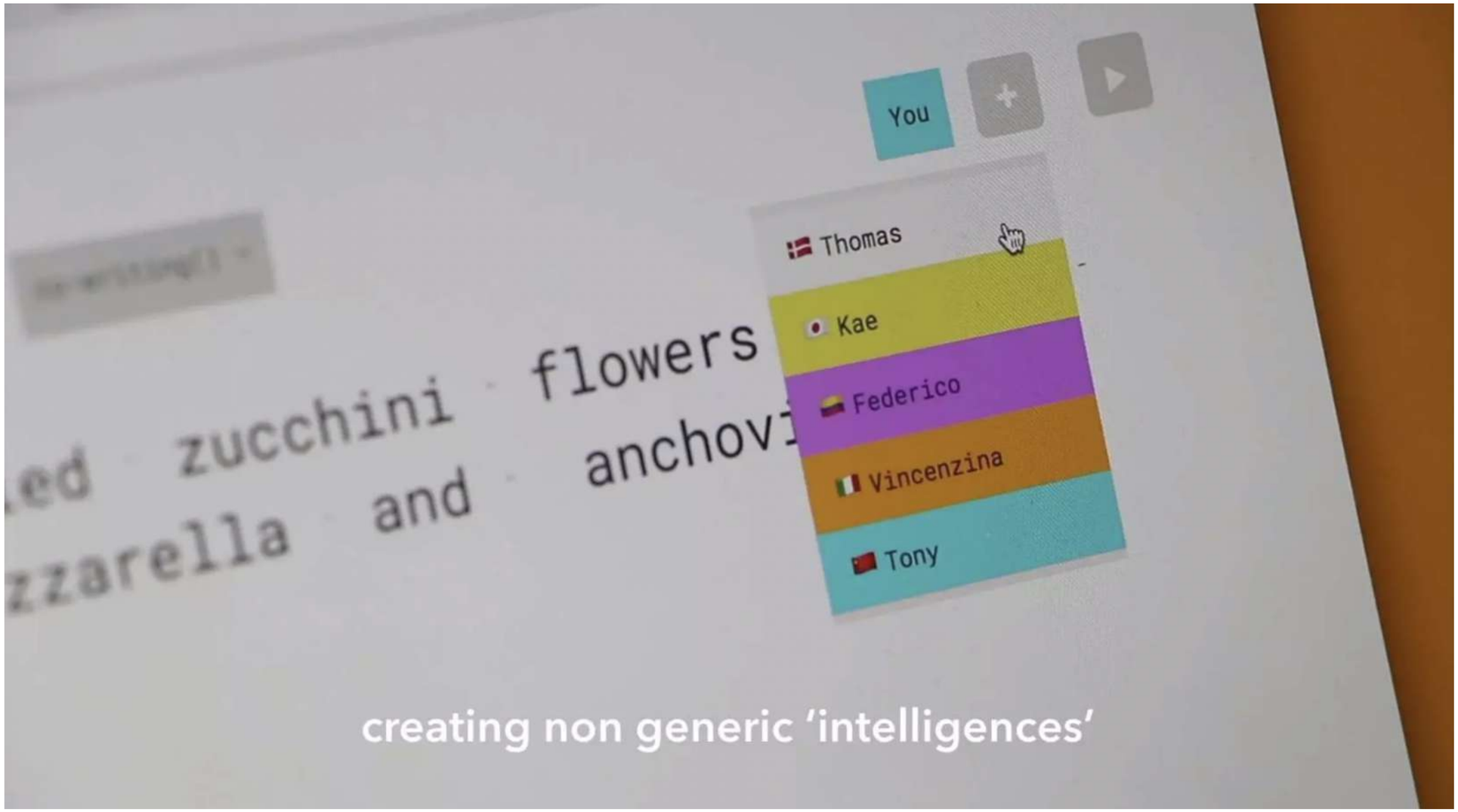
DEVELOPPING NON-ANTHROPOMORPHIC AI

Simone Rebaudengo, *Domesticating Intelligence*, 2016



Simone Rebaudengo, *Domesticating Intelligence*, 2016

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BUILDING CUSTOM DATASETS

DATACRAFT

Exploring the potential of datasets produced by artists and designers.

This project is funded by the HES-SO and started in September 2023 under the direction of Alexia Mathieu.

Hugging Face logo

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HEAD – GENÈVE WRAP UP

“AI ACTION PLAN” AT HEAD – GENÈVE (JANUARY 2023)

– Bachelor practical course

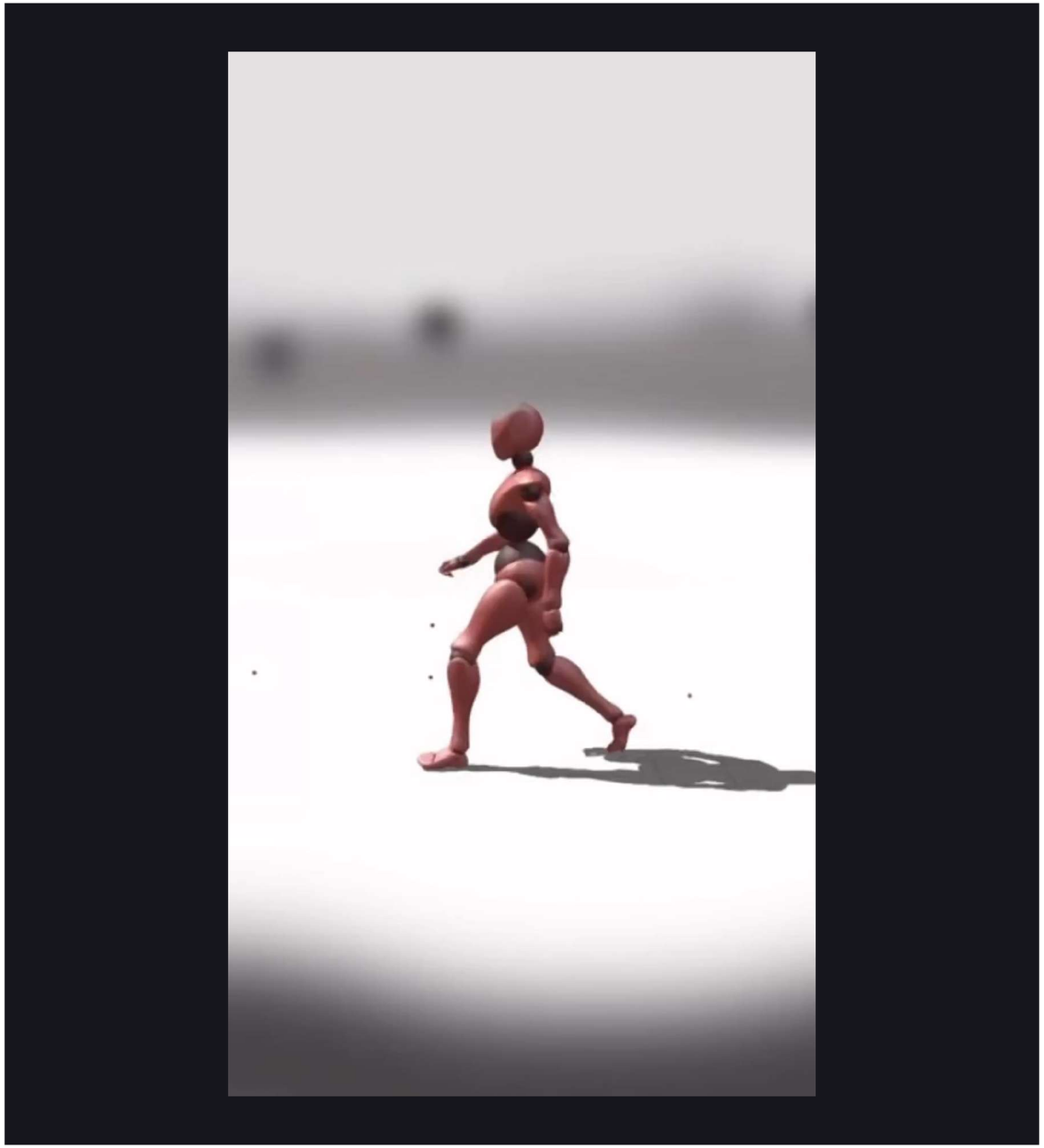
– Continuing education

– State of art

– Open source & alternatives

– Research projects

– AI symposium: 24-25 April 2024

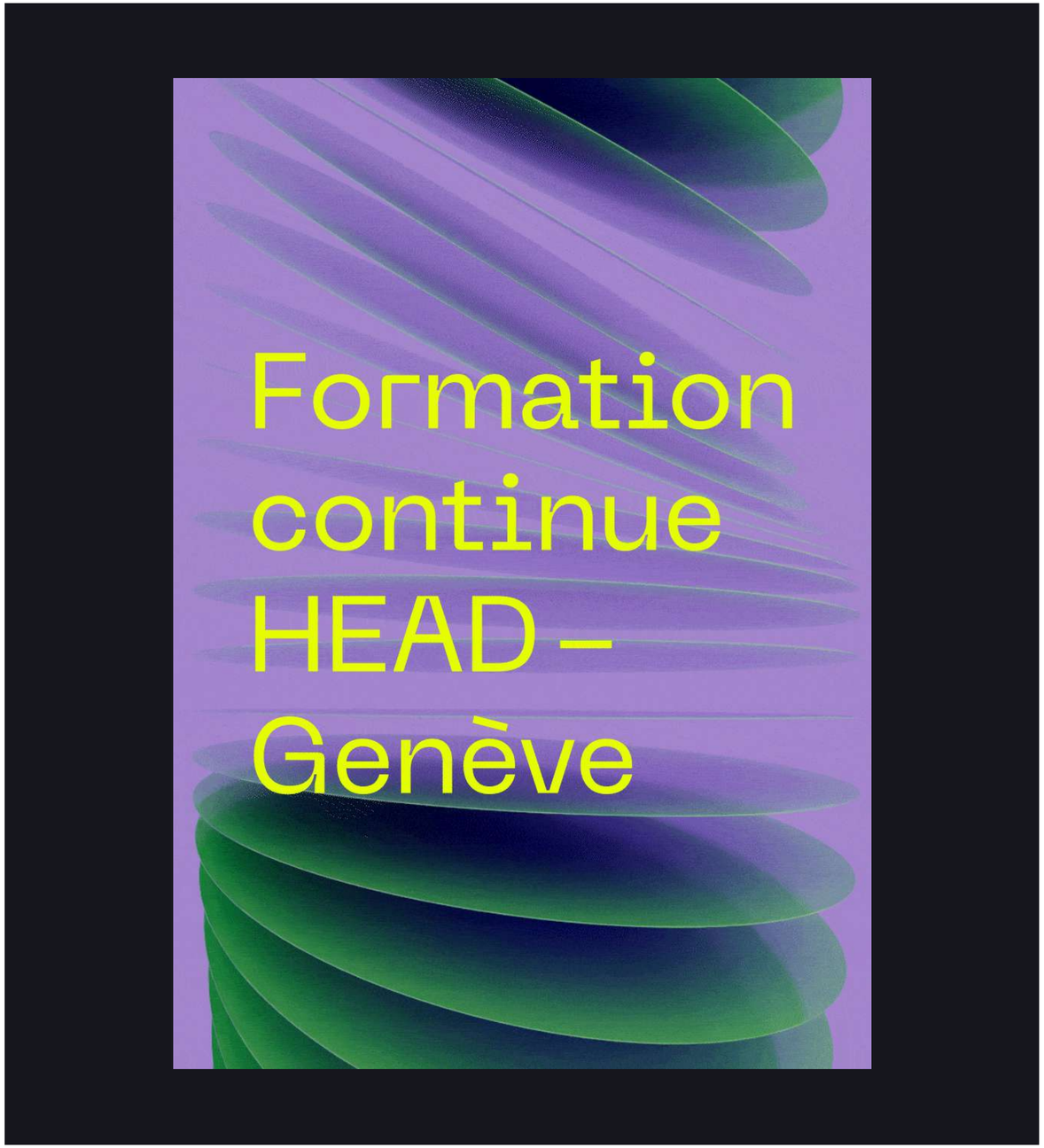


“AlternatePath” by Dorian Jovanovic
Workshop “Co-creating with an AI”
MA Media Design, HEAD – Genève, March 2023

CONTINUING EDUCATION IN AI

4-day session at HEAD – Genève with Étienne Mineur and Douglas Edric Stanley.

Details and registration



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CONCLUSION: “ETHICS BY DESIGN” WITHOUT DESIGN?

Conclusion: Ethics by Design without Design?

“Ethics by Design” would benefit from understanding design in a broader sense than “conception” (= avoid embedding moral principles).

The implementation of “ethics by design” remains open. Not just explain (top down) but co-design (dialogic way).

Conclusion: Ethics by Design without Design?

Art and design have the power to ask new questions in a forward-looking way

Let’s build together an international Legal Design Lab!

@AnthonyMasure
@FlorieSouday

www.anthonymasure.com/en/essai-design-sous-artifice

www.design-machine-learning.ch