EN

HOUSE OF MIRRORS

ARTIFICIAL INTELLIGENCE AS PHANTASM

09.04. – 31.07.2022

WEISE

Room 4

RYBN

Room 2

NIQUILLE

CASSOU-NOGUÈS +
DEGOUTIN + WAGON

Room 1

MAHLER

Room 3

PRÉVIEUX

GOURAULT

Room 1

HURET

SCHMIEG

Lobby

DEGOUTIN + WAGON

Room 1

RIDLER

Room 2
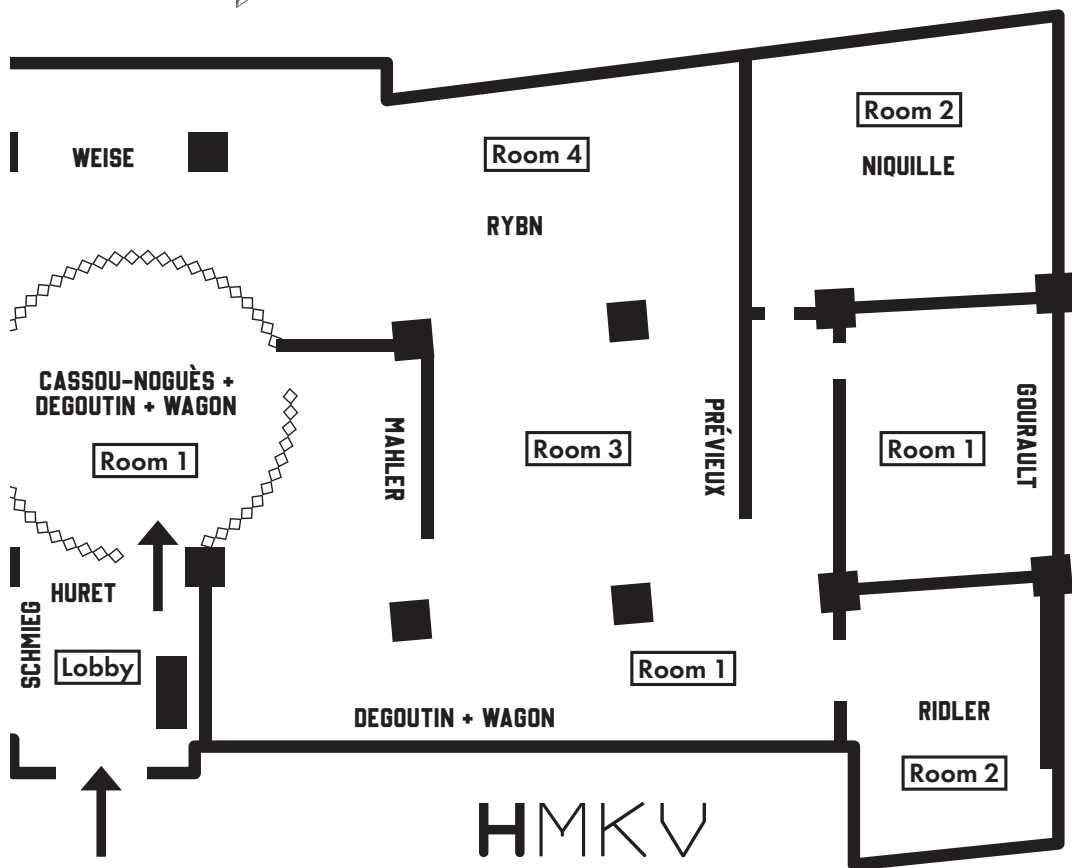
HMKV
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LOBBY

SEBASTIAN SCHMIEG

Decisive Mirror

2019

In the lobby of the exhibition, we are confronted with an artwork that perfectly embodies the phantasm of transparency (i.e., total visibility): the *Decisive Mirror* by Sebastian Schmieg.

Emotion recognition, psychometric profiling, and sentiment analysis are increasingly being used by companies, social media platforms, and others to draw conclusions about us. However, algorithms don't always come to the right conclusions about us. An algorithm is, after all, only as accurate as the data set it was trained with.

Sebastian Schmieg has designed his own algorithm for *Decisive Mirror,* which analyses us based on unconventional traits like "liveliness" or "faculty of imagination". *Decisive Mirror* uses machine vision to assess us, but it might not yield the results we expect. This mirror reminds us that our face, words, actions, and even emotions are being profiled every day based on categories that are arbitrary, random or inaccurate.

Two-way mirror, LED matrix, computer, camera, data-set, neural network https://sebastian-schmieg.com/decisive-mirror/ Commissioned by HeK, Haus der elektronischen Künste, Basel

LAUREN HURET

Ways of non-seeing (artificial intelligence is hard to see)

2016

A museum visitor is looking at an exhibition, but something is wrong with her face. Again and again, it is overlaid by other faces; faces that stem from the paintings and sculptures. Or her face is reflected in the exhibits. What might actually work as a funny Tik-Tok video is contrasted by the partly creepy, tension-generating sound of the video.

Faceswap is a popular technology that allows a face to be transferred to another face using pattern recognition. The arrival of Faceswap on smartphones as a Whatsapp filter in the mid-2010s brought the new capabilities of facial recognition to the attention of a wider public. Huret's video performance formulates the artist's distrust of automated pattern recognition in human faces with enigmatic humour and is at the same time an ironic appropriation of this technology. It also comments on the representation of the female body in art history and how filters on smart phone cameras overlay historical beauty standards with today's algorithmic interpretation of beauty.

Video, 15:00 min.

ROOM 1
A Dreamscape of Full Automation

PIERRE CASSOU-NOUGÈS + STÉPHANE DEGOUTIN + GWENOLA WAGON

Welcome to Erewhon

2019

In *Welcome to Erewhon,* an old dream of humanity is expressed: the end of work through total automation. The Erewhonians have finally been liberated from heavy, physical labour, and now only work in pursuit of their own happiness. They pursue playful activities. Factories produce everything needed for life. Farms cultivate and process plants and animals. Vehicles deliver them. Robots massage the inhabitants or prepare their meals. Cats develop an affection for vacuum cleaner robots.

Welcome to an engineer's dream! Like in *Erewhon* (1872), the utopian novel of Samuel Butler, this video installation presents in eleven chapters the portrait of a city that lies nowhere (Erewhon is the anagram of "Nowhere"), but does in fact very well exist, at least in the world of our imagination. The authors do not attempt to imagine the future, but instead merely document the automation fantasies of the early 21st century, resorting exclusively to videos from the Internet in the process. In contrast with Butler's original novel, in which the inhabitants destroy all machines for fear of their ominous development, the well-meaning machines in the contemporary fable *Welcome to Erewhon* have developed further and now look after human beings.

Video installation, 11 videos on 5 flatscreens, https://welcome-toerewhon.com

ZHENG MAHLER

The Master Algorithm
2019

Each year, Chinese netizens study the New Year address of President Xi Jinping – or more precisely: the bookshelf behind him. In 2018, not only Marx' *Capital* and *The Communist Manifesto* stood on it, but also Pedro Domingo's *The Master Algorithm* (2015), a book about AI. "All knowledge – past, present and future – can," according to the author, "be derived from data [...] through a single, universally learning algorithm" – the so-called "Master Algorithm". Zheng Mahler's work imagines a Chinese state that deploys this "monster algorithm" to perfect its social credit system. It is embodied by the first AI newscaster in China, who can be seen on state television since 2018. With the help of face recognition, speech synthesis and machine learning, this emulates the real newscaster, Qiu Hao. The work consists of the holographic projection of a figure that "mutates, grows and disappears in data clouds, which re-materialise as techno-Orientalist nightmares and Asian algorithmic utopias and urban landscapes." (Zheng Mahler)

3D animation, 9 holographic ventilators, blue tooth sound, 15:24 min., https://www.zhengmahler.world/themasteralgorithm

Atlas of the Cloud reveals the invisible matrix of human labour, energy consumption and resource extraction that forms the basis for digital networks and artificial intelligence.

We live in a gigantic cloud, in which every piece of information, each thing and each person can be reached with a click on the smartphone or the computer. A cloud that is, however, in no sense immaterial. The artists design a visual panorama of this system, which is erroneously referred to as a "cloud". They have compiled images of the infrastructure of the Internet and its use: international networks of fibre optic cables that cross the floor of the oceans and continents, antennas, energy-intensive datacenters, in which hundreds of zettabytes of our data are stored, gigantic distribution depots in which human employees and robots work, countless packaging cartons that are transported by delivery people on trucks, scooters or bicycles, armies of drivers who bring the goods as quickly as possible into our ever-smarter homes, which are flooded with intelligently networked speakers, and mountains of electrical waste towering in the landfills of Africa and Asia.

STÉPHANE DEGOUTIN + GWENOLA WAGON

Atlas of the Cloud

2021

NICOLAS GOURAULT

VO
2020

Who can still remember Elaine Herzberg, who was run over on 18 March 2018 while crossing a street in a suburb of Phoenix (USA)? She was the first pedestrian to be killed by a self-driving car. "Did an artificially intelligent machine, a faceless corporation, or a local woman kill pedestrian Elaine Herzberg on the streets of Tempe?", the local newspaper asked, thus looking to assign responsibility for this tragic accident. The accident drew the focus of attention to the Uber company and its tests for the rapid provision of self-driving taxis. The self-driving car is one of the fantasies of engineers, the introduction of which is constantly heralded and repeatedly postponed. The accident showed that there are as yet no completely autonomous vehicles and that humans, so-called vehicle operators (VO), were thus deployed to monitor the car while it learned to drive independently. The film is a sensory examination of the paradox role of these drivers accompanying the learning process of the machines, whose goal it is to someday be able to get along without these VOs. The spectator climbs into the car to share the experiences of one of these VOs during a nocturnal tour: in the process, he or she shifts from a human perspective to the perspective of the machine; this via the Lidar sensors, with which the machine perceives its environment.

Video,
19:06 min.

ROOM 2
Ceci n'est pas une pipe*

* This title refers to the painting *La Trahison des images* (en. The Treason of the Images, 1928–29) by the surrealist painter René Magritte. It shows a pipe with the caption "This is not a pipe".

Anna Ridler documents a process of data production. She scans images from historical encyclopaedias, arranges them and provides them with keywords. Ridler thus demonstrates the precondition for the functioning of artificial 'intelligence'. For AI is not based on actual understanding or actual knowledge formation, but on the fact that humans manually describe images with keywords. These datasets of images and keywords allow the 'training' of image recognition. Ridler's use of historical encyclopaedias is no coincidence: in the 17th and 18th centuries, encyclopaedic collections served to generate knowledge in the first place, to collect, order and categorise it. Thinking in categories enables humans to think in the first place. However, this creates inclusions and exclusions that can, for example, have a negative impact on marginalised groups. In automation by means of artificial intelligence, these inclusions and exclusions appear in the machine as quasi-objective. They thus become in-human in several respects.

3 video loops, each 24:00 min., audio recording, installation with digital reproductions

ANNA RIDLER

Laws of Ordered Form

2020 – ongoing

SIMONE C NIQUILLE

Sorting Song
2021

Eyes (like cameras) do not know what they are looking at. To make sense of this visual data, the brain (or the network of artificial neurons) organises these signals into categories.

In this animation, which mimics an educational nursery rhyme, domestic objects with ambiguous contours scroll by: a vase becomes a bowl, a sofa an armchair, a chair a toilet. These objects come from a training dataset of the Imperial College London, a vast library of 3D models, apartment plans and objects, collected to develop the 'vision' of future household robots.

The film questions the difficulty of classifying objects simply by their shape. Where does the bowl end and the vase begin? In one sequence, a selection of different chairs is shown, with the intention of allowing computers to 'understand' what a 'chair' is. But is a chair an object? Or is it the behaviour? One can also sit on the ground, or on a rock. Do the ground and the rock become chairs?

While the scientific accuracy of a category is not determinant for humans, and is constantly renegotiated according to the context, this is not the case for machines that generate fixed representations of the world. *Sorting Song* alerts us to this world of prejudices encoded in the machine.

HD video, 3D animation, 06:50 min., stereo sound, Produced with the support of the Pax Media Art Award 2020, https://technofle.sh/sos/sortingsong.php

ROOM 3

A Curiosum with Delicately Violent Machines

In this video, Julien Prévieux shows key experiments that provide the basis for technologies of machine learning by applying them to the bodies of four performers. They interpret a series of trial-and-error learning processes, extending from the recognition of athletic movements to negotiation techniques when buying and selling. Mechanical behaviour, in body movements or verbal argumentation, results in a grotesque, endless loop, in which humans imitate robots, who in turn imitate people. Prévieux stages the impacts of these technologies on our bodies, thus illuminating the consequences of the gradual proliferation of these artificial intelligences in our everyday life. In contrast with (literary) fictions, the machines will not rise up against human beings, and will not replace them. Instead, we will gradually hybridise with them. It is not so much the machines that become human, but instead us who become machines by formatting and mechanising our behaviour and allowing our repertoire of gestures and words to become depleted.

JULIEN PRÉVIEUX

Where is My (Deep) Mind?
2019

ROOM 4

The secret chamber of Artificial Artificial Intelligence

Before the word "computer" was used to designate those machines that were later meant to replace them, it was used for workers who carried out calculations by hand. Both the computer and the division of labour, two concepts that formed the modern world, emerged at the end of the 18th century. Inspired by reading Adam Smith's *The Wealth of Nations,* the foundational work of economic liberalism, the French engineer Gaspard de Prony was inspired to import the methods of the factory into computing work, as the demand for this was exploding. Here begins RYBN's examination of the human computers, a reinterpretation of the history of technological modernity, which links stories and theories from the sciences and a certain mythology with one another. The installation revolves around the "mechanical Turk", an (allegedly) chess automaton from the year 1770, which Amazon used to name its microjob platform for tasks that cannot yet be performed by AI. An audio guide inspired by algorithmic management, which governs Amazon's distribution centres, will lead you through the long history of the automation of work.

RYBN

Human Computers
2017 – ongoing

While automation using pattern recognition, so-called Artificial 'Intelligence', actually creates an easing of labor, for example, with translations, labor is elsewhere dissected into the smallest units, stupid and boring. This can be observed in clickworkers, who carry out what cannot be done by machines. Their services include the mass sending of messages, likes, follows or comments. They also create (fake) user profiles, leave feedback for products and services at websites or play computer games for third parties. The procedure is reminiscent of the assembly belt production in the automobile factories of Henry Ford. In Group Control Systems (群控系統, 群控, 云控) a term for the serial semi-automation using smartphones, people become the appendices of machines. Conrad Weise's work dissects the essay on the Group Control Systems, distributes it via numerous smartphones and regularly switches to the automatic mode, which behaves like a Group Control System.

CONRAD WEISE

<-- *human-driven condition*
2021

ELISA GIARDINA PAPA

Cleaning Emotional Data

2020

Many of the tasks thought to be done by computers are actually done by humans in a concealed way, feeding the illusion of automation. To teach machines to see, legions of human workers perform low- or unpaid microtasks of labelling, categorising, annotating and validating large amounts of data to train the algorithms.

The Sicilian artist Elisa Giardina Papa worked remotely for North American companies as a 'data cleaner' for the purpose of emotion detection. Her tasks included taxonomising emotions, annotating facial expressions and recording her own images to animate 3D figures. The installation documents these microtasks and interrogates the history of the contested psychological theories behind this mapping of facial expressions, which emerged in the 19th century and culminated in AI systems. The embroidered textiles juxtapose the abstract lines of the facial micro-expressions detected by the algorithms with untranslatable, emotional vernacular from the Sicilian dialect, demonstrating how emotional sensibilities exceed reductive categorisation.

Video installation, 3 HD videos, colour, sound, 8:32 / 6:24 / 1:24 min., embroidered textile

LAUREN LEE MCCARTHY

LAUREN

2017

"I attempt to become a human version of Amazon's smart home technology Alexa. The performance lasts up to a week. It begins with an installation of a series of custom-designed, networked smart devices (including cameras, microphones, switches, door locks, faucets and other electronic devices). I then remotely monitor the person 24/7 and control all aspects of their home. I aim to be better than an AI, because I can understand them as a person and anticipate their needs. The relationship that emerges falls into the ambiguous space between human-machine and human-human interaction."

LAUREN is a meditation on the smart home, the tensions between intimacy versus privacy, convenience versus the agency these devices present, and the role of human labour in the future of automation. In this case, the virtual assistant has invited itself into people's homes with their permission. The installation also makes us aware of this automated data extraction architecture, which functions as a one-way mirror, most often without the awareness and consent of those concerned, creating a formidable asymmetry of knowledge and power.

Video installation, 03:50 min., objects, *LAUREN Testimonials,* film directed by David Leonard.

ROOM 5

Cabinet of Eerie Laughter

LIBBY HEANEY
CLASSES
2021

CLASSES is a video essay exploring the entanglements between machine-learning classification and social class(ification). The artwork takes place in a simulated model of a London council estate, where Libby Heaney lives. Machine and human voices playfully narrate aspects of Heaney's in-depth research into accented speech recognition, natural language processing* and public space surveillance, to understand how historical and cultural biases around social class are being translated into code and how this affects people's material conditions. The rhythmic text performed by the female voice is inspired by Hélène Cixous's essay *The Laugh of the Medusa* and takes the form of a poem. Biased text generated by GPT-J is read by a female machine voice. Towards the end of the essay, Heaney finds inspiration in community gardening on the estate to propose a rewilded AI that removes rigid hierarchical categories to build stronger relations between people and the world.

*GPT-J, Facebook's FastText and GloVe word embeddings

Single-channel video, 14:26 min.

Normalizi.ng is an experimental online research in machine learning that aims to analyze and understand how we decide who looks more 'normal'. When you visit the website on your phone you will be asked to take a selfie and then be presented with a series of previously recorded participants. You will then choose who looks more 'normal' between pairs of noses, mouths, eyes, and faces. The machine will analyze your decisions and your face and then add you to its algorithmic map of normality. In the late 19th century the French forensics pioneer Alphonse Bertillon, the father of the mugshot, developed the *portrait parlé* (lit. speaking portrait), a system for standardizing, indexing and classifying the human face. His statistical system was never meant to criminalize the face but it was later widely adopted by both the Eugenics movement and by the Nazis to do exactly that.

The online work automates Bertillon's speaking portraits and visualizes how today's systematic discrimination is aggregated, amplified and conveniently hidden behind the seemingly objective black box of AI.

MUSHON ZER-AVIV

Normalizi.ng
2020

ROOM 6
First I scratched the mirror, later I crashed it

JAKE ELWES

The Zizi Show

2020

Drag shows like the Zizi Show are now well-known from television and variety theatre. With the current project, the artist Jake Elwes investigates how this format can also be developed by means of pattern recognition by artificial 'intelligence', and details which work steps are necessary for this. Can automated pattern recognition be used beyond normative data sets? Or, to put it another way, how can artificial 'intelligence' be used for queering life?

Elwes explores this question together with a group of drag artists. The project relies on two technical approaches. In a first step, the Zizi Show uses pose detection, i.e. the recognition of body postures. The project then generates new images composed of a specific dataset, which is then applied to the poses. Elwes created the data set together with drag artist friends, so that their performances can be adapted to different pieces of music. Clear the stage for a queer data performance!

Interactive website, stage, curtain, computer, projection

ADAM HARVEY + JULES LAPLACE

exposing.ai
2018–2020

For several years now, artist and activist Adam Harvey has been researching the image datasets used to train automated facial recognition. For example, he questions the origin and composition of the UCF selfie dataset, which contains 46,000 selfies, each annotated with 36 terms, such as gender, skin colour or facial features. Where did the selfies come from? From Instagram. Without the consent of those pictured. With the website Exposing.ai, Harvey wishes to expose such practices. His mirror "Today's Selfie Is Tomorrow's Biometric Profile" is an ironic commentary because Harvey hopes that as many selfies as possible will be published on Instagram. The message is part of his "Think Privacy" campaign to raise awareness about face recognition. On another wall, he projects newly generated, fictional selfies from the UCF selfie dataset using special algorithms, so-called Generative Adversarial Networks. Harvey points to the problematic practice of computer scientists downloading image data from the Internet without consent and combining them into datasets. Harvey has already persuaded some creators of training datasets to withdraw their collections.

Research project, website, mirror with text, 180 × 240 cm, GAN generated video loop, 04:00 min.

In her research-based practice, the artist Anna Engelhardt investigates post-Soviet infrastructures and possible modes of resistance to state disinformation and surveillance. Her investigations take on multiple forms of media as they develop over time, including publications, videos, websites and physical objects.
In her current web-based investigation, she traces how contemporary Russian 'smart weapons' are rooted in the largely unknown experiments of Soviet military cybernetic research in the 1950s. The project website www.machinic.info/computation is intended to help other researchers and activists understand the deeper systems at play in contemporary Russian warfare. This understanding, she proposes, can lead to new ways of resistance. Engelhardt extends the essay into material objects for the exhibition, translating the content of the site into physical holograms and textile diagrams.

Textile diagram, 110 × 450 cm, holograms, website, text

ANNA ENGELHARDT

Death Under Computation

2022

SEAN DOCKRAY

Learning from YouTube

2018

In *Learning from YouTube*, Sean Dockray orchestrates an array of YouTube windows into a screen recording that is performed across his desktop browser. The images are overlaid with a quietly recounted narrative that illustrates the insidious connections between YouTube, machine listening and pre-emptive policing.

Revisiting one moment in the history of automated listening – Google's acquisition of YouTube – Dockray details how machines become the new target audiences of YouTube and how the video-sharing efforts of its participants are cannibalised and reframed for an entirely different agenda. By being uploaded and presented on YouTube, Dockray's artwork is composted into the same machine-learning feedback loop it explores.

Learning from YouTube raises questions around the ethics of data rights in relation to machine learning. Do YouTube users have rights to the way in which their uploaded content is used? What sorts of value systems and politics are being embedded into the neural networks of AI?

Single-channel screen-capture video, 11:32 min. Courtesy the artist

ROOM 7

Exit Through the Gift Shop

STÉPHANE DEGOUTIN + GWENOLA WAGON

Cat Loves Pig, Dog, Horse, Cow, Rat, Bird, Monkey, Gorilla, Rabbit, Duck, Moose, Deer, Fox, Sheep, Lamb, Baby, Roomba, Nao, Aibo

2017

"Even if the human being becomes that for machines what [the pet] is for humans, it will nonetheless survive. The human being will probably find itself in a better situation in a domesticated state under the benevolent rule of the machines than in the wilderness in which it now finds itself", Samuel Butler wrote in his satirical utopian novel *Erewhon* (1872).

In the exhibition, a vacuum cleaner robot equipped with a micro-projector moves around the room. It cleans the floor, projecting videos of pets riding on vacuum cleaner robots. The work *Cat Loves Pig* ... visualises this imagining of encounters between species, potential discussions between animals and machines, from which the human being is excluded, conspiratorial communication with non-organic beings and new alliances (kinship). It consists of videos showing animals that climb onto the

backs of other species to move about (mouse on tortoise, monkey on goat, cat on vacuum cleaner...), which are filmed by automatic devices, by robots, or that film each other with a hand camera in unlikely encounters.

Vacuum cleaner robot, video projection

SEBASTIAN SCHMIEG

How To Give Your Best Self Some Rest

2021

Do you have to be productive and provide top performances all day long? According to Sebastian Schmieg, AI could help – but differently than expected! The artist defines 'intelligent' machines, like vacuum cleaner robots, smart locks, delivery robots and digital assistants, as "strategically underperforming smart devices", which we should adopt as role models. How so? By, for example, acting as if an e-mail is not written by oneself, but instead by a digital assistant, and apologising for this in the e-mail signature: "This e-mail is written by my AI assistant – bear with it, it's doing its best." If you do not want to leave the house, simply claim that the smart home will not let you out – on the basis of health data. Summary: We only need to be as good as the smart devices, which, according to the artist, provide "strategically below average results". Sebastian Schmieg describes this with a wink as the "aesthetics of detachment".

Video, 04:25 min., website, https://how-to-give-your-best-self-some.rest/ ,Commissioned by Haus der Elektronischen Künste Basel for the online exhibition *Hybrid by Nature: Human.Machine.Interaction*
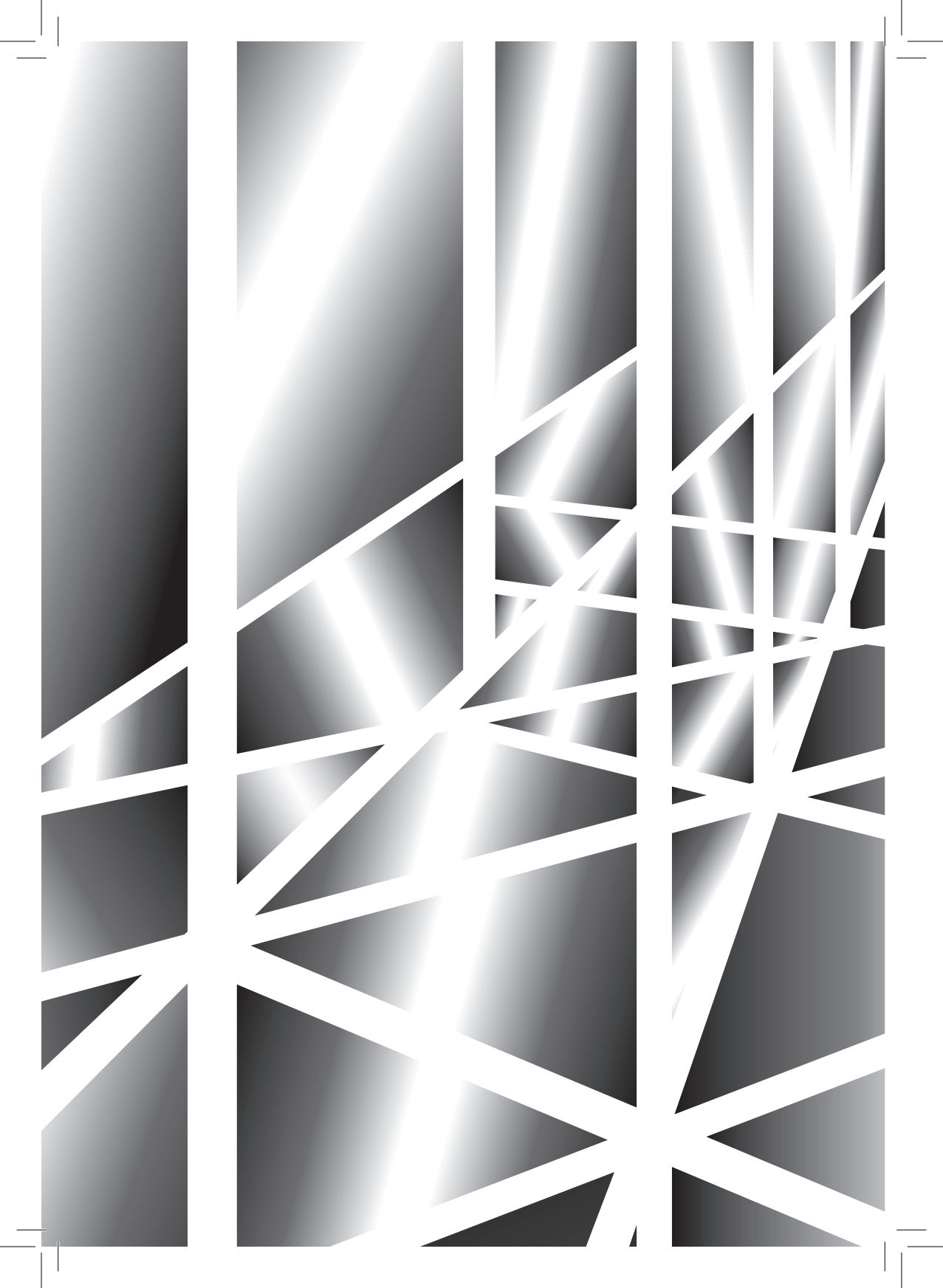
This 'Exit Through the Gift Shop' is a very special one. At the end of the parcours, visitors to the *House of Mirrors* exhibition are invited to have their portrait taken in a photo studio. The photo is then analysed by a face recognition software. In the next step, the participants select an emoji, with which the software 'over-recognises' their facial features. The typical mark points of face recognition (tip of nose, left eyebrow, chin, etc.) are replaced with the chosen emojis. Covered in emojis, the portrait becomes a mask that hides the actual person. The resulting picture is printed on site on A3 photo paper for the participants to take home.

ARAM BARTHOLL

Hyper-normalisation

2021

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WWW.DORTMUNDER-U.DE

HEANEY

Room 5

ZER-AVIV

Room 4

GIARDINA PAPA

MCCARTHY

DEGOUTIN + WAGON

BARTHOLL

CA
DE

Room 7

Room 6   ELWES

DOCKRAY

SCHMIEG

Room 6

ENGELHARDT

SCHMIEG

HARVEY + LAPLACE