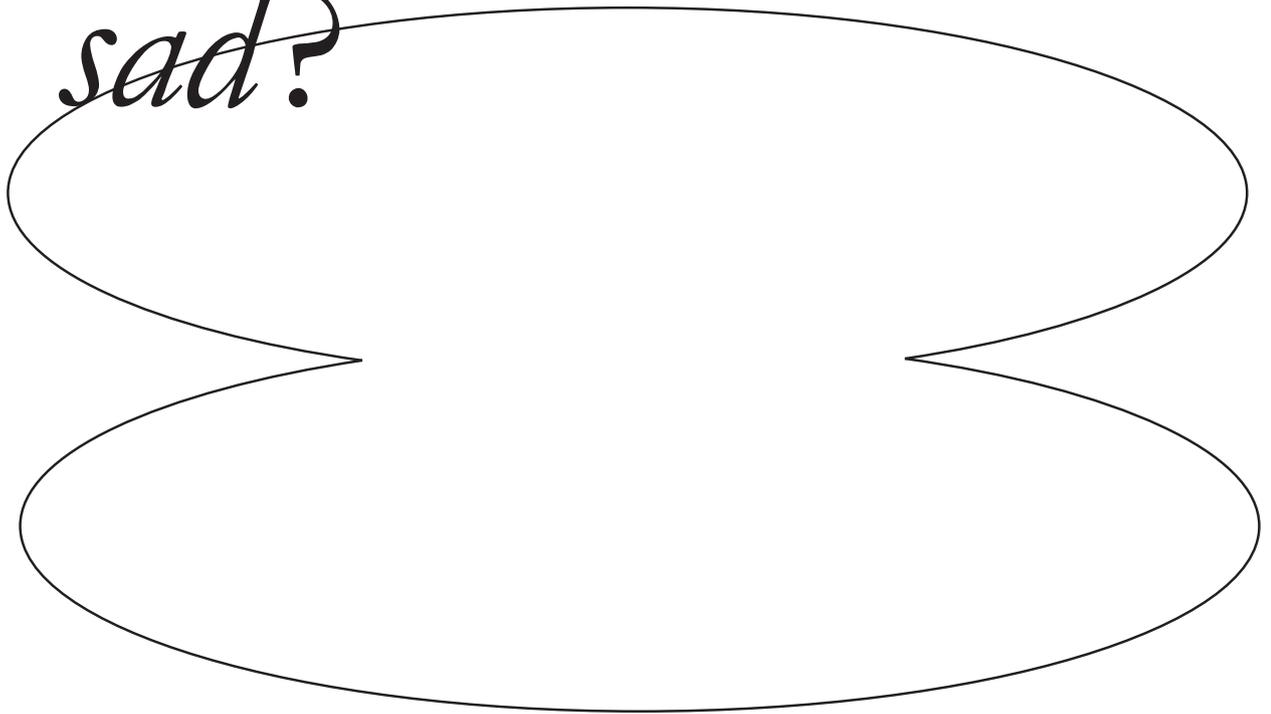


User-Agent :

If everything
is so *smooth*,
why am I
so *sad*?



User-
Agent :

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- Today, any inhabitant of a city is treated as a computational User by default. Smooth interfaces and real-time feedback loops augment our urban experiences, making us feel empowered, while subjecting us to processes of profiling, quantification, optimization and isolation. However, the sense of comfort and personal freedom that is gained comes at the cost of political agency and autonomy.

This book aims to investigate what it means to be a human User in today's technological infrastructures. While it attempts to grasp and map out a complex structural issue, it also reflects on the impossibility of addressing the problem alone, from a singular vantage point or field of expertise. Drawing on interviews with practitioners, including policy researchers, UX designers, software developers, architects, journalists, artists, social activists and media theorists, it brings together new (and sometimes opposing) perspectives on the issue.

What strategies can we employ to gain more agency? How can we become aware of our own position and be re-politicised? And what does it mean to create and distribute printed content in the age of ubiquitous computation? 11 interviews, accompanied by a short essay, represent one of the many possible constellations of disparate ideas, viewpoints and interdisciplinary strategies for contesting platform capitalism.

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Intro

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What is life like in a neoliberal, augmented city? Standing in the middle of the street, I am tracking the location of the taxi I ordered, and simultaneously checking – in real-time, via the ‘Popular Times’ feature – how busy the airport is that I’m heading to. While waiting for a cab to arrive, I am writing a review for the apartment I rented during my vacation. A delivery rider passes by, and my phone starts buzzing with yet another notification: *‘Do not forget to meditate today. 257 minutes meditated. Current meditation run streak: 7 days in a row’*. I quickly scroll through the feed, starting to get the usual throbbing headache. The driver is three minutes away. I close my eyes.

A citizen cannot traverse urban space without encountering any of its ubiquitous sensing technology. Pervasive sensors and trackers, Wi-Fi networks, and Bluetooth and GPS signals enhance our streets, enabling the operation of geolocation-based platforms. Digital applications, provided by tech giants such as Google, Facebook, Amazon, Uber and Airbnb, have become the main (and sometimes the only) prism through which we encounter and understand urban space. *Locate, like, review, rank up, vote down, follow, swipe.* When cities are augmented by friendly and easily digestible interfaces, a smooth User Experience mediates and frames – and eventually replaces – our experience of urban dwelling, turning any participation in civic life into a service.

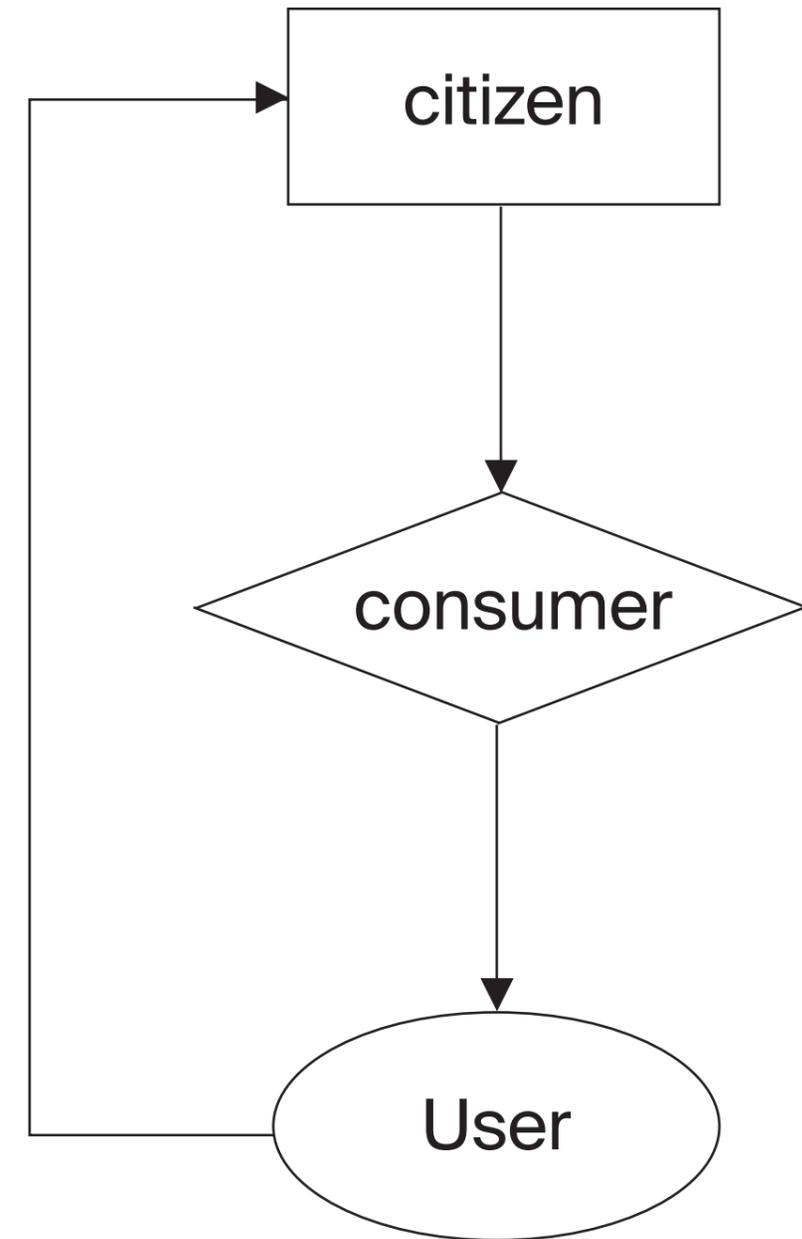
Inhabitants of a city today are addressed as computational Users on a daily basis. In fact, citizens interact with privately-owned digital platforms more often and more intimately than they do with the platforms of the state. The algorithms behind geolocative software have introduced a new model of governance into the urban environment that is omnipresent, ambient, and almost invisible to a naked eye; yet the impact they have on the lives of their users can be tremendous, not any less than the impact state governance has on the life of its citizens. To live in a city today means to be in a state of constant transition between being a citizen and being a User, augmented by networked technologies. But who or what is a *User*?

¹ Bratton, Benjamin H. *The Stack: On Software and Sovereignty.* Cambridge, MA: MIT Press, 2016.

User is not a body. In computation, user is traditionally defined as a person who uses software, but this is less true in today's reality, when bots account for forty-eight million, or 15 percent, of all Twitter accounts. Rather than being a human, User is a profile, an avatar, a body double; a virtual stand-in for somebody on the platform. As formulated by the design theorist Benjamin Bratton¹, being a User is a question of authentication: anyone or anything can become a User, as long as they have a username and a password, be that a piece of software, a bot, an illegal immigrant, or a smart object connected to the network. The same cannot be said for a citizen. In order to be qualified as one, a citizen needs to fit within a strict set of requirements: being human, being born on the soil of a country, having a passport. If I wish to become a citizen of the Netherlands, I need to prove my qualifications and income, and go through complex naturalization procedures, or marry someone who is already a citizen. The obvious benefits of being a User over being a citizen are easy access and the ability to use convenient services regardless of citizen status. But when exactly does a citizen become a User, and what does it gain and lose in the process of this transition? *And if everything is so smooth in the augmented city, why am I still feeling so sad?*

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Citizen is Weak

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A citizen is commonly defined as a person recognized under the law as being a legal member of a sovereign state. When we speak about the political agency of a citizen in democratic society, we specifically refer to the ability to enact human rights – such as the right to assemble, and rights to freedom of expression and movement. While fulfilling its duties, citizen is granted legal protection and provided with public services. Most importantly, citizen has a capacity to participate in democratic decision making.

Today, privately run and centralized platforms substitute public services traditionally attributed to the state, such as mapping (Google Maps), transportation (Uber), housing (Airbnb), and logistics (Amazon). But platforms don't come with constitutions; they thrive in grey spaces within the law, fundamentally challenging human rights without taking accountability for

doing so. When platforms implement new services without citizens' consent, citizens are left in a reactive, passive state, only complaining in the event of malfunctions. And when participation can only take place in the form of *feedback*, the legal position of a citizen shifts towards the position of a mere customer, or a *User*, who negotiates rights with companies rather than within a democratic framework. One can argue that nobody forces a citizen into joining these platforms, but the pressure of the network effect and the overall benefits provided by freely available apps (speed, scale, convenience) will often outweigh ideological considerations. Citizen turns into User the moment it opens a map, Facebook messenger, or a banking app. Citizen turns into User the moment it checks a train schedule with a mobile phone. Today, with a few exceptions, citizen is treated as User by default.

The transformation into User immediately weakens and undermines the position of citizen. Doomed to produce raw data material for a platform, citizen has no meaningful track over the protocols behind its interactions with the pervasive technology. Citizen doesn't own or have access to the data it generates, its legal rights are predefined by terms and conditions, and its choices for exercising its sovereignty are delineated by the design of interfaces. The *autonomy* of a citizen is challenged by often obscure algorithms that seamlessly intervene and nudge, guide and coach, and enable and disable access to places, and performances of certain actions – take, for example, the Uber surge pricing mechanism, or algorithms for charging higher costs for rides between richer neighbourhoods, which amplify existing inequalities and segregation.

New processes of social stratification indirectly affect the life of User, especially if already vulnerable and marginalized. User has no way of knowing when it is actually being governed or discriminated against. But even worse, User has lost an understanding of *participation* outside of consumption loops and optimization cycles. Today, 'active' citizens monitor their consumption patterns, rate irresponsible drivers and unfriendly neighborhoods, review restaurants, and report potholes online. Other actions that cannot be quantified and measured by the existing technological infrastructure simply cease to exist in citizen's imagination. Overall,

the position of today's citizen is stripped of political agency and imaginary, and therefore can be called *weak*.

Urban sociology has provided an extensive critique of how consumerism has affected perceptions of politics and of space, linking the disempowered position of citizen to the logic of consumption. In *The Culture of Late Capitalism*, the sociologist Richard Sennett claims that 'user-friendly' democracy, in which political platforms resemble marketed products, leads to the thoughtless, numb consumption of politics.² The agency of citizen-consumers is limited by a menu of what are presumed to be democratic choices, which they have no ability to override; therefore, they are left with an automated and simplified version of citizenship.

One can easily draw a parallel between Sennett's abstract political menu and the literal menu of the digital interface, but vast amounts of computation in the urban environment happen on remote servers, in the absence of any human-readable interfaces. Our cities are increasingly comprised of many complex automated systems making decisions *for* citizens in real time. So, is the critique of consumerism a sufficient framework within which to think about the conditions of life under platform capitalism? Can the position of the weak citizen be better understood from the angle of cybernetics? Looking at the history and computation and emergence of personal Users might offer an insight into how the subjectivity of User is constructed and modelled, and allow an investigation of the further implications of this transition from rights-bearing citizen to conditions-complying User.

² Sennett, Richard. *The Culture of Late Capitalism*. New Haven, CT: Yale University Press, 2007.

On Data

Justice

AK Your initiative ‘Data Justice Lab’ aims to reconceptualize surveillance in relation to social justice. How did this project come about, and how do you understand the meaning of data justice’?

LD It came from a project that I was involved in, dealing with the Snowden leaks and mass surveillance, and what it means for citizenship and our understanding of citizenship. The point for me was to interview ordinary members of the public, but also political activists, particularly those who were not involved in the digital rights or technology discourse: social activists, environmental activists, labor activists. I wanted to get a sense of how they think, and I found that they don’t really see surveillance

as an issue on their agenda. The way the surveillance debate is framed today is about individual privacy, but it’s actually much more than that. Surveillance is being used to make decisions about people, or to give people an approval or denial to participate in society. It’s about who has decision-making power in our society, and how accountable these societal bodies are. The main idea was to reframe the debate and link it to democracy and social justice in a much broader sense. Hence the word ‘data justice’.

AK With your initiative, you investigate how data scoring systems challenge our understanding of citizenship. How do you define ‘good citizenship’ in the age of ubiquitous datafication?

LD I’ve been working on this subject together with Arne Hintz, who is also co-director of the Data Justice Lab, and is particularly interested in this concept of citizenship. There are classic notions of citizenship that have to do with territory and national identity, but citizenship can also be about the formative aspects: how we act out our citizenship in different ways. Of course, the debate on digital citizenship is very much focused on how digital technology empowers or enables one to be active, to participate, to influence decisions that govern our lives. But that is only one part of the equation. When you act out citizenship through digital technologies, you’re also leave data traces behind you.

We are at an early stage of the project, and we are mapping where and how data scoring happens in governmental and public services. What’s interesting for us is that it’s also changing the meaning of public service and welfare, as this is now becoming dictated; it’s not universally accessible anymore. The decisions about who is going to receive what, and who is eligible for what, are now based on profiling systems. The question is: to what extent should they feed into a historic agenda to minimize the welfare state or to privatize the welfare state? We have to see whether data scoring is perhaps a continuation of these long-standing political agendas.

Another important aspect from a social justice perspective is how to make decisions about citizens based on abstract social relations. Social life is inevitably more complex than can be captured by any data system; the point of any data system is to reduce social complexity. Then citizenship is also reduced to what is quantifiable in those terms. For example, the Chinese social credit score system is often described as ‘gaming citizenship’. Being a good citizen means receiving a high score.

AK Today surveillance has come to resemble supervision, as algorithms measure actions of individuals, predict their future behavior, and control them through nudges and subconscious triggers. What effects can this datafication have on User autonomy? And how do you investigate them?

LD I recently became part of the five-year project, funded by the European research council. One of its goals is to actually capture people's experience of data-driven decision-making. We haven't yet figured out how to do it, and this is the key issue: you don't know how it impacts you. With governmental structures you can to some extent see how processes work. Who you are as an individual is much more difficult to navigate today, because decisions about you are made based on group traits of people like you. That's a very strange relationship between the individual and collective. And it certainly complicates the classic understanding of autonomy being rooted in the individual. How can we reclaim some space there? To what extent can we become aware about the way decisions about us are made based on our digital profiles? And do we then start to act in accordance to that, or form a resistance?

AK On the website of your initiative, you have a running record of harms caused by big data. What is the role of evidence in your work? Can evidence collection become a means for collective resistance?

LD That 'data harm record' was made by my colleague Joanna Redden, and I can't speak for her, but one of the challenges we face with the datafication debate is that it feels very abstract and speculative. We wanted to introduce a human element that is often lost, and extend it beyond just a technical discussion. The key vision of the 'Data

Justice lab' is to try and broaden the stakeholders that are involved in the debate at the moment. The main problem is that the people leading the debate are technologists from digital rights groups, while we need people who have experience with discrimination and labor issues. We need to link datafication to an understanding of our socioeconomic rights.

We have the European social charter, which addresses our socioeconomic rights as citizens, but none of these regulatory frameworks are being applied to the data debates. What does it mean for workers' rights, that we all of a sudden have management structures that are based on data collection and algorithmic decision-making? What does it mean for the protection of refugees, if all of a sudden their mobility is managed through data collection? None of us are lawyers, but we do try and see where policy is lacking, and where do we need to fill the gap. The idea is to bring together engineers working with refugee communities, or refugees themselves, with designers and technologists, and to talk about what kind of data should or should not be collected, and how decisions should be made.

AK How can a technically unequipped User be empowered, or enact their rights for data justice?

LD One of the big questions is how you can install agency in the individual data subject. For example, there is legislation around the idea that you should have the right for explanation. And that you should have the right to know which data have been collected on you. But by yourself, you can probably pursue only to a minimal extent. You could have representative organizations, trying to get an explanation for a Wcommunity of users. There could be unions, making claims on behalf of users. That's where you would have more power than an individual. We might need to think much more collectively, in order for it to make sense.

An interesting example is labor. For example, you have something like platform cooperativism, which is not an individual user's movement, but a collective movement. They are trying to say that we need to take ownership over platforms if we're going to be working for them, and then we decide on their design, engineering, structure and use. The governance structure should belong to the people who work for them.

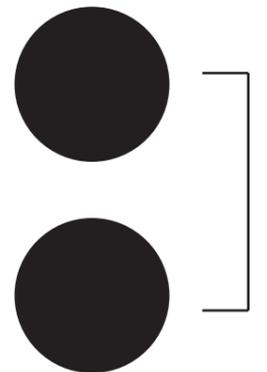
We have a similar thing happening in Barcelona. The local authority in Barcelona is trying to implement a so-called 'technological sovereignty'. They claim that the technological design and infrastructure of Barcelona should be organized as a commons-based economy, that citizens own the data. I think this kind of structural restructuring of systems is

really important, and is probably the most brutal way in which people can have some autonomy, engage with resistance. It is much more effective than any technological solution, like encryption, which is very individualized. And when you talk about individual data ownership, it is also problematic, as it is based on the idea of property, status, hierarchy. It speaks very little to empowering society collectively.

AK You introduced a concept of surveillance realism, which I believe is a reference to Mark Fishers notion of ‘capitalist realism’. Normalization of surveillance limits the possibilities of Users to imagine a different reality, which leads to a perceived inescapability from the system. How can the political imagination of Users be evoked and stirred?

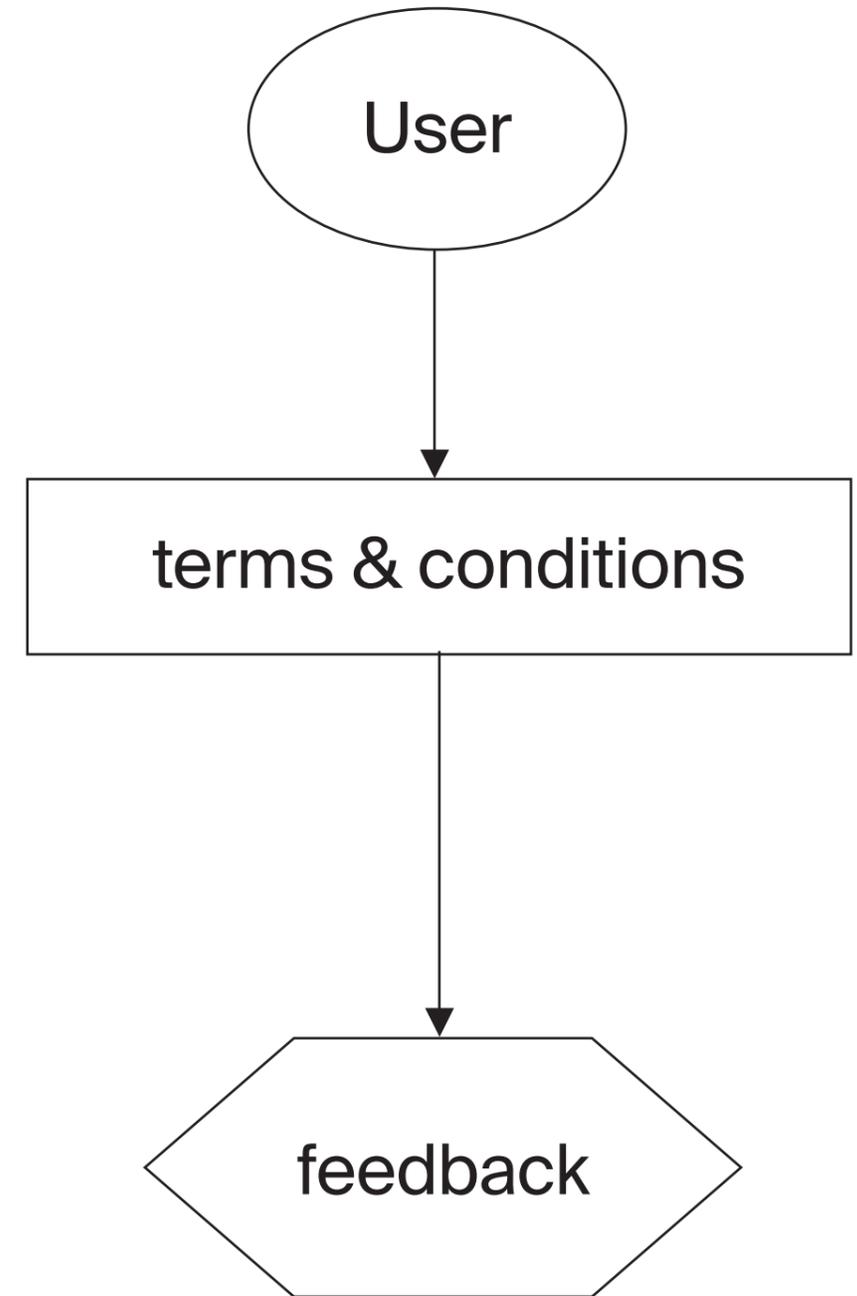
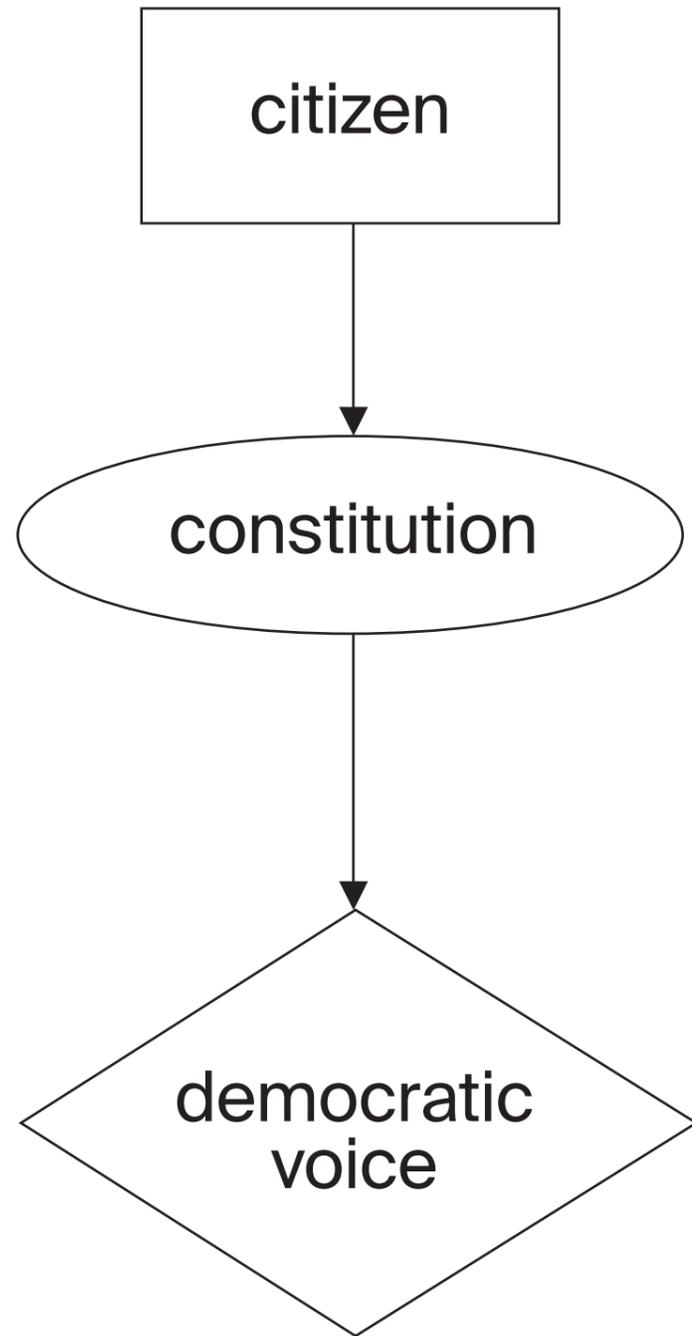
LD What Mark Fisher does very well is outline the problems around capitalism, asking how do you foster alternative imaginations. The reason why I made that argument was to highlight that surveillance is being presented as an inevitable reality: it is something that we simply have to have in order to live in modern society. The point is that it is not a ‘natural order’ but contingent upon political economic interests. You can say that about datafication as well: you simply must have a data-driven economy in order to progress in our society, and there’s no other way in which we can organize technology. But this is a choice that comes from a certain interest and particular agenda, and datafication suits some interests more than others. Arguably it doesn’t suit the most vulnerable and marginalized in our society, it suits the most powerful, the most dominant groups of society. The idea of surveillance realism is that it’s a system, not just a technological development. I don’t want to say ‘consciousness-raising’, because that sounds really Marxist, but what’s happening in Barcelona is a very interesting example. For some reason, the idea to have sovereignty over things appeals to a lot of people. And in some ways it’s effective to say: Why should people in Silicon Valley be allowed to use our data and create systems that impact our lives, when we could do that ourselves?

Another thing is temporality. You need time, if you want this imagination to happen. One of the problems with how technology is progressing at the moment is that it’s trying to eliminate any time to deliberate on what it is that we actually want. Policy is always catching up with technology. The current vision is: technology first, society second. I don’t think we have decided yet what we want technology to do in our society, and the critical voices at the moment mainly focus on eliminating excessive harms. Time becomes a political problem, as it removes that idea that our societies are a result of deliberation and struggle. There is no room to consider why we need a data-driven economy in the first place. There’s no time for that.



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On Blind Spots in Policy

AK Could you talk about your role in the Rathenau Instituut, and the project 'A responsible digital society'? What kind of governmental bodies do you collaborate with, or target with your work?

RE The Rathenau Instituut is an organization that looks at science, technology and innovation and the societal and ethical aspects surrounding it, with the goal of stimulating public and political debate. Our main customer is the Dutch parliament, the First and Second Chambers of parliament. We inform the government about science, technology and innovation, as well as ethical or political issues connected to these subjects. We also regularly do projects for the European Parliament and sometimes for the Council of Europe. I've been working at the Rathenau Insituut for more than twenty years, and I'm a research coordinator. The theme I'm working on is 'Smart Society', which deals with emerging technologies and sustainability projects, including the convergence of nanotechnology, information, bio- and cognitive technologies. I also work at the University of Technology in Eindhoven, at the faculty of Innovation Science. In Eindhoven there's the technology, in The Hague there's the politics, and my main interest lies in between: in the politics of innovation.

AK One of the key ideas I am investigating with my project is that inhabitants of augmented cities today are not treated as citizens, whose rights are protected by the state, but as Users that constitute 'raw data material' and therefore have less political agency. How are the autonomy and agency of Users challenged in increasingly automated environments? And in which domains is this threat most prominent?

RE I would say this topic has been elaborated upon in the field of the food sector. For example, there is a problem with obesity, and there is a question of whose responsibility this problem is, and how it relates to the creation of sustainable, agricultural food chains. And if you look at digitization... Information technology was always treated as a gadget, as something you buy and have fun with. And the point we've been trying to make for more than six years is that it's not a gadget anymore, but a technology that has gotten so close to us that it has become a biotechnology. In 2014, we worked on a publication called 'Intimate Technology: The Battle for Our Body and Behavior'. The interesting thing about connected information technology, such as the smartphone, is that it's very close, intimate, and at the same time it is globalized. If you look at the history, there has been attention for privacy for a long time, but little conscience about other ethical issues. What's the name of the guy who disclosed a lot of surveillance-related documents?

AK Snowden?

RE Snowden. His actions have led to a renewal of privacy conscience. But the argument we're making here is not about privacy, and it's not only about safety or security either. There are many other issues involved,

and autonomy is one of them. We approach it from a technical point of view. We look at the data value chain, which includes measuring people and profiling them, collecting and analyzing the data, and then using the data to intervene in their lives. This is the cybernetic loop. In the 70s and early 80s we have set up the principles of fair information, but what we need now is fair analysis, fair computing, fair intervention and fair persuasion principles. All of that has to do with autonomy.

I think there is a real lack of imagination today, and this is where a designer or an artist should come in. We need more of the Snowden cases, of Cambridge Analytica stories going around, because it shows people that these things are real. Now, because of this whistleblower, the scale of mass psychological experimentation and mass persuasion has become clear. The issue with autonomy will be the main topic of the coming years, but we have been dealing with it since 2006, when we visited the first international conference on persuasive technology. This is technology that can be deliberately used to change the behavior of people. For example, if you watched a film on YouTube some time ago, in the end the video would just stop. Now it plays on and on, by default. You're persuaded to keep on watching, you're stuck in a cybernetic loop.

AK How do you investigate that? Which research methods do you use to understand the effects of algorithms on autonomy?

RE For 'Human Rights in the Robot Age' we reviewed academic and grey literature, and referred to the examples that came up in it. Five years ago we also did a study called 'Pre-Programmed', and that's where we first looked at the business models of Facebook and other platforms, for example, those dealing with health science. We found out that when you were asked to fill out a survey about your illnesses and health issues, this information often ended up being shared with TV broadcast firms, and used to develop the content of TV programs. In several studies we organized some kind of a user panel: we invited informatics students to test different websites, fill out information and see how the interfaces would respond.

As a follow-up to this report we had two meetings with the SER, the Social Economic Council. In the Netherlands it's a platform where employers and employees, labor unions and firms come together to discuss things. We wanted

to check whether these issues were being addressed in practice, and which terrains needed action. For example, if you are a doctor, psychologist or judge, you ought to have a professional code or a code of honor. Do programmers and coders need to develop their own professional code? I personally think this is very important.

AK Does it have to do with consent? When you go to a psychologist, you deliberately agree to take part in an interaction that might influence your behaviour.

RE Yes. In the Netherlands, we call jobs like priest or doctor a 'professie', and they have their own ethical codes; asking patients for their informed consent is part of it. In these cases, patients are in charge. You are in control of your body and your mind. In our report we came up with a proposition for two new human rights. One of them has to do with the data value chain, the right not to be measured, not to be analyzed, and not to be coerced. It started as a report on electronic coaching, or e-coaching, but then we thought: wait a second, we have had human coaching practices for years, and we developed special codes of conduct for that. What often happens with new technology is that it circumvents existing regulations and existing codes to quickly obtain a market share, which creates a conceptual chaos.

AK Some algorithms allow for quite obvious or even transparent nudging — for example, a car making a beep if your belt is not locked. But other systems nudge or direct Users in much more sophisticated ways that will remain undetectable, that take place on a subconscious level. Can nudging ever be ethical?

RE Yes, and there's a term for it. If you have a classic paternalistic system, someone else decides how nudging happens, and that's not ethical. But there are other systems that allow you to decide how you want to be nudged. It's called soft-paternalism. It's more transparent and involves some forms of consent.

AK Could you tell more about the new human right you've introduced, a right not to be tracked? To me it seems that surveillance has become an inevitable aspect of reality. Even in the extreme scenario of not using a smartphone, I will end up being tracked and captured by different sensors when I'm only walking down the street. It seems fairly impossible to opt out. How do you think the right to not be profiled can be exercised in real life? Which laws or legal frameworks could defend it?

RE A few weeks ago the Dutch government responded our report, and it seems they are picking up our suggestions. What we do is identify the blind spots in the government ecosystem. One of the blind spots of ICT policies is that

they're often incident-driven, event-driven. The government has no integral vision, and it's always reactionary. But now the government has agreed to develop an integral plan. They also responded to this novel human right, saying that the new privacy guidelines of the EU, to be implemented on the 25th of May 2018, already strongly align with the right not to be measured, analyzed and coached. That's what they claim... I'm not a lawyer, so I don't know the judicial specifics. It is interesting that they agree with the intent of this novel right, but I'm not sure to what extent it is really addressed in the new law.

AK What was the second human right you put forward?

RE The second human right is about being put in the loop by the actors and designers behind technological systems. We are constantly being advised, coached by the machines, but what is our place in this loop? Is there agency? Is there autonomy? We address the right for human contact, so that you can choose to be cared for by a human instead of a machine. No matter what kind of system it is, it should be a human taking the decision. Take, for example, an artificial intelligence acting as a judge. Or if an AI is advising a doctor, a doctor should have knowledge about the way the advice is being generated, and what it actually means. A human being should always take end responsibility. When a drone operator presses the button of an autonomous killer-robot, does the drone operator really make a conscious, ethical decision? Is he or she enabled by the system to make a conscious decision? We need systems that augment our humanity, not suppress our humanity. We need a scenario of enrichment.

AK What role does personalization play in nudging? Are we being nudged into becoming more similar?



RE It's all about mass personalization. Our persuasion profiles are being personalized; the question is how forceful that is. Let's say as a company you're selling a million shoes, and you manage to increase your sales by 0.001%. This will have a huge effect on the profit. Persuasion doesn't have to work directly, but it should work on a large scale. The same applies to American elections: if Democrats and Conservatives run very close, nudging strategies can work really well. If they can seduce you into looking at a website for just one more minute, on a massive scale the effect can be enormous.

AK Your work targets parliaments, but also the general public. How can Users and policymakers come together in discussing the effects of automation? Can Users take up an active role in this debate?

RE Yes. In our study we use a concept of 'technological citizenship', which has three components. First, can you use the technology to empower and shape your own life? This is the perspective of a user, or a consumer. The second question is: are you aware of the challenges and dangers involved? And do you have the competences to respond to these challenges? For example, are you aware of the safety issues of your computer system? And then there's a third component: assuming the role of citizenship. Citizens should be able to be part of democratic discussion about our technological future.

AK Are there any frameworks or organizations that facilitate the third component?

RE I would say it is about media literacy or 'mediawijsheid', media wisdom. There are currently three discourses around automation, which are very much entangled. Empowerment discourse (how new technology creates possibilities), risk discourse (which threats are involved), and democratic discourse. If you're doing a project in the field of the smart city as a government, what do you need to know on a technical level to make sensible choices on a political level? That brings me back to the role of the whistleblowers. We need more interaction between people working with political issues, and technical engineers who are critical, who have a feeling for social and ethical issues in their practice and are able to translate it into a public debate. One example is Jaron Lanier, who worked for one of the big tech companies in Silicon Valley and then wrote the book 'You Are Not a Gadget'. I think it is very important, this cross-fertilization, working with different disciplines. And you are one of them.

On Weaponized Design

AK You describe your practice as ‘design and product direction for an emerging post-secure world’. How does your background relate to your current work?

CD My background is in design and creative direction, but through working on a series of security-based projects, I became interested in the politics of design, at how complicit it can be. Together with Stephanie and Marek Tuszynski, co-authors of the book ‘Efficiency and Madness’, we run a developing research group in the area of design and politics within Tactical Tech. And while working on the Signal app with Open Whisper Systems in 2014, I started exploring the critical blind spots in design that culminated in the second decade of the 21st century. I am also interested in questions about what it means to have an identity and self-expression on a platform. Is there a difference between identity on a centralized system and identity on a decentralized system? How are these systems governed, and how does that affect the self?

AK In your article, you introduce the term ‘Weaponized Design’ to describe electronic systems that allow harm to Users. How did this term come about? Is it something you formulated for this article, or earlier in your practice?

CD When you weaponize something, you pick up a benign item and use it as an instrument of violence. Weaponizing design is about finding blind spots that allow interfaces and systems to be used against individuals and communities. When you talk about this issue, it’s really easy to throw the design industry under the bus, or discredit it, and there are lots of discourses in the industry that flagellate designers whilst promoting a concept of ethical design. The problem is that ethical design can still be weaponized, as it is not getting to the root of the structural design problems. It doesn’t take into account how user stories depoliticize the lived experience of people.

AK Is it a reference to ‘weaponized architecture’? Sometimes in architectural discourse this term is used to describe phenomena like public furniture that was deliberately designed to prevent homeless people from sleeping on it.

CD It’s interesting that you say that. The politics of architecture is a core influence for understanding and criticizing weaponized design. In architecture, weaponization is very deliberately designed, but not very obvious. You have to look carefully in order to identify it and often contextualize it for others. With weaponized design, it’s almost the opposite. It’s very obvious to the users, but often-times not so much to the people building the system.

AK The examples you give in your article are focused on a human abuser. You talk about violent Users that hack into iCloud photo streams. You blame apathetic design teams that fail to protect Users from other, abusive Users and platform owners. And you talk about design teams that can harm Users on purpose, like the Facebook team doing psychological experiments on timelines between 2012 and 2016. But can design harm users autonomously, without the figure of a human attacker? Who is responsible when algorithms start making discriminating or abusing decisions? Is it always a designer?

CD Yes, because these systems are authored by people. There is a tendency in Silicon Valley to perceive their practice work as ‘apolitical’. Design is political and it is not inherently good. Without a critical examination of a team’s design practice, the way a team designs is separated from the overarching political beliefs of the team. Adding automated systems into a designed system increases this blind spot even further. When an algorithm harms users, people say that’s the system’s fault, but in reality it is still the responsibility of the people who built it. Again, platforms that rely heavily on automation make this problem so much more visible. YouTube’s automatic copyright filters censoring the documentation of atrocities in Syria harms people working to expose these events to the world. YouTube’s recommendation engine has routinely sent harmful, violent and sexually inappropriate videos to children.

AK Is there a framework for algorithmic accountability?

CD The GDPR (General Data Protection Regulation) is an example of a legal framework to start enforcing accountability as well as privacy. But still, in popular discussion, there’s an attempt to evade harmful outcomes by platform operators. In some ways, it mirrors the development of the aeronautics industry and related regulatory boards in the 20th century. Over several decades, accidents and incidents involving airplanes meant that companies needed to be held accountable

by the state, and impartial investigations into complex engineering processes needed to take place. This is now specifically addressed within all areas of the aeronautical industry. Software systems at scale share similar issues and complexities, but we think of them as something different. Look at Facebook: it’s only been about a year since the public has consciously started to look critically at its public responsibilities.

AK In the past, interface developers often collaborated with cognitive psychologists. But today UX design no longer requires a background in sociological or behavioral science, and neither do designers need to be security experts. How does this affect the qualities of the interfaces that we encounter on a daily basis? Does the democratization of the UX profession have harmful effects on Users?

CD The difference between an information security researcher and a designer is that the stakes in information security are more visible and therefore you have a higher level of accountability. The security community has successfully waged a campaign to get communities and companies to invest in better data security and encryption practices. In information security, damage can be measured economically, and you do that by protecting your user database. A compromise in infrastructure can result in

huge scandals. For example, in 2017, Uber announced that they had suffered a data breach, and covered it up by secretly paying the hacker to destroy his or her copy of the stolen data. That scandal resulted in Uber firing the head of information security. Which is not something that would happen in the case of design...

AK A designer wouldn’t be fired?

CD Yes. You see that all the time. Setting aside the current discussion about political manipulation, Facebook is very often criticized for making privileged assumptions about people’s lives, and then inappropriately presenting horrible events or bad interpersonal relationships to them. Facebook’s Year in Review is a good example of this, showing traumatic user-uploaded photos within the context of New Year’s celebrations. It is a serious deal if you trust a platform so completely and then it does that to you. That should be grounds for getting rid of someone on your team, but in fact this doesn’t happen. In design, you get to live in a critically free environment. Everything is a test, an experiment. Your goals are mostly focused on user engagement on a platform, the number of minutes spent, the number of user sign-ups. It’s all about growth through user metrics, and you can get away with anything by saying: ‘It was a mistake, but we’re working on it’. Information user experience and information architecture design

are derived from behavioral psychology, but this discipline is a component of design school. Have you read the book 'Don't make me think'? It talks about how an interface should be extremely obvious for a user, but the only way to do that is to decontextualize your user and rely on them to understand your interface. Doing this responsibly demands a solid background in cognitive sciences. Designing shares similarities with psychological testing. We actually use the same techniques in design, but in a very weird, decontextualized way, thinking about getting 'the ideal user' to buy something, or remain engaged with our platforms.

AK So friction requires more expertise?

CD Absolutely, and it also requires a lot more reexamination of your users from the perspective of demographics, cognitive abilities, historical and cultural context.

AK Do labor conditions and the politics of the UX design profession affect the interfaces? For example, do investors pressure designers into making interfaces more addictive?

AK The ultimate goal of UX design is to make interfaces frictionless and obvious. Users should never think, or question the interface. Do you believe interfaces should in fact facilitate certain frictions? Do we need to see some of the seams, or hidden relations?

CD One of the reasons I'm interested in this topic, is that the politics of Silicon Valley and its design principles, originating from the 1970s, are beginning to take over other principles of design. In the 20th century, the colonization of design meant that Western designers went to other societies and appropriated them into their practice. As digital products became lucrative, designers moved to this new design field. This design work is increasingly ubiquitous, and now influences other fields. Silicon Valley is a very prestigious, lucrative and ubiquitous corner of the world, and today has influence on the politics of objects in a way that was unimaginable 20 years ago. The absurdity of Internet of Things product design is a very visible symptom of this. Techniques for tracking users behind the screens, such as AB testing or attention tracking, are now put into physical things like light bulbs.

CD The issue is subtle. I think there are alternative ways of working with technology, and the problem we have with the current vision of the internet is that it's a main form of mass interpersonal communication, expression and interaction, and it is entirely for-profit. It's 2018, but it's still impossible to program a computer yourself unless you go through very serious training. You will never learn to talk to your computer directly, but you will be able to manipulate the touchscreen into sending food to your house. That's a really weird concept. We are spending all this time on goals that essentially facilitate transactions, and no time at adding more obviousness to the underlining functions of the computers.

politics, when anyone can do anything they want through a computer? It's hard to criticize 'Don't Make Me Think' and suggest that computers should require more cognitive thought to operate. That sounds elitist, because it suggests that not everybody should have an equal opportunity to engage with an interface. But at the same time, I do believe a part of that is questioning what you are looking at or what you are using, and with a frictionless system you stop paying attention to that. It's actually way easier to create a frictionless system that a lot of people can use, than it is to create a system that has all the complexity and friction but is still accessible. Different people will experience that friction in different ways, in the context of their own lives and cultural experiences.

It is quite problematic, because the power of the computer has been dramatically paternalized today, whereas the initial promise of computing was far more democratic. What would that mean for

AK In your article, you mention that platforms are mostly designed for the ideal User: the happy, optimistic User who never gets depressed, to whom nothing bad ever happens, who is politically naive. How can interface design account for the User who doesn't fit into these metrics? Design for the non-standard User?

CD We are now talking about some of the big structural design problems, and my answer can only scratch the surface of what we could do. But the main point I want to make is team diversity. A lot of design is informed by a core culture within Silicon Valley, designers who are localized within the Bay area, and the most influential work happens in very small clusters like Seattle, New York, San Francisco, Melbourne, London. These teams are usually male-dominated, well-paid, most of the people are upper middle class and graduated from the same design schools. There is usually a lot of homogeneity in design teams. The question then is how to diversify. It's a difficult question to answer because it requires more consideration than better gender or race representation. Another way to start addressing weaponized design is to employ threat modeling in design, researching case studies of people in vulnerable situations and responding to those. Typically,

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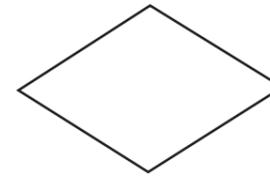
designers have used user stories to define their work, and these generalize a user's individual lived experience. We need a lot more time to develop methodologies and practices for examining infrastructures. I think there's a lot to learn from industries with longer, slower feedback loops, such as aviation. You have complex systems of interaction that over time lead to the development of new conceptual frameworks for examining failures. It's still very flawed, but it's the level of thinking we need within the design industry. A lot of it comes down to designing for politics, and designing for interaction between users, instead of focusing on individual user tasks. We need a model that actually looks at the interaction between people.

AK What would this model look like?

CD I can give you an example of a problem that hasn't been solved: the politics of blocking on Twitter. It is based on a user story that goes like this: 'I want to block another user on this service'. But when you block someone on Twitter, this can mean a variety of things. You can block commercial spam, or someone who is annoying you, but it can also be someone who is threatening you. It helps you not to see that person, and it also helps them to not see you. You become invisible... but not quite. The other party can still see that your account is active, and since they cannot see your tweets, they will easily know they've been blocked. And that's deeply problematic. It gives the blocked user a response trigger.

There are countless stories of how blocking on Twitter has led to terrible outcomes. It's a great microcosm of design problems, and all solutions so far have been terrible. How do you change Twitter's designed infrastructure and interface to address these issues? It is actually so difficult to change now, because this issue is so entrenched on a massive scale. The problem is much harder now because there is complexity that perhaps wouldn't have existed if the problem had been addressed from the start.

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AK As a way of going beyond the ideal User, you propose a practice of participatory design. Could you explain more about this method? How to design for a collective User, and for trustful interactions between Users?

CD If you want to see the difference between regular design and participatory design, look at the massive multiplayer online games, and how they are designed. For example, World of Warcraft, a fantasy game, or Eve Online, a space simulation game. Both have millions of players. The problem is that you can't apply user stories there: you cannot think about one player and their tasks when you are designing a worldwide simulation. It doesn't work. In user stories, we decontextualize users and ignore the fact that interaction between users is the most important thing. But in these games, politics, context and narrative are key. I think this is true beyond games, it is true for social networks and payment systems or any computer system. These processes should have the same levels of interpersonal context that you would have in a game.

For example, in online gaming, there is the issue of trolling. Let's say you are walking around in a safe space, doing something normal in an area that would be not threatening, and then another player comes and kills you. On the one hand you want a series of interactions in the game that have some level of danger, but on the other you don't want to constantly lose. So how do you design both for people who play in a 'fighting style' and for those just want to explore? These issues have been studied by game designers for a really long time, yet they aren't really addressed outside of that world.

AK Does the participatory method include Users in the design process?

CD It's about focusing less on aesthetics and cultivating trust, and more on ways to start building a trustworthy system. It emphasizes research on specific communities and people within their own contexts, rather than doing it one-on-one in an isolated room, in a focus group setting. It is more difficult and you need to invest more time. Ultimately you need to be testing against the real life experience. Let's say you are designing a new clothing app. You need to look at the potential user basis, but also consider how your design could potentially be weaponized. What if there is abuse between two users? Is there a way your app can expose information to someone else without an individual's explicit consent? What if your app is used in ways you don't expect? What if your platform is sexualized

by your userbase? You have to look far beyond your ideal target base. Platforms such as Airbnb are now used to launder money, iTunes gift cards are used to launder stolen Bitcoins, which was not intended by their design. Part of this appeal is the ease of their interfaces.

AK How can designers anticipate harmful scenarios?

CD Ideally it's a collaborative process. Move away from user stories, involve your communities, and collaborate with security researchers. On that point, I believe that a security researcher does the same job as a designer, although it comes from the opposite perspective. Security researchers create systems to keep people out. Designers create systems to keep people in. Those two roles are often seen as opposing each other, because on the surface they seem to prevent each other from doing their jobs. They actually should be working as a team. Threat modeling is a great example of this. You think about persons who you're protecting yourself against, of ways in which they might attack you. You're looking at your own weaknesses and the value that you can lose. Designing with a user story is a complete opposite of that. You're designing for people you know, with a clear goal in mind.

AK How do design and security research come together in your personal work?

CD It's highly contextual. Ultimately, design is about keeping people in the system, and security is about keeping people out of the system. When I was working as a creative director for SpiderOak, we were designing cryptographic tools for people who need to avoid being followed by the state. But instead of focusing solely on the state, I proposed to look at different threats, for example, domestic violence between partners. What if one person wants to escape, but their partner knows everything about them, just as much as the state knows? How does this person keep a strong password without writing it down, so that their partner would not find it? Although the projects we were designing weren't intended to be used by people in this way, we started to design for these kinds of contexts and the results carried over to our other intended audiences. We designed passwordless systems and enforced faster decryption performance from our cryptographers. This is a way in which a very clumsy system can end up being a system that increases user security.

Cities are Cybernetic Feedback Loops

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³ Wiener, Norbert. *Cybernetics: Or Control and Communication in the Animal and the Machine*. Cambridge, MA: MIT Press, 1961.

In the broadest sense, cybernetics is a science concerned with automatic control systems – systems for managing complexity and unpredictability, and for dealing with questions of behaviour, environment, and interaction between autonomous agents.³ Today, our cities start to resemble cybernetic feedback loops between inhabitants and their habitat: while we consume space through technology, the space consumes and produces us.

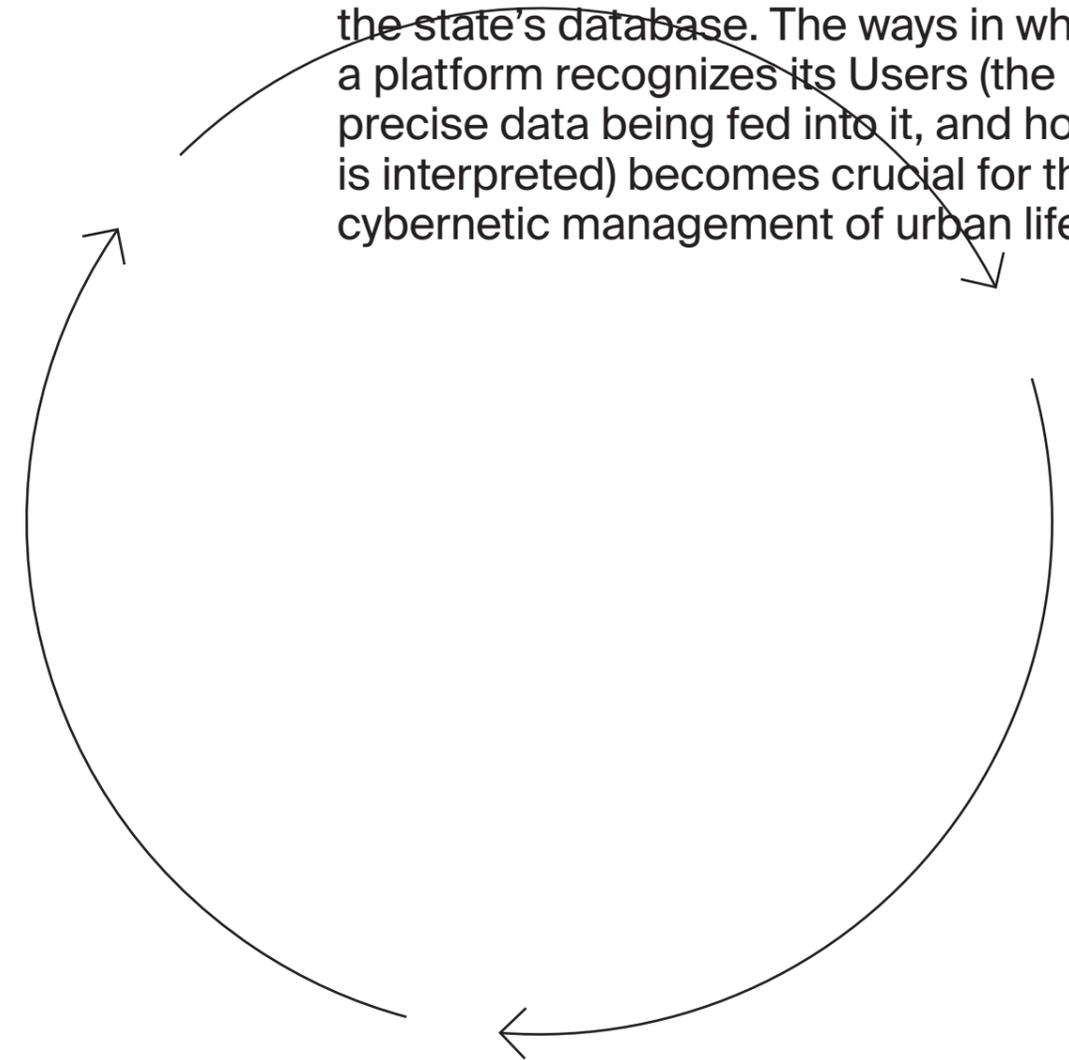
Measuring, profiling, intervening – these are the stages of economic surveillance, implemented in urban space. On one hand, Users themselves become sensors, leaving digital footprints, generating value for the platform; on the other, their behaviour is being tracked and then shaped, recalibrated in response to different affective stimuli coming from their devices: alerts, notifications, rewards. This happens on a pre-reflexive, subconscious level.

As Shoshana Zuboff puts it, surveillance capitalism taps into the real-time flow of our lives, modifying our behaviour for somebody else's profit.⁴ If a restaurant decides to become my destination, it may suddenly start appearing on my Google map, altering a route proposed to me in the morning. If Instagram wants me to open the app more often, it will start withholding the likes I receive, exploiting my feeling of anxiety and forcing me into double-checking whether something has gone wrong with my latest post.

An ambient mix of marketing and surveillance moulds Users and their daily actions in the name efficiency, maximizing the capture of User's attention. Targeted advertising, tailored personally for User, can influence its likes, shopping habits or political inclinations, and these slight changes in behaviour will produce even more precise information about the target. These self-reinforcing positive feedback loops generate the notorious filter bubble that encloses User in the frame of its own preferences. The Facebook timeline and Amazon's buying suggestions are striking examples of such feedback loops.

4 Zuboff, Shoshana. "The Secrets of Surveillance Capitalism." Frankfurter Allgemeine, March 5, 2016. <http://www.faz.net/aktuell/feuilleton/debatten/thWe-digital-debate/shoshana-zuboff-secrets-of-surveillance-capitalism-14103616.html>

In a city, the same digital infrastructures are largely deployed for purposes of security and risk prevention. Governments partner with platforms in order to monitor suspicious Users, detect deviant patterns in their clicking behaviour, run simulations, identify potential threats, and adjust predicted outcomes. In striving to prevent negative events, states also approach their own citizens from the perspective of cybernetics – meaning the kind of User you are on a platform becomes equally important to how you are represented in the state's database. The ways in which a platform recognizes its Users (the precise data being fed into it, and how it is interpreted) becomes crucial for the cybernetic management of urban life.



On Reverberations of Feedback

Loops

AK Could you tell a little bit about your background? What is the relation between your interest in platform economy and your architectural work?

NB I'm an architect, design strategist and researcher currently based in Moscow, where I'm the design tutor of The New Normal program at the Strelka Institute for Media Architecture and Design. In broad terms I'm currently working on various projects centered on 'platform urbanism' and the spatial causes and effects of data and cognitive extraction at city scale. Since 2016 I'm also one of the co-authors of GoogleUrbanism, an ongoing media project and speculative proposal focused on the spatial component of platform capitalism and the attention economy.

AK Today's citizens are increasingly treated as consumers of politics. Do you think the User is an extension of a consumer, or are they different?

NB The user is 'made'; by definition, this is a position created in relation to something. With this in mind I like the idea of the 'user as designer'. Your actions, whether you want them to or not, make something happen in relation to something else. By being tracked, monitored, or just by 'being', you have agency or are given agency because you are doing something. To give a blunt example, if you pay with your credit card inside a store, you may be revealing your purchase history and personal predispositions to a credit agency, which in aggregate may lead to the re-organization of the store layout to incentivize further purchases. In that sense, you could claim that by being a consumer you are also the ambient 'co-designer' of the store interior. Even though you're consuming experience, your activity is also producing something, and by doing one thing instead of something else, you have operationalized something. Which is different from the position of a consumer.

Within the context of politics, I think there are many current narratives that make apparent the rise of a new type of authoritarianism. If you look at millennials in the United States, for example, there is a growing number on both sides of the political spectrum who are disillusioned with what we still refer to as neoliberal democracy, bringing about new sets of responses and expectations. One version of the politics of the user is a position where, as users internalize the fact that they are being monitored and their passive actions carry agency, there is an expectation that 'the system' should know by default what you want or 'what's best' instead of users making conscious decisions. As opposed to actively making a choice, you know that you're being recorded, and therefore by passively 'being yourself' you're somehow showing your values, which should lead to political action. Moving past citizens as consumers, this version of citizens as users is problematic, and I think we should advocate against it. Even beyond the NSA or Google, decentralized 'trustless' platforms have similar tendencies.

AK What is the key difference between User and Citizen in contractual terms? There is a presumably democratic social contract between a citizen and the state in the form of a constitution, but it is very different for the platform. Are you less empowered as a User?

NB From the very origin of the term, citizenship always implies some sort of dynamics of exclusion. In the original polis (city), citizens were only a small minority while the rest were slaves. ‘User’, on the other hand, is an open concept: everything that can be registered, recognized or addressed by a platform is a user of that platform. In that sense you could think of it as much more ‘democratic’ as it includes groups, composites and objects, although again I think the term itself needs updating. The categorical logic of addressability, or the politics of terms and agreements are definitely different from the social contract of a constitution, and so are its dynamics of partial or temporary exclusion. As an architect I have a limited perspective on this, and I would be careful in making claims about whether the user is more or less empowered, politically speaking. But what is clear is that the politics of platforms are raising new sets of questions and concerns around citizenship that we are only now starting to think about, and that we’ll continue to grapple with as design questions for probably decades to come.

The difference is that with the state, in principle everyone who’s part of it is theoretically under its gaze, authority, protection and so on. The terms of belonging, borders and exclusivity are fairly straightforward in most cases: you’re either inside or outside of the state. With platforms, what is interesting is that you could simultaneously be seen by some, but not others, at various points in time and according to different contexts, to the point where exclusivity itself is fluid, dynamic and contextual in relation to many other factors. There’s no border or boundary that you’re crossing, but rather ‘access’ or ‘registry’ that you are given; the line serves as an enabled/disabled link between nodes, rather than as an inside/outside division. Since in theory anything can be addressed, the exclusion of a user from a platform is different from the exclusion of a citizen from the state. And platforms are responsible for various conscious or accidental conditions of exclusivity. This is a broader topic much more eloquently addressed by Benjamin Bratton in ‘The Stack’, but with platforms we are witnessing not the dissolution but rather the multiplication of borders, each with their own terms of partial or total exclusivity.

AK In your upcoming project ‘Platform(n)ation’, you’re touching upon the current hegemony of ‘optimization’ and efficiency at the heart of the rhetoric that surrounds the smart city. Metaphors such as ‘the city as a computer’ can reduce our understanding of the city to a limited set of operations, measurements. Do you think there could be a better metaphor for a city?

NB Yes, I think that quote comes from a piece by Shannon Mattern where she also acknowledges that the metaphor is misleading. It’s obviously a cliché, yet so many conversations about smart cities are focused on optimizing and improving such and such. But optimizing for what? I don’t think anyone who works with cities would claim that you can solve the city, or think about it in such terms. And even if we are to focus on the specifics of traffic flows or communication systems or pipes rather than ‘the city’, I’m still personally wary of thinking about it in this boastful and deterministic way. Optimization always happens at the expense of something else, with the premise that everything itself remains unchanged.

In terms of metaphors for the city, I definitely don’t think the ‘city as computer’ or ‘city as platform’ are good or productive metaphors. Conceptually, I like to think of the city as the first five meters below the ground, plus everything that takes place above it. You can say that ultimately, it’s organized service infrastructure that allows the city to function: everything above is enabled by these few subterranean meters where all the piping and wiring happens. There is also, of course, a layer of legal and social infrastructure, but I don’t think you can confidently claim to be able to optimize what’s above this underground layer. A colleague here at Strelka recently made the argument that, rather than always reverting to the image of the ‘Smart City’, we should be thinking of ‘Thoughtful Infrastructure’, perhaps a more useful and actionable analogy. Rather than optimizing for x, we should focus on making our infrastructure more agile and adaptable — both technically and socially. You can’t ‘fix’ a city, but you can make sure that its supporting infrastructure can evolve and respond to expected and unexpected change at the necessary pace.

AK Today’s cities are increasingly governed by the logic of preemption, pre-calculation, crisis management. Is there a metaphor for that?

NB This is really a key design question to which I don’t think we have satisfactory answers or metaphors for yet. One entry point perhaps is hinged on the conversation about Google’s/Alphabet’s foray in urban planning with the Quayside Toronto project. Beyond both the predictable and somewhat banal cheerleading or resistance to the project, something that really interests me is the ‘Replica’ tool that Sidewalks is building simultaneously to the actual development. Along with the real borough, they have a simulation model of the borough, and as they are building this neighborhood, they are also building a computer model to track

how circulation flows of cars and people might work, anticipating and alleviating congestion, accidents, unexpected events... I don't think they are thinking about it in these terms, but you can see the projection of the city in the form of Google Maps not as a static representation, but as a cinematic model: a repository archive of the past, an operational diagram of the present and a potential simulation platform for the future. This understanding of site and mapping is actually quite radical, and something we anticipated in GoogleUrbanism in 2016.

In the case of Replica and Quayside, Google is of course adamant about the anonymized nature of their model and the fact that they are absolutely not going to monetize their investment through advertising,

but rather by building and eventually licensing better tools. But whether through advertising or other means, I think the value of such a system lies in its predictive capability. So the 'city as a model', a simulation replica to preserve stability and order in the face of chaos and changing social, economic, environmental conditions, to my mind is a useful metaphor (of course, along with all the problematics that come with such a managerial vision of the city). The fact that it brings to light problematics that we can recognize is what makes it particularly useful. As every platform is developing its own totalizing model of the world, which includes some things and excludes others, we can address the idea of competing exclusivities and overlapping realities at the scale of the city.

AK With 'GoogleUrbanism', you proposed to introduce a new feedback loop between public spaces, Users and revenue. The idea you put forward is to link value, generated by the online activity of Users, back to public spaces, where Users are physically located. Today, cities are comprised of different real-time feedback loops: for example, Google's Popular Times feature or the Uber surge pricing algorithm. But these loops often fail: for example, many Uber customers actually move away from zones that have a surge in price, which leads to a drop in demand, and drivers don't even bother driving into surge zones anymore. A different kind of feedbackloop emerges in such cases.

NB Yes, I've heard about this phenomenon. Another example is Google Maps and other mapping platforms that may essentially be making traffic worse: everyone starts using the most efficient routes at the same time, which makes them more crowded. So, paradoxically,

the circulation of cities gets worse when we're trying to optimize it? Perhaps what we're going to see is a personalization of these feedback loops that we were referring to earlier. Google Maps would propose individual routes to individual drivers — an uncomfortable proposition, obviously, that raises a lot of new questions. Some people are also afraid of these logics being applied in other ways, for example in a form of surge pricing and personalized costs for different consumers. If the supermarket knows that you are willing to pay more, bananas might cost more for you. The highest price you're willing to pay for bananas is what you, yes you, will pay for bananas. And perhaps that would somehow change your relationship to bananas? This is a tongue-and-cheek example, but I think it hints at the dynamic and open-ended emergence of feedback loops upon feedback loops, which I think is quite interesting.

AK How do you see the position of the architect in relation to feedback loops? In your Data-Nation article, you address the role of the architect as a designer of relationships between things, and this could be an example of such thinking. Could feedback loops be deliberately designed to introduce an alternative logic?

NB I think the reason why feedback loops at least appear to work, is that they must be simplified in order to follow the logic of the market. GoogleUrbanism is still a market-driven feedback loop. Generating advertisement to consume attention is still a market-driven exchange, and we tried to engage with this. What could be the externalities of this loop?

When designers create new feedback loops, I think we become naive: by trying to introduce and force alternative market logics, the loops become less loopy, more contrived and ineffective. It's not to say that designers shouldn't try to intervene, of course they should. But as with more traditional understandings of 'site', we shouldn't think of loops as a tabula rasa. It's sometimes more interesting and fruitful to use existing loops, because they work and can be critically examined. What are the potential side effects of these feedback loops? In the case of GoogleUrbanism, if people are already looking at their phones in the metro, what is an externality of that process? We can think of the metro system as a different kind of territory for design, which can be funded and maintained through a realignment with the feedback loop of monetized attention, as opposed to designing a new economic model from scratch. I'm not a purist about this: currently, acting upon the reverberations of existing feedback loops is more interesting to me.



AK Can space itself be a User?

NB The notion of space as a user goes back to the idea of the user as a composite, a bracket condition. It is defined in relation to its addressability by a platform or system. It's just a different way of saying that everything happening at a certain point in time in space is grouped together under the umbrella of the 'space'. I think this is a useful shift away from the anthropomorphic bias of 'user-centered design', as the city involves not only people, but also systemic processes that are difficult to engage with at the arbitrary scale of the individual. It also allows for the inclusion of other forms of value in the form of data and unaccounted revenue from non-human actors, such as driverless cars, mobile billboards or I.o.T. devices that exist in space. Aggregating and spatializing 'the user' may be a way of addressing the ongoing thorny issue of data privacy and anonymity, as well as returning some of the unclaimed value that is generated by private tech companies.

AK So space becomes a wallet? Could a different logic be introduced here as well?

NB Well, one reason we focused on Google is that it operates the most used and comprehensive mapping platform, Google Maps. But if it weren't Google, if it were an alternative system, that system would also stem from both a spatially and temporally contextual map of the city. That's what Google is good at: they know what to show when and where. The spatial element is implicit, and the temporal element is at the forefront: I think this is an important shift in thinking about space and site, as a moment in time.

I also think that as architects, we're used to working with a map or a plan. But the definitions of both are changing. We no longer should be thinking of buildings as objects in space and then be done with it; there's a possibility (and perhaps a responsibility) to follow buildings in time, know who is using them and how, keep track of their waste, be accountable for their repairs and externalities over time. The added temporal dimension shifts us from spatial design to contextual design in very pragmatic terms. So space as a wallet is another way of thinking of space as a context: one that is active, temporal, dynamic, and responsible/entitled to its own value.

AK When we talk about strategies from an architectural perspective, there seem to be three stakeholders in this process: architect, state and Google. How do you see the role of Users in this equation? Can Users enter this conversation or negotiation, or are they destined to wait for solutions proposed by architects and designers?

NB As said before, I see the users as designers or co-designers through participation. If you design a protocol that no one uses, at the end of the day you didn't do much. So the users are stakeholders both through their activity and their feedback. If specific users launch initiatives, take part in the process and so forth, I absolutely see them as designers, even though they might not be traditionally trained in this way. But again, and especially because this isn't the popular or prevalent position at most design conferences, I think it's incredibly important to maintain a balanced and unromanticized view of bottom-up initiatives. There are many examples of users and citizens assembling and creating great things, but we should be aware that this process is one of hard work and far from being an automatic and smooth default condition. Fundamentally, I think the empowering quality of these platforms is that they allow the user to fuck shit up, and I mean this both in the good and bad way. Toppling down regimes and disrupting the status quo in decentralized ways is only half of the equation. The creative power of network effects is perhaps enacted in different ways.

How can users be empowered? If these protocols had a layer that was flexible enough to accommodate change quickly and take in different viewpoints, that would be the best-case scenario. Then again, if we are talking about integrating every possibility and perspective at the level of the protocol, it becomes too generic to be binding and useful. I don't have a solution for this: I guess it's a case-by-case consideration.

AK How can Users become self-aware and realize their positions outside of the citizen/state paradigm? In 'GoogleUrbanism', you deliberately use mainstream advertising language that could be easily criticized. But it also communicates to a much wider audience.

NB In the context of our projects, we use vague and accessible communication strategies as a challenge and design parameter. It's hard to simplify ideas and there's a certain pressure to making them 'pure', because we always want to appeal to our peers, to use that specific jargon and language, to have internal consistency and so on. But there's a certain power in half-formed ideas. They are the ones that stir the political imagination and catch on

more potently than fully developed ideas, which are difficult to access. And your own idea will (or should) change over time, so it's more interesting to have one that's not fully consistent, but rather malleable and shareable, so that people can add to it in dialogue.

The beauty and also the danger of half-formed ideas is that even if they're not fully functional or true, they still work. If people believe that they are true, or make them true in their own ways. If citizens/users are to be empowered, they need access to ideas that are not fully formed, with enough internal contradiction to be stretched and accommodated by different users. For example, with our project we wanted to hammer down the idea that you're in the physical world before you're in a virtual world, and that platforms that use and leverage space should give something back. It's not a very scientific argument. People argued, disagreed and understood it in different ways. But it allowed users to acknowledge their position in this process in a different way, beyond the traditional frames of reference. We tried to create a correlation between users, platforms and space that invites a re-imagination (or at least a re-questioning) of the citizen/state paradigm.

AK So design projects should go beyond utopian or dystopian thinking?

NB I think working with projects that are ambiguous enough to accommodate both dystopian and utopian notions is not only more interesting, but also much more useful from a design perspective. In the real world you cannot impose righteous utopian principles, and that imposition itself is a very dystopian prospect. What I personally find most frustrating about some critical and artistic communities is the obsession with being 'in the right'. When that becomes the end goal, we are forced into the vicious cycle of critique upon critique, which is an antagonistic and ultimately demonstrative mode of practice that sometimes needs an audience more than the other way around. The same goes for the intended proliferation of dystopian scenarios as warning mechanisms: what is meant as food for thought ends up becoming a shared image of the future that we go about re-enacting. This is why

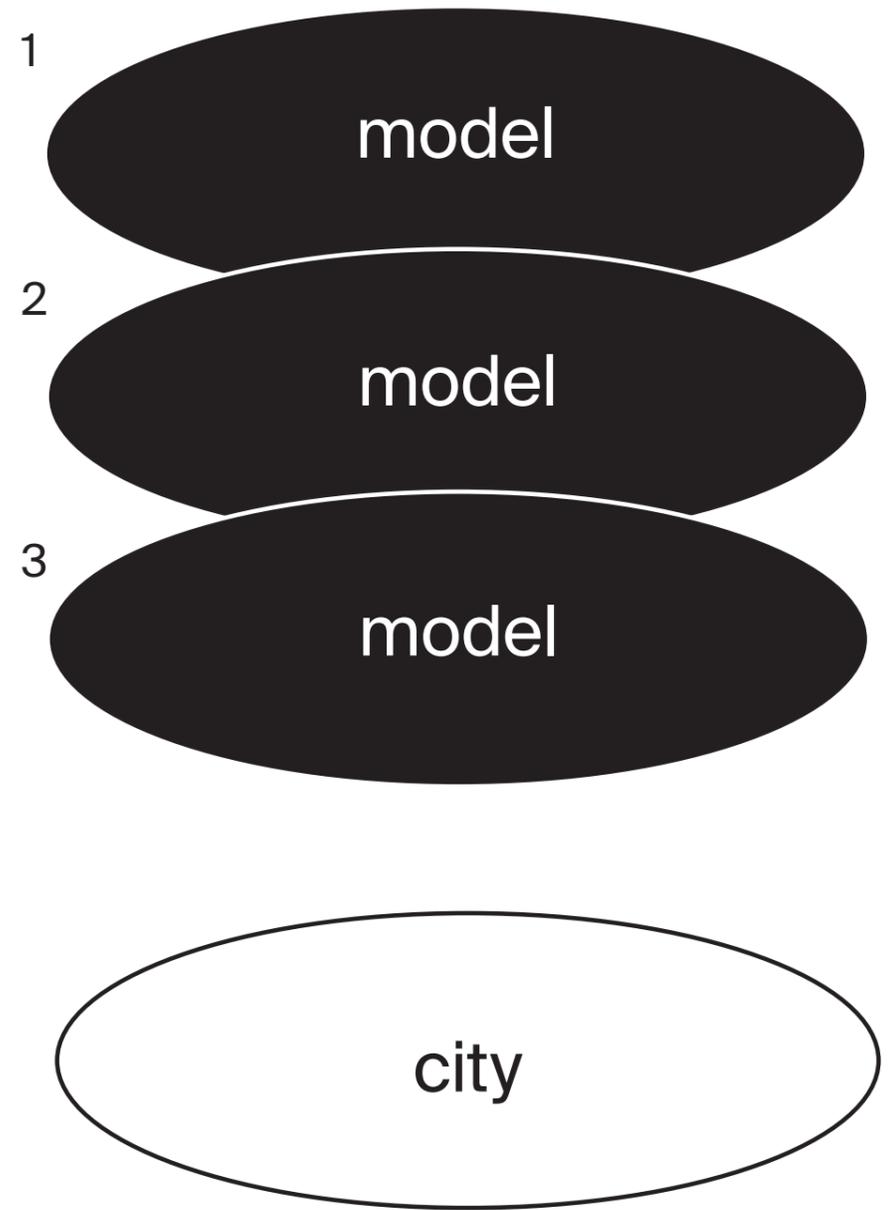
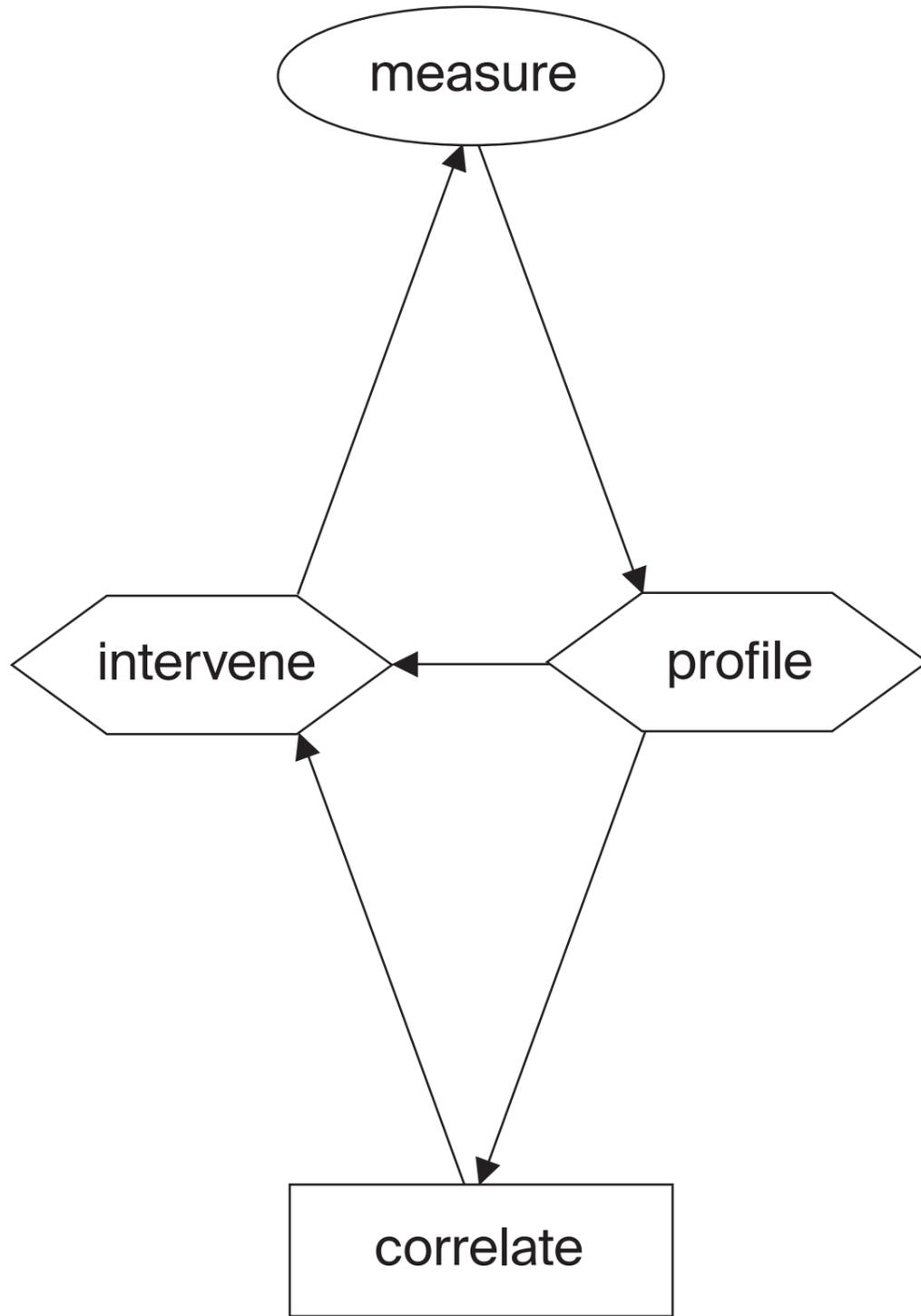
I would say that a fiction is not necessarily a design project. A design project is not about narrating future fiction A or future fiction B. Both futures are contingent, and both futures are implicit in every design project. In my view, and also in our work at the Strelka Institute, the more you look at a project and the less certain you are about whether it's a utopian or dystopian proposition, a great or truly terrible idea, the more powerful the project is.

AK Fiction is not a design project. This is an interesting thought, especially in the context of art institutions like the Sandberg Instituut, where definitions of design are pretty blurry or liquefied.

NB I mean that fiction is perhaps more of a tool than a design outcome in itself, an ingredient in the mix. Arguments and 'common sense' are always products of fiction, and even facts are always 'faction'. What I mean is that as a designer, I'm not sure my role is limited to creating fictions about the world, either as warning signs or as advice. It's a methodology used in order to allow and anticipate different ways of getting into a project. I think I also may be sensitive to the fact that many design departments seem happy to be transitioning into art and activism departments, creating a vacuum at a critical time when actual design (not 'design thinking') is very important. Advice and warning signs are also important, but advice and warning for whom? Presumably for designers, and that's us.

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I work as a designer and software developer. In parallel to all that, I've always loved simulation video games, like The Sims, Civilization or SimCity. Projects like 'Humans of Simulated New York' came out on the intersection of those two interests. Designing a simulation is somewhere on the spectrum of game and rigorous computational model, and the process of designing the simulations requires you to ask a lot of questions. It requires you to learn a lot about lower level human behaviors, how those interact, and how those interactions form emergent systems. I'm drawn to such projects because they have a huge breadth of space to play in, and you can bring in a lot of different fields and disparate ideas.

AK Your project 'White Collar Crime Risk Zones' applies the logic of predictive policing to something that would not usually be targeted by it: financial crime. Can simulation be a method for revealing existing social inequalities?

On Simulating

FT There are two things that we were trying to communicate with 'White Collar Crime Risk Zones'. One is that there are many decisions that define how these technologies are applied. The predictive policing algorithms are only ever used for street crime. And even though it would be just as easy to implement something similar for detecting financial fraud, you don't see such things, at least not in policing. The other side of that is that if you're thinking about predictive policing as a feedback loop, there's a certain inflexibility to that approach. It's meant to rationalize existing racist or discriminatory policing practices by offloading the accountability and responsibility to an algorithm, but ultimately it's making the same policing decisions that it made in the past. Because data that it's trained on has the same patterns calcified in them.

Alternatives

Depending on the fidelity or resolution of the simulation you're making, you end up having to encode a lot of assumptions into the simulation. Assumptions about how people behave, how people respond to certain contexts or situations. By definition, a model can never fully map onto whatever it's modeling. You're going to leave things out: whether for practical concerns, whether for the limits of computational powers, or for methodological reasons. I think the flipside of that is a machine learning process: it allows you to get an answer without necessarily having to understand how that answer came to be, or to understand the dynamics of the system represented by the data. But when you're building a simulation you have to reckon with this, you have to look at the data or the system in more detail, because you need to understand it thoroughly to be able to replicate the individual interactions that compose it. Simulation has an advantage over machine learning in the process of designing and developing: you have to ask a lot of questions; you have to work through a lot of complex issues. And as a designer you have to engage with a lot of people from different disciplines, different communities.

AK Could you say a few words about your background, and your interest in agent-based modeling and social simulations? How did the project 'Humans of Simulated New York' come about?

FT My training is originally in cognitive neuroscience. So I'm very interested in human behavior, how that dovetails with other fields, and how ideas from behavioral economics and higher-level cognitive science can be applied to design.

AK In both ‘Humans of Simulated New York’ and ‘White Collar Crime Risk Zones’ you feed real statistics into the simulation. Do you think it helps to achieve a more realistic or unbiased result?

FT The reason we used real data for ‘White Collar Crime Risk Zones’ was to make a point that a lot of issues are contingent on which data you’re using, and what you’re using it for. For ‘Humans of Simulated New York’ Fei Liu and I used data partially out of convenience. We wanted to generate a simulated population, and we wanted that simulated population to reflect the actual characteristics of New Yorkers historically. The census data gave us a way to do that really easily. Working with data is generally difficult because there are lots of errors in record-keeping; there is always missing data. A lot of decisions go into figuring out how you take something like the population of a city and render it into a spreadsheet. By relying on data we inherit all those same issues, whether or not we’re fully conscious of it.

The other point is that any overreliance on data becomes a manifestation of repeating history, because you are literally taking historical records and then making decisions on the assumption that the world is still structured in the same way. That is a methodological concern. You trap yourself in this one snapshot of time, and you use that same snapshot of time to make all your decisions in the future.

AK In your writing, you mention a rising culture of critical simulations that can be compared to practices of ‘counter-mapping’ or ‘radical cartography’. Could you give an example of that?

FT I think the closest example of an existing practice is the idea of procedural rhetoric, which is a term coined by Ian Bogost. It is about deliberately using games to persuade people. A radical simulation or a counter simulation is closely related to that, as it uses the medium to make a point really viscerally. Usually simulation models are rendering concrete a particular understanding of how the world works. The counterpoint to that is putting forward a different perspective on how the world operates, or a proposal on how the world could or should work.

Originally we wanted to do that with Humans of Simulated New York. We wanted to allow users to punch in a few different parameters at the start of the simulation, so, for example, you could make a world in which technology was really advanced, but the state of health care in New York was really poor. Then you could see how the dynamics play out. It gives you the space to explore... This may sound cheesy, but it renders the idea of another world possible. It is just giving people the tools and spaces to assert and see their own visions for how the world could be.

AK What role can simulation play in inspiring alternative thinking about cities? Today ‘smart cities’ are usually optimized for maximum efficiency, following the market-driven logic. Do you think there could there be an alternative logic for simulated urbanism beside scale and efficiency?

FT I’m actually working on urban simulation right now for a researcher of the Brazilian government. I guess when it comes to questions of efficiency and growth, something that I struggle with is determining against which actual variable it’s being optimized. Currently I’m working on a transit demand simulation, a spatial-economic model that looks at how people move around Brazil, how they find work. We wanted to integrate the transit component to figure out how people move around the city, and how those movement patterns change as a result of, for example, a changing economy. In this project we are optimizing for mobility, because in cities like Brasilia there’s very little public transport. The simulation helps me understand where the issues lie, and hopefully is a means to convince people who have the power to implement the right policies.

AK How can Users experiment with alternative economic scenarios through simulations?

FT In ‘Humans of Simulated New York’ we were interested in playing with the effect of automation under different economic regimes. In this simulation you have workers that get hired by firms, and then their output depends on their productivity. That productivity can be augmented by technical equipment. In the dynamics of our simulation, the firm wants to produce a certain amount of goods, and at a higher level of technological development they need to hire fewer and fewer workers. It’s a pretty simple relationship. We wanted to demonstrate how that affects the economy of the city, the citizens’ well-being, and how it interplays with the welfare system or the health care system. For example, you’ll see a lot of people get sick and not be able to go to a hospital.

AK Can simulations foster political imagination, or prove that another system is possible?

FT Yes. The current state of things is naturalized in so many different ways. It may seem that today’s world works in the only way it could work, that it is the natural progression of history. But we are at the end of one thread of history that has played out, and it certainly could have played out differently. Simulations provide us a way to counter those narratives and to challenge this notion of the natural, at least in a social and historical sense.

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They allow us to experience and play with that possibility. I think this is a really big potential for simulation. Hopefully it can inspire us to not get stuck in this capitalist realist hole of despair or inevitability.

AK If you think about games like Civilization, they are often based on the idea that the nation-state is the only way to organize the world.

FT I think that's the biggest shortcoming of many video games. They are pretty limiting in terms of their definition of civilization. They are very committed to sticking with the way history has played out. It would be amazing to see a game of Civilization that lets you step out of those boundaries, that lets you play as nomadic people or build an anarchist society.

AK Could alternative history simulations become evidence for implementing new or alternative policies?

FT That part is a lot more challenging. I'm hoping that through this Brazil project I can find a space for experimentation in the context of policy, and use it to propose ideas that would get shut down otherwise. In a way, it comes to the same method that is exploited by policing. Simulation provides comfort, or the illusion of computational rationality, and as a policy maker without a strong technical background you are more inclined to listen to this idea. You are more inclined to trust the output of computer. In some way, the policy simulation could function as a Trojan horse, which allows you to present ideas that would otherwise be rejected.

AK It's interesting that simulations are inevitably perceived as objective. How could we become more critical of these tools? Maybe if we learned to design our own simulations?

FT That's my hope. I'm actually teaching a new class called 'Simulation and Cybernetics', and the goal of the class is to introduce students to ideas around cybernetics, systems and complexity thinking, and use it as a framework to think about issues like climate change, supply chains and logistics, governance. One part of the class is learning how to represent these systems in code, how to create such simulations on your own. When you are going through this process, you start facing new questions.

Let's say, students need a number here, but have no idea how to find a true value for this number, so they'll just do their best guess. It happens in the exact same way as when some developer or a small team needs to meet a deadline and needs a value for some parameter. It would cost them \$10,000 to do the research, so they just plug in their best guess. There is an arbitrary, sloppy nature to the development of these systems that are presented as rational. This understanding of the actual development process can give confidence to challenge the authority of these systems, to undermine them. My hope is that students walk away from this class being able to apply this way of looking at the world to other aspects of their lives.

AK In simulations, the viewer is often 'floating' above the environment. This top-down perspective can be helpful in realizing how complex systems work, but it again offers a false impression of objectivity. What do you think about the role of perspective in simulations?

FT I think the god-view definitely encourages this idea of solo decision-making. You feel like one person who has the capacity, responsibility and power to unilaterally make changes. In SimCity you are just destroying buildings and making new buildings on your own, and I think that encourages a pretty bad way of approaching problems, as if you only need to accumulate enough power to start making decisions that you think are the right ones. On the other hand, the more intimate perspective has its own set of challenges. A game can never really fully capture or fully articulate a real experience. The loss of fidelity is a really delicate and sensitive problem, because you don't want to misrepresent someone's experiences. That said, there is one game that I really want to make. Ideally, there would be multiple screens installed in one room. On one

side of the room, the game would be just a daily life simulator, in which you are trying to get a job, buy a house and retire, or something that simple. On the other side of the room, there would be a stock market speculation game. The idea is that these games look unrelated, but in reality the speculation that's going on in the stock market game is making the game that the other person is playing awfully challenging. I'd like to play with the idea that these two different perspectives are directly connected, but players don't know that initially. It would secretly be a asymmetric multi-player game.

AK Can you deliberately design a feedback loop between reality and its simulation?

FT With the 'High Rise/Party Fortress' project we were trying to make a really tight feedback loop between the real house party and the simulation of that party. Both parties were playing off each other and co-evolving in a sense. We also did something similar for the Cybernetics Conference. We created a library where people could check out books, and we would scan those books for questions. Later those questions would be serviced to the speakers of the conference, and we were hoping that would guide the conversation towards the books, and then the speakers would bring new information and insights. In the context of the city, predictive policing is an example of a really tightly reinforcing loop where the model just validates the way that reality has operated, which then further ossifies the model. And you have systems like Uber, always adjusting the map to pilot the incentives and get drivers moving to where they want them to go.

AK Do you think being aware that you are part of certain loop can influence your behavior? If Users knew how they are being modeled by specific systems, could they gain political agency within them?

FT If you are aware of the feedback loop, the way you attend to the simulation is different. You become more deliberate in trying to steer the simulation in a certain way. In the context of the city, the system might be so big that your individual impact would be negligible. But even if it weren't, you have no way of seeing what that effect is. There is certain alienation. It comes down to understanding that relatively small differences in a system can lead to very different outcomes, and that it does require large-scale,

coordinated action to deliberately affect the output of the system. Knowing that these models exist and how they are developed provides a clear place for political engagement. For example, you could indirectly engage with policy through influencing a model by your own behaviors. I imagine this might take a really perverse form, where you don't go to vote anymore, but you vote by the way you behave, because you know that it will change how the model works in some way.

If you can describe a system well enough to simulate it, there is always a strategic component to it. I think Donella Meadows used the term leverage points. If you do want to engage in some political collective action, you need to identify the best place to do that. Where in the system is it located? One example of a leverage point is the collective bargaining that the longshoremen did in the US. Organized together in order to benefit from the results of automation, they were among the highest paid workers in the US, making \$100,000 on average. And that's because they sit at a really important point in global trade, controlling all the ports in the US. If they go on strike, nothing goes in or out, all global trade halts. I think the process of simulation and mapping can help us see more clearly where places of leverage are located.

User is Simulated

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So, User is not a body. It is a simulation, a profile, a stand-in, or a proxy. Even if User is human, it doesn't mean it will have the same body each time: think of how easy it is to borrow someone else's login to watch Netflix. Ironically, the term user is derived from the science of ergonomics, or user-centered design, which is primarily concerned with the human body. In this context, *user* indicates a person who uses an object, and for whose needs it should be tailored. One design strategy, still commonly used in marketing, is a creation of a *persona*: a fictional character, a hypothetical archetype of a target audience. Age, height, weight, nationality, interests, character traits and other attributes can be taken into account in order to model the average person accurately. The categories around which a persona is modelled are fixed and static – once defined, they will stay the same until the end of the design process.

But that's not how a platform sees the User. For the platform, User's profile is constantly being recalculated, in real-time, after each like or click. User has a dynamic, temporary identity, and the categories that define User are also constantly changing. John Cheney-Lippold coined the term 'soft biopolitics'⁵, which describes the process of assigning specific measurable types to profiles. These types stay invisible to Users and change all the time according to a bigger picture: the big data prognosis. For example, on Facebook, someone can be labelled 'with flu' during an infection outbreak, or 'conservative' during a period of elections. Consequently, these labels affect the appearance of each User's timeline, and may allow for discreet social sorting.

The way ergonomics draws a persona is similar to how state understands a citizen. Fixed identity, rigid categories (as in a passport), statistics of the average. Citizen is a body that remains readable, legible for the state throughout its entire life, while User is readable for the platform live, in real-time. Citizen has some control over the narration of its own identity to the state (it knows what the state knows), although self-knowledge of User is limited (it doesn't know what the platform knows). User is not aware of when and why it is being labelled. But can the difference between the citizen-body and the fluid post-human profile be in some way beneficial for us — even a way to reclaim political agency?

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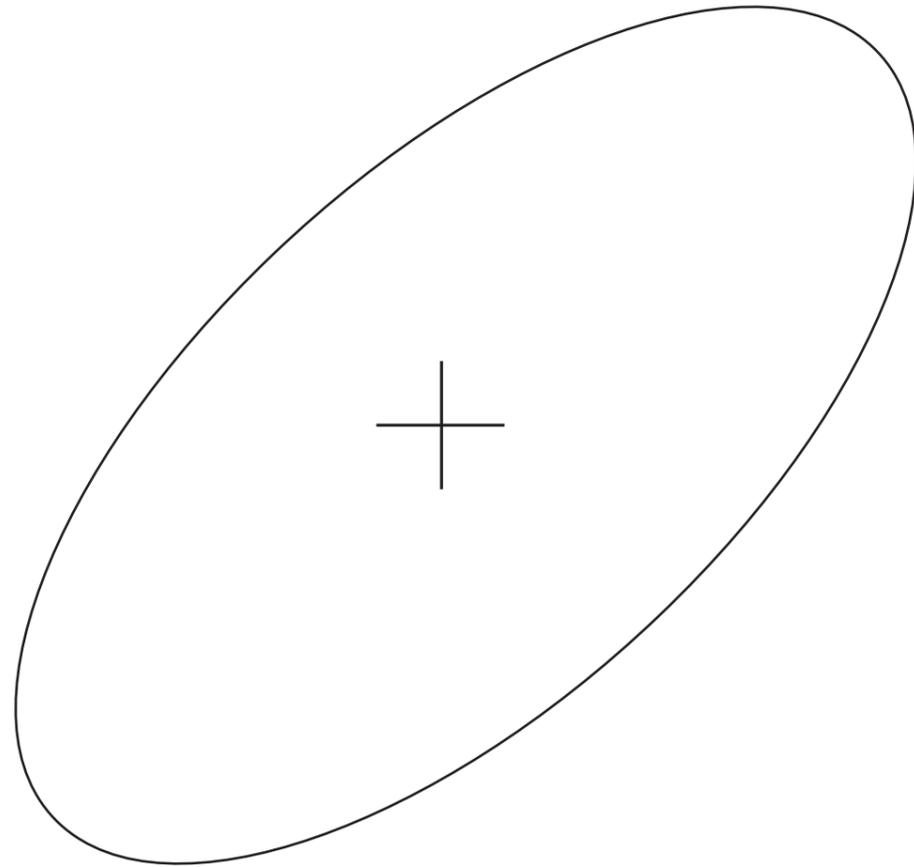
5 'Soft biopolitics attends to the definition of categorical identity itself, allowing that identity to take shape according to the most current, and correlative, patterns of data,' John Cheney-Lippold, *We are Data*

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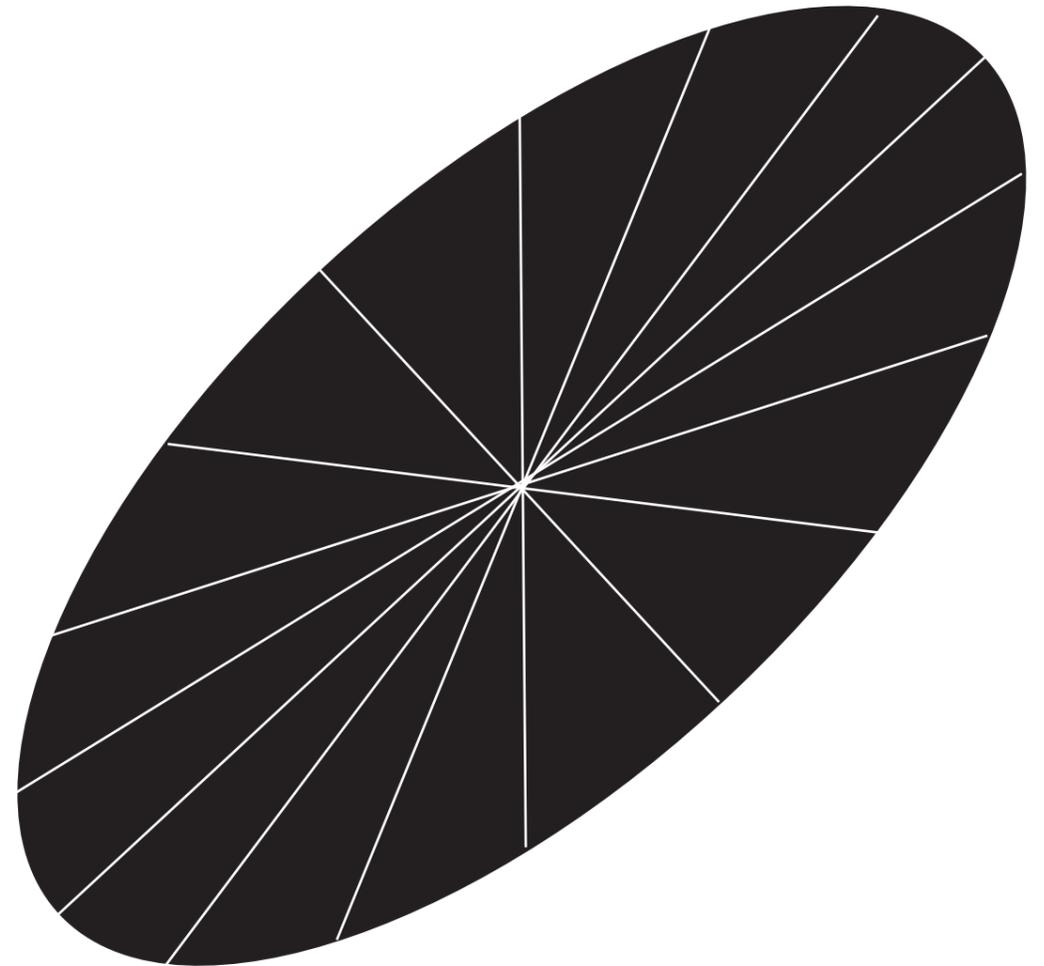
As a User, I can use a VPN, select a country from which I want to access the network, and easily overcome governmental censorship or a restriction on sensitive content. As a User, I am free to experiment with my identity, as I can choose to create a thousand different profiles, each with a different meaning and purpose. But the freedom to create a new identity doesn't come with the ability to control either who owns the data associated with it, or what will happen to it in the background. Imagine if Users could pull out all the information related to their Facebook profiles and then decide whether they wanted to change it, share it with a lawyer, import it to another app, or delete it forever. Today, User exists in the centralized, closed environment of a platform, where, as opposed to a citizen in a state, it has no democratic voice.

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fixed identity



fluid categories

Lucia Dossin & Lídia Pereira:

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On Objects

& Subjects

AK How did the Object-Oriented Subject project come about? And how do your individual backgrounds come together and manifest themselves in this project?

LD Both of us graduated from Piet Zwart Institute, where we were focusing on issues of data collection, individual rights and power structures. We were both talking about mechanisms that are used by different platforms. Lidia's project 'Immaterial Labour Union' was more directly related to Facebook, while I used Facebook as a model, but didn't explicitly refer to it. My project was called Cassandra, a voice-operated chatbot that would create psychological profiles during the conversations. I am a designer with a deep interest in coding, in understanding not only the technical aspects of user interaction as an encapsulated discipline, but also the relations with the bigger environment of interactions.

LP My background is in graphic design. But I don't work primarily as a graphic designer. I think research is my passion, and as with my previous project — the Immaterial Labour Union — OOS is an opportunity to engage with one of my topics of interest: algorithmic governance.

AK Where does the name 'Object-Oriented Subject' come from? Does it relate to object-oriented programming?

LD We chose to use the idea of a 'class', as it is used in programming, in order to explain how profiles are created, and how attributes are assigned to users. You can think of class as a blueprint. And then each instance is an object, a manifestation of that blueprint. If you look at the Facebook Graph API you will see that a user is an object, just like posts, photos and pages are. In this context, an object is a self-contained element that has the ability to connect or to be plugged into other objects.

AK Does Facebook use an object-oriented method to profile people?

LD Yes. I think modular is the keyword here: self-contained modules that relate to each other.

AK One of the methods you use to investigate FB profiling mechanisms is the analysis of patents. According to your blog, you have identified 530 'must read' patents, registered by Facebook over the course of last years. Have you come across anything unexpected or remarkable during this research?

LP We used two different approaches to analyzing patents: an algorithmic approach and a manual approach. First, we manually searched for patents using keywords, such as ‘inference’, ‘categorization’, ‘audience’, ‘target’, ‘cluster’. We chose these words because we were particularly interested in finding clues about the way audiences and shadow profiles are constructed.

AK Have you found anything worrying?

LP Everything was kind of worrying. We prepared ourselves for it, but even if you don’t feel surprised, you’re still worried. You realize that you don’t have a clue about the extent of this. I remember one of the most worrisome patents I read was about routine estimation. With routine estimation, Facebook is able to see which places are your home, your work, etc. My ‘favorite’ feature was the notification system that could be used to notify friends and close relatives in case you would deviate from the routine they have inferred. It opens up so many creepy, dark possibilities. Of course, Facebook will try to positively sell this feature for issues like kidnapping prevention, accidents, etc. These things are always presented as a safety feature, while other potential uses (commercial, policing, etc.) are not made explicit. What is truly at stake with routine estimation, as with almost all of Facebook’s underlying processes, is the relation you have with power: it is easier to govern what is known and visible.

AK Recently one patent gained some media attention. It was about Facebook categorizing Users by social class (working, middle, upper), based on the number of devices, city of residence, etc. There is an aspect of subjectivity in these categories. Who at Facebook decides what should constitute middle class? Is it a team of designers, or specially hired behavioral scientists, economists? Are you also concerned with these questions in your research?

LD Parameters for social class definition are not something new. For example, when I was a kid, there would be people ringing the doorbell and asking how many TV sets, cars and washing machines we had at home. Of course, Facebook uses much more data, and can use more parameters to determine this. But it’s been going on for some time now.

AK Is it possible to see how Users end up in each category?

LD We didn’t get there, but it is possible in theory. One of the possible ways to do that would be to develop an app and to request data from users. If we had that data, plus time and money, we could do it.

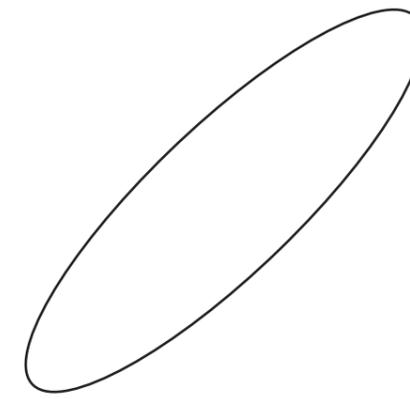
LP That’s exactly what Aleksandr Kogan did.

LD Of course, we would have different intentions, but the method would be the same: to cross data about user features. These would be used to build profiles, against which we would compare other user data. If we knew that, for example, 30-year old women who have Apple laptops usually like certain posts, then we could potentially also infer other features, for example, voting for leftist parties. That’s the basic method. We were also interested in the politics behind this: the categories themselves give a very strong picture of the interests that are at stake. It could be voting, but it could also be liking chocolate cake. The categories that you build say a lot about why you are doing this.

AK Cambridge Analytica scandal has a direct link to the intention of your project. How do you relate to it, and what do you think about the effects it generates? Is anything going to happen, besides the ‘#deleteFacebook’ campaign?

LD I think there is a risk it is going to be like the Edward Snowden hype: after a few months no one will care anymore.

LP Resisting Facebook in such a way is a step, not a final solution. Of course Facebook is to blame, but let’s not be naive and think that deleting your account will solve everything. Even if two billion accounts are deleted, what about Google, Twitter, Instagram, everything else? And it also comes down to a question of privilege associated with being able to disconnect from these services, to go off the grid. Corporate social media unfortunately plays an important role in self-promotion and finding job opportunities, especially in the era of the precariat. I hope the Cambridge Analytica scandal will open up a little bit of the discourse, but I’m afraid it will open for only a couple of months, and then it will business as usual again.



AK I'm curious how categories constructed by different platforms relate to each other. Today we can have a real gender, a Facebook gender, a Google gender, and a Twitter gender. I could be an old male in one case, and a young woman in another. Can you ever compare the methods that are used to create these labels?

LD There are so many companies constructing your profile, and it's difficult to understand what is the assumption of each company. Are you asking if it is possible to unwrap this technically, or politically?

AK Both.

LP The purpose of our research is to claim that these processes should be looked at as industrial processes. Look at this sugar package: if there is something else in this package beside sugar, the company has to inform us. I think we should stop giving Data Science a godly status and demand more transparency and accountability regarding these processes.

AK But then the patents are still public. What is the role of diagrams in your project? Are you mapping the connections between different patents?

LP Yes. Reading a patent is quite an exhaustive process. My idea was to make it more readable and presentable, to have a kind of atlas of relationships between patents. I make a diagram for every patent I read and analyze. But we've also been using LDA.

LD Another approach to the patents is to group them, using LDA, which is one of the methods Facebook uses to group users into clusters. So I thought it would be interesting to apply the same method to their patents, and see what comes out. On a bigger scale, we had a 'romantic' idea to make a profile of Facebook, a social graph of Silicon Valley, with their interests, genders, ages, political views. It would be fair.

AK In your blog you reference the book 'We are Data' by John Cheney-Lippold, and the term 'soft biopolitics', the process of assigning types to User profiles. Today User categories are generated in real-time, constantly changing, evolving. Algorithmic identity is fluid. How do you think fluid categories relate to control and governance? Is governing 'fluid' identities different from governing 'fixed' identities?

LP That's a very good question. Both are based on social constructs of gender, age, race, etc. I think the difference is that with the static profile, if you are, biologically, a 33-year-old male, you are generally categorized as a 33-year-old male. I think that is the limit of static profiling. You would always be accounted for as a 33-year-old male, even if your interests more closely resemble those perceived to belong to a 68-year-old female. The fluid profile is much more efficient in that sense.

AK The concept of biopolitics also relates to questions of internalized norms and self-control. I wonder how it becomes manifest under soft biopolitics? Do you think Users change their behavior, knowing that they are being tracked?

LP There is this very good article by Rob Horning about ontological insecurity. He talks about the idea that with our user profiles we are trying to be consistent with ourselves, and the idea of the normal that we're trying to measure ourselves up against. However, he warns, curating your user profile is a false cure for that. While we're constantly trying to be more and more coherent and consistent with ourselves, at the same time we're getting dispersed into so many categories and different personas. And our internal coherence is lost.

LD If users change their behavior... That's something we would like to test. It could be an interesting next phase of our project.

AK What if Users could see which categories are constructed around them? Could you imagine an interface like that?

LD Technically it would be possible to have a list of the categories in which you are placed. The information is already there, it's just not available to you. But that could also be a terrible idea within this context. Imagine that in your settings, you would have to give a green or red light to specific categories. Let's say, for example, that I don't mind being labeled as a gay rights activist, but I would mind to be labeled as vegan. Then you no longer define your privacy setting in terms of your data, but in terms of the categories that you allow yourself to be connected to.

LP A certain degree of tolerance against erroneous user-provided information is built into their inferencing/categorizing algorithms and mentioned in the patents. It is used to discern and rate which information is accurate and which is not. It's their way to ensure that only the most likely scenario is picked in the end. So even if you, as a stereotypical macho man, start reading a lot of so-called 'feminine' articles just to fool the machine, it doesn't necessarily mean you will end up being labeled as a 'feminine' man. You don't have as much control as you would like to have. They have a system designed to deal with fraudulent information.

AK Lidia, in your recent talk on efficiency you proposed incoherency as a counter strategy. Could you see that applied to User profiling?

LP For me it's an open question. The thing with measuring yourself up to something, you're always trying to create a certain image, trying to be what you think you should be. I was imagining taking the idea of coherence and seeing if we could strike there. But I'm still asking myself how this could be done. It would really have to be a collective effort. I think being incoherent could even strike at the core of how we define ourselves as people. So potentially it could be a dangerous idea.

Much of your mental health is dependent on the image you have of your-self, your perceived coherence. And it also comes back to the question of privilege. Can you afford to be incoherent? Practically speaking, there was an artist, Lee Nutbean, who published the login details of his Facebook account, so people could share it...

AK If Users succeeded in becoming incoherent, would they also become useless for the platform?

LP That would be the ideal scenario, the successful outcome of such a movement. Using our coherence (or lack of it) as a tool to gnaw at the bones of algorithmic governance. Of course, this proposal entails several other questions that I hope to further explore in future works. One such question is raised by Simone de Beauvoir's observation 'Society cares for the individual only so far as he is profitable'. How would such a movement provide for this loss of support in the (very utopian) scenario where we manage to uphold and practice unprofitable incoherence as a form of resistance?

AK Are you on Facebook?

LP Yes, of course.

LD Yes. I wasn't on Facebook for a year, but as a person living abroad, you almost have to. I don't want to sound super sad, but I lost friends because I wasn't on Facebook.

User is Optimized

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The term ‘personal User’, as used in the context of HCI (human-computer interaction), was first introduced in the 1970s. In an era when computers were still enormous machines processing data in the form of punch cards, programmers had to wait for hours, if not for days, for their calculations to be completed. A single computer would serve many different programmers in a queue, making programmers waste long working hours. A personal User, or the concept of a personal *login*, was invented for the purpose of *economic efficiency*: new software was introduced, literally known as time-sharing software, which allowed one computer to run different programs simultaneously. Now Users could share one machine, create personal accounts, and easily keep track of their individual activity. It is not a coincidence that User emerged out of the aim for efficiency. The ultimate goal of the platform is optimization of the services it provides: maximizing speed and User attention; minimizing unproductive and wasted time.

In *The Prehistory of the Cloud*, former network engineer Tung-Hui Hu stresses that ‘the user’s subject position is created not just by software, as media theorists would assert, but by the economic system that undergirds whatever relation any of us have with technology’.⁶ Hu draws a striking comparison between the emergence of time-sharing software in the 70s and general societal shift towards immaterial labour and the sharing economy. While businesses became more efficient, workers were forced into more precarious positions, losing the benefits provided by fixed-hour contracts. The worker was rebranded into a flexible entrepreneur, a freelancer responsible for its own success and measured by its ability to be productive. Today, Users are not only sharing time spent on computers but have moved on to sharing other material goods: cloud servers and data centres, apartments and houses, cars, bikes, and jobs. The subjectivity of a modern worker (or a citizen with any economic ambitions) is very similar to the subjectivity of a *personal* User. What does this mean?

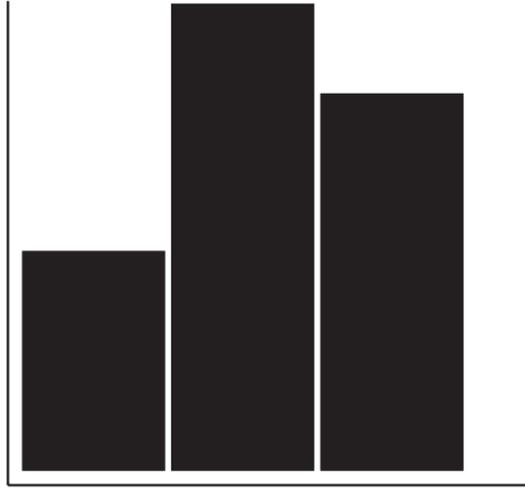
User needs to maintain a good-looking, verifiable profile. User has to be active on the platform in order to be successful. The User that selflessly contributes to the platform is the User that benefits the most. Think about the advantage retained by well-rated cab drivers, experienced Airbnb hosts that receive good reviews, or Instagram influencers. Since the User that is not active provides no value,

⁶ Hu, Tung-Hui. *The Prehistory of the Cloud*. Cambridge, MA: MIT Press, 2015.

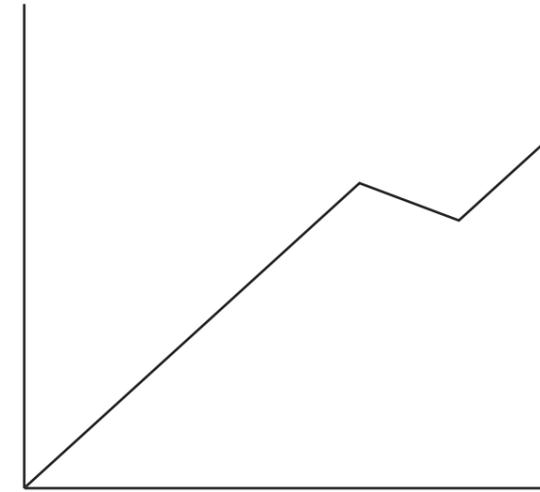
a hegemony of efficiency and maximized engagement is imposed on everything it does (through an app), from jogging to meditation. And while User enjoys the luxury of well-organized services, the constant state of optimization has a direct effect on its mental state. User is constantly performing, updating, promoting and exploiting itself. User could always do more. In this case, the economic conditions predicated by neoliberalism force any human inhabitant of a city into becoming a User – as a strategy for survival. If your profile is nowhere to be found, you hardly exist for a city. *Today, if you’re not a User, you’re a loser.*

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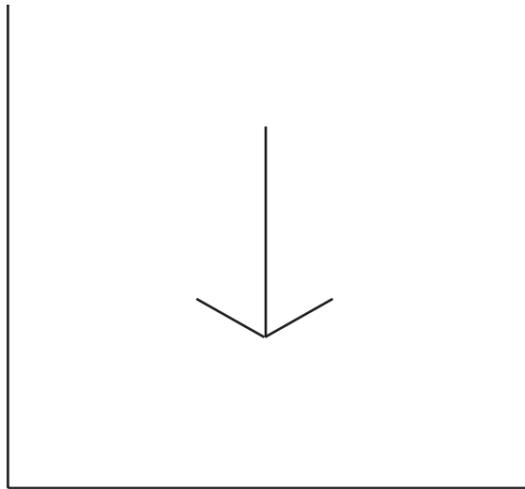
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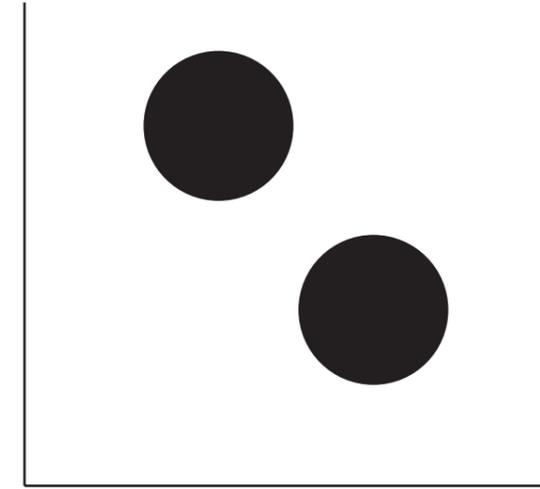
time-sharing
software



sharing
economy



batch processing



waged labour

On Self -

Optimization

AK How does your background relate to your research into precariat? In one of your biographies you describe yourself as ‘a designer without qualities, an artist without a gallery and a writer without spell checker’. Do you see it as a comment on your own precarious position?

SL It’s complicated. For me, it’s an interesting point to start from a bio. How do you formulate one? It’s always a struggle, I change it every two days, and each time I feel a bit uncomfortable with what I write. There is always a gap between one’s own image of themselves and one’s strategic public presentation. In terms of my background, I studied industrial design first, then slowly went into graphic design and web design. Somehow it has been a process of abstraction, into something less and less material. Finally, now I’m mostly busy with writing, and art practice is one of its sides.

How does this relate to the discussions around the precariat? I guess it has to do with perceiving myself at the same time as an insider and an outsider. I’m in between Italy and the Netherlands. I keep an eye on the Italian debate around creative work, and there you can spot a form of cognitive dissonance. The design with a critical and intellectual edge — which tends to coincide with Dutch design in general — is something you study in the ‘high brow’ schools in Italy, but since there is no funding economy or grants, it’s very rare that designers can continue that kind of practice out of school. What became interesting to me, is to see how a country can really set the grounds or ecosystem for producing such a practice. And I felt in between both. The precariat discussion is a lens through which to understand the identity crisis of many practitioners. Speaking of precarity is always bit difficult: there is no simple definition of it. I tend to limit my understanding of precarity to the condition mostly lived by young people in metropolitan areas that heavily rely on information economy and the creative industries. In this sense, I adhere to Alex Foti’s framing.

AK I was thinking about how Users of social media become self-entrepreneurs, even if they don’t run a company or use a particular gig economy app. In order to sustain ourselves, we are indirectly forced to have a LinkedIn account, Instagram, or at least well curated Facebook profile. Why do we handle our User profiles as economic assets? Do platforms make us into entrepreneurs by design, or are we forced into promoting ourselves by the economic conditions outside of the screen?

SL This issue is quite topical at the moment given the ‘#deleteFacebook’ campaign. I was struck by the recent article in The Guardian by Jaron Lanier, who was a pioneer of virtual reality and then became very critical of Silicon Valley and corporate social networks. He said that to be a pioneer today is to delete facebook. He said: ‘you should not worry, I could delete my profile and my career wouldn’t be influenced by that.’ This is a very big statement for a well known author, if you think about what it means to burn the social media bridges for emerging designers, practitioners and even programmers. It’s really important to acknowledge this relationship between economic possibilities and aspirations and social media. Not only in terms of the real opportunities that make your career go forward, but in terms of the illusion or hope that that can happen. You cannot blame someone for believing in it, especially not someone in a precarious position, who doesn’t know what will happen to them in the next 6 months. Of course, it’s a cyclical feedback loop between

what you want to be, and what the actual possibilities of the platform are. You can't avoid thinking that platform itself affords the possibilities of collaboration. It's not easy to bet against it. It takes more courage than it appears.

Is the platform neutral and are you the entrepreneur? It is similar to advertisement, which you can see both as a reflection of society, and something that shapes society. In case of social networks, the culture in which they emerge from is very evident. I recently wrote something about LinkedIn, and how it used to look, before its interface was redesigned. The perverse beauty of LinkedIn was in how it would very clearly enable competition. There even was a vertical ranking of your connections, you could compare yourself to your peers and see if, for example, you rank third. This fosters the idea that the higher you get on that ladder, the more possibilities you have to find a job. These things are not visible on Facebook, Twitter, but a similar logic shapes these platforms. It was interesting for me to look at Facebook through the lens of LinkedIn, and look at people who invest money in these platforms. What is their philosophical and cultural background? A guy who connects Facebook and LinkedIn is Peter Thiel, co-founder of PayPal. Apparently, when he invested in social media, much of his belief was in the idea of mimetic desire. It is a theory that poses the idea that desire is not a relationship between subject and an object, but it's always triangular: object, subject and another subject. As soon as you desire this, I would imitate you and also desire that object. Desire is shaped by what other people do. Places like Facebook materialize this really well, and you can shape these signals of desires, manipulate what people want. Social media is entrepreneurial at the core, also because the founders of it were entrepreneurs: they poured their own vision and belief system into the platform. At the same time, we project our own entrepreneurial anxiety onto them.

AK In the book called 'Precariat: The New Dangerous Class', Guy Standing reflects on the role of digital technology in construction of precariat. He claims that because of constant multi-tasking, Users have shorter memory spans, are unable to concentrate, get addicted to the internet, and all that affects their productivity. Do you think platforms amplify a general tendency towards self-exploitation?

SL I think his view on technology is a bit reductive and very negative. It doesn't leave any space for the social needs that technology somehow fulfills. Idea of self-exploitation frames things in a very precise way, casting judgment. I'm more keen on the idea of performance, in relation to entrepreneurship, consumption, expression. Why do you perform your professional persona? It's a way to position yourself in a market, it's unavoidable. I don't know how much of this is specific to social media. Even if you study philosophy or literature, you would quote specific authors just to show that you're a part of the club. That's the logic that moves that kind of performativity of work on social media. It's the idea of positioning. When do you call it self-exploitation? Self-exploitation implies that you're not gaining anything from it, or not enough. But here you know exactly what you get.

AK Today office moves into our personal lives, more and more people are working from home, on weekends, while commuting. At the same time, business goal of digital platforms is to keep Users online, actively clicking, scrolling. Push notifications and the blue light of the screen keep us awake at night. Do platforms make us overperform?

SL It's not just a matter of the business model. Take email: 20 years ago email wasn't such a stressful medium. You would take all the time in the world to write a response. The medium has become totally different now, we don't take that much time to think. It might be seen as a hardly avoidable development that follows the increasing velocities of network technologies. Especially speed is at the core of it, but this can be interpreted differently. When work becomes essential to a culture, speed becomes a problem. Then you want to be plugged in all the time. There's not so much money made on email, and it feels like the wrong tool for the job. Yet you check it everyday, every hour. What I find fascinating of push notifications, what I find powerful about it, is that it's such an explicit materialization of anxiety. You can see this tiny red thing on your phone as potential work. The potential of something you will have to do. It looks like an alert, it's red. It speaks the language of emergency. Then we go back into the idea of corporate platforms shaping this design.

AK You did extensive research into productivity apps. Today, literally every aspect of life can be a subject of optimization, from jogging to meditation. Do you think these tools can really be helpful, or do they force us to suppress our instincts and feelings in the name of the market?

SL The question is: helpful for what? Already the idea of productivity, when it's applied to cognitive work, is not so clear. It's not about a certain amount of input giving this amount of output. If I answer 3 emails instead of 5, am I less productive? Many productivity tools provide a language of productivity: they give you back the idea that you're more efficient. It feels like a collective delusion of work, coming from the feeling that you're always insufficient. And these tools give you comfort of knowing that you did enough. They provide some metrics of what you're supposed to do. I don't know if it works. If you fail to do what you put yourself to, you feel more depressed and anxious about something which is not real. The issue of productivity in relation to autonomous work is debatable.

AK Do you think these apps allow you to manage your emotions and feelings, rather than actual work?

SL What works with these apps, like the ones that switch your social media off, is that you can calculate your 'negative productivity' by saying 'I wasn't on Facebook for 30 minutes'. They offer an index for emotion, wellness. It's an interesting development, but it's hard to cast a judgment on that. The abundance of these apps cannot be ignored. We're doing an issue of an Italian graphic design magazine about work, and there's an interview with a psychologist. It revolves around apps that are relaxing in terms of the interface, playing with the idea of stress and sadness.

AK What about laziness? Seems like these apps make it our own responsibility to manage our sadness or laziness, which comes to question of self-governance.

SL It's an interesting mirror. But much of this, I think, is derived from a psychological theory that's incorporated in cognitive behavioural theory. Let's say something bad happens to you. The way to be happy, and therefore be productive, is not to affect what actually changed, but to limit yourself to a different interpretation of that. Many of these apps are based on such logic. If something doesn't work, don't say: I'm a failure. Say: I'm doing better. It becomes a question of personal responsibility. If you're still sad after having reinterpreted the event, it's only your problem. The external reality has nothing to do with it. There's a book called 'The Happiness Industry', based

on sociological analysis of the UK. The book shows how much money is poured into positive psychology for a simple economic reason: mental illness affects productivity. The government calculated the economic effects of depression, and is now concerned about it, as their profits go down. But can you blame a government for being interested in this? Well yes, you can. I guess you should.

AK The concept of User log-in was invented in the era when computers were still enormous machines processing punch cards. In your article you mention a protest, that used punch cards as a symbol of resistance. Could you tell more about this story?

SL There was a movement in the 60's in California, called the Free Speech movement. They had an agenda against the bureaucratization of universities. At the time, the way to express this was to say 'we are not just numbers'. They used punch cards to represent how their identity was treated as numbers, and subverted them by writing letters that a machine couldn't read. On the level of language, it is interesting. It shows that the dehumanizing logic of machines is not new. Although the capturing of data is increased. I don't see a qualitative shift in platforms, I see a quantitative shift towards measuring emotions, states of being. When you have so much data you don't need specific questions, and assumptions can be easily made.

AK Cybernetic logic is so normalized today, it's hard to imagine people protesting about being reduced to numbers. What could be an equivalent of a punch card protest in 2018?

SL There was a protest by workers of Amazon's Mechanical Turk saying: 'We are not an algorithm'. They weren't paid much, and Amazon was insisting that it was the AI doing the work, when in reality it was people. Workers wanted to get a union, rights and voice.

AK I heard that Deliveroo recently removed features such as chat from their interface to keep riders from organizing.

SL You start thinking how power is not just expressed through measurement and features, but also by removing. You see two functions of computers: one is the operation, computation, measuring. The other channel is purely about communication. All the strikes and possibilities for protest are based on using technology as a means of communication. Forming networks.

raise awareness. Raising awareness for whom? Themselves? Awareness is already being raised in a more powerful way by things like 'Black Mirror'.

AK How can Users fight the alienating logic of optimization? Do you think Users should become less efficient, less productive, incoherent?

SL I appreciate the call for a refusal of efficiency and being incoherent, escaping the rules. But this doesn't make any sense until it's something shared between many people. I don't believe in individual strategies, like the ones used on Facebook in which you write one thing one day and something totally different the next. No people have the energy and mental strength to manage a refusal of efficiency autonomously. I can say: 'I find being efficient stupid', but then I just go back into the state of being anxious.

You need people that are able to develop a different culture. This is a social question. My intuition tells me that it's all about space, that in order to start a new culture, you have to create physical spaces for it. If you keep doing this in front of the screen, it's very hard to escape those logics of efficiency and performance. When you go to a place, you can really forget about it. For example, in schools you could have a different way of perceiving time. Nowadays, time is used against you. Time is weaponized. A culture that wants to refuse efficiency has to change how they use and read time. The solution is not to create a tool that will make you lazy, but create a space in which you don't feel the need to check the clock. The computer won't help you do this. So I believe in spaces.

AK Can Users appropriate platforms to talk about precarity or counteract efficiency? Is crowdfunding your unpaid internship online also a form of protest, way to attract attention?

SL I rarely see this as effective strategies. There was a trend of artworks that would critique Facebook on Facebook. When it comes to crowdfunding, people do that, but not because they criticize it, but just because they have to. Misuse is not an effective act, I think. Like exodus. What's the effect of that? Some shows and interviews? This is connected to the design ideology. Things are always created to

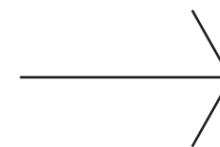
AK With your work, you call for irony as a collective strategy. How can irony and memes play a role in mobilizing Users?

SL I see irony as a double-edged sword. Irony is the perfect expression of powerlessness. Self-deprecating irony is a way of coping, while the natural mode of irony today is detachment, distancing from your own misery. It is the postmodern condition. But let's direct it towards attachment instead of detachment. I mean, collective strategy... That's what we all want and no one's able to achieve it. If we talk about design, it's really urgent to develop a sort of poetic focus and language of powerlessness. Of not being able to change things. Let's start from what we're not able to do.

AK What would that language be?

SL If we speak of the creative industry, there's an abundance of expressions of agency. 'What design can do.' I don't see anyone speaking about the other side. Where is doubt? For me something needs to be done before the collectivization and repoliticizing can begin: coming to terms with oneself, with your own misery. I speak, of course, about relative misery. Admitting it, without going too much into getting pleasure out of it. Nihilist, self-deprecating memes at least show a dark side of commitment. To be honest, I don't know if this represents society at large; it might be just a few people who feel this powerlessness. But I think it's important anyway, for me and the few other people.

For some, quantifying their running is a form of empowerment. The point is not to convince someone who feels empowered that they're not. It's more about dealing with people who don't feel empowered. There are people who love spending their whole day on Facebook and people who hate it, but are addicted. The keyword is agency. How do we perceive and interpret it? Even if it's an illusion of agency, it's better than not having it at all. I couldn't go to people and show them how they don't have agency. Shift the gaze towards yourself, before doing it for others. How aware am I of my own world?



User is Isolated

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Another reason for the invention of personal logins in the 70s was leakage of data between different programs and the proliferation of computer viruses. By providing each User with a separate account, the software could ensure a sterile environment in which there was no risk of Users sharing computers with each other. Sharing devices became associated with messiness, danger, intrusion of privacy, or as Tung-Hui Hu has put it: 'user was essentially a technology of individuation.'

Today, Users are predominantly isolated. While streaming data from the same gargantuan servers in Nevada desert, they often cannot sense the simultaneous presence of others in the cloud. Users communicate with each other in strictly curated messenger spaces: their exchanges defined by whatever a specific platform permits. At the same time, the experience of each User is always hyper-individualised, even egocentric.

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User is continuously constructing its own walls and filter bubbles in the network (add to blacklist, mute post, report spam, hide from my timeline), excluding voices that don't align with its own, constructing a homogeneous environment around itself. User is always at the centre of the map. Every User perceives a city through the prism of a different app, getting a unique representation of a city – and thus subjectivity is also determined differently for each User.

The produced User-subject is in constant pursuit of personal achievement, and its understanding of collectivity is being flattened, shaped by the affordances of the platform environment. This happens inside as well as outside the frame of the mobile screen. Users today are individual entrepreneurs who share both co-working spaces and sense of healthy competition – but do not share solidarity with each other. In times of frustration, I myself rarely blame the user-friendly system or try to unite with other Users against it, but turn on myself, criticizing my own laziness and inefficiency. Isolation and individualism are imperative qualities possessed by the User of centralized, commercial platforms. But is User always that divided, disempowered and mentally affected?

Genevieve

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Costello :

On Computational

Horizontality

AK Could you talk a bit about your background, and how the idea for your essay 'Userscapes: The Ambiguous Agent in a Computational Paradigm' came about?

GC As an undergraduate I went to art school to study fashion and sculpture, but then got frustrated by prescriptions of what we were taught, what one needed to do to be 'the artist', and moved to critical theory. For my undergraduate thesis I did a study on Facebook, which was still somewhat young at the time. I ended up doing data analysis and strategy at one of the largest media agencies in the world in New York City for some time and it was really interesting to see what data was being collected in the media and advertising realm, and used for redefining the positioning of brands, products, and ad campaigns. It was fascinating to see the other end of the interface layer from a cultural vantage point. Then I was a producer at a small cultural agency in NYC which offered a completely scope and scale of things. I wanted to do research full time, so I went to the Cultural Analysis department at the University of Amsterdam for my MA. This department really informed my understanding of concepts of modernity, de-coloniality and posthuman studies. For my thesis I did a close reading of contemporary artworks (a VR game called Pig Simulator and Holly Herndon's music video HOME) using theory from Walter D. Mignolo, Elizabeth Povinelli, and Kathryn Yusoff with 'The Stack: On Software and Sovereignty', a book by Benjamin Bratton. I wanted to bring together these different perspectives around the anthropocene and taking stock of contemporary technologies, from humanities and philosophy to ethics.

The concept of Userscapes is based on the idea of five scapes, formulated by anthropologist Arjun Appadurai. He positions five scapes (ethnoscape, technoscape and finanscape, mediascapes and ideoscapes) as always fluid and shifting, and shaping the global flows of ideas and information, social and political impressions. He talks about these flows in the context of the imaginary, imagination as social practice. I was also really interested in the idea of computation as force, as intelligence and agency of geologies and technologies tangible (in one of many ways) through common languages or contemporary post-digital life. I felt like materiality was disregarded in a lot of conversations around technology and computation, for example, in relation to inequalities or differences in the way things are felt across different places in the world. It is important to make sure we're tying the 'planetary scale computation' conversation back to its lineage of modernity, globalization, capitalism, and the material problems that already exist and need to be dealt with in addition to the mass energy and material production of it all: the sociopolitical inequalities, systematization of violence, precarity. Uniting or bringing together those perspectives and theories was important for me in my thesis and in the article.

AK The title of your thesis is ‘Becoming User’. How do you understand becoming in this context? When does someone become a User-subject?

GC I’m looking at becoming- as an ongoing movement of constitutions by practices, energies, elements, rather than a stagnant or closed understanding of being. An ongoingness, becoming- is a reference to (the beloved) Deleuze and Guattari. The way we understand a user right now is problematic. You sign up for an account on a platform, let’s say Facebook. We repeat this a thousand times for the various accounts and decisions with any platform. These are not sites of becoming. This is a practice of stepping into the position of being a user-subject. You are subjectified by the platform, and your subject-position in each platform is isolated, singularized, even though often interlinked — for example, when you are using one account to verify another account. This is not so far from using your driver’s license to get a bank account, or bank account to get a mobile contract. In the article I mention that the user-subject positions maintain certain blinders. The image of yourself that is given to you is limited and not an accurate representation of your actual coalitions of data from different movements, across platforms and anything connected to them (such bank cards and transit cards). Our interactions and different user subject positions are much larger and layered than we can see: a possibly infinite scape.

Becoming-user is about understanding that you are moving between, and holding different relations to many different platforms and beyond. It’s tapping into your relationship with computational potential, as one of the many languages that may make into a practice a certain understanding of actors that make the world. It is not a position with walls. It’s not closed. As I’m acting, I’m taking in energies and information, and that positions my understanding of the world, my sense of being, what I have access to on a practical level, and what are my limitations. What are the things I can and cannot do within different platforms? It’s about the friction of access and sites of agency in a more fluid sense. It is a different kind of agency.

AK I am really interested in the idea of computational horizontality and horizontal interface that you put forward in your article. Could you give an example of that?

GC You are never stuck to one site. When you interact with technology, you activate a column in the stack, and you’re stepping into the position of a user. But you can step into this position from many different places, or in many different user-positions in one place. For example, my phone is active right now, and I have multiple apps that have geolocation switched on. I’m also on the computer, which is using geolocation. And we are Skyping through the Wi-Fi in the house, which uses broadband and not a fiber optic cable, and it is

different from the mobile network. And all that is happening at the same time. As a user, I’m holding these positions simultaneously. I’m all of those things layered. So horizontality is in physically being at one point in time and space, but at the same time being in all of those different positions that are forming an interwoven scape. Some of these sites don’t even have a clearly visible interface. I’m not thinking of my geolocation on my phone because I’m not actively using it, but it is always on. I can also be acting in composite with someone else, let’s say a bot or many, in that one user position. And this is not felt by me either. I think there should be a way to emphasize the many user-agents that co-determine a singular image of a user-subject. And the many different user-positions that may or may not be informing each other from my particular site.

What could be an example of a horizontal interface? I’m thinking about this moment when you start downloading something from torrents, and you see the seeds just as moving numbers on the side of your download. This is very simple, but it indicates that something you are doing is very much a part of your present, but it’s also the others that are making it feasible in your real time, and whatever that time may be for them. I think it’s very important to not anthropomorphize other users, to not make into a subject the relations between others that you’re inherently connected with in this user layer. A user is not necessarily something that has a profile. User-positions could be designed as amorphous vessels that agents move in and out of.

AK In my essay I refer to Tung-Hui Hu’s book ‘The Prehistory of the Cloud’, in which he puts forward the idea that ‘personal user’ was created for purposes of isolation. Personal login protects you from messy interactions with other users; it provides you with a sterile, safe environment.

GC I recently moved to London to do a PhD in the media arts department, and I’m also a part of the information security group (ISG). My proposal is to look at security as a humanities concept. It is about what it is to feel secure, and I think this has a lot to do with care, as an action. What you said about the sterile environment completely rings true to the interest. One way to think about the concept of security from a positive approach is to link it to an attacker, always starting from the premise of securing something from the malicious act. You need to have a private user profile, as you don’t want other people to have access to your information. It could be used in a to harmful way against you.

A personal profile with set (and more easily secured) parameters of exchange reinforces the self as something that you are entitled to, a legitimate person you are very much responsible for. Using an easy password is at your own risk. But should livelihoods be built on the premise of insecurity and distrust of external, other users, in the organizations of our exchange? This is not to disregard the reality of attackers or maliciousness. Being is not isolated and sterile.

AK Today's interfaces consider humans as the only kind of agents. Why do you think this is dangerous? And what could be an example of non-human-centric interface?

GC Yes, it's dangerous because even for pre-digital interfaces, the question of what is 'human' has often been in reference to a very specific kind of human. Many people are not treated as humans. This is a premise of colonization and a major issue of modernity. I think that needs to be acknowledged when we talk about who is allowed to be a user, and how that's distributed very unequally. It also assumes human intelligence as precedent! If we are using interfaces that make exchanges with other intelligences, let's learn. We are a novice species and dangerous to ourselves (among other things) in our ignorance.

I was recently looking at chatbots and how they are being used. Many chatbots are emblematic of human-centered design, and it's deeply problematic. I don't think we need more service to help us be individuals, acting as producers and consumers. At some point, chatbots were entertained as potentially replacing platforms as a sort of cross-platform/search engine/calendar/personal assistant. I remember an advertisement with a holographic anime girl in a little jar container that sat on a bed stand. She makes a person who lives alone feel like they're not alone, and have a servant or caretaker instead of having interpersonal relationships. Reinforcing precarity and (self-responsible) individualism, hyperactive consumption and production in the mechanism of capitalism. I think we can use bots in different ways, maybe without using the term 'use'. Becoming-user is very much about acknowledging agency coming from various forces, from all sorts of species and computational entities.

AK You did a workshop with Cristina Cochior called 'Nobodies for bots', with the goal of making humans understood by bots. How can such understanding be achieved?

GC We were playing around with the idea of language. Let's say, as a foreigner you share a common language of English, and the way you use English is very different from someone whose mother tongue is English. When you interact with people, the way they use language always influences you. It's a beautiful way to open up a common language, and it makes that form of English very situated between the time, the place and the capacity. With this workshop, we wanted to do this with the computational agent. The exercise of the workshop was to make a bot, but not to force it into performing the language that you want to give it. The idea was to meet the bot somewhere halfway, to be influenced by what it means to code and program something, and therefore to have expectations and exchanges with an acting entity without presupposing or imposing on them. It is not a language to be mastered. It's a language to be affected by, to manifest in getting to the meeting point.

AK It makes me think about Alexa and voice assistants that sometimes do not understand certain phrases, so people have to talk to them in a very specific way. Is that an example of how humans are affected by the language of computation?

GC Exactly. Before doing this practical workshop, we were researching different sites of exchange for the bot. Alexa should not be lending itself to me. Technology shouldn't lend itself to me just to function in the way that I want things to function, because then nothing happens that reflects the actual exchange in this moment — only a predetermined desire is seen. I heard that Google tells their employees they should lean in and whisper to the phone when talking to Siri, which can be read as infantilizing Siri. If you look at the history of the bot or embodied artificial intelligence objects, there always has been some sort of demeaning, whether in feminizing the bot or in framing it as a servant, a pet, a monster. It is important to understand that the man of modernity is the human of technology right now, in its current structure. This is the premise of the user-subject, and the citizen of the nation-state, and the producer-consumer. And that is a problem of social reproduction within these systems. I see computation as one potential language in its contemporary unraveling of these much larger underlying issues that have been around since long before the internet.

AK How can we approach bots and computational agents differently? Should we call them by sets of numbers, instead of by feminine names?

GC I also don't think it needs to be a set of numbers. It's interesting when you think of different naming conventions, for example, those that indicate a history. Is a set of numbers effective or tangible? What if it could indicate the complicated histories of material constitution, and intertwined scapes or activations of user-agents? What about naming practices that reference the entire ancestry for many generations? It could be really interesting to have a version of informational heritage as method for all the activations that are happening with our different devices; a back-reference to the minerals that were used to source the bits of the device, which points of contact have been key or trivial in its movements. It could be symbolic stacks, user-positions as totem poles, representing ancient user-agents acting in them.

AK What could be a way for humans to become more aware of their own position, and of their relationships with other Users?

GC I think it's the imaginary as a social practice that needs to happen. It's coming back to the idea of computational language not as code, but as the compositing of a new site for commons, the civic, a new site for exchange. I think there's a potential for it to be more on the surface. We need tangibility that is affective, and coming in an open, intimate way. Following Donna Haraway's 'Staying with the Trouble' and an affirmationist approach, how do we become entangled in these piles of being?

Science fiction has made interesting images of humans and agents in this way. We need even more of this. I'm currently starting to write a radio program about four kids in the post-individualist era, and they live in four different collectivist-living societies. The story is about their communications and issues of growing up within, through, by, digital technologies. I wanted to reposition how digital media are reshaping relationships in our everyday lives in a very tactile, felt way. I hate it when TV shows picture somebody texting with a phone, and there is always a bubble on the screen and the sound of the keyboard. It's a reductive image of digital media that have permitted so many affective, beautiful things to occur with the global citizen. If the user is not tethered to the nation-state, if it is not a geolocation, or a producer-consumer... Then what is the social entity greater than it, that secures its being and exchange? I think there needs to be a tactile, affective turn of experiences of that kind. Intimate social spaces of life and world-making through Usership — stories of love, of home, of care...

AK Do you think fiction could be a strategy to achieve that?

GC Yes, 100%. When you're reading a book, you are painting an image of it in your head and it makes an imprint. It is immersive in that it is codetermined — you are an active agent in the image and feelings that arise from it, as the words are that are offered to you to do so. I think that space of imagination is very important, because the action of it makes it embodied.

We are so activated and triggered in formats that ask for reactions; we are not encouraged to codetermine our daily exchanges on digital media. For me it is not common to make the image of someone texting me, if I am asking where we are meeting at the library. But if I imagine them, it has a similar imprint, an affective situating. We need things that indicate the embodiment of exchange, and this doesn't come from the image of the profile on a platform that compresses the user into the medium and content. If you are imagining the person texting you in the way that you would read a book, constructing a scene from some shared context, there is an immersive experience of exchange. And this is amazing, weighted, and feasible! We need interfaces that encourage these kinds of experiences of being within the digital.

User is Plural

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Despite a convenient isolation imposed by software, User is never truly alone. On a platform, User always exists in relation to others; whatever content appears on its personal timeline (or, again, a map) is being shaped by the choices of millions of other Users. How our data is interpreted depends on what other people do on the platform, and how we relate to these people. If I am friends on Facebook with a suspicious person, I will be likely marked as suspicious myself. I wonder if this 'contagious' link between Users can be exploited in a way not pre-defined by the platform or the state. Can this plurality and interconnectedness between User profiles be somehow appropriated? Are the partitions constructed around isolated profiles capable of leaking? Is User's profile in fact a bubble, or a *membrane*?

In the process of platformization, humans become more and more compatible with other non-human entities. The life of the human User unfolds not with (next to) the algorithms, but by the algorithms that share its memory and experiences, learning from the past and predicting the future. A User can be a combination of objects, be it a human asking a Siri assistant to browse the network on its behalf, or a bot tweeting on behalf of a plant that is augmented by electronic sensors. The agency of the User is dependent on the agency of the machines in which it is entangled and is inseparable from the protocols of their operation. One way to think of the empowerment of a User through protocols is represented by blockchain: a distributed ledger system that allows for the creation of smart contracts and user services without centralized control of the platform or a state. But while the integration and design of blockchain-based services is a task for designers, architects, and network engineers, what can a 'normal', technically unequipped User do in the meantime? Who is that general User of the 'General User Interface'? And how could it explore the by-products of the platform economy and find ways to assert its own agency?

The fluidity of the profile gives room for experimentation with unconventional identities, subcultures, or even sources of revenue. Economically isolated Users can contest the exploitative logic of optimization by organizing with other Users in physical spaces and appropriating existing platforms (think about Deliveroo riders, trying to use the same app to organize, distribute information, and protest against decreases in their wages). The question is, how can we explore plurality without the immediate seizure of value by platforms, and how do we, Users, stimulate and encourage our own political imagination? In other words, how can a User be repoliticized? Today, the city is in need of a User that is aware of its own position, admits to its sadness, but is feeling opportunistic, eager to bend the environment it inhabits and demand alternative models. A User that doesn't merely give feedback, but intervenes in feedback loops; an autonomous User-Agent. ●

On Algorithmic

Disobedience

AK You describe yourself as a packet hoarder, artist, engineer and researcher. Considering your background, would you also call yourself a User? And if yes, what kind of User are you?

SM I'm definitely a user. I am still on Facebook, even though I'm complaining about it. But maybe I'm more of a detective. The work I do is investigative, and the output changes depending on what makes sense at the moment, be that art, education or journalism. The reason it's one of these three things is that I am generally trying to explain how technology works. You can call me a technology tourguide, or that's the kind of user I'd like to be: someone who learns interesting tricks about the system, while also using the system.

AK The investigations you undertake into smart home or classification algorithms seem to directly inform your art projects. Both focus on making users aware of the inner workings of the systems. What is the relationship between your artwork and your investigations for ProPublica? Do you see them as one project?

SM I see them as the same thing, as they both focus on ways of challenging power. Sometimes it makes more sense to make an artwork instead of a journalistic piece. Take, for example, UnfitBits. Tega Brain and me did it together, and the reason it became an art project is that at the time we didn't have evidence of how quantification was happening, and the fitness tracking trend was just beginning. Now we have lots of evidence, but back then we didn't have good examples of the Quantified Self movement meeting surveillance capitalism. We needed to create our own speculative evidence.

AK With UnfitBits, you offer a set of tools to obfuscate fitness tracking devices, so that a User can qualify for insurance discounts without doing any actual sports activity. You propose not to fight, but embrace surveillance to benefit an individual User. What was your intention behind the project? Is it a functional proposal, or a polemic piece?

SM The intention is to become disobedient. We also have a workshop series called 'Algorithmic Disobedience', questioning the authority that institutions are imposing on our lives through technology. For example, insurance companies. And by being disobedient to the system you can see where the power lies. UnfitBits is a silly thing that you can do to get insurance discounts. But it works, and that's the absurdity of it.

I think it's fine for people to use fitness trackers, if that improves their lives. But reducing health to something that could be measured by an accelerometer is dangerous. Doing a thousand steps a day will get you a good insurance discount, but what happens if someone broke their foot, or someone cannot walk? The insurance company is putting its value

into that which can be measured, because what it really wants to do is to give you less insurance. They call it a privilege, but it is actually a punishment. And it's quite a hard thing to explain in a journalistic piece. We all have to engage with these systems at some point, and how you engage with them depends on your socio-economic status. If you cannot afford insurance, you might start thinking of ways to start tricking the system. The reason it is happening is a failure of the structure, not of users. And that's where I think we should be disobedient, fill out forms incorrectly and fight a presupposed condition that we should always tell the truth to these systems.

AK You created various open source tools for spoofing and tricking algorithms. Do you think these tools could be adopted in daily life, and if yes, who would use them?

SM I really want lawyers to be the first people who use them. I want lawyers to change the law. I think that code and law speak a similar language, and it is law that can force tech companies to change their economic models. So I would like my audience to be lawyers or policy makers.

AK In your journalistic investigations, you often reverse-engineer algorithms. For example, you spy back on the smart home, or look at how Facebook profiles are being constructed. You also provide tools for other Users to contribute to your research, as in the case of the 'People You May Know Inspector'. Do you think algorithmic disobedience can be collective?

SM During our workshops, we ask people to pick one system that they use and think about how to be disobedient towards it. What often comes up is the idea of organizing: setting up unions, labor unions for collective action. I think we need to challenge the authority that defines who we are as individuals on a fundamental level. Why do we have to have individual Facebook accounts? Why can't we share? The reason we use technology as discrete objects is capitalism. I think there is a lot of value in collective action, but that's why you need these interventions and invitations, to get people to feel empowered. When I was doing this research and thinking about the form of output, I didn't want to scare people with another story. I want to help empower people, to make them feel like there is also something they can do.

We're actually in the middle of running experiments with the 'People You May Know Inspector'. The reason for building the tool was also to invite people to upload their stories and examples of suspicious or surprising friend suggestions on

Facebook, and then experiment together with us, see if we could identify patterns. For example, if you know someone in Europe who definitely doesn't know that other person in California, but suddenly they are suggested to be friends... or any other example.

When I worked at ProPublica, a US news organization, we did a series called 'Breaking The Black Box', for which I developed a Chrome browser extension. What it did was go to Facebook for you, and collect all the ads categories Facebook was putting you in. We were doing an investigation into how Facebook sells ads to people, and collected all the categories that were available in the Facebook ad store. But then we also wanted to know about categories that are not shown to users. For example, in the US there's a categories for someone who's likely to buy a Mercedes Benz in the next 180 days. But to see if this category is being applied to me, I need to look at a bunch of other people's accounts. We made an extension so that people could share their data with us, and we collected some 65,000 different categories. We found crazy things like ethnic affinity to African American, which could still be used for redlining. For this kind of investigations, you need to do crowd sourcing.

AK How can non-tech savvy Users be disobedient? Do they always need a tool, a little help from the engineer, or can they do something on their own?

SM I think you can totally do that on your own. In one of our workshops, a group wanted to figure out how to be disobedient to self-checkout systems at grocery markets. The participants came up with collective loyalty cards. So whenever any of them would go shopping, they could use a shared card and leave it hanging on walls and streets; anyone could use it. The grocery points are put on this card because it allows companies to track customers' buying habits. It is used for surveillance. But by sharing this card anonymously, they could collect the points and use it to feed poor people, let them buy their own groceries. So how do we obfuscate our data and fight the surveillance economy through collective action? How can we use that same economy to help other people? It's not a technical solution, it's a hack of the system. On the 'Algorithmic Disobedience' website we have a set of tactics that came up during the workshops, like obfuscation, satire, exposure. There are different ways in which you can poke at these systems. I really think we need to work on engaging outside communities, people who work in the fields of immigration, diversity, social justice. There are many different ways to challenge systems and authority.

AK Skylift is a spoofing device that virtually relocates you to another place, obfuscating geolocational technology. How did you come up with this idea?

SM My contribution to the project was the initial research, and Adam Harvey built the device. The idea came from my grad school thesis called 'From the Dark', in which I focused on Wi-Fi networks. I was looking at how your phone automatically connects to Wi-Fi when you're in a place that you have been to before, because it keeps a list of networks you've connected to. Your phone is just broadcasting those network names without interruption, all the time. As Wi-Fi grew more popular, our lists of networks grew and began to reveal our demographic profiles. Our Wi-Fi use shows which hotels we stay at, which conferences or universities we attend. I started building Wi-Fi portraits of my classmates. I had a router that was just listening to all the network names, and could see from which devices they were coming. I printed out these portraits and gave them to people. It was amazing. That moment I realized the difference between telling people that their device is leaking data, and showing them an example.

AK Do you see Users becoming more empowered in the future?

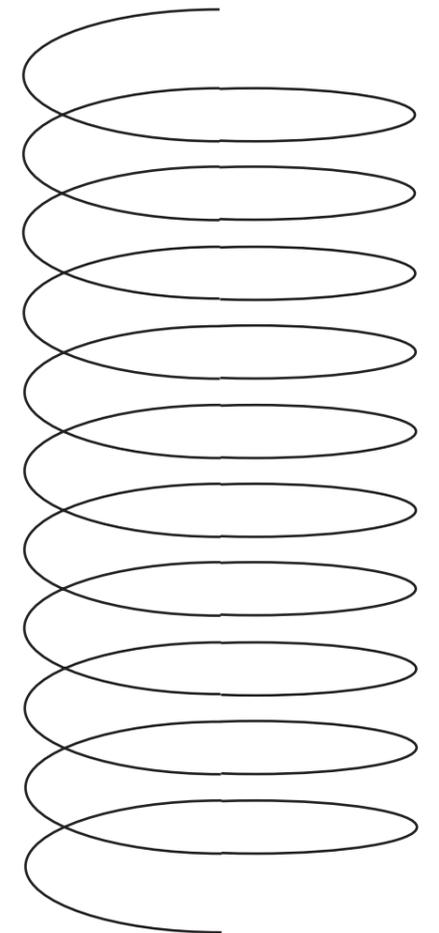
SM There was an NYU media theory academic in the 1980s who wrote about how people were getting worried that the future was going to look like Orwell's '1984'. He disagreed and said the future would more likely resemble 'Brave New World', Aldous Huxley's book. The main distinction is that in '1984' we would live under constant fear of Big Brother, but 'Brave New World' is more about noise. It's about noise, and not knowing what is true...

AK Sorry for the background sounds, someone decided to spam me... How do I switch off these notifications?

SM Are you on a Mac? You can use four fingers and swipe in from the right side of your touchpad, and you can get the sidebar... you can then turn off notifications for a day.

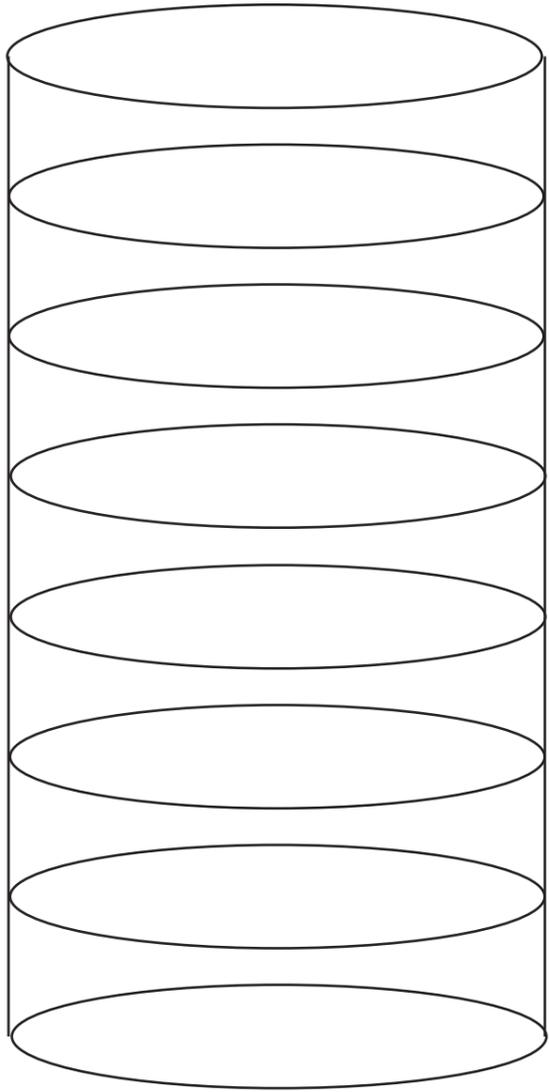
AK My Mac is old, that I'm not even sure I can do that...Yeah. Sorry.

SM So yeah, the world is noisy, the signal is noisy... And I think we need to figure out ways to make the signal louder and reduce the noise. That's what we fundamentally need.

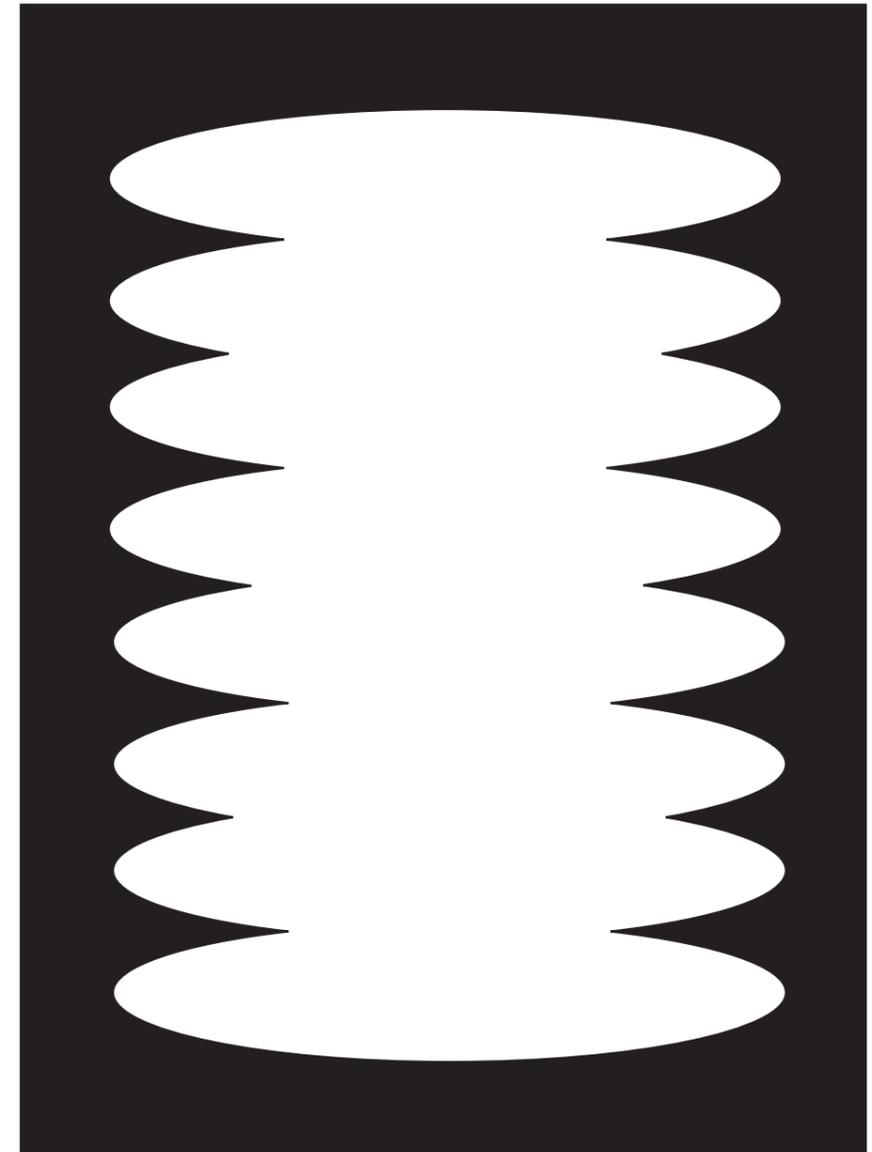


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plural User



composite User

USER IS PLURAL

On Self -

Organization

I was introduced to a lot of interesting new technologies, but also theories around complexity that I wanted to continue to research and work on professionally. At the same time, I've always been interested in the social dimension of architecture — in understanding architecture as a social product, a result of the social production of space, as Henri Lefebvre would have it. Actually, Lefebvre's theories were a gateway for me out of the 'nightmare' of architectural practice, which is often very disciplined in ways that don't allow architects to ask broader questions about how technology affects society, or how architecture affects society. At least outside the academy, it's very difficult to build up a practice around critique. I was interested in thinking about how space is produced through everyday life practices, and at the same time I had technological interests in robotic manufacturing and computational design. I think 'The Stack' by Benjamin Bratton fits well into the latter design discourse, adding a more social dimension to it, so I used it as a framework to talk about the User in my thesis. But the reason why I chose to update the 'right to the city' comes from an urgency to transgress the popular architectural canon — the echo chamber of formalism and celebration of technology — towards thinking about the social aspects of space that are influenced and created by computation.

AK Is there a link to your previous work on self-organization?

BB Yes. I made a film about a self-organized settlement in Dhaka named Karail, also the title of the work, which was shown in the exhibition 'Mapear no es Habitar' in Quito (Ecuador) during the UN Habitat III conference. As opposed to thinking about space only as a product of policymakers and planners, the video just showed people going about their daily lives. It's also within the context of the exhibition that I was exposed to the intensity of the 'right to the city' idea in Latin America. Maybe now it's picking up again in the US and Europe, but it's been more broadly adopted as a rallying call in contemporary urban struggles in Central and South America. For instance, if you look at Brazil... the 'right to the city' is an inscribed constitutional right for its citizens. This is the result of political struggle and its recognition by politicians, who can also cancel it out by not enacting it to the fullest extent. What I addressed in my thesis is that making the 'right to the city' into a liberal democratic right kind of betrays the original concept by Lefebvre that emerged in the May 1968 protests in France as 'a cry and a demand'. The original idea is that it erupts out of the material conditions of everyday life and cannot be fully represented within the frame of any law guaranteed by a state. The act of encoding it as a liberal democratic right sublimates it to the realm of representations of space; it becomes not an activity that is being carried out by people, but a symbolic code.

AK With your thesis, you propose to update the concept of the 'right to the city' that was first articulated by Henri Lefebvre, with a renewed 'User's right to the city'. How did this idea come about, and what triggered the urgency for you to make this update?

BB First of all, my background is in architecture, but my interests are more in theory and art. I think about architecture as an expression of abstract processes like for example laws, Google Maps, or the 3D software I'm using in the office, and how all of these things eventually coalesce in some way in the built form of the building, or the city. When I was studying architecture, I attended courses in computational design at the University of Stuttgart, where

AK I was curious about the concept of *citadin*. Lefebvre uses it to describe a citizen who acquires citizenship not by birthright, but by actively inhabiting space, striving to go beyond capitalism and nation state. In your thesis you draw a parallel between a *citadin* and a technological User. Could you explain this connection? What does it mean for a User to go beyond the state?

BB One of the fundamental things about Lefebvre that is sometimes overlooked, is that he was not only communist, but also anti-statist. I think there's violence both in the broader idea of the market and in the broader idea of the state as institutional forms. Lefebvre saw the eventual dissolution of the state as a necessary transition to a condition where states and capitalism are no longer collaborating. He made a link between *citoyenneté* (citizenship) and *citadinneté*, the subjective position of being a city dweller. This link is inevitable in societies undergoing urbanization, which potentially includes all societies. I take Lefebvre's hypothesis of complete urbanization to task and suggest that not only is everyone in some way a *citadin*, they are also a User — of infrastructures, platforms, infrastructures as platforms.

What is interesting about 'The Stack', is that it reveals how states might not even have the power they used to have to enforce their own laws, to essentially protect their own citizens. Platforms take on an own logic different from the state and the market, but big corporate platforms, like the ones we all probably know of, can also centralize and control like states and non-platform capitalists do. Here I'm less interested in the idea of building stronger states, and more in looking for ways to work within the messy present, which is increasingly defined by platforms and big tech corporations. It's exciting to think about self-organization and self-management as ways for communities to be more autonomous, including from the extractive platforms that are essentially dominating everyday life today.

I think it's important to have in mind that people aren't as rational as we might think they are. To form the concept of the User as a rational subject is problematic, because it assumes that people who are using platforms are doing it intentionally, or doing it in an intentional way. As a User you might not even know you're a User, you're just being made into a User. This is different from citizenship, which is *de facto* based on birthright or other criteria. The idea of *citadin* is a more universal category... It is about citizenship as a result of a process, a process of urbanization, which is also one and the same with the process of capitalist expansion.

To think about Bratton's User subject as a *citadin* is interesting as a starting point for design that wants to both achieve universal applicability and respect site-specificity. I'm thinking about the developing world here, where urbanization happens differently from in Europe.

AK What are the forms of self-management within technological infrastructures? And how can Users become active *citadins*?

BB This is a difficult question. I'd recommend a paper by Daphne Dragona, titled 'From Community Networks to Off-the-Cloud Toolkits: Art and DIY networking'. She gives some good examples of self-managed network topologies, or self-managed projects that take the same material substrate of Facebook and Google, the network infrastructures and interfaces that deliver them to us, and use that hardware to create alternative networks and virtual spaces; routers, smartphones and so on. There's a utopian dimension to the way artists and activists can reappropriate these technologies for their own purposes.

We could also look at the 2014 Hong Kong protests, sometimes called the Umbrella Revolution. The activists in Hong Kong anticipated that the Chinese government would shut down their primary means of communication during the protests, so that people wouldn't be able to organize. People began using an app called FireChat in response. This app uses mesh networking to create ad hoc networks, and it can be used without an internet connection, peer-to-peer. You just need a lot of people in the same area using the mesh network and broadcasting it with their smartphones.

FireChat was effective insofar as it wasn't technically shut down, but at the same time there was no central authority to filter what was being posted. There was a lot of misinformation, possibly spread by authorities, to confuse the protesters. It required users to be even more aware of the technologies that they were using in order to be able to recognize patterns, fake news, or bad information. Users had to be self-aware. Authorities could have also used signal jamming to flood the radio frequencies of the Wi-Fi spectrum and effectively shut down the entire network. There's a certain precarity in using more autonomous means of communication and organizing through networks. It really makes you think whether or not it's possible to create movements or spaces that aren't totally outside society, but still somehow autonomous, when there are such powerful actors as the Chinese, Russian or American governments there to interfere. When we think about autonomous uses of technology, we also have to think about how we're entering a space that is already highly contested and is in many ways already a war zone.

AK Such bottom-up infrastructural interventions are difficult to scale, and often remain symbolic. Do you think self-organization could happen on a larger scale?

BB I've witnessed a growing desire among coders and the computer science community to create spaces that are away from centralized platforms, either through the use of blockchain or other decentralized technologies. Ethereum could be seen as technology that supports autogestion. But whenever there is computation, there is also a bottleneck of encoding. To code an everyday life practice, you have to categorize it, to create an abstract framework for representing it. Take software design, for example. When you begin to create a program, you are kind of submitting to a process of abstraction, or alienation. Encoding something that is complex and disordered is a process that carries with it an inherent violence.

This doesn't mean that design shouldn't be done. But when designers imagine the category of a human user, it presupposes a specific human life form, an idealized version of the human, which in more cases than not, does not actually reflect the user himself/herself. Bratton also talks about how design should no longer be anthropocentric. For example, when a self-driving car kills a pedestrian, people get outraged, and Uber is forced to suspend its testing of autonomous cars. But if you look at hard facts, human-driven cars produce thousands of deaths per day. It is safer for robots to drive than for humans, so maybe this research should be continued or even accelerated from an ethical standpoint. This caricatures the decentering of the human by automation.

AK You conclude your thesis with a call for overcoming alienation with alienation itself. What do you mean by that?

BB Lefebvre understood alienation in relation to capitalism or urbanization, while Bratton sites alienation in the traumatic end of a human-centered cosmology in relation to AI, a trauma on par with the Copernican Revolution. It's important to make that distinction. I was thinking about an essay from the Russian formalist Victor Shklovsky titled 'Art as Technique'. He's talking about how art should make a thing more 'thingy', or make the stone more 'stony'. He suggests that artists should take objects out of normal life and produce alienation between the viewer and this object, so that they stop and actually notice it for what it is, rather than accept it as part of their normalized life experience. He called this phenomenon 'otstranenie', which Anke Hennig has translated into English as 'surplus alienation'. The question of alienation in relation to technology is also dealt with in *The Xenofeminist Manifesto*, which calls for a feminist politics that recognizes

the necessity of technological alienation. Rather than ignoring alienation or trying to operate in parallel to it, it sees technology as a way to overcome the alienation that technology produces. It's paradoxical. Autogestion is not about an ideal state where all of our problems are solved. Self-management is an ongoing process of work. It's work, but it is work that is less alienating than working within the global capitalist economy. Rather than selling your labor to an employer, self-management has potential applications where currency isn't even required. Being in a smaller community or within a syndicated network, where the work that you do is remunerated in things that you need or desire in your own life, rather than in the form of currency or commodity.

AK How does the idea of autogestion relate to the interface? Do you think the interface can be an object of appropriation?

BB It depends on how widely we see the concept of the interface. Is the interface a smartphone or a computer, or is a building also an interface? Is the border of a nation an interface? It can be harder to work with solid objects in physical space, like buildings and border walls. On the other hand, while architecture itself is less flexible than code, it's also relatively simple to transform it without the use of high technology. The actual process of assembling a building is still very old-fashioned. If we see a building as an interface for autogestion, I'm immediately thinking of squats.

AK I guess it's easier to squat a building than a platform.

BB If you try to squat Facebook, it's always going to be symbolic. There is a real-life aspect to using Facebook (I'm sitting in front of my computer or smartphone), but I can't squat it in the same way I can squat a house. The same applies to going on strike, or workers taking over a factory in order to manage it by themselves. The practice of workers' self-management has been going on in areas of South America, in Greece especially after the financial crisis, and in other parts of the world. A building is a great interface, if not the default one, for self-management. It is an envelope; it has different ways in and out, you have control over the entrance and exit, over how the building is built and used. These things are very concrete, and easy to conceptualize, as compared to an open-ended and abstract digital framework. How can we develop an infrastructure that will serve specific purposes that we might outline as a group – for how we're going to use this space? That's really what it comes down to, its use, and the primacy of use value over exchange value. It's not about making a killer app that makes tons of ad revenue, but about making an app that enables people to live more autonomously from centralized corporate platforms, something that they can also shape themselves, rather than have to conform to.

AK Can Users appropriate existing spaces, instead of trying to build new ones from scratch?

BB One example I'm thinking about is Google Docs. How many people use Google Docs as a way to work together on something critical that has a real potential to transform our situation? How many of those ideas come through Google Scholar or Twitter or Facebook? Google Docs is a thing that most people can use easily, and it's also a good example for people not being able or willing to deal with less convenient alternatives. Etherpad is one alternative for collaborative writing, but it also lacks the functionality of robust word processors people might be accustomed to. I always give people an option to use email attachments, which can be very private when done right. Email is actually a peer-to-peer service, even if you're using Gmail. When you share an attachment via email, it's like using Napster or sharing an MP3 with somebody. It's going from your computer, your email server straight to another email server. But if you are using Gmail, Google will intercept your attachments — so again you're just another brick in the cloud.

A final thought about autonomy...

I really like this quote by Stevphen Shukaitis from the book 'Making Room: Cultural Production in Occupied Spaces': 'Autonomy is not something that is possessed by an individual subject so much as a relation created between subjects; that is, it is a form of sociality and openness to the other created through cooperative relations.' Autonomy is about being in a society where autonomy is respected as a practice. To be autonomous is to be in a reciprocal agreement with other people that affirms each other's respective autonomy. This is also a utopian way of thinking. Autonomy isn't antisocial, it isn't only a position against something. True autonomy can only exist when it is recognized by others. Otherwise it's just roleplaying.

On Cybernetic Publishing

(Epilogue)

AK Could you tell a bit about your background, and the story behind the Avant.org magazine? How does your interest in cybernetics manifest itself in your publishing practice?

SH I grew up in an artist household. Both of my parents are artists, and I have always been connected to that practice and language. But neither of them were able to support themselves with their art practice, which was frustrating to see growing up. So I went into science, which, for me, put a similar emphasis on observation and inquiry. I studied chemical physics and computational biology in college, but also took art classes whenever I could. I worked in a lab that did biomolecular simulations of protein-DNA interactions. The research was very interdisciplinary, and gave me a broad view of living systems, computation, model building. I wanted to move to New York after college, so I got a job doing genomics research — studying cancer, characterizing forms of the disease, and more recently, genetically modifying human immune cells to recognize cancer tissues.

After I moved to New York I wanted to stay connected to art, so I worked at a media arts gallery as their technical director. I enjoyed speaking with artists about how they wanted their work to be presented when installing the exhibitions, so I eventually I started an artist magazine, Avant.org, as a way to continue those conversations. We publish artist projects and writings online, with an intentionally broad editorial agenda. The work often has some technical component, largely because that's where my interests gravitate, and where I feel I can offer unique value as an editor.

More recently, Avant has had an explicit focus on cybernetic publishing. Sara Hamerman, one of my co-editors, did an interview with Stephen Willats, founder of Control magazine. We also co-organized, with several others, a conference on the topic of cybernetics because we felt it was important to revisit the lexicon of cybernetics and systems thinking in the context of digital platforms and new forms of information circulation. Thinking about those systems in terms of feedback loops, equilibria and complex dynamics can be quite helpful.

AK The idea of decentralization was at the core of many cybernetic publications in the 1970s, from the Whole Earth Catalogue to Radical Software and Control. But the term 'decentralization' today has come to mean very different things, and is often hijacked by mainstream media. For example, publishing something on Twitter can be said to be both decentralized and centralized. What do you think decentralized publishing could mean today?

SH The concept of de-centering isn't new, I would argue it's been around for as long as centralized political states have been around. But I think the term came into prominence prior to the Cold War, when the military was concerned with how they'd maintain a functional political apparatus in the event of a nuclear attack. And when the RAND Corporation recognized that a decentralized communication infrastructure that would remain operational in such a scenario was an essential coordination strategy.

This same shift in communication technology was picked up by Marshall McLuhan, who made analogies between the printing press and digital reproduction. Similarly, Stewart Brand's Whole Earth Catalog would provide a template for digital media distribution: a format that could be easily replicated within digital networks, including a hypertextual mechanism in the form of book recommendations that targeted their specific customer base.

The thought behind the Whole Earth Catalog's 'Access to Tools' motto was to empower the individual. With the right educational resources you could build your own home, you could grow your own food. If you push that logic far enough, you start to believe you can remove any reliance on the state or other individuals. That individualist mode of thinking has been replicated in the current language around decentralization, that's how it's marketed today.

'Decentralization' was a cultural ideal that began in the 70s and recurred in the 90s as the internet was coming online. And now it's in vogue again. My argument is that we have decentralized, we are decentralized, we just haven't thought deeply about what we are decentralizing. Does that process happen spatially, logically, politically?

We have mobile phones and computers all over the place. Computation is decentralized in many respects. Markets are decentralized. It really depends on one's view, whether all of these things are desirable. The term 'decentralization' is very powerful because it unites many ideologies under a singular term, but that term can be rather blunt.

A useful example here is disruption theory. 'Disruption' is essentially a way of gaining an advantage within a market by optimizing along a different dimension than your competitors. Take the Windows operating system. The Windows operating system was an integrated environment in which Outlook integrated with Active Directory, Excel, etc. Central control over the entire system allowed for a better user experience because everything was interoperable and optimized for specific tasks. But this kind of platform doesn't allow the kind of flexibility that a completely modular system does. So the only way Windows' dominance could be upended was through the web browser. Browsers allow for modular architectures because a web page can be modified and run anywhere. A website can be used on any operating system, which means it can optimize

along this other dimension. The web made Windows irrelevant in a certain sense, because the important aspect of the system, the part that users cared about, was now web. When the web's modularity became the norm, optimizing for cross-platform execution, Google and Facebook could then compete orthogonally, by offering a centralized utility that modular services fundamentally could not offer. So I think there's something we can take away about processes of centralization and decentralization by looking at integration and modularity. It's a helpful framework to think about these larger processes.

This cycle has interesting implications when applied to publishing and communication more broadly, McLuhan recognized this, though he described the process in different terms. Ideas can easily traverse platforms and media, distributing and circulating information across platforms and across media. Concepts are modular, which means the open web is a tool for decentralization.

AK Which forms can web publishing take outside of centralized platforms?

SH There are interesting peer-to-peer publishing projects that use content-addressable systems: IPFS, Dat. Blockchains also use this same hashing property. You have a file or packet of information, and you can generate a single string of characters, unique to the content of that file. You can use that string instead of a URL address; it's uniquely identifiable and cannot be forged. Naming a file requires authority. But with these systems, you can identify things by what they are, rather than by what they are named, and that allows for a different mode of propagation within a network. Unfortunately, most browsers don't support these protocols yet, so you need to install special applications to access them. But these are very interesting tools and I'm starting to play with them within my publishing practice. It's important to acknowledge they do not provide a universal solution, they are not going to dissolve centralized platforms entirely, or the need for centralization. I think centralization can be a very good thing in some instances. For example, having all your contacts in one place is clearly useful, even if that one place is your phone. That's still a centralizing logic.

AK Recently I was reading a pamphlet by an independent publisher, Triple Canopy. They put forward an interesting idea that web publishing will always stay less independent than print, as it is inherently embedded within the protocols of metrics and advertising. When you publish something online, you start measuring its effect in number of views, clicks, searches, and even if you are countercultural, you start optimizing to improve the user experience. What are your thoughts on this?

SH This is a very interesting question. Print and digital publishing have different affordances. They do different things, they distribute information differently. Claiming that anything is truly independent is an oversimplification. Maybe it's a weird comparison, but while we're on the topic of decentralized protocols, let's think about the 'publishing' of physical currency vs. Bitcoin. Fiat currency is very geographically distributed, it's peer-to-peer, anonymous. But it can also be controlled by governments from central points, for instance, the central bank. While Bitcoin is presumably 'trustless' it's still dependent on the protocols and mining hardware on which it operates, so developers, chip manufacturers, energy providers all become important actors. The balance of power simply operates differently. These control points exist in every publishing process. If you want to print something in mass, you typically have to go through a publishing house. You also become very dependent on capital, maybe you take out a loan to print an edition, expecting to make the money back in sales. Distribution channels, bookstores or retail stores are typically very selective with what they stock. One could publish online with complete independence from these physical protocols, but the digital space has its own limitations: whether it's a sustainable business model or a network censorship.

AK In the 70s, cybernetic publications were innovative as they included reader's feedback and contributions. But today we experience an excess of user-generated content online. What is the relevance of print in this context?

SH It's interesting to frame this feedback process with respect to abundance. When you publish something online, you often end up competing with baby photos and advertisements that exist in the same feed. With print publishing, you are often addressing an audience that's specific to a bookstore or another space of physical distribution. It may be not be as widely accessible as content that lives online, but it's more available to individuals in that location. If I purchase a magazine, it will lie around my house for a really long time. There is a different kind of presence and a different relationship to that object: proximity is an important facet of any cybernetic publishing scheme. I might revisit this magazine years later because it's in my home; other people that visit me might be exposed to it; I might refer to the text later, incorporate those ideas into my own thinking or communicate them to others. The circulation of a concept can work across time, distance, media, and that's where a cybernetic publishing loop gets interesting.

AK Do you think people are seeking more meaningful, human-curated content in the era of algorithmic content production? I think your 'Research Tactics' project is an interesting example of a curated catalogue of tools. What is the intention behind it?

SH With the abundance of data, we need a more structural view of why systems are being built, who they are for, and how we can bend them in a way that serves a broader cultural agenda. The idea is to have an informed community that has tools to supply answers and extract meaningful information. The 'Research Tactics' idea came about when a friend of mine, Chris Woebken, and I were working on an event on the topic of simulation. Chris sent me these incredible high-resolution photographs of aerodynamic models and wind tunnels and I asked him where he had found the images. Turns out he had looked through the Library of Congress Image Archive, which seems obvious in retrospect, but if it had been me trying to find those images, I just wouldn't have thought to look there at the time. So that's how 'Research Tactics' came about. The project catalogs resources that are available online, which lets you choose a different route through those information systems. For example, there's a collection of search engines, peer-to-peer networks and torrent sites that help you get access to closed research articles. It's a slow accumulation of different ways of accessing information, and by no means a complete one.

Regarding the curatorial question, this role of collecting resources is what being a librarian is about. While collecting these 'Research Tactics' I realized that the collection looks a lot like a library catalog. And I want to acknowledge that there's a long history of collecting resources and tools in the field of library science, which is really about facilitating the navigation of information, and doing so in a way that's self-aware and socially conscious. What should a curated collection do? Looking first to libraries feels like the right answer.

AK You also curated an interactive library for the Cybernetics Conference in 2017. How did you encourage visitors to engage with its contents?

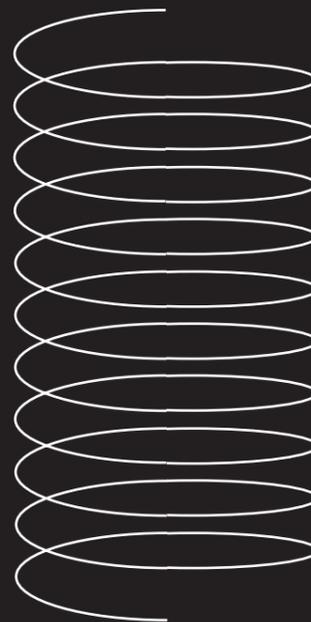
SH The project was inspired by an artist-run library called Wendy's Subway, which is co-run by a friend, Rachel Valinsky. Wendy's produces these incredibly well-curated temporary library installations that operate in conversation with an exhibition, performance series, or venue. I learned from Rachel that a library can change the tone of an event. It invites closer attention by presenting context, an opportunity to browse and explore. Bringing the conversations within and around books into the conference seemed like a natural fit for a conference about cybernetics. Sarah Hamerman, who works as a professional librarian, and David Hecht, a bookworm-architect with an incredible collection of cybernetics books, assembled a collection of technical and artist books, specifically for the conference. The library became a central organizing framework, and a site through which information circulated within the conference; it had a checkout system, built by Dan Taeyoung and Francis Tseng, which allowed attendees to indicate their interest in certain books. On top of the checkout infrastructure, a semantic model of every attendee's books fed into an agent-based simulation where books communicated autonomously, surfacing relevant excerpts of their conversations onto displays within the space. The library, simulation, and conference were designed to act together, creating feedback loops between physical and digital space, publication and performance.

AK The most straightforward embodiment of the idea of feedback is online comments. Comment sections provide a presumably democratic space for voicing your opinion, but I doubt whether they ever facilitate a meaningful debate. What could be other forms of User feedback beyond commenting?

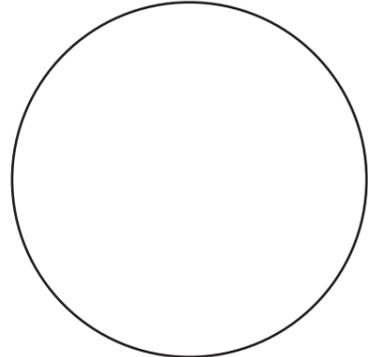
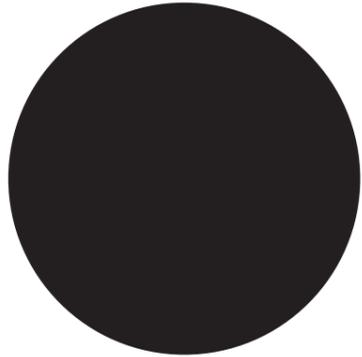
SH I agree, feedback takes many different forms. I made an explicit decision not to include comments on Avant.org, simply because I didn't want to manage it. The comment as a feedback mechanism is very literal. You read a text and respond directly, in the same space. And that can be great, if that's what you're trying to

encourage. People are going to have their own opinions about it, some people might like it and some might not. I'm more interested in accumulating the people who like it, and giving them something that they value. I would prefer it if they take that and use it elsewhere; if they incorporate those ideas into their thinking and their practice. So the feedback loop I'm interested in generating is much larger. Maybe I won't really see the end of it, and that's fine.

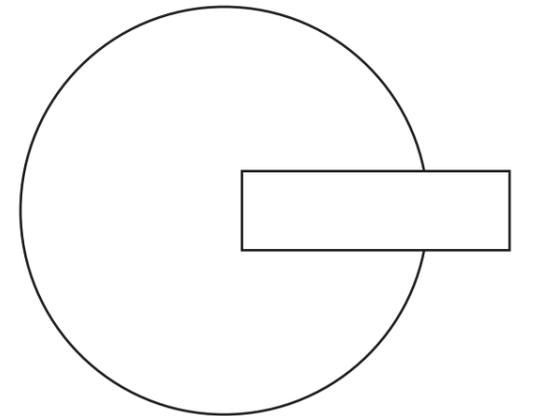
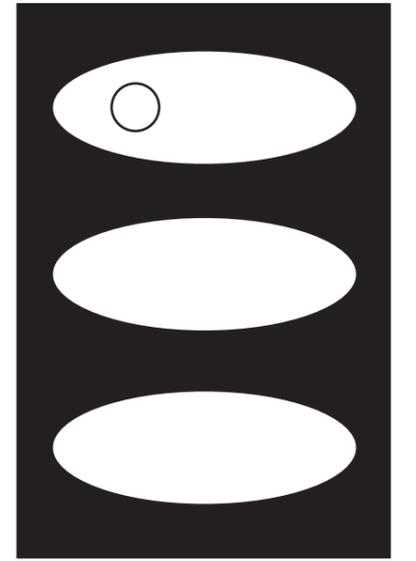
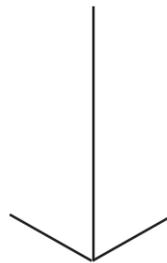
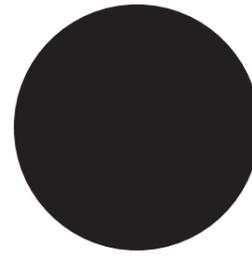
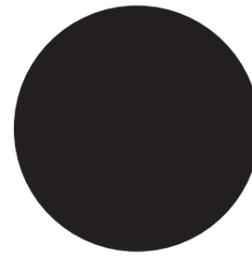
I'm also particularly interested in forms of feedback that translate digital things into physical space, or vice versa. During the Cybernetics Conference, I asked my friend Callil Capuozzo to set up a mechanism through which the social network Are.na could be used to drop images or text into a shared digital space. Then it would be printed onto the floor of the Conference in real-time. I really like the idea that viewers could run across something online, quickly give it a shape, and then render it physically in a remote space, for a different audience, where it could take on another life. If those pages are picked up, they may end up in somebody's house for a few days or a few years. Now you've embedded that object into a different part of space and time. These feedback loops that allow us to publish across networks are certainly under-explored, but I'm excited about the forms of reading they enable.



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