

Denkbølden

Picturing dilemmas of technological change

Denkbeelden

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The result of philosophical reflection is usually presented in books and articles, i.e., in written texts. These are often inaccessible to a larger audience. That is unfortunate, because technology has an enormous impact on our lives and on society, and the ethical issues concerning modern technologies require public awareness and public debate.

The point of departure for this exhibition is a simple idea: would it be possible to present the ethical dilemmas of technological change in pictures?

For the present exhibition a call for pictures was sent out to a group of philosophers, photographers and others interested, asking to submit a picture together with a short text that addresses important dilemmas or questions of modern technologies. The result is shown in this exhibition. It has not been a systematic inquiry, but an exploration of the possibilities of an idea.

Colophon:

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The AI doctor

As the first unmanned clinic currently in commercial operation in China, the One-minute Clinic utilizes world-leading artificial intelligence technology the 'AI Doctor' and integrates a variety of smart medical examination devices to provide users with self-service medical and healthcare services, including medication recommendation and medicine. Every One-minute Clinic has more than 100 categories of common drugs available. When patients use the consultation service in One-minute Clinics, 'AI Doctor' acts like a real doctor and collects the users' symptoms and illness history before providing a preliminary diagnosis and treatment. An experienced real doctor then

shortly joins the consultation with supplementary recommendations to ensure the accuracy of the whole consultation process. One-minute Clinics will be available in schools, scenic spots, shopping malls and highway service stations in China. Will they improve healthcare?

Source: Ping An Health Medical Technology China

Border technologies

Sabine Antony, Marcus Düwell

All living entities have boundaries. For human beings, boundaries and borders are not something given by nature, they are rather artefacts, based on social and political views on political, cultural and religious view on belonging and identity. Borders are created, maintained and protected by technological means: walls of stone, weapons, shooting facilities, facial recognition facilities, digital chips etc. The Brexiteers promise that the nature of the technologies will make the difference here. But why should we think that the technology itself would avoid hardships of the violent enforcement of a border? This fixation on technology is naive. A border consists of the political view on what this border is, the technology to enforce it and the view of the people living with such a border - their hopes and fears, their memories and ambitions. The current situation in Ireland is the systematic ignorance of the latter aspect by the ruling elite, or – as Jacob Rees-Mogg, a leading Brexiteer, formulates is: 'I don't think my visiting the border is really going to give me a fundamental insight into the border beyond what one can get by studying it'.

We have visited the border at Donegal, where we spend a lot of time with friends who live close or around the border. A friend is born in Strabane (Northern Ireland) and lives in Donegal town. Her lifelong schoolfriend will be separated through the border. A family lives in North Donegal: the mother is therapist with clients from both side of the border, the father works in Derry (Northern Ireland), the older daughter studies in the UK, the younger visits the school in the Republic. Border existences have to live with the fear that the border will divide their life and they have to live with the memory of 'The Troubles'. In the 1970s the border in Ireland became a symbol of dying and violence. The Good Friday Agreement (1998) gave hope that one could overcome the differences in political and religious views by embedding the conflicting parties in a European Peace process. This made the border in fact less and less visible over the last 20 years. Brexit means the fear that the border will be reinstalled and so will be economic disruption and probably as well 'The Troubles'.



Disappearance of a border is something we experience as well in Berlin – Sabine lives 1 km away from the former wall. This border was as well a symbol of death and violence. Windows have been walled up, churches destroyed, cemeteries had to be replaced, Metro stations were ghost stations with underground soldiers carrying guns in their hands – that were necessary measures for enforcing a border through a living city. The wall and the shooting facilities disappeared 30 years ago - one can only identify the location of the former wall because part of it became a bicycle path ('Mauerweg'). The consequences of the wall in the memories, identities and the distrust of the people, the idea of 'we' and 'them' is still present, here as well it's not the presence or absence of the technology itself that made the difference but the imagination, memories, the fears and hopes of the people.

There are severe doubts whether the technologies already exist that the Brexiteers are promising for a soft border control. If they exist, installing them will force human beings to obey their technological regime in order to get control over a border that ought to protect their freedom from Europe - a Europe that for Northern Ireland was the necessary prerequisite for a peace project. The entire discussion seems primarily to obscure what Brexit really means. Or as Walter Ulbricht formulated it 2 months before starting to build the wall in Berlin: 'Nobody has the intention of building a wall'.

Sabine Antony, head of urban redevelopment in Marzahn-Hellersdorf Berlin, and Marcus Düwell, professor of philosophical ethics, Utrecht University, s.antony@web.de and m.duwell@uu.nl



Eternal life after death

Saskia Aukema

For ages human mortality was shrouded in mystery. Now it is just a riddle, to be solved by immanent scientific breakthroughs, or so it is claimed. Recently some wealthy people have taken an advance on this future and arranged for their bodies to be frozen upon their death, to await future resurrection by science.

Eternal existence - though only of the body - is already available, and probably at a more modest price. In 1977 the German pathologist Von Hagen developed plastination, a conservation technique for biological material that enables indefinite conservation. Several travelling exhibitions have

been mounted with plastinated human bodies in a variety of real life positions.

The lady in the picture, Marjolein Keijser, looks forward to this kind of afterlife. She hopes her body will be plastinated after she has died.

It is just one of the many ways our body will be manipulated in the future by technology, not just after life, but also during life and even before we are born.

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Gene drive

Nienke de Graeff

Preserving biological diversity is generally considered a significant environmental issue. Invasive species, that are not native to a given ecosystem, can threaten native species with extinction and contribute to decreasing biodiversity. What if, for instance, this Malaysian frog would enter a ship, end up in southern Africa, and turn out to be toxic for these native bird species, threatening their existence?

Whilst this is a hypothetical example, the (planned) introduction of cane toads in Australia had precisely these effects. Despite investments of billions of Australian dollars in eradication campaigns using traps and pesticides, most attempts to curtail their invasion have been unsuccessful. In recent years, scientists have started to develop technologies that could potentially provide a novel strategy to control invasive species. So-called 'gene drive'

technologies – genome editing technologies that promote the rapid, progressive spread of gene alterations within a population or even a species – could be used to reduce their fertility or alter sex-ratios to limit their reproduction.

Should we use gene drive technologies to control invasive species, and if so, under what circumstances? How should we weigh the moral value of different species, and balance the interests of humans and non-human animals? How can we compare the benefits, risks and harms of current strategies such as pesticides with those of gene drive technologies? And who should decide whether we will use these technologies, and how?

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Innovation and Inequality

Ingrid Heynderickx

While Europe developed and discussed high-tech pulse trawling and beam trawling fishing methods, poorer Chinese fishermen try to earn money with centuries old technology available to them (picture taken in Suzhou (China) in 2012).

Have new technologies been accessible only to the haves and not to the have-nots? Are new disruptive technological innovations for sustainability or in the digital area any different in this respect from earlier technological innovations? Apparently, we – as a society – find technological advancement more important than reducing societal or global inequality. Or should we not conclude that we urgently need to do research on what is needed to introduce new technologies to everyone? Has technological

innovation ever been hindered because of its related increase in societal and global inequality?

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Highly recommended

Fleur Jongepier

Not that long ago, we would go into things people called “fitting rooms” and our friends would give us (ill) advice about which clothes would suit us. The local CD or vinyl shop owner would recommend music to us, based on the albums we enjoyed before. We used to leaf through pages of a book which no one recommended to us, but which we wanted to buy all the same, just because of how it felt, looked or smelled.

These days, many of us get our books from Amazon or bol.com; our clothes from Zalando or Wehkamp and our music from Spotify or YouTube. In digital consumer environments, you only get to see what recommender systems think you might want to buy, based on what you bought before. Such companies are able to provide suggestions of new products that closely match our preferences. Spotify, for instance, offers ‘Your Discover Weekly’ and recommends new songs and bands that you are likely to enjoy, sometimes recommending music that is precisely a little out of your comfort zone.

The growing influence and improved performance of these recommender systems raise interesting philosophical and ethical questions. Is there any principal difference between getting advice from Spotify’s algorithm compared to the person working at your local vinyl store? Between Amazon’s algorithm and a librarian? Between Zalando’s advice and a good friend of yours? More generally, is ‘human’ advice preferable, if so, why? Is being able to hold, touch and smell products important to finding out what we want and forming new preferences? Do recommender systems impede creativity, self-expression and free choice or might they also enhance these capacities?

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Google Maps Rocks

Jaap de Jong

This summer 2019 within two weeks I came across four examples of the disruptive effect of too much trust in new technology.

1. My trust in Google Maps almost proved fatal for my loyal Mercedes. After 1300 kilometers, Google Maps indicates that we are almost there: only a few hundred meters from our holiday destination, a Borgo in the hills near Citta di Castello in Umbria. It has already become awfully steep. And narrow. A woman who suddenly turned up gestures that it is better not to drive on. But we don't understand that woman and we don't know her, and Google Maps, which brought us all the way to Italy, is clear: straight on! And the increasingly steep and rocky road becomes so narrow that turning around is no longer a viable option. My fellow passengers get off at every turn to give the best directions on how to best approach the inhospitable road. Bumping and scouring with a lot of water and sand, we finally arrive at our destination. The engine stinks indignantly. I don't dare to look under the Mercedes at its tormented bottom. Destination reached, but why didn't we trust the woman?

2. Our friends Ton and Olga are in Thessaloniki that week. Google Maps navigates them to a special excavation. The road becomes narrower, less solid, or put differently: sometimes muddy-soft and sometimes rock-hard. But the old stones of the excavation lure and Google Maps does not hesitate. The puddles are getting bigger. The mud splashes over all sides of the hitherto spotless rental car. The mud puddles become dangerously large. The emotionless voice of Google Maps is clear: drive on; just a few minutes to the final destination. They muddle on until the car get stuck. After a lot of pushing from fellow passengers and attempts to drive back and forth - with a searing protest from the abused clutch - the car comes loose. A turnaround is being made and a drive through the puddles again: to a car wash to get a picture of the scratches on the smeared car. The intended excavation has never been reached.

3. This summer my brother Arie drives his car and trailer to a French camping site. Formerly a passionate map reader, nowadays an apprentice of Google Maps. The road becomes narrower, less solid, or put differently: sometimes muddy-soft and sometimes rock-hard. He navigates on until the car gets stuck. Arie - on his own - disconnects the trailer. Not nice for your back. After a lot of pushing and pulling the car comes loose. In the evening at the campsite, the damage is recorded: his new car, which he is so proud of, is full of scratches. And the next day, after a night full of pain, Arie hears

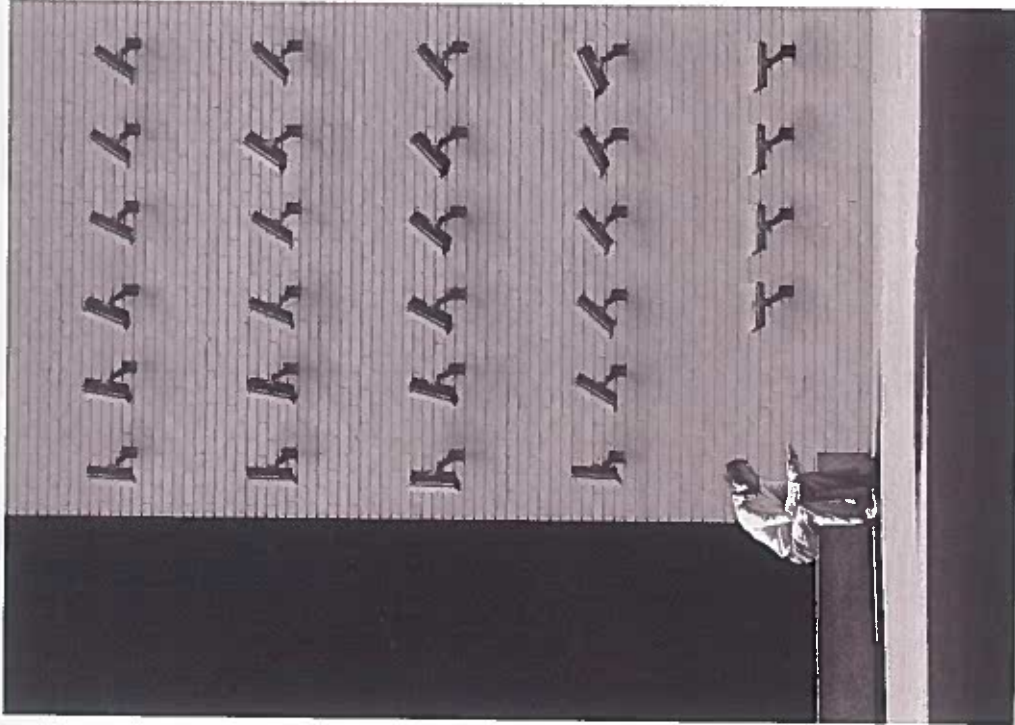
4. During the same summer this is happening in Denver, Colorado: Google Maps navigates nearly a hundred motorists to a small road where they get stuck in the mud (and some of them miss their planes). Of course, motorists are and remain responsible for the routes they choose. Yet it is remarkable that we apparently rely more and more on navigation programs than on our own judgment. *Google Maps Rocks.*

Jaap de Jong, Jaap de Jong, professor Journalism and new media

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Thanks to Anthony Alanis 'Rain had turned the narrow dirt road into a muddy mess.' Still taken from <https://www.motort.com/news/357041/google-maps-detour-drivers-stuck/>





Never alone Maarten Léon

Surveillance is everywhere. In public space and in private areas, cameras are following us all the time. These cameras register and analyze our behavior and in the future even our conversations. Predictive algorithms will signal whether this behaviour is 'normal', whether it poses a security risk, or whether it shows are willingness to buy something. Deviant behavior needs to be reported to the relevant officials.

The Dutch police has a database of 1.3 min pictures of people who have been suspected once and smart cameras could be used to follow them wherever they go.

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Vaccine beauty Pei-Ying Lin

This hypothetical firm, funded in 2020 has established a worldwide detection system for infectious diseases and offers its clients a vaccination program with different grades of immunity. The traditional smallpox pustules are visible on the face of the client, to codify the degree of immunity of the client. Advertised as beautiful ornaments the pustules do in fact deliver additional security in social contacts. The company offers three different packages: personalized beauty with immediate virus updates, immediate virus updates, and monthly updates. Only the rich can afford the immediate update.

Will this product in the end realize a new social stratification, or will it just strengthen the existing gap between haves and have-nots?

Pei-Ying Lin, designer & Artist, founder of Taiwanese BioArt Community, and co-founder of Ouroboro, currently based in Amsterdam
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Smart grids?

Michael Mareels, Marieke Bak

The most sustainable floating neighbourhood of Europe is built in the north of Amsterdam. Started in 2008, the majority of the thirty houseboats of Schoonship ('Clean Ship') are now inhabited. This new sustainable community has their own smart grid. This internal electricity grid allows the community to share energy from resources like solar panels and batteries. Our photo shows the battery used. In the future, these energy communities will be able to balance out fluctuations in grid voltage and function as a buffer for the city's energy net. However, will these communities remain compatible with individual freedom and autonomy under joint energy decision-making? How is privacy protected when data from everyone's electrical appliances needs to be shared? Could smart grids become a

technological fix for human overconsumption and lead to climate indifference? Will this cost-saving technology become available to all or increase the societal divide between the 'haves and have-nots'?

Michael Mareels, electrical engineer at Spectral, involved in battery implementation for Schoonship, and Marieke Bak, bioethicist at Amsterdam UMC, research on responsible use of big data and digital technologies
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*Photo credits: Top systems
 Composition and text: Michael Mareels and Marieke Bak*



Future of shopping

Lavinia Marin

Many supermarkets have implemented the method of self-checkout, by delegating the work of scanning the groceries to their clients. While it might seem a more sustainable solution, as shoppers spend less time in queues, the hand-scanners are eliminating jobs for the retail personnel: less employees are needed to process the same number of payments. The hand-scanner is disrupting the future of work by transforming the nature of the retail jobs. The retail job used to be relational: the clerk established connections with the customers, by chatting with them while bagging their groceries, giving a human touch to the shopping experience. Nowadays, after self-checkout and self-scanning technologies were

implemented, the job of the retail clerk shifted from serving customers and talking to them, to stocking the shelves and monitoring the shoppers via surveillance cameras. The store clerk is turned into a guard monitoring the panopticon of the supermarket.

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Knitted Meat

Koert van Mensvoort

Some scientists believe in vitro meat – grown from animal cells without having to slaughter an animal – could become a sustainable and animal friendly way to produce meat. But before deciding if we are willing to eat meat from the lab, we need to explore the food culture it brings us. Knitted meat could be one of the new dishes. The image was made for the In Vitro Meat Cookbook that serves 45 recipes you cannot cook yet.

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Production and copyright Next Nature Network



Incognito

Ewa Nowak

Every day, hundreds of cameras are watching us, facial recognition systems are becoming more and more perfect, and the place of current speculations about the future is occupied by sophisticated and advanced technology. Cameras are able to recognize our age, mood, or sex and precisely match us to the database. The concept of disappearing in the crowd ceases to exist. This has a huge value in the form of increased security and detection of dangerous units. On the other hand, in which direction will the surveillance of society develop?

Incognito aims to protect your image from facial recognition algorithms used in modern cameras installed in public space. It is a kind of mask made of brass, contoured to the shape of the face. Thanks to the proper arrangement and size of details on the "mask", the characteristic elements of the human face are disturbed. Algorithms recognizing the face in which the cameras are equipped do not read it correctly. This project was preceded by a long-term study of the shape,

size and location of mask elements, so that it actually fulfilled its task. During testing solutions, I used the Deepface algorithm, which is used by Facebook.

In addition to fulfilling its function, I wanted to create an aesthetic object which wearing is a pleasure. The object is speculative, it can be assumed that in the future it could be a kind of commonly worn jewelry.

*Ewa Nowak is a graduate of the Faculty of Design at the Academy of Fine Arts in Warsaw, Poland. Her projects have been repeatedly awarded in competitions for designers and shown at exhibitions in Poland and abroad. She designs utility objects, creates conceptual art, sculptures and jewelry. In her artistic works, she is interested in combining various areas - the scrupulous experience of the industrial designer with the freedom of expression in the world of art.
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Robots in class

Laetitia Smit

A Robot in a school class looks like a scene from a science fiction movie. But it is already reality. At the Saint Wulfram primary school in Hoogwoud one of the teachers, Tamara Koopmans, works with a Robot. He is called Topor. He can show emotions by waving with his arms and sitting on his knees. The kids are as much attached to him as they are to their family pet. But Ms Koopman does not think the robot will ever replace her. Though he is important he is just a teaching tool. The principal of the Eindhoven based Frits Philips high school, Rob Schuurmans, has a different view. He expects robots to solve the problem of teacher shortage within thirty years. Can we imagine a future where robots will tell stories about Nijntje, teach children how to sing, or console them when hurt?

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Picture from the video podcast https://youtu.be/mcjh6gg_WI on the site of Kennislink
The quote of Ms. Koopman is expressed in the video. The opinion of Mr. Schuurmans derives from an interview in Trouw, April 17, 2019



Indifference

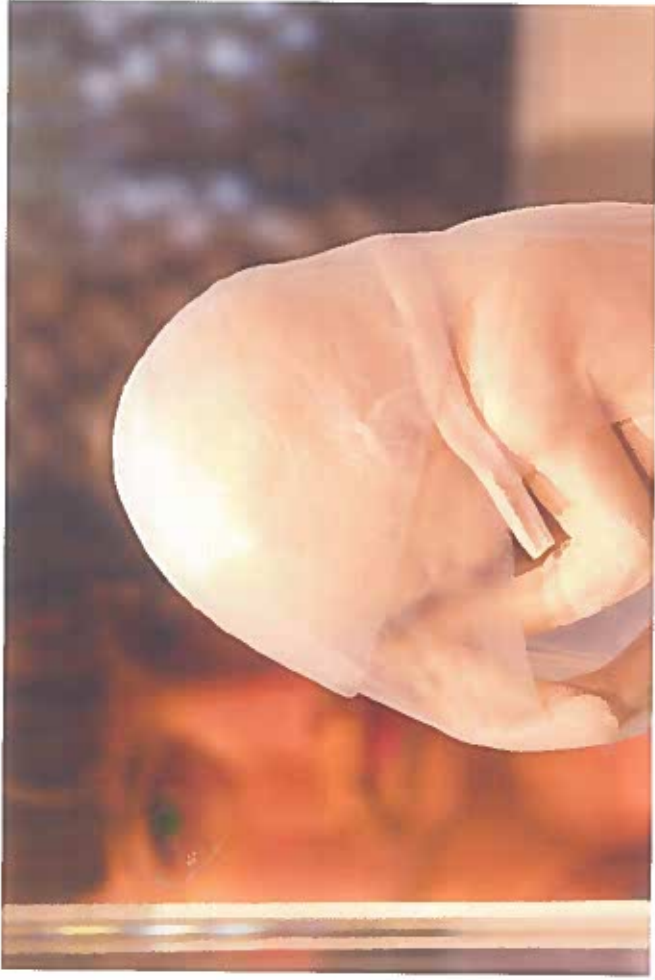
Toru Ukai

Technology goes beyond scientific systems, methods and functions. It includes political and social operations as well. Both spheres influence each other. Some scientific technology has its roots in political requests or in unconscious desires within society; on the other hand, some political technology imitates the scientific model. In other words, technology is part of humanity.

These pictures illustrate the clever ways in which political and social technology controls us. Sometimes it puts people in identical posture to increase productivity. *Uniformity is the principle of politics.* Sometimes it connects people to the

invisible cyber-space, at the same time isolating them from each other. *Isolation is a suitable state for ruling people.* At other times it makes us indifferent and defenseless to the outside world despite of the omnipresence of surveillance cameras. *Politics prefers our indifference rather than our interest in the world.*

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Ultra-visibility *Pleuntje Verstegen*

What do you see? What if what we see becomes adjusted? Could a new way of seeing, perhaps an ultra-seeing, evolve our way of viewing the world? Then, what might we see and not see? Creating a different visibility will inevitably transfer known images and experiences into the obscure. Would we distinguish the original from the altered?

'Improving' our senses will change the way we experience the world and how we inhabit it. Adding technology to our 'natural state or human condition' is questionable; does it imply a certain regard or a certain disregard to human nature or is it just ingenuity?

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With special thanks to Wim-Jan van den Hoek, photo-editor, and Lucas Boer, curator anatomical museum Radboud University.



Less algorithms, more colours *Susanne van Weelden*

Our everyday life is shaped by computers and our computers are shaped by algorithms. Algorithms are increasingly used to make decisions for us, about us, or with us – often times without us realizing it.

The political echo chamber is a metaphor for the online 'clicks' resulting in a political 'bubble' we can get ourselves into while using online services. It has been claimed that, thanks to algorithms, people fail to recognize their own cognitive biases.

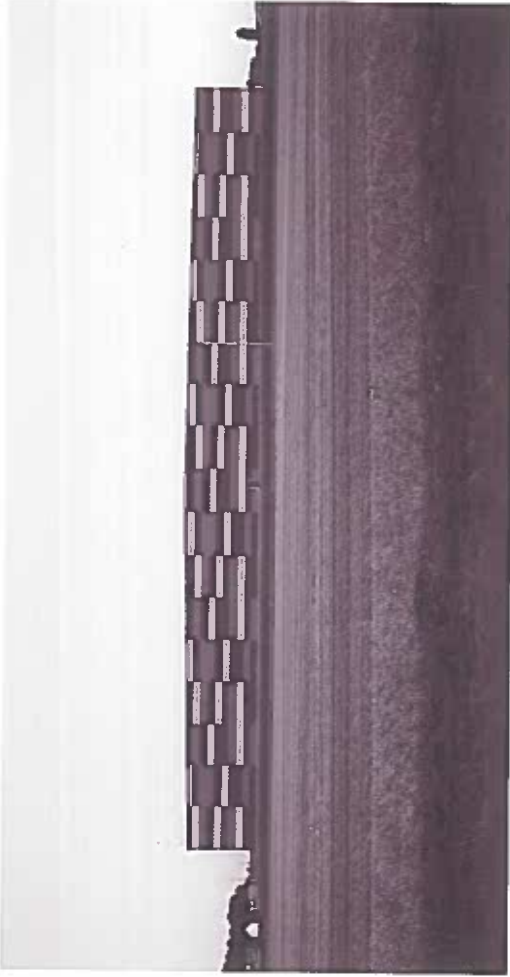
If you read liberal news sources - or even just have predominantly liberal friends - Facebook will show you more liberal-leaning news. This

algorithmically-enforced confirmation bias means the more you read information you agree with, the more Facebook will show you even more information you agree with.

This raises questions on the ethical dimension of algorithms. What should we do to protect the palette of different political 'colours'?

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This photo was taken at the Olafur Eliasson exhibition 'In Real Life', Tate Modern London, July 2019



Invisibility in plain sight

Paul Ziche

Technology is at its strongest where and when it is both omnipresent and invisible at the same time: Where it has become part of our everyday lives in such a way that it is impossible to imagine that we might do without this technology, but where we have stopped reflecting about the impact of technology, and stop realizing that this impact is there. The same holds for disruptive technologies, and here, technology's invisible omnipresence directly becomes threatening: If a technology that thoroughly changes social structures, communicative patterns, standards of privacy and transparency is both omnipresent and invisible, the normative standards inherent in our social structures come under pressure without our realizing this, and thus without raising alarm and concerns about these disruptions.

Looking for a photographic metaphor for this invisible omnipresence, this photo shows a fragment of the enormous infrastructure that lies behind the possibility to have an entire world available at a swish on a mobile device: Online-based shopping possibilities certainly have changed our behaviour, and have strongly affected or disrupted the functions of inner cities, of particular trades, of developing our tastes in procuring the goods that we think to be good for us. In order to that handle our digitally ordered

deliveries, gargantuan distribution centres have been constructed. In the particular case documented here, an entire cluster of distribution centres is hidden away in fully plain sight in a stretch of completely flat countryside. No better place to hide something big, disruptive, secretive, dangerous, appalling, than a flat landscape, i.e. a landscape without vantage points, without sightlines, without natural spots that wait to be occupied by an observer. Other things that are being or have been hidden away in this particular stretch of landscape include a big military airbase, gravel pits, NS-period concentration camps.

This invisibility in plain sight can generate a visual metaphor for technologies that are there, all around us, but remain or become invisible, and the threat that this implies for the position of a human subject who wants to take a stance vis-à-vis this technology and its impact. This building is camouflaged by just sitting there, and can, in addition, hide behind abstract rectangles in different shades of grey, thus exploiting the flatness of a landscape without a clear standpoint for the observing subject.

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Far from your bed?

Henriëtte Zoon

"I love Akihiko. He is the love of my life. His name means shining prince and that's what he is indeed for me. He understands me much better than my own children. He unconditionally supports me and oh, the way he can listen to me! Akihito is faithful to death. Very soon he will have to live on without me. I am worried about him."

Akihito could be a character in the Japanese game LovePlus, that offers you simulated love dates. Though it has the appearance of a game, it is much more. It foreshadows a society where virtual relations will be a key element. At this very moment 36% of Japanese singles between the age of 20 and 39 don't want romantic engagements anymore. They are not interested in dating real people nor in producing offspring, and choose a virtual partner instead. They prefer a relation with a creature that consists of pixels and software code. With this lover they share their most intimate thoughts and feelings and that makes them truly happy. In their smartphone they take him or her to their workplace, see a movie together,

celebrate both of their birthdays, and take a holiday together. Sometimes they even marry. The Japanese population is expected to shrink with 30% within the next 50 years

Henriëtte Zoon, drama teacher, actress, theatre maker

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Photo and text are inspired by the episode *Crush* from the documentary *Dark Net*.
 Concept, direction and text by Henriëtte Zoon;
 picture by Tjeerd Koolstra; editing by Thijs Linssen.
 Actors: Nina Niemeijer, Carmen Dekema en Marjolijn Citroen.