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Introduction

NGI Forward's community journalism program is a tool for engagement of a broader, more diverse community of experts on the themes of the Next Generation Internet. The principle is to elicit conversation-starting posts, and use them to "seed" the NGI Exchange platform. To do so, we used a combination of open calls for contributions and targeted interviews to identified thought leaders.

This, in the NGI consortium's intentions, would make the platform more thought-provoking, and therefore more engaging. The strategy appears to have worked: at the time of writing, the Exchange hosts 3,946 posts from 320 unique contributors, for a total of 646,000 words – that's well over three times the size of Melville's *Moby Dick*. It has received 230,000 page views so far.

The selection of authors, interviewees and the subjects of their contributions to include in this publication took place after the conversations on the platform were already underway, and a first round of analysis of the materials conducted. We selected contributions that conveyed the themes, observations and questions emerging from the discussions on the platform.

The posts in the community journalism program are meant to be read as stand-alone articles; shared on social media; and interacted with by way of a "Comment" button. They are published as regular forum posts on the Exchange platform; in 2021, we plan to add a second delivery method, using micro-websites that allow readers to comment posts without having to navigate the informational complexities of the forum.

This deliverable collects in one document the 60 contributions collected under the community journalism program It is organised along 7 thematic chapters: Safety and Security, Windows of Perception, Inclusive Care and Welfare, Work, Livelihoods and Business, Freedom, Control and Justice, Polities, Politics and Democracy. Alongside the text of the contributions themselves, each chapter includes some key insights. These are based on the online-ethnographic analysis of the whole Exchange corpus, not just of the community journalism program's contributions. Their purpose is to place such contributions in the context of the broader conversation they helped to spur.

We also include a 1,000 words account of the overarching narrative emerging from the program as a whole.

We mean this deliverable as a monitoring tool, mainly for the benefit of the reviewers. We do not expect many people to engage with the *document* per se. We do, on the other hand, expect the NGI Exchange community of citizen experts to continue to engage with the individual contributions it collects.

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Overarching Narrative

We've lost ownership over ourselves through the growing role of technology; how do we regain it?

Artists, academics, writers, and civil society activists are ringing the alarm bell over our lost powers in the age of the internet. Yet, there is hope for optimism.

New technologies have given us a wealth of opportunities. They have also made our world smaller. They have allowed us to spend more time with our families on and offline. But these same technologies have also brought about a new, darker reality. One that most of us are not aware of.

"Human existence is threatened by quantification through AI technologies, but we are also definitely living in the best moment in history for 21st human existence," Daniel Leufer, a Mozilla Fellow with the digital rights organisation Access Now, told us.

It was a red line weaving through all the conversations we had with artists, academics, activists and fiction writers. The internet and technology have brought us major opportunities to connect, to work, to express ourselves. But while the technology developed and people got used to it, we lost sight of what we lost, and may lose even more along the way.

Jennifer Morone, an artist and digital rights activist, went through a period of personal insecurity. She worried about the future of work when she started digging into data, how it's collected and why around 2013.

"I saw that all these big companies, Google, Facebook, data is valuable to them. And with the economic insecurity going on, we are all contributing to that value," she told me. Now she is the CEO of digital rights organisation RadicalxChange Foundation to democratize our new realities. "We need data unions. We need to be able to bargain through collective bargaining, to be able to say what data should be."

Regaining control over the data we create is an issue raised by many of the people we talked with.

Owning your property is embedded deeply in the European heritage, going back to feudal times. It is a universal human right, part of the Universal Declaration of Human Rights and in the European Human Convention on Human Rights: the "right to peaceful enjoyment of possessions." Why, then, is our data not part of this? Why do our devices not seem to offer the same protection digitally?

Nicole Immorlica — who researches the intersection of economics and computer science — believes that regaining ownership of personal data could give people a uniquely modern opportunity for financial growth as well. “Where does that data come from? That data comes from an entire ocean of humans that are generating the data,” Immorlica told me. “These humans ought to be compensated for the job.”

But it’s not only factual ownership that we discussed as a means to regain control over our lives in this digital age. Kristina Irion, an assistant professor at the University of Amsterdam’s Institute for Information Law, has been focussing on data protection from the law point of view for over a decade.

Irion argues that people should be at the centre of what technology should and shouldn’t do. We shouldn’t view large tech companies as purely private companies anymore due to their relevance to society. But, also, it shouldn’t be up to people themselves to protect their own rights; that is something a government should be responsible for.

“In this race of technologies between those who control the technologies and those who use it, we should bring the users again on par with those who control the technologies,” Irion says. “Why do we let everybody into our devices? This is personal space. It should be like we have the sanctuary of our homes.”

It’s an imperative issue Irion raises: we do own the devices we buy. Companies have questionable access into our devices and how we use them. Maybe we should also ask ourselves why we are not allowed to use them how we see fits us best.

Why can’t we get rid of apps we don’t want? Why can’t we alter apps to fit our needs? This is a question Cory Doctorow has been focussing on. He believes that we are not able to take full advantage of what the technologies have to offer us, as we have been allowing tech monopolies to form. We do not have technological “self-determination”.

“You got these concentrated sectors that can collude to spend their monopoly rents, to buy policies that are favourable to their continued existence,” Doctorow explains. “It should never be an offense to modify a product or service in order to repair it, to audit its security, or make it more secure, to add accessibility features, to support people with disabilities.”

We are not allowing people to use technologies fitting their needs best, but we are allowing tech companies to do what they want. From influencing our policies to allowing them to track workers’ productivity and emotions. We allow governments to use facial recognition. We have not been successful in ensuring labour rights for people working through app-based platforms.

“Technology that could be used to liberate people to give them more flexibility and autonomy is actually used in the opposite way. And it is counterproductive,” Valerio DeStefano, a professor in labour law at the University of Leuven, explains to me. DeStefano argues for labour unions, including platform workers, to have a say over what kind of systems will manage them.

DeStefano cautions that some uses of technology should be outright banned. Especially those that aim to predict people's future behaviour.

Agreeing with this sentiment is Daniel Leufer. Leufer is "strongly" pushing back against the idea that the human essence could be quantified. “If you're constantly worrying that every single thing you're doing is being tracked and evaluated — fed into a profile or a model of your behaviour, which is accessible job advertisers, insurance companies, and the government — that's going to significantly influence our behaviours.” In other words, we need to start allowing people to have more self-determination and diversity.

The people we spoke to all came from different fields. They had different backgrounds. They are working on different parts of the internet and other technological developments. But all came to the same conclusion: we must put people first to steer away from an otherwise disastrous future.

We need self-determination, ownership over what we create, and freedom in how we behave.

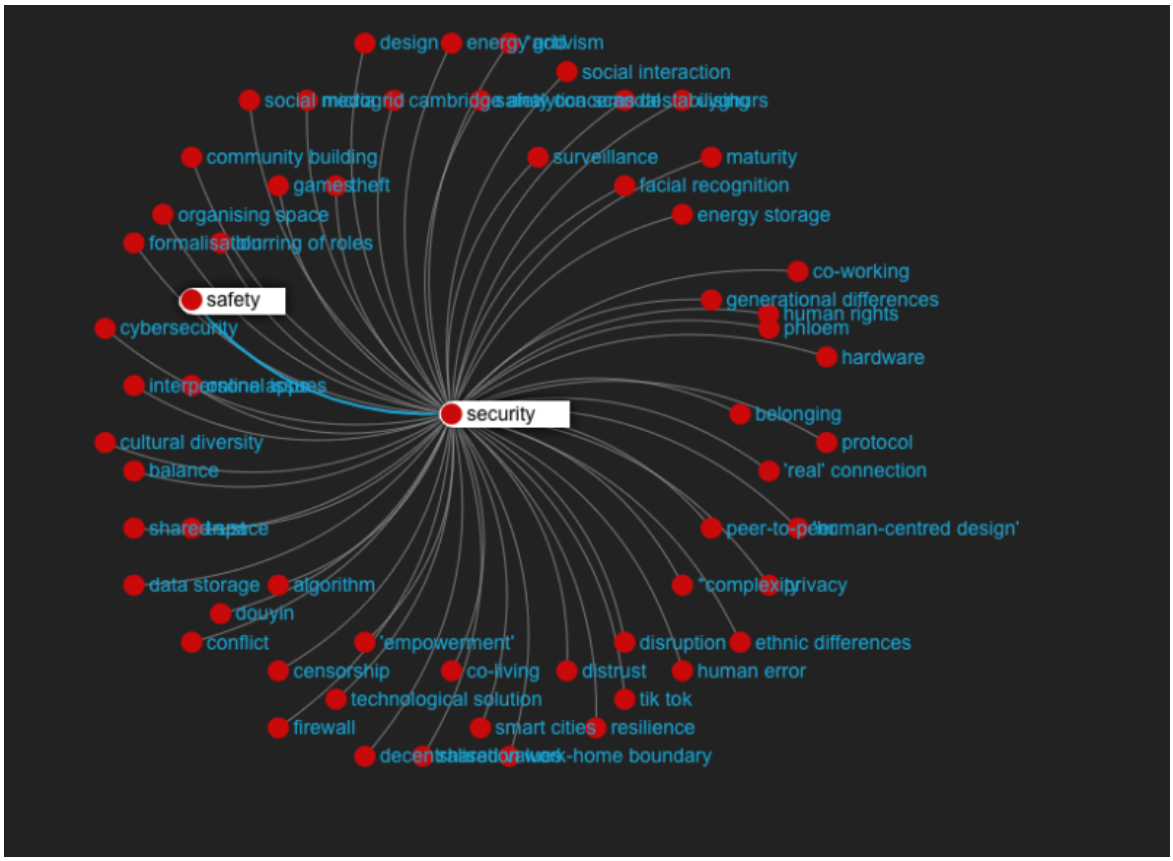
Part I: Safety and Security

In this chapter, you will find the key insights from discussions on the NGI Exchange online community platform on what protection entails and how it plays out in the context of networked technologies.

As well as a selection of articles that give a richer understanding of how topics related to protection are experienced and responded to out in the real world of people's lives and work.

Key insights

From analysing the contents of articles shared on the NGI Exchange platform and the conversations they have sparked, we see the following:



This gives us a human-centred lens through which to view the topics of security and safety in the context of networked technologies and their uses:

- Security and safety are not static artefacts or states but perceived outcomes of a multitude of interplaying factors.
- Cybersecurity does not necessarily contribute to people's security and safety from violence or discrimination, as it can cause further harm.
- Safety is tied to artificial intelligence (AI) and trust.
- Interviewees, article contributors and discussants are concerned about automation and misinformation in journalism, especially around AI.
- Approaches to create a sense of safety include *peer-to-peer learning*, *community building*, *media literacy*, *public education*, *shared space*, and *do-it-yourself (DIY)*.
- Human oversight and content moderation are seen as crucial.

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Conversation: Where next for online identities?

On the first case in the EU against government use of an algorithmic decision-making system — an AMA with Anton Ekker[1]

Anton Ekker, Attorney (LLM, PhD) at Ekker Advocatuur

In 2014, the Dutch government introduced a legislation approving the use of a risk scoring algorithm to detect welfare fraud. This system, called System Risk Indication (SyRI), pools together data from various government agencies to calculate the likelihood of committing welfare or tax fraud. The UN Special Rapporteur on Extreme Poverty and Human Rights has described governments' use of similar systems as "digital welfare states"[2] and condemned them for their lack of transparency and oversight, and discriminatory impacts. In the case of SyRI, we discovered that the system used neighbourhood data to profile against migrant and poor communities.

With a coalition of privacy organisations, we challenged SyRI on the grounds of privacy and equality violations. Earlier this year, the Dutch court found SyRI to be unlawful and ordered its immediate halt. You can read more here[3] and here[4].

This case sets a strong legal precedent for future cases.

Why the algorithm was deemed to be unfair

The court observed that SyRI was not comprehensively sweeping Dutch society. Rather, the government aimed it at poor districts. The SyRI system was used in 'SyRI-projects' targeted at specific neighbourhoods that were considered 'problem districts'. Therefore, the profiling that took place in SyRI mostly affected groups with a lower socio-economic status and or minority / immigration background.

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[1] This article is a an aggregation of Anton's introductory post and his responses to questions during an AMA event with Anton Ekker which took place on November 11, 2020 : https://edgeryders.eu/t/hi-i-m-anton-ekker-and-i-won-the-first-case-in-the-eu-against-government-use-of-an-algorithmic-decision-making-system-ama/14766

[2] Report of the Special rapporteur on extreme poverty and human rights, Advance Unedited Version, Seventy-fourth session , Item 72(b) of the provisional agenda Promotion and protection of human rights:Human rights questions, including alternative approaches for improving the effective enjoyment of human rights and fundamental freedoms: https://www.ohchr.org/Documents/Issues/Poverty/A_74_48037_AdvanceUneditedVersion.docx

[3] How Dutch activists got an invasive fraud detection algorithm banned: https://algorithmwatch.org/en/story/syri-netherlands-algorithm

[4] https://uitspraken.rechtspraak.nl/inziendocument?id=ECLI:NL:RBDHA:2020:1878

In his book *Radicalized*, Cory Doctorow has a great explanation of why AI trained on law enforcement data tends to be biased:

"Because cops only find crime where they look for it. If you make every Black person you see turn out their pockets, you will find every knife and every dime-baggie that any Black person carries, but that doesn't tell you anything about whether Black people are especially prone to carrying knives or drugs, especially when cops make quota by carrying around a little something to plant if need be.

"What's more, we know that Black people are more likely to be arrested for stuff that white people get a pass on, like 'blocking public sidewalks.' White guys who stop outside their buildings to have a smoke or just think about their workdays don't get told to move along, or get ticketed, or get searched. Black guys do. So any neighbourhood with Black guys in it will look like it's got an epidemic of sidewalk-blocking, but it really has an epidemic of over policing."

"It may be unfair, but it works." Or?

Question: "**There are predictive algorithms that are fairly accurate in predicting the outcome of a court case.**..can individuals' likelihood of committing welfare fraud be predicted from data collected in government records?"

Anton: Such effective prediction is probably inadmissible in court, because it is not based on "substantive merits of the case", but rather on observable variables that correlate statistically with those substantive merits. We discovered that this effectiveness was not neutral, but deployed disproportionately against disadvantaged citizens in another dimension:

"If you train an algorithm to maximise potential tax fraud, it will almost certainly zero in on rich people. This is simply a feature of the mathematical landscape: the higher your gross income, the higher your potential for tax fraud. Moreover, if you trained the whole of SyRI to maximise the overall monetary value to the state (social welfare detection fraud + tax fraud) it would probably still target the rich, because if you catch one rich person for tax evasion, that might be equal to ten cases of social security fraud."

AIs are trained on datasets, and evaluated on how well they perform on average. They do not need to be accurate; they just need to be a bit more accurate than the alternative. In machine learning, the alternative is normally standardised to random selection. To be

useful to the Dutch state, SyRI only needs to detect more fraud than checking citizens at random. That's a low bar to clear.

"If we are happy with being 'good' (outperforming randomness) at the aggregate level, we might need very little data. For example, in predicting the outcome of football matches, the simplest model 'the home team always wins' does (a little) better than random. Hal Varian (Google's chief economist) a few years ago went on record saying, "If you have 99% correlation, who cares about causation?" or something like that. But this extra performance only applies to predicting a whole lot of football matches (the population), while being useless if you are trying to predict one match in particular.

Prejudices outperform randomness. If you don't care about fairness and the rights of the individual, you could indeed predict that the poorer neighbours would have more social welfare fraud than rich ones. But this would come at the expense of treating poorer individuals fairly, and, unlike with football matches, it would end up reinforcing the conditions that force those people to apply for welfare in the first place."

The thing is, the consequences of a SyRI error could be dire for a person. Defending yourself against allegations of fraud costs time and effort, and often money. Asking the possible consequences for citizens in account, the predictions should actually be much better than just 'good'. If 2% percent of the outcomes are wrong, this is already affecting a large number of people. This raises the question if decisions made by the government about fraud can ever be left to algorithms alone. Maybe, human interference should be mandatory.

Standards for how to prevent bias and discrimination?

Certain aspects of algorithmic decision might be addressed in a way that resembles the 'open-source approach'. I'm thinking about standards for how to prevent bias and discrimination, how to assess the impact of algorithms and how to explain the outcomes. Such standards might be assessed and improved within the public domain. There are many different societal contexts and use cases that would have to be addressed, for instance financial sector, automotive, health care, etc.

“They keep coming”

I’m quite sure that the government will try to make adjustments to carry on with similar projects. After the judgment was given, the Dutch State decided not to appeal it. At first, my clients were very surprised. However, shortly after that, the government introduced a new legislative proposal that provides a general framework for SyRI like systems. We call it ‘Super SyRI’.

Under the new law, risk profiling technologies can be introduced in several domains. The law only provides a general framework. Specific requirements will be set in by ministerial decree, which by itself is problematic from a constitutional perspective.

Global Governance of Emerging Technologies[5]

Noah Schoeppl, Social Entrepreneur and Technology Researcher

Noah Schoeppl is primarily concerned with the way emerging technologies will shape the future of humanity. In this article, he recounts how his early interest in environmentalism led him to a study of economics and cultures from around the world. He discusses ideas from several schools of thought, and how those ideas can be implemented. One of his primary concerns is the role of artificial intelligence in a future society, which he discusses at great length.

Noah first became interested in the concept of renewable energy as a child in southern Germany, long before it had become the buzzworthy topic it is today. As he grew up, he began attending numerous protests and events promoting the use of renewable energy, but repeatedly found that the businesses responsible for such decisions were more interested in making money than creating a cleaner planet. Noah points out that for renewable energies to become commonplace, they would need to become economically beneficial as well. This led him to a study of technology and its effects on the modern business world.

Noah notes businesses are rapidly changing their models to incorporate constantly evolving technologies. He argues that there is a major generational shift in attitudes toward technology taking place today. As a result of this shift, he believes it is possible for the younger generation to completely alter the global economy to be more beneficial to all. However, he is concerned that the venture capitalist nature of Silicon Valley may lead to a less optimistic future, in which emerging technologies are harnessed solely for profit with little regard for their benefit to society.

Noah later goes on to discuss the role of the internet in creating a more utopian society. Ironically, he notices that “cyberwarfare” is a common term, while there is no inverse expression for “cyber peace”. This leads him to ponder whether the internet is an inherently aggressive place, designed to be used for the abuse of power.

Noah notes that “cyber warfare” policies are largely implemented by the older generation, which grew up with a cold war mentality. He notes that the nature of cyber conflicts is very

[5] Source: Article used under a CC-By-3.0 license, originally posted on the NGI exchange forum October 29, 2019: https://edgeryders.eu/t/global-governance-of-emerging-technologies/11282

different than that of physical conflicts between nations. Noah believes that making the internet a safer place will lead to more safety in the real world, and that in order to do so, policies need to be implemented by people who grew up in the internet era.

Noah muses on a version of international cyber peace based on the philosophy of Immanuel Kant. Kant believed that a large coalition of peaceful nations could eventually become strong enough to dissuade other nations from acts of aggression. Similarly, Noah believes large groups of internet users could look out for each other, notify each other of security weaknesses, and eventually build up a coalition of strong, trustworthy networks. While cyber warfare can never be completely eliminated, Nate theorizes that such actions would make it much less effective.

Later in the interview, Noah is asked about artificial intelligence and its role in future societies. Noah believes AI is now inevitable. The debate centres around whether it will be used for good or evil. Noah notes that AI will eventually be able to outperform humans in nearly every task, and ponders the results of this inevitability. Lastly, Noah imagines what role AI may play in law enforcement in the future. He ultimately ends on an optimistic note. He closes by saying that all technology is meant to help humans thrive, and hopefully, that will be the primary role of technology, no matter how advanced it becomes.

Can tech design for survivors?

Kate Sim, PhD Candidate, Oxford Internet Institute

A PhD researcher at Oxford Internet Institute, Kate Sim studies the intersection of gender-based violence and emerging technologies. Her work focuses on issues of trust, gender and sexual politics, and the double-edged role of technology in facilitating connections but also targeted harassment. While organising against campus violence, she personally experienced cyberharassment and lack of support from law enforcement. More resources have become available since then, but we need to change how we conceptualise these issues and fundamentally change the design of the platforms.

She helped to form a cross-campus network that grew to a non-profit organisation, Know Your IX. The space requires better structures in place to support mental health and protection from cyberharassment to reduce burnout. Research shows again and again that women, especially women of colour, tend to self-censor and reduce their visibility in order to survive — it is crucial we put more safeguarding in place to protect them.

Digital systems designed to facilitate disclosures, collect evidence and automate reporting of sexual assault are attractive to institutions because of their efficiency — and to some extent to victims, as they are perceived to be objective and neutral. However, these systems have bias encoded in them. The designers are working with their own understanding of sexual violence, which may not match victims' experiences. Some victims don't have the data literacy or English level to work the systems, which could compound their trauma. Further, the pressure to report is encoded into the design of these systems, but this is a misguided emphasis on a single optimal solution, which is not appropriate for all victims. De-emphasising reporting and focussing on "small data" driven by relationship building can create a structured conversation which is rich, insightful and telling.

Rather than asking how tech can be fixed for the better, the more urgent and important question is: who and what are we overlooking when we turn to tech solutions? How can we support practitioners in anti-violence spaces, like social workers,

jurors and judges, and advocates, with data and tech literacy, so that they have control over how they interpret and act on data?

“Don't call them AI accidents”

Seda F. Gürses, Postdoctoral Fellow at Leuven, Associate Professor in the Dept of Multi-Actor Systems, TU Delft

With an undergrad degree in international relations and mathematics, Seda is now an academic at Delft University, focussing on how to do computer science differently — utilising an interdisciplinary approach to explore concepts of both privacy and surveillance, and also looking at what communities need. They were led into this field of study by their fascination with the politics of mathematics and the biases contained within seemingly neutral numbers.

The technological landscape has changed enormously in the past few years — from static software saved on a disk that was only updated every once in a while, to software and apps that are held on services and so constantly updated and optimised. A whole new host of privacy and security issues have arisen, and thus the need for a computer science which secures and protects the needs of its users.

The negative consequences of prioritising optimisation over user experience can be seen in Google Maps, which sends users down service roads to avoid freeway traffic. They don’t care that this has an adverse impact on the environment and local communities, or even that it actually causes congestion on smaller roads. Further, Uber has optimised its system to outsource risk to its workers: instead of paying people for the time they work, Uber offers them a system that tells them when they are most likely to get customers so that they can manage their individual risk.

When this kind of tech injustice is applied to public institutions such as borders and social welfare systems, the discrimination embedded in the very systems mean we are changing the fabric of society without having the necessary discussions as to whether that’s something we want to do. We need to stop talking about data and algorithms and focus on the forms of government we want these technologies to have. It is crucial that the computational infrastructure boosted by AI serves people, not the other way around.

Distributed systems promise great possibilities — and challenges

Hugi Ásgeirsson, Creative Producer, Researcher, Developer, and Community Builder

In 2019, Hugi was in Berlin for the Data Terra Nemo conference, focussing on decentralised web applications which are hosted without traditional servers, allowing for a lot of interesting applications.

They were inspired by the human-centric community that has grown up around 'gossip' protocols like Scuttlebutt. It seems to be forming a playground where new and radical ideas can be tested and implemented. The original developer of Scuttlebutt, Dominic Tarr, describes his MO as: "not to build the next big thing, but rather to build the thing that inspires the next big thing, that way you don't have to maintain it." And this seems to have set the tone for Scuttlebutt itself.

One of the core elements of Scuttlebutt is that users can host data for other people on the network without being directly connected to them. This has the positive effect that users in countries where internet usage is highly restricted can connect via other users — though on the other hand, this also means that users could unwittingly be hosting information they would rather not propagate. There have been instances of the Norwegian alt-right using Scuttlebutt to communicate. Scuttlebutt has been working to address this issue but solutions are imperfect so far.

The bottom line is that distributed systems such as Scuttlebutt are both democratising and empowering and they come with a whole new set of possibilities and challenges.

On personal data protection, GAIA X and humanitarian work

Raquel Jorge Ricart, Fulbright Fellow, Security Policy Studies program at the Elliott School of International Affairs

Raquel Jorge Ricart is a Spanish Fulbright Fellow with special interests merged in technology and public policy. Having pursued her Master of Security Policy Studies in the United States, Ricart has noticed a lacking nexus between security and technology politics as they exist in Europe. In her time at the Berkman Klein Center for Internet & Society, Harvard University's research institute for technology policy, she narrowed in on the social impact of AI and internet governance. Between her academic and professional work, Raquel has advocated for not only European, but Latin American and African countries to invest in their confidence in technology politics.

Though privacy concerns are growing rampant on a global scale, Ricart finds that the urgency of technological security has aligned with increasingly individualistic societies, and therefore, the disruption of social democracies and eventually, their political institutions. She believes that with any hint of mistrust between public institutions and their constituents, security issues have the potential to rise. Raquel notes that technology has helped many communities to voice their opinions; whereas groups in authoritarian domains have often resorted to the dark web for the room to exercise "free speech".

Simultaneously, technology and internet governments have also exhibited considerable potential to strengthen sustainable development goals. For example, private companies within bustling capitalist societies are now adopting more ethical principles and technologies with which to conduct business. Ricart notes that while these actions might show businesses assuming more social responsibility in technology for matters of interest and strategy, it's equally fair to say these same companies may wish to genuinely contribute to the ethical principles of internet governance.

On the note of technological competition, Raquel believes that the European Union is cognizant of its standing among rivals in the United States and China. However, Ricart is clear in stating that while the EU doesn't have the capabilities to move independently of these countries, Europe could certainly further separate from its ties with China. In fact, many member countries lean towards outsourcing products and services, when the European Union could very well embrace more of its largest in-house specialists for technological and security development.

In her work in the United States, Ricart has noticed a drastic cultural shift from that of European societies and their respective internet governances. The European values with which she has always been familiar were rejected in America, where free-market individualism has reigned. In light of this foreign atmosphere, Ricart has led with community-based approaches in her technological security advocacy work. While one may find it instinctual to gravitate towards those who are already taking the necessary steps to preserve their privacy, Raquel finds great importance in educating those who might be more susceptible to misinformation, regardless of the state of their internet governance. Despite Europe's good intentions with similarly good resources, Ricart maintains that the collective will continue to lack some major capabilities. For example, in her attempts to contact European organisations on the matter of digital sovereignty policies, many lack the information and resources to be able to implement such changes at the rate of competing entities.

And when it comes to the distribution of power and agency between regional technology governments, much of it is centralised in southeast Europe — specifically in Brussels. In order to create a safer, more technologically prosperous whole, each member of state will have to fulfil the responsibility of creating more hubs within its country. Whether academic, public, private, or social, these centres will best serve their respective region if they are also well-diversified on a range of specialties.

Looking ahead to bridge these existing gaps in the European Union's collective handling of personal data protection, Ricart idealizes a digital innovation hub. With the ability to interconnect, exchange platforms, and share best practices, member countries could take large strides side-by-side.

Steady developments like these could also have great effects on the functions of humanitarian technologies in the European Union. Simply put, these technologies are employed to further the efforts of humanitarian work but simultaneously pose substantial threats to data protection. With the investment in personal data in order to conduct the nature of their work, NGOs (non-governmental organizations) often handle sensitive information from their served populations.

Despite its greater potential for risk, humanitarian technologies are something that Ricart believes are being used in constructive ways. Through good evaluation, assessments, and

instruments, this niche in technological advancement could benefit just as much as, if not more than, those interested in conventional data protection policy.

Conversation: Where next for online identities?

Alberto Cottica, Research Director at Edgeryders

During a session on online Identities at the 2019 NGI Forum, I had a sort of epiphany: self-sovereign identities and decentralised governance of personal data are incompatible with monopolies. We agree to anything, when that unlocks a service we need. Imagine you had one of these amazing data wallets, allowing you to authorize which services can access which personal data. Now imagine that your bank, or your keystone social networking service, told you "I want access to all of your data, or else you don't get an account from me." What are you going to do? You cannot function in modern society without a bank account (or, some would say, a Facebook account). So you agree. You agree to anything at all. That's not because of any technological issue. It's because you have no power.

We have been in a similar situation before. In the early 20th century, for-profit companies operated public utilities like energy, water and rail transport. This happened because of technological reasons: building two aqueducts in the same city is wasteful. The first company that builds an aqueduct can obtain a monopoly of water provision in that city, and maintain it forever. This was called a natural monopoly. Today's "network externalities" provoke a similar effect, and for similar reasons.

This situation led to massive profits, driven by the power imbalance between monopolist providers and users; to the exclusion of less affluent users; and to rent extraction, pushing potentially viable businesses into the red. Europe responded with antitrust legislation, with its array of policy tools: nationalisations, tight regulation by specialised agencies, and direct provision, with public sector actors starting their own water, energy, and transport companies. Municipalism played a major role here: where the state would respond too slowly, or not at all, cities stepped into the breach, at least in some countries (including Italy). It is maybe not a coincidence that the strongest critical voice claiming to reduce the power of business was Francesca Bria's — Europe's digital municipalist-in-chief.

It comes down to game theory. If I had the personal data wallet right now and my bank refused to accept it, saying "Nah, you have to fill this online form;" or if it did accept it, but only under the condition that they get access to the whole thing... I would consent. What can I do? Now, if the European institutions owned a trusted operator that would accept that data wallet in an equitable way, now I could tell my bank, "Fair enough, I'll take my business elsewhere." This way, the game has a completely different equilibrium.

Maybe, in order to get this stuff adopted, you need antitrust policy?

As I read more about the topic of identity management, I find many words and expressions that are highly specific of that intellectual space, and they are not necessarily super intuitive for a non-specialist who is trying to form an opinion. So, I feel the need for a small glossary where I can stash their definitions, and come back to when I need to refresh one. I came across this post and I decided to start writing one.

Disposable identities

"We need to break the number-person relationship: when you get born, you receive a number from the state, and the game's up. I dream of disposable identities, that we set up with the purpose of entering into a relationship, like for example receiving a service. A good analogy is one-time email addresses: you get an email address, you sign up to some online service with it, use it ONCE to receive the email to confirm you do control that email, and then it self destructs."[6]

Disposable identities are temporary attribute-based identities describing a smart contract between a receiver and a supplier of a service, i.e., rent, leasing a car, energy for a home, paying taxes, basically any service.

I am not sure about the "smart contract" part, but the "disposable" part seems to point to identities that are "one shot": you use them to secure a certain service, and then never again. An example close to the experience of many of us is disposable email addresses: these are addresses you only use when you sign up to an online service, and only to do one thing: validate the email address. Once validated, you throw them away, or they even self-destruct (but now you need to store your login information in a safe place). You can also get disposable phone numbers, and there is even a fun fake name generator you can use to confuse algorithms.

Ok, but then how would it work to rent a car based on a disposable identity? When you rent a car, you need to show your driving license, for the very good reason that you carry responsibility and liabilities for any bad deed you might be carrying out with that car. It would be nice to rent one with a disposable ID, but I don't think Avis will be willing to give you the keys.

[6] Rob Van Kranenburg

Trust framework

I think the document refers to the IoT Trust Framework. This is basically a checklist meant to assess the trustability of a connected device. If the device does not meet the framework's requirements (that is, if one or more "must have" characteristics are not there), then the device is not trustable.

Provable computing

I cannot find online definitions of this. By analogy with provable security, I imagine it to be a type of computing which does *not* happen in a black box; you can verify that the computing really treats the input data in the way it says on the label.

In science, we have a similar concept called reproducibility. It comes down to publishing not just your results, but also your data and the code to crunch them.

Self-sovereign identities

Self-sovereign identity is the concept that people and businesses can store their own identity data on their own devices, and provide it efficiently to those who need to validate it, without relying on a central repository of identity data. [...] There are three parts to identity: **claims**, **proofs** and **attestations**. (source)

Single source ID layer

An obvious consequence of Big Data/Big Tech/Big Money, and these initiatives can be interpreted as society's reaction against this.

"It's truly a fascinating topic, identity — but there is little by way of international law — the real deal with identity is the intrinsic power in "papers please" that a government can exert of its (or other governments') citizens, and what that means both internally to that country (social benefits, business opportunities, etc.) and externally (migration, for instance). GoodID comes from this type of argument: "identity is a resource, it's valuable, and tradeable.

"In Sweden, all formal identities are tradable commodities owned by the government — social security numbers, car plate registration, corporate identities, information about grades, address, school, name, number of children, income, taxes, etc. Most major public authorities in Sweden finance their IT by selling personal data to various entities.

"For instance, one major IT-security scandal reported by Svenska Dagbladet (big Swedish newspaper) about 2-3 years ago concerned the sudden, but brief, unavailability of the "Social Security Agency (Försäkringskassan) databases to private insurers in the middle of the night. Not such a terrible security incident in my view ('oh no! an insurance company could not purchase citizens from the SSA for two hours on a Thursday night!') — but it's extremely engrained in Swedish society.

"On principle, I'm not so comfortable with this — I do not consider myself, not even my formal administrative incarnation under Swedish public services, a tradeable good and I do not see others this way either. But I recognise it's one of the administrative models that exist in the EU, and yeah.

"My 'favourite' government identity management system in the EU is the German system. I think it respects the need of individuals for unlinkability and diversity, and also that it divides power between institutions and citizens in a scalable way. A different way of solving it — which I suspect is the backdrop of the #WhyID campaign from AccessNow — is the Anglo-Saxon way: having no centralised government identity management at all, per se ("why government ID?").

Maybe fidis.net 2 will contain some more interesting thoughts for this discussion. It spawned, for instance, this Open Access Journal (which alas closed in 2010): https://link.springer.com/journal/12394"[7]

[7] Comment from Amelia Andersdotter, Director of Strategic Initiatives at CENTR, Technical privacy advisor to the Rethinking Data project at Ada Lovelace Institute in London.

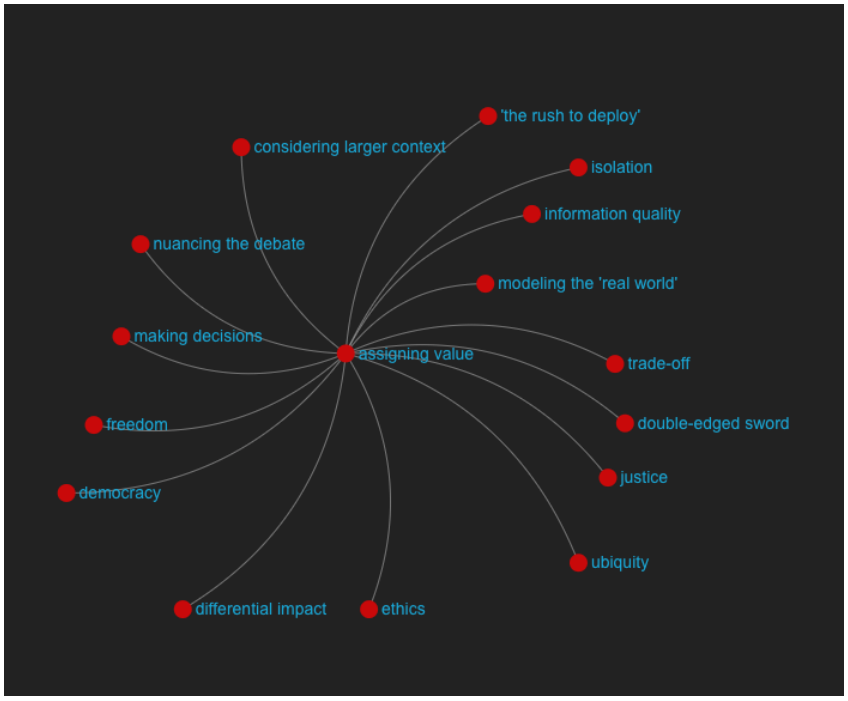
Part II: Windows of Perception

In this chapter, you will find the key insights from discussions on the NGI Exchange online community platform around what true European values are beyond the rhetoric of political discourses and how to embed them in the future internet.

Here we get into exploring the lenses through which tech discussions are had. We cover contemporary ideologies, ethics, values and norms as well as explanation models, e.g., conspiracy theories and misinformation/psyops (e.g., discussions about ethics in citizen/open science).

You will find a selection of articles that give a richer understanding of how these “windows of perception” are expressed and responded to.

Key insights



- There is a challenge in defining terminology as people struggle or attempt to define these internet concepts for themselves — this also applies to experts with deep domain expertise.

- This in part comes down to differences in how people assign value.
- "True European Values" in practice could be seen as the emergent outcomes of different trade-offs made between these different priorities in any given situation.
- Navigating this might require new tools for ensuring NGI-related debates lead to outcomes that in practice live up to European Values.
- Indabas, a South African negotiation technique credited for getting 195 countries to come to a consensus during the Paris Climate Talks, could be a source of inspiration here.[8]

We have long been aware of the corrosive effects of disinformation and microtargeting on social cohesion. COVID-19 has reminded us of the deep underbelly of the hyperconnected society — from disinformation spreading at unprecedented speed, to extremists and adherents to longstanding conspiracy theories making full use of the internet to connect and coordinate their activities.

We have also long been aware of the power of tribal identities in the political arena: Demagogues have been weaponizing our unwillingness to consider facts that challenge our external social allegiances. And put into the spotlight historical injustices — forcing us to take positions on how to respond to them. This phenomenon is well known and to be expected in the area of mainstream political debate.

At this stage in our technological advancement, many in the Academy and professions ostensibly informed by scientific progress prefer to imagine that we are immune to epistemic closure and the most corrosive of in-group/out-group dynamics. But COVID-19 has reminded us that in the information age, not even healthcare practitioners or the academy can fully cope with the vast quantities of information to which we are exposed, nor withstand the power of tribal identities. And we have experienced first-hand the horrific harms that the resulting decisions have unleashed in our lives and economies.

Perhaps this is to be expected. Perhaps it is a matter of time needed to adjust to the new hyper-networked reality. It took over a century for the Ptolemaic system, the Prevailing Science, to be replaced by heliocentrism and become widely accepted. A question remains: where are we now in the evolution of how we understand the world?

[8] The Simple Negotiation Tactic That Got 195 Countries to Agree at the Paris Climate Talks: https://www.inc.com/jessica-stillman/the-simple-negotiation-tactic-that-got-195-countries-to-agree-at-the-paris-clima.html

Directory of Articles

Epistemic resilience of the medical community *Featuring: Marco Manca, Medical Doctor and Member of the NATO working group on meaningful human control over AI-based systems — Co-Founder and Chairman of the Board of Directors, SCimPulse Foundation & Simona Ferlini, Public Servant in Health, Activist, Political Philosopher. Author: Alberto Cottica, Research Director at Edgeryders*

When something is "good", should it be everywhere, all the time? *CherryRecently, no affiliation presented*

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Managing the Infrastructural Unknown: Magic as Craft *Slaughtr (affiliation unknown as author has used an alias)*

How do we organize society for a whole-systems approach for developing the Internet? *Mattias Axell, Kaospilot and Creative Process Leader*
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Ideas to demand more from the internet and for the planet *Michelle Thorne, Senior Program Manager at the Mozilla Foundation*

How one decentralized social network became a promising model for the expanding collective intelligence *André Staltz, Open-Source Developer and Freelancer*

Epistemic resilience of the medical community[9]

Featuring: Marco Manca, Medical Doctor and Member of the NATO working group on meaningful human control over AI-based systems — Co-Founder and Chairman of the Board of Directors, SCimPulse Foundation & Simona Ferlini, Public Servant in Health, Activist, Political Philosopher

It turns out that the health care system in many countries (but not in all) have been over-optimised over the years. It was honed to be efficient in the context of a predictable environment, with a known mix of pathologies. Over time, it discarded redundancies and second lines. It is now badly equipped to deal with unknowns and black swan events.

Over-optimisation has also happened in agent space. In addition to hospital wards not running at full capacity being closed, the people who were promoted to leadership positions in public health tended to be narrow specialists, who built their career on, say, hepatitis B. Their epistemic horizon is also made for stable environments. They do not know how to move in an epistemic space where evidence is absent, or ambiguous; they are not used to questioning evidence, and dislike doing so.

The result was a situation where evidence from China was not sifted and interrogated, but mistrusted. As a result, many countries in Europe underestimated SARS-CoV-2 ("mortality is similar to a flu," which is of course true if you have the resources to treat every affected person to high standards).

At this point, in Marco Manca's reconstruction, the whole system went into emergency mode. The emergency plus the epistemic rigidity mean that the protocols that are being communicated to doctors on the frontline are shaky at best, and "magical thinking" at worst.

Ward directors and even government guidelines (Italy) will tell doctors to "keep working on patients even if you test positive, as long as you're asymptomatic" (!!!), or to wear makeshift masks if you do not have proper ones "because they are better than nothing." Intensive care wards are being erected in a few days, by reconverting space from, say, psychiatric wards.

[9] Article originally posted by Alberto Cottica on the NGI Exchange forum on March 29, 2019 and used under a CC-BY-3.0 license: https://edgeryders.eu/t/epistemic-resilience-of-the-medical-community-a-proposal-that-just-came-through/13013

Additionally — and this is very, very serious — there is strong suspicion that actual data is being hidden or misrepresented. Hidden: I have some personal evidence, as the open data community in Italy is desperately asking regional authorities to release the data with open licenses and proper documentation. Misrepresented: it turns out that, in places like Bergamo, only 10-25% of the extra mortality with respect to the seasonally adjusted average is explained by the official deaths due to COVID-19. It's hard to really figure out what is going on, also because shifting criteria of access to testing (Italian) means that there is no way to even observe the statistical trends.

Epistemic resilience means, instead, being critical of evidence, and disobeying if that saves lives or unnecessary suffering. In the case of masks, we do have evidence: a makeshift mask is to a mask what a blanket is to a parachute. It is not "better than nothing"; it is exactly the same as nothing.

A makeshift hospital ward might have intensive care machines, but it risks infecting patients in nearby wards unless air circulation is addressed seriously, with proper ventilation and filters, which is a feature distinguishing makeshift wards from proper ones. Plus, these things might create a false sense of security — again, we have literature on this, more from finance and from war medicine — and distract us from taking measures that, while far from optimal, are indeed "better than nothing". Example: isolate people at home, and send them cheap DIY ventilators or some such.

Marco and Simona think that epistemic resilience for the medical community means four things:

1. Build a trusted knowledge base on practices to deploy in the face of the evidence we have, and do not have. Right now, doctors are getting advice off of YouTube channels and random people on WhatsApp. Some solid stuff is there, but also people who say the government has created SARS-CoV-2 to kill all the NoVax. This knowledge base is necessary, because in the face of bad instructions, doctors and nurses need some good evidence-based knowledge to push back with. This need is the reason they are all on WhatsApp. Marco thinks this would consist both of articles and of stories from the frontlines. Important: this needs to be multilingual, because "the doctor on the field in Heidelberg is going to look for evidence in German."

2. A lobbying effort, informed by this knowledge, to try to get the healthcare system unstuck.
3. A way for these doctors, nurses, etc. to stage a symbolic protest. “We cannot strike during an emergency, but maybe we could carry a symbol, or something.”
4. A community is assembling around them; translation efforts could be asked of groups like Translators without Borders. But such a community needs to be hosted and supported with some editorial/community management work.

When something is “good”, should it be everywhere, all the time?

CherryRecently

In this essay[10], CherryRecently wonders whether or not the internet should be available everywhere. They imagine a world in which the internet is a physical gathering place rather than a network reached from a private home. They ponder whether or not the internet is inherently good or bad, and what steps can be taken to make it a more efficient tool for humanity. Additionally, CherryRecently examines the role of patriarchal white supremacy and how this has affected the development of the internet.

They begin by creating a hypothetical scenario, in which an individual is forced to leave a hotel room in Cuba because it is not equipped with wi-fi. The individual then purchases access from a street vendor and takes his place among a thriving community of people who are using the same network. CherryRecently wonders if misinformation and hatred would be less ubiquitous in this hypothetical example.

CherryRecently goes on to compare the internet to essential resources such as education and water. They question the western notion that the internet is as important as these resources. They examine how different cultures around the world view the internet, and note how differently it is used outside of the western world. By noting examples such as entire families sharing a Facebook account, they point out that the internet may not be entirely essential to everyone, everywhere, all the time.

They then go on to ponder whether the internet is “good or bad”. They conclude that it is merely a tool, and not the powerful force for freedom that many Americans consider it to be. They note that oppressive governments have used the internet for propaganda with great success. CherryRecently specifically cites the Arab Spring Uprisings, questioning which side of the conflict benefited more from internet access.

In the latter part of the essay, CherryRecently examines the stereotype of the average internet loner. They mention that we tend to picture this individual as a lone white man hunched over a keyboard. They believe that this stereotype can be erased by creating new systems to promote equality.

[10] “Non Ubiquitous and communal internets” - Originally published on the NGI Exchange forum on May 25, 2019: https://edgeryders.eu/t/non-ubiquitous-and-communal-internets/10007

CherryRecently closed by reflecting on the many ways our technology encourages exclusion. The interfaces we use to access the internet inherently encourage isolation. CherryRecently ends by imagining what the internet might look like after a few years of innovation. And while they do not believe a utopian society is on the horizon, they do believe we are beginning to see signs of how the internet may encourage a freer society.

Bridging the gap between the tech world and modern policy-making on the collection and sharing of data

Andrew Puddephatt, Founder Director at Global Partners & Associates trading as Cedar Partners

Andrew Puddephatt was once a human rights activist, having run an international NGO for 19 years. After leaving this organisation in 2004, he was quickly commissioned by the Ford Foundation to investigate prospects for free expression on a global scale. Since then, Andrew has developed his own expertise in internet policy to consider the lens of human rights on the internet's full capabilities.

Puddephatt echoes much of today's cultural commentary in stating that the internet is now a kind of communication media that impacts most walks of life: it has effectively democratized speech globally. While it has enabled us to bypass the walls of editors, publishers, and others with responsibility for content, it has also been the source of information overload. But this doesn't stop Puddephatt from believing that it is actually a miraculous tool at our disposal. It has ultimately led to a great deal of mobilisation of organisations like those that he's headed, facilitating inference in democratic public processes around the world.

Economically, these technological structures have created a new set of winners and losers. Many large platforms perform in monopolistic positions, but the existence of these platforms also indicates a flourishing of small to medium enterprises. After all, one can only marvel at the ease by which one can create a startup from the humble beginnings of their bedroom.

Of course, holding these larger platforms accountable in this virtual, free market is another challenge in itself. Puddephatt observes that the digital world doesn't quite seem to serve the interests of users that fully allow them to make informed, genuine choices about how they engage with it. He considers the next priority in policy-making to be strengthening that user experience. How can we support users to understand exactly what happens when they go online — particularly how their data is distributed, advertised and so on? While these monopolistic platforms hold a dangerous amount of economic power, there are layers of issues that must be dissected as well.

One of the most inconspicuous yet troubling concerns is that of data collection. For instance, when the pop-up ad was first developed in 1996, no one envisioned the amount of data harvesting that would follow the initial business model. While issues like these are moving to the primary focus of those developing public policy, much of the foundations of the tech world are driven by engineers who aren't as quick to consider the risks involved in what they build.

In fact, it is fairly common for harmful content to circulate heavily populated platforms without censorship or regulation. Suggesting what he calls "duty of care", Puddephatt encourages these enterprises to take responsibility by safeguarding the public good: establishing a conduct of transparency by reporting exactly how they manage content. Though these certain groups often gather on specific sites that lack the proper scope of regulation, there is also limited comprehension among policymakers about how this content even operates online in the first place.

Andrew believes that what regulation *is* crafted often misses the mark. These efforts may have minor clean-up impacts, but they won't necessarily enact any major strategy in handling the worst illegal content that exists.

So, what might change the level of impact for this kind of policy? Puddephatt believes it's global consensus, strongly advocating for a unified network among countries in order to suppress this kind of harmful content. However, it likely won't be such an easy task. Countries like China and Russia are keen on protecting "internet sovereignty", which aims to stop human rights and democratic values from bleeding across these borders.

What much of this boils down to is a disconnect between tech developers and policymakers. Many of the latter are simultaneously experiencing a steep learning curve of technology that has exploded in the past twenty years. Having an understanding of the technical structure of the digital environment is not only helpful in this context, it is vital when discussing digital policy. Andrew believes that having so much as engineers in-house would allow legislatures to create more effective policy.

Ideally, Puddephatt envisions a comprehensive, regulatory framework that addresses all of the major issues present in online spaces, allows companies to flourish, and supports users with respect to their basic rights. Perhaps there would be clearer rules over the governing of data sharing — data that would ultimately belong to the user. Even special consideration could be taken in respect of users' mental health processes as they use digital services on a

day-to-day basis. Lastly, there would have to be adequate competition laws that would enable new platforms to break into the once-monopolized digital sphere.

These plans for a safer, more prosperous online sphere may be set some time into the future, but it's the visions of those like Andrew that make them more achievable.

Building my own browser to explore decentralised discovery[11]

Adrian Cochrane, Creator of Odysseus web browser

My name is Adrian Cochrane. I live in New Zealand. I'm starting a software/open-standards contracting company with my father, after having graduated from Victoria University of Wellington with a BSc in Computer Science.

I really value software freedom and privacy, and hope to do my small part in bringing it further forward. Climate change is the other main issue I care about.

Today we rely on very few sources for discovering the information we want and need, mostly having it fed to us by Google and Facebook. I have long been fascinated by how to solve this, and have currently come to the conclusion that part of the blame lands on longstanding browser UI design.

If the browser asks users to select a single search engine or a single homepage (or use the default), people will come to use that webservice for everything. And those services will try to address every use case rather than shine at particular ones.

To explore this, I have created my own (WebKitGTK-based) web browser "Odysseus 3" and have published it to the elementary 1 AppCenter (though I will soon be deploying to other distros as well). I very comfortably use it as my primary browser, and I'm aware of others happily using it as well. But let me describe why I find it's features so valuable to illustrate my thinking:

Top Sites

I'm worried about people coming to rely on their homepage for most of their discovery, so I don't want to have just a single one. Google Chrome's (or is it Opera's) concept of "top sites" provides one way for multiple sites to share that prime real estate in the form of links.

Though at the request of others, I plan to try another approach as well, where people can set multiple homepages for the browser to choose at random for each new tab.

[11] Article originally posted on the NGI Exchange platform on May 17, 2019 https://edgeryders.eu/t/building-my-own-browser-to-explore-decentralised-discovery/9920

Web Feeds

I really don't like the alternatives to this early web technology. I don't want people to waste their time reloading specific websites, nor do I want that to be solved by having all updates routed through a centralised service. That would just defeat any decentralisation the web has left!

Web feeds allow a client application to load updates from all registered websites and merge them client side into a single list, fully under the user's control — getting away from the AI-curated timelines of Facebook, et al. And they are useful to web developers to split and combine these data streams however they want.

App Recommendations

Like other browsers, Odysseus will open non-HTML and -HTTP links in other apps already installed on your computer, and it sends web feeds to native apps as well for subscription. This is vital because without that central server delivering code, native apps have more freedom to be peer-to-peer. And browsers should have the freedom to focus on rich text rather than being a virtual machine for networked apps.

To help the adoption of those apps, Odysseus takes it one step further than other browsers: if you do not have a compatible app installed, it will recommend some to you from your package repository. This currently works on any AppStream compatible distro.

Personalised Suggestions

We currently go to sites like YouTube when we want to idle away our time, but those sites do not necessarily have our best interests at heart when building their AIs. At the very least, they want to keep us on their site. We need something more decentralised we can trust.

These technologies ask the question, "What pages are related to those I've visited?" I plan to answer this with, "What did they link to?"

That is, I plan to echo back the unvisited links you encounter online as personalised recommendations. This sort of technique may also be useful for exploring problem areas, more professionally.

Bookmarks & Bookmark Sharing

The common wisdom I see is that people don't use bookmark managers and instead find it easier to search for it again through Google. From a privacy and network efficiency perspective, this is a big usability fail. For this reason, I'm planning on basing my bookmarking system exclusively on tagging, and allowing web pages to offer some default tags to organise themselves under. Ideally making the process a single click and review to bookmark, and a single address bar search to retrieve.

Furthermore, since your friends and family are your best sources of links, and to aid people in helping others to discover the pages they've found useful/enjoyable, I plan to provide tools to share subsets of your bookmarks.

Combined Search

I mentioned above that I think it's a huge problem that browsers make it significantly easier to use the "default search engine" than any others. To address this, I plan to make it trivial to register multiple search engines and search across all of them simultaneously, possibly filtered by some tags.

At least in the geospatial profession (and Searx), there's good support for this in the form of the OpenSearch standard, but I will need fallback logic to work with the dominant search engines of today.

"This sounds like a wonderful Idea. I love the concept of decentralized discovery. I've been working on something very similar with novelty creation rather than classification in recommendation algorithms. I've been calling them Bubble Breaker Algorithms. I'm looking at harvesting unvisited links you encounter to echo back as personalized recommendations. I've got a working prototype and paper ready, perhaps this could be useful to you?" [12]

"This story is about IndieWeb, but really it is about efforts like yours: When social-media servers aren't controlled by a small number of massive public companies, the incentive to exploit users diminishes. The homegrown, community-oriented feel of the IndieWeb is superior to the vibe of anxious narcissism that's degrading existing services. And, in a sense, decentralization also helps solve the problem of content moderation. One reason Mark Zuckerberg has called for the establishment of a third-party moderation organization is, presumably, that he's realized how difficult it is to come up with a single set of guidelines capable of satisfying over a billion users;

[12] *CherryRecently*

the IndieWeb would allow many different standards to emerge, trusting users to gravitate toward the ones that work for them. Decentralization still provides corners in which dark ideas can fester, but knowing that there's a neo-Nazi Mastodon instance out there somewhere may be preferable to encountering neo-Nazis in your Twitter mentions. The Internet may work better when it's spread out, as originally designed."[13]

"What strikes me most from Odysseus is that it is part of an ecosystem different from the one I live in (Mac OS X + Firefox + several ad blockers), which I had no idea was out there. Odysseus works with Elementary OS, and it's available from its AppCenter. It (like, one presumes, Elementary itself) was based on the ethical design manifesto 1 — and that, for me, was what really hit home. The more I hang around the hacker community, the more I think that most of what Europe needs to build a human-centric Internet is already out there. There is a large, diverse, investment-ready portfolio of technologies, companies and NGOs, standards and principles (like ethical design itself) and, most importantly, people. If the EU were to put some of its considerable firepower behind them, we might actually get somewhere in a relatively short time!"[14]

"Elementary OS actually predates The Ethical Design Manifesto, but it describes what we do very well. It's actually a fascinating story behind elementary OS, one of people getting inspired by the work that came before them and taking it further. It started with an artist creating an icon theme! And yes there's a remarkable number of people around the world who are actively working to address these issues. We are often lacking funding, marketing, and sometimes UI design skills, but it's getting better and I think that just goes to show how deeply we value it."[15]

[13] John Coate
[14] Alberto Cottica
[15] Adrian Cochrane

The problem does not lie within the data exclusively, it lies with our intended purpose for them

Marco Manca, Member, NATO working group on meaningful human control over AI-based systems I Co-Founder and Chairman of the Board of Directors, SCimPulse Foundation

Marco Manca is an interdisciplinary researcher in mathematics and informational systems with an educational background in medicine. He founded the SCimPulse Foundation, which he still directs, and is also part of several scientific organisations and commissions, including the working group of NATO for human control over autonomous systems.

Marco feels there is a lot of excitement about AI and a push to accelerate its implementation widely — but that it is crucial we consider AI a “nifty tool” to use with awareness, rather than an impeccable “leader” that must not be questioned. AI systems are only as good as the data inputted and the questions asked of them by humans. This means that the conclusions returned are not free of human biases, but rather potentially amplify them. Essentially, as they are used now, AI systems simply return the same results as humans would, just “faster and dumber”.

This is a concern because of the rush to implement AI, particularly in the field of medicine. In medicine, there is an expectation of precision, but with so many biological variables, the more precise you get, the more you diverge, so large-scale information potentially becomes less valuable. For example, in the 1970s, various tools were introduced to help doctors predict the likelihood of certain diseases, but attempts to refine these profiles over the years have hit a barrier. Just as you could play a lottery with 1/1000 odds every day for a thousand days and still not win, there is a crucial difference between “the destiny of the person in front of you right now, the destiny of every similar person.”

His argument is not that we should not be developing AI, but that we must consider how we develop and implement it and how we contextualise the information it gives us. If we simply scale up the information we work with now without being informed about the risks, we risk causing serious damage.

Stepping Outside, or: A Job for a Hacker

Jeff Andreoni, Writer

We spent 45 minutes trying to connect on Mumble, partly because he overslept, but mostly because my mic wasn't working with the software… one of the pitfalls of open-source alternatives.

Finally, we connect via one of his various servers located somewhere in Europe; he thinks this one is in the Mediterranean. I already feel I am in safe hands as the expert of internet security and I begin to speak about his long and arduous journey to the space he now occupies as a leading researcher into internet censorship whose identity I cannot reveal.

We'll call him Steve.

"You can't learn to be a butcher, you are born a butcher." Kids apprentice after school because these types of jobs require motions and dexterity that you have to grow into. It's difficult to learn this trade if you're already grown. An amateur butcher is easy to spot.

Period of Isolation

Working as butchers was a step up from the life his parents once lived in the countryside and opening a butcher shop in the city was an opportunity that the whole family jumped into: aunt, uncle, cousins and all. When Steve was old enough to see over the counter top, that's when he started to work. It was planned out before his birth. In the beginning it was fun, but soon the family business took up so much of his time that he barely had a chance to socialise with the other kids.

Cultivate Hobbies/Interests

Working in a butcher shop is an intense job, the schedule is similar to that of a baker but with additional hours in the evenings and your weekends are tied up, too. Quickly, the life he had been born into became a sort of trap. He had to find a balance between work and school and his hobby, which was fixing computers. The most frustrating part was that his hobby didn't earn him much money since clients preferred paying large sums of money to unskilled technicians who usually didn't solve the problem, whereas Steve, who was still "just a kid", was disposed to work for much less.

Find a Community

But it was during this period before going to college that Steve began to experience some sort of community beyond his family/work paradigm. This was the age of BBS and IRC, where you could connect with people around the world via a shared common interest: technology.

I remember these early days of the internet myself, when I had my first video chat with other kids in Korea. That was over 20 years ago. These uncharted web explorations opened up a new world for me; you never knew where you'd end up. Nowadays, your web journeys are pretty much pre-programmed.

But Steve was a far more curious boy than I and he joined some early online communities, whereas I was just an observer. One of these early trends was going to "leech events", an example of how virtual online communities would give birth to IRL meetings based on mutual necessities: software.

People would carry their computers to these venues and spend hours copying files using floppy disks. In these situations, Steve was usually the youngest person present, by about 15 years. Curiosity brought him well outside of his comfort zone, but learning from older and more experienced hackers made it worth his while. Try to imagine that this was before the laptop and people even carried their monitors to these events.

Study

After spending his adolescence working by day and hacking by night, he went to college and came to an agreement with his parents. In order to study, he had to stay in Athens to be near the shop and so his choices were limited. He studied business and IT, but it didn't really make a difference, because afterwards he would have to go back to the shop. Then came his military service.

Seclusion/Isolation

Although Steve isn't (and never was) a supporter of the military, in his country it was forced. An obligatory year of military service doesn't sound like a vacation, but he made the best of it. The entire ordeal was a farce. For the first time, he got a good night's sleep. And by being friendly with superiors, he got more time off. This break with routine provided him with the mental space to think. Think about his life, where things were going and what he wanted.

Live Abroad

When he got out of the military, he decided to apply for a master's and found himself living in Stockholm. It was the first time he was in such an international environment, and although he had many friends in his hometown, his circuit was fairly closed. Living abroad showed Steve "how nice life could be" and he focussed on his studies as a way out.

Autonomy

After completing his studies, Steve's parents expected him to come home and work in the shop, but Steve had another opportunity: to go to Berlin and work in IT. No one in his family understood how he was earning a living. He had been living in an environment where he was controlled by money, duty and, to a certain extent, guilt. He gained his autonomy yet his grandmother thinks he works in a factory in Germany. He was finally in a place to make decisions.

Spoil Yourself

After several months backpacking around South America, Steve returned to Europe in a different mental space.

Identify a Problem

After a while, he found a problem in the hacker world. Some hackers were selling their exploits for money. This, in his opinion, compromised the essence of the internet and increased the power of states to censor the internet. Steve had a job to do.

On language ideologies: Does Alexa have Linguistic Authority?

Britta Schneider, Prof. Dr. at Europa-Universität Viadrina Frankfurt (Oder)
Leonie Schulte, PhD Candidate at the Institute of Social and Cultural Anthropology, University of Oxford.

Britta Schneider is a sociolinguist and assistant professor of Language and Migration at the European University Viadrina Frankfurt (Oder), Germany. She has conducted extensive research on the role language plays in communities around the world. Most recently, she has begun to study the evolving nature of interactions between humans and machines and how language will shape the technologies of the future.

Britta's research often revolves around how technology has dictated which languages are deemed to be socially "correct". For example, she has found that languages that exist in print have been historically much more likely to be accepted into common use. Now, as humans enter into an era of constant technological evolution, Britta believes that our smart phones and virtual assistants will play a vital role in determining the future of language.

Britta's current research revolves around the way individuals speak to their voice-controlled devices. One topic that has particularly piqued her interest is the concept of humans adapting their speech to be better understood by computers. She has found that most people believe Alexa recognises 'correct' speech. Therefore, if the device doesn't respond correctly to instructions, it is the fault of the speaker, not the device. Because of this, most users adapt their speech, sometimes on a very fine-grained level, in order to satisfy the machine.

Britta sees the effects of this as being twofold. She theorizes that it could lead to a homogenization of language, in which widely spoken languages like English and German become even more influential than those of more marginalised languages. On the contrary, she speculates that the more these devices are used, the more capable they will become of adapting to less common dialects. The AI may become better at comprehending differences in accent, slang, etc., leading to a more inclusive piece of technology.

Also integral to Britta's research is the relatively new phenomenon of users becoming emotionally attached to their devices. While she has found that many users simply consider their virtual assistants to be a tool, no different than a pen or pencil, many have begun to speak to them as they would to a pet, turning to them for emotional solace.

Britta believes that it will take years to fully comprehend these new concepts. The emerging relationship between technology and language will be key in determining the future of society.

Managing the Infrastructural Unknown: Magic as Craft[16]

Slaughtr

Users of information technologies are aware that infrastructural systems exist and subtend their activities, and can conjecture explanations of how these systems work based on their examinations. However, information infrastructures are often as difficult to conceive as they are to perceive; they are both enormously complex and relatively invisible. This is both necessary and by design, but it does make examining and explaining the working of information infrastructure technologies rather difficult. As information infrastructures become less visible and more complex, two things can be assured: that there will be more in need of explanation, and less available to examine.

The purpose of this project is to examine what role the invisibility and complexity of information technology infrastructures plays in a user's relation towards said systems. I argue that, within the context of human relations towards systems that resist aspection or comprehension, human methods of dealing with such systems constitute techne, or a craft. I further argue that the craft of dealing with occulted systems of non-anthropic scale and complexity is endemic to forms of information infrastructure other than the technical. I illustrate this point through examination of contemporary and traditional crafts that have historically dealt with complex and occulted systems, particularly those that are categorised as witchcraft or magic. Through this example, I argue that magical practices are analogous to technical practices in regards to human relations towards the complex and hidden in information infrastructures.

Using distant reading methods, I argue that this concordance is a generalisable phenomenon not limited to the populations directly observed, and demonstrate that a discourse on hidden and complex infrastructural systems is present within both the magical and technical literature. I theorize that, as the relative hiddenness and complexity of information infrastructures increases, the presence of and need for craftwork to manage it also increases. Our current information infrastructure environment is not fully agential. It is, however, responsive, predictive, and surveillant. Magic's depiction of complex and hidden infrastructures and their relation towards the anthropic always already inflects and

[16] Originally published on NGI Exchange platform under a CC-BY-3.0 license by a participant using an alias "Slaughtr" on May 28, 2019:
https://edgeryders.eu/t/managing-the-infrastructural-unknown-magic-as-craft/10013

may yet inform our incipient relations towards the burgeoning and increasingly agential forces of technical information infrastructures.

The narrative of the project is as follows. I have surveyed one hundred and twenty students in the field of information studies. These students do not know how many of their technologies work, particularly information infrastructure technologies. They are aware of this lack of knowledge, but that does not stop them from forming relations to these systems. They use a variety of metaphors and creative conceptions to describe how they imagine that these systems work. While these depictions may not be factually accurate, and the students are aware of their factual inaccuracy, these creative depictions still inform the students' relations towards these information infrastructures. Not all technologies are treated equally; there is a continuum. A hammer, for instance, requires no imaginative facility to explain; its functioning is both simple and visible. As technologies become less visible, their functioning is less evident, and requires more explanation. Similarly, as a technology becomes more complex, it likewise becomes less explicable (and often seemingly agential). In instances wherein students described their relation towards particularly complex and hidden infrastructures, they often characterized these relations with reference to the concept of 'magic'. It is important to point out that these students do not think that technology is magic, but rather assert that it is practical to treat it as if it were magic. This invocation of the term magic is not an abrogation of rationality, but a description of their own relative, perspectival relation towards the phenomena in question. What does it mean to treat an information technology and its adjacent infrastructure as if it were magic? What does a magical relation towards complex and hidden systems entail, and how can our understanding of such relations inform the ways in which we use and relate to information infrastructures generally? In order to answer these questions, we turn to examining magical practitioners and their crafts, with the intention of better understanding what it means to have a magical relation towards information infrastructures.

I have interviewed sixteen magical practitioners for this project. Students often described their relation towards technology in terms of magic; similarly, magic users often described their relation towards magic in terms of technology. What, however, is magic a technology for?

Using the interviews as evidence, I argue that magic is primarily a technology for dealing with, managing and maintaining occult and possibly agential infrastructures that provide some service or undergird some essential activity. Whether or not these infrastructures actually exist is of no consequence; what matters is that tools for their management do.

One possible avenue through which to illustrate this connection between the magical relations of the students and the magical relations of the magic practitioners is to take a look at all of the similarities in practice, all of the good, practical advice relating to occult and possibly agential systems, and point out that these are all very similar to the sort of 'non-rational' responses from many of the students.

The intent here is to point out that our non-rational approaches towards information infrastructures and their adjacent technologies do not arise de novo; instead, they are a mainstreaming of many of the warnings and precepts always already in traditional and contemporary magic practice. Our seemingly novel approaches towards and relationships to these complex and hidden systems' technical information infrastructures are outgrowths of centuries of work on dealing with just such phenomena by magical practitioners. This is also intended to demonstrate how, in relation to complex and invisible systems, humans tend to do the same sorts of things, and enact the same sorts of relations, regardless of whether we are talking about Siri or Faerie. While magic and science are often painted as being at odds, they may be framed as complementary. Science is the art of explaining the measurable, while magic is the art of dealing with the unknown. We need arts of dealing with the unknown now, and we will need them more and more as infrastructural systems expand in relative scale and as such diminish in relative visibility.

It is natural and necessary for information infrastructures to be complex and hidden, but we need to be aware of how such occultation can inform and inflect human/infrastructural relations. The problem now is not that infrastructures are occulted by being hidden, in the sense that wires run in the wall or Wi-Fi works on an invisible spectrum. Rather, it is that infrastructures are becoming occult in scale; that is to say, they operate at non-anthropic scales, and are not amenable to anthropic aspection, comprehension, or analysis; at least not in a holistic fashion. Magic is an attempt to understand the management of systems, without necessarily understanding the system itself. In this sense we are all magicians, increasingly so.

"Fascinating approach, and I recognise the use of 'magic incantations' in regard to technology. It baffled me quite a bit when I was doing helpdesk work. People called me for help and mostly expected exactly this: A magic incantation that would make things work. They often didn't care to understand why it would work, and working incantations would usually make their way into other problems: 'It worked for my email, so it should work with the printer too, right?'" [17]

[17] Christian Buggedei

How do we organize society for a whole-systems approach for developing the Internet?[18]

Mattias Axell, Kaospilot and Creative Process Leader

What I'm interested in seeing in regards to the development of the internet is to explore the potential of the development of the infrastructures in a free software and open-source manner, without a Benevolent Dictator for Life. Considering that much of internet infrastructure is built on free software and open-source technologies, it makes me wonder, "What if we would organise the infrastructure development of the internet in a similar manner?" To do this by gathering companies, government, civil society and have open and collaborative processes in order to include a multitude of perspectives of this complex issue and overcome the challenges causing devastating consequences for societies, organisations and humans.

I do not know of any projects working on the organising of society in relation to the internet, only W3C and IETF working on technical collaboration and standardisation. My interest in this is mainly in connection to the recent developments and consequences from the internet that people can experience in their daily offline life or when surfing the World Wide Web.

Specific events I'm thinking about are examples such as the Cambridge Analytica scandal with Facebook and similar events that have happened. These are having a big effect on societies and democratic processes, at least in the representative democratic processes such as election. In that sense, we are experiencing consequences of an internet that is continuously being developed but we do not know how, when it is done. It's simply having an impact on us as human beings, with potential large scale negative consequences.

The consequences can mostly be loosely drawn, as humans and scientific research can't really keep up with the silo-based, non-coordinated nature and speed of development, making it harder to connect the dots between sources of change and consequences.

[18] Originally published on the NGI Exchange platform on April 17, 2019 under a CC-By-3.0 license https://edgeryders.eu/t/how-do-we-organise-society-for-a-whole-systems-approach-for-developing-the-internet/9766

My hopes are that we can gather a group of organisations and individuals from different sectors of society who are willing to collaborate and take a more holistic approach, a systems thinking approach to building an internet infrastructure that serves humans and society as a whole.

Perhaps establishing an ongoing collaboration with experimentation and action for the development of the internet with discussions and analysis happening when the group designs and reflects on experiments that are to be tested or have been tested.

These thoughts and my background leading up to this is mainly based on my experience as a human. In this information society, it becomes more evident and feels like a lot of actors are acting independently and not knowing, or not caring, about the different directions they are pulling towards, and the consequences that come from everybody trying to pull in different directions. It gets easy to create a sensation of chaos.

I believe that this goes for a majority of challenges we are facing: climate, mental health, economy. It's basically the wild west, whereas I believe that many expressions we can see on the internet are symptoms of this experience for many people.

I think that with the current information overload many people have, that can really pacify a lot of us.

I think we're at an interesting point in this time in which these big challenges are becoming more and more transparent, evident and tangible. We need to take a new approach in order to show that we can overcome these challenges, prove that a new approach can be done and then overcome all of these in parallel.

I strongly believe that this is more of a challenge of how we organise the work with these common challenges as a society rather than finding one or many technological solutions to all of it. Technological solutions solve technological challenges.

Just enough city?

Peter Bihr, Mozilla fellow, Co-author of View Source: Shenzhen and Understanding the Connected Home

Peter Bihr co-founded the ThingsCon community, which advocates for a responsible, human-centric approach to the Internet of Things. Smart Cities, where the digital and physical meet and where algorithms actively impact our daily lives, are an important focal point of his work.

He proposes reframing the Smart City discourse (currently dominated by vendors of Smart City tech) away from the technology and more towards a focus on societal impact. What better urban metrics can we apply to cities increasingly governed or shaped by algorithms? Such an analytical framework would be the key to unlocking a real, meaningful debate. Smart City policies must be built around citizen/digital, human rights, and with emphasis on participatory processes, transparency and accountability.

At the most recent ThingsCon conference, Manon den Dunnen shared her experience of unintended horrific consequences of tech going wrong when police officers take phone numbers of both victims and suspects, and Facebook algorithms then suggest one another as friends.

Further, several studies have shown policing and/or justice related algorithms were found to have racist data points (including some deemed illegal by courts that yet remained in the data sets). And the policing algorithm in NYC measures effectiveness by such simplistic metrics that has created incentive for officers to report selectively (for example, the systemic intimidation of rape victims to change their charge from rape to a more minor offence).

Ideas to demand more from the internet and for the planet

Michelle Thorne, Senior Program Manager at the Mozilla Foundation

Michelle Thorne has been fascinated with the development of the internet for over fifteen years. As a member of the Mozilla Foundation, she helped take part in the creation of the browser Firefox. While she correctly predicted that open-sourced information would be the way of the future, she did not foresee some of the negative consequences of an internet-based world. However, she has many ideas about how the internet can be improved to the benefit of all its users.

At its core, Michelle sees that the internet is meant to be a global resource that can be used to share information, connect with friends and strangers, and improve the quality of all of our lives. However, she believes the centralisation of a few corporate superpowers, such as Facebook and Google, has significantly altered the user's experience. For one thing, users have very little say in how their systems will operate. The companies that control things such as search engine results operate however they please, with little oversight from citizens or the government. This allows for politicisation of the internet to take place and breeds a general sense of distrust. Many social media outlets rely on things like hate speech to keep users engaged, even if it is in a negative manner.

Michelle believes transparency is essential for combating this. She believes too few companies are open about what they do with user data, who funds their projects, and whether users' personal information is actually safe. She argues that most individuals aren't well equipped to handle these issues on their own, and that governments and corporations should take more responsibility.

In 2016, Michelle started the Open IT Studio to bring together designers, technologists, philosophers, historians, and digital rights advocates to collaborate on making the internet a healthier space. One of their many topics of concern has been the development of AI devices that people keep in their homes. For example, many people have an Alexa, but few can tell you what it does with the information it hears. Michelle has been heartened to find that many people in her profession share her concerns and are actively working to create more transparency.

Michelle goes on to discuss the internet's role in climate change. Since learning that the internet contributes 2% of the world's global carbon emissions, comparable to the airline

industry, she has become interested in creating a carbon neutral internet. She is hopeful that she and her collaborators will lead the way in implementing these fundamental changes to the internet.

How one decentralised social network became a promising model for the expanding collective intelligence

André Staltz, Open-Source Developer and Freelancer

André Staltz is a thinker, writer, and programmer, particularly well-known for having authored Cycle.js. More recently, André has been investing much of his previous experience and efforts towards his endeavours related to the social media platform Manyverse.

Scuttlebutt, a decentralised social network, had been a great source of Staltz's fascination when it came to the latest and greatest tech developments, as it functions very differently than its counterparts. The biggest distinction of this platform lies in its lack of moderator authority and policing of content and, therefore, has generated a strong sense of trust in an online space. Staltz wanted to jump at any opportunity to develop for a promising and purposeful project and was soon brought on to translate the platform to mobile formats under the name Manyverse.

Prior to joining the team, he noted a particularly troubling problem that pervades much of the most popular social media platforms today: the often-unchecked control of tech giants. In his problem-solving, André began drafting fluid models of moderation as it exists on these sites. After getting a closer look at the framework of Scuttlebutt, he realized that the atmosphere of the platform was a direct result of having no model in place at all.

Staltz believes that the essence of the platform derives from the people you're connected to: they create the substance and content. He takes great pride in being part of a unique program infrastructure, describing most network topologies as "a kind of star situation where you have this server in the middle." With Scuttlebutt, there is no computer mediator, creating a transparency of network topology and the social connections from which it's derived.

Without these kinds of direct connections, other users are unable to access your personal data on the platform, mirroring the way relationships work in real life. Scuttlebutt has virtually replicated human interaction in a way no other social media platform has ever done before.

Following this method, André believes that platforms can begin to implement smaller barriers to participate in collective intelligence, considering the fact that this “collective” is not as massive as that of the global scale. In fact, this technology poses questions around whether adapting and merging one another’s intelligence even requires a global consensus.

On collective intelligence, André envisions specific designs that could shape internet interactions toward being more meaningful or efficient. He mentions an altered approach towards “social bookmarking”, an element of web browsing that typically highlights one’s visited links, showing your click trail. With the acknowledgement of privacy implications, Staltz’s suggestion is that friends and followers could allow one another to view the links that they have visited and have chosen to share publicly. With the intimate design of Scuttlebutt, the user holds agency over the sharing of their personal data online, forging a safe space for the intentional sharing of information.

André toys with the idea that collective intelligence is best achieved not by recruiting the smartest participants, but by investing in effective collaboration practices. These often come in the form of social rules and actually require a bit of social engineering. While the tools with which these visions are fulfilled is part of the process, they are by no means the priority. If anything, Staltz's work is an exemplification of the fact that tools should ultimately reflect the social intent of the programming.

As this shared understanding of the world begins to expand, André believes it can certainly encompass the way infrastructure and society are built. In all, the purpose is to continually enrich one another through connection, which very well might include deconstructing the institutional practices of universities and companies that have safeguarded information that would overall benefit the public.

Staltz notes that in order to fuel these kinds of societally-based missions through technological innovation, there simply needs to be more hands on deck. He mentions a scarcity of people, resources, and funding in his particular field — a field that is cutting-edge and attracts some of the very best and brightest.

Even in the face of these accumulating challenges, André and his colleagues consider not the ways that their ideas can fit into existing societies, but how new ones can be built using this technology. He questions whether it might take collaboration with professionals in other fields, including developers with different specialties and even anthropologists.

Creating this broad dialogue outside of the tech industry shows greater potential for bigger impacts to be made in modern society.

Part III: On Inclusive Care and Welfare

In this chapter, you will find articles that explore how in response to economic, social and ecological changes, social protection systems can secure the wellbeing of the individual and community.

Key insights

The research team is analysing the data from the NGI Exchange platform. Therefore, it is premature to draw any conclusive insights.
Instead, we present the questions and observations that are guiding our ongoing enquiry:

What might a system of care-writ-large, inclusive welfare look like were we to start from a blank slate?
Which areas of policy and institutional challenges would we navigate in deploying such a system and which historical lessons can we draw from?
Which policy instruments and political interventions could we imagine to make some progress towards such an imagined welfare system from our contemporary reality?

We have seen similar stories play out in different countries around access to masks, ventilator spare parts, access to testing, etc. Across global south and global north, crises hit differently — but they do hit. And our ability to respond means navigating many interdependencies. So how do we avoid these situations in the future? How do we make sure that we have the fundamentals in place to stay healthy or even alive when crisis hits? Who is responsible for providing the means and structures?

“The state is the main care provider,” say many Europeans. And sure, the welfare state is a major safety net in our societies. “Businesses are the main providers,” many Americans reply. They have a point too: their insurance companies, hospitals and clinics — most of these are businesses.

And yet, that’s not the whole story. Care models are failing: the per capita healthcare expenditure grows faster than GDP. We need to spend an ever-greater part of our resources just to stay well. Under pressure to get care, the edges of society respond by getting creative.

In parallel, an incompatibility between traditional employee protections and platform-based business models has opened room for proposals that could blow up the way we think about the relationship between workers and the companies that sign their paychecks — and how society provides social protection.

Additionally, institutions are faced with the challenge addressing growing discontent with contemporary state provision of services, most notably within the domains of health and social care. Discontent that predated the current debate around societal effects of the platform economy.

This is all set against a backdrop of growing tensions between the desire of insiders to safeguard hard won protections and privileges underwriting their social contract with the state… and free movement of people, information and opportunities.

How and where are these matters being tackled in contemporary, digitally networked societies and who are the key actors and interests which have to be catered to in these settings?

Directory of Articles

Rushing introduction and use of AI (and other networked digital technologies) fuels inequalities and breeds resentment *Fabrizio Barca, Founder of the Forum on Inequalities and Diversity, Ex General Director, Italian Ministry of Economy & Finance*

Can communities equipped with digital commons take on dysfunctional healthcare systems? *Article featuring research by Erik Lakomaa, Affiliated Researcher at the Department of Marketing and Strategy and Executive Director of The Institute for Economic and Business History Research, at Stockholm School of Economic and Tino Sanandaji, Economist at The Research Institute for Industrial Economics, Stockholm School of Economics*

"In some cases, you should simply rule out AI, for example emotion detection" *Valerio De Stefano, BOFZAP Research Professor of Labour Law at KU Leuven*

Is the communitarian Internet back in the wake of COVID-19? *A conversation with Howard Rheingold*

Why is all this innovation not being channelled into ways to help people live a better life?

Justin Nogarede, Digital Policy Adviser, Foundation for European Progressive Studies (FEPS)

Welcome to Retirement *Jeff Andreoni, Writer*

Rushing introduction and use of AI and other networked digital technologies fuels inequalities and breeds resentment

Fabrizio Barca, Founder of the Forum on Inequalities and Diversity, Ex General Director, Italian Ministry of Economy & Finance

The current crisis in European countries is driven by the paradox that we have the technology to create equality, but instead it is producing an unprecedented concentration of knowledge and power in very few hands. This must be addressed by putting political pressure on the issues.

How can we move beyond a one-size-fits-all approach to new internet technologies in public administration?

Failure to do so breeds resentment as it deprives people of the most important thing — human connection and a sense of being recognised — which breeds intolerance, division and a loss of trust in democracy.

Fabrizio Barca is exploring how effective civic organisations can be, not just in advocacy work but in taking action to shape services in local areas.

With a varied background in banking and treasury and more recently, inequalities and justice, Fabrizio Barca previously worked at the EU and now with a civic organisation called the Forum for Inequality and Diversity.

Are housing cooperatives the future?[19]

Marcel Schouwenaar, Creative Director at The Incredible Machine Co-founder Proxemy (makers of Bubble, the social distancing sensor)

Marcel Schouwenaar is a designer who works as a consultant in the field of emerging technology. He is primarily interested in IoT and blockchain. When consulting his clients, he works to implement technology around values of privacy and security. In the interview with him, he muses on ideas regarding the ethics of emerging technology, before segueing into his main topic, the future of cooperative housing.

Marcel begins by recounting the past decade of technological development. He notes that while there was much optimism around emerging technologies in the 2010s, that optimism was short lived. The companies he consulted for were interested in using new technology to maximize profits instead of user experience. He notes that he was commonly asked to help develop systems to monitor employee behavior. The ethics of this practice have since become a common topic of discussion in his profession.

Marcel goes on to discuss the ten principles that make up his IoT Manifesto. The principles emphasize privacy, empowerment, and usefulness in technology. He notes that these principles have held up very well throughout the years.

Next, Marcel discusses the issue of housing. He begins by discussing a hypothetical scenario in which a bicycle is capable of making and spending its own money. He notes that this idea is more doable than it sounds. However, it would only come to fruition if it created value for the company that developed it. He then applies this principle to the idea of cooperative housing, noting that it is very possible but not particularly profitable.

Marcel notes that the idea of collective housing has been around for centuries. He discusses a few particular models, including Steward-ownership and B Corp. He believes that existing models can be improved using modern technology, creating a model that is beneficial to the people who create these communities. Marcel notes that people do not become billionaires by working in cooperative housing. He believes this is good for equality, but slows down progress.

Marcel goes on to discuss his goal of making cooperative housing more acceptable to the general public. He believes affordability plays an important role, noting that many households in Europe spend over 40% of their income on housing. He believes common

[19] This article is a summary of documentation of an interview conducted by Peter Bihr and originally posted on the NGI Exchange platform under a CC-BY-3.0 license on January 2, 2020: https://edgeryders.eu/t/interview-with-marcel-schouwenaar-are-housing-cooperatives-the-future/12283

people may be attracted to the idea of sharing a more affordable living situation with like minded members of their community.

Marcel is currently working to develop this idea in The Netherlands. His goal is to create a sustainable model that can eventually be used internationally. He is currently in open discussions with collaborators about what technologies might be needed to bring his ideas to life.

Can communities equipped with digital commons take on dysfunctional healthcare systems?[20]

Erik Lakomaa, Affiliated Researcher at the Department of Marketing and Strategy and Executive Director of The Institute for Economic and Business History Research, at Stockholm School of Economics
Tino Sanandaji, Economist at The Research Institute for Industrial Economics, Stockholm School of Economics

With the healthcare sector being one of the economy's largest and most valuable for human welfare, significant problems are posed by its structures in the United States and Europe, perpetuating unequal access, inefficient production, and high cost increases.

Spending on health services has historically remained fairly stable, only beginning to grow rapidly around the 1950s in western countries. Though this expenditure began and thus remained at a lower level in western Europe, its rate of growth has overall mirrored that of the United States. Of course, this high cost increase disproportionately affects the healthcare of low-income individuals, therefore stripping them of access to these essential services.

Reform efforts have been at the centre of debate in regard to the healthcare industry, specifically at increasing productivity in the sector so as to maintain the long-term viability of the welfare state. This legislature has struggled to gain traction, though, as the industry is vastly different from others in the global economy. For example, it often involves the preservation of life and its quality; and with that, it is also a technically complex commodity.

Reform in the sector considers two possibilities: technological improvement can either focus on improving quality for given cost or decrease cost for given quality.

However, innovation has not necessarily reduced inefficiency and waste in healthcare as it has in other sectors because of the industry's slowness to adapt. Why is it that despite

[20] This article is a summary of findings from two working papers produced by Erik Lakomaa and Tino Sanandaji, in which they reviewed accounts of how communities to step in where state or market provided health or social care services were perceived to be lacking - with special focus on initiatives where FLOSS and/or DIY technological solutions were developed or used: a) Lakomaa, Erik & Sanandaji, Tino, 2017. "Can Community Driven Care be integrated in the European Welfare System? Institutional Challenges and Historical Lessons," SSE Working Paper Series in Economic History 2017:3, Stockholm School of Economics and b) Lakomaa, Erik & Sanandaji, Tino. (2016). Care, Commons and Entrepreneurship. 10.13140/RG.2.2.22643.12321.

rapid development in medical practices, little has been achieved compared to other sectors when it comes to cost-cutting innovations? Why is it that the entrepreneurship that flourishes in retail, technology and logistics seems to be virtually absent from the care sector?

Erik Lakomaa at the Stockholm School of Economics Department of Marketing and Strategy and Tino Sanandaji of the Institute for Economic and Business History Research (EHFF) have been exploring the state of research on health economics, collaborative ("open source") development and on entrepreneurship and its applications to the care sector. They introduce the concept of evasive entrepreneurship and the Ostromian "commons" as useful tools when looking for solutions to mitigate escalating costs in this sector.

They have analysed the challenges facing the healthcare industry in regards to access, affordability, and entrepreneurship. They point out that while innovations in knowledge and technology have made huge leaps forward, there has not been a corresponding improvement in cost-cutting technologies. This has led to an unfortunate scenario in which healthcare is better than ever before, but only available to the wealthy.

They remind us that healthcare has many fundamental differences from other industries. Because it deals with the preservation of human life, people have strong moral feelings about it. Whereas other industries such as travel or entertainment are free to experiment with new cost-cutting ideas, healthcare entrepreneurs do not have the freedom to take many risks. As a result, the healthcare industry has not made any significant improvements in affordability in a generation. They also note that the industry rightfully rewards innovations that lead to improved treatments, regardless of cost.

Since the organisational structure of healthcare has built in barriers to market entrepreneurship, this raises questions of the most effective methods to introduce innovations. Public sector entrepreneurs tend to have weaker incentives to innovate, yet innovation still takes place in these organisations through the use of other methods and incentives. The profit motive is obviously not the only mechanism to introduce innovation.

The non-profit sector has displayed a strong ability to innovate without monetary incentive. Here, incentives lie in the stakes of reputation, reciprocal altruism, and a subculture of sharing. But outside of this sector, self-organisation and basic economic models that predict conflict of interest often cause voluntary collective action to fail, even when such cooperation would be to everyone's mutual benefit.

It has been shown, however, that the establishment of cooperative norms can be the answer for self-organised communities in pursuit of collective action. Studies by economist Elinor Ostrom and her team have found that in a setting with repeated interaction and communication, social norms can replace externally imposed sets of rules, sometimes even outperforming them. In addition to trust and reciprocity, successful commons governance requires an active community and evolving rules that are well-understood.

Erik cites Macur Olson, who has studied commons, which are collective undertakings that benefit an entire community, such as farmers with a shared plot of land. These tend to be successful because every individual contributes to the labour and benefits in the results. Healthcare, however, does not function as a common. Users of healthcare do not take part in its production, and have no choice but to follow a series of fragmented rules and guidelines. There are, however, specific elements of healthcare that can be viewed as common pool resources. One such example is complex healthcare that requires collaboration between many professionals. Erik and Tino argue that embracing the elements of a common would be beneficial for all parties involved:

“One of the surprising developments of global digital commons… is the high degree of cooperation and coordination that has been achieved by apparently disparate individuals.”

As this thinking relates to the healthcare sector, the circumstances often differ greatly. Resources are generally privately or publicly owned, and users can easily be restricted. There are, however, specific elements of healthcare provision that can be viewed as common pool resources. In unusual circumstances, healthcare providers and other parts of the community have self-organised to provide healthcare outside of public or private property on a surprisingly large scale.

While gains from cooperation present great opportunity, implementing these unique and sometimes difficult systems often requires the initiative of individuals. Evasive entrepreneurship refers to circumventing institutional obstacles as part of novel activity; but whether or not evasion is socially beneficial depends on the specific circumstances. If anything, it is more likely that this type of entrepreneurship acts as a vehicle of regulatory change by providing it when institutions being evaded are obsolete or inefficient.

The practice has even been referred to as using “unorthodox organisational arrangements” to adapt to prevailing local circumstances. Ultimately, these arrangements have two

distinct motivating forces: when governance no longer provides certain, essential services and logistical drivers, and where coproduction is motivated by complexity or costs.

This type of adaptation is common in many emerging economies, and may constitute the best available alternatives in many environments with dysfunctional formal institutions and weak public authority. But as it relates to Europe and some of its inarguably failing institutions, lessons can be learned and applied bit-by-bit in order to protect the welfare of its struggling classes.

“In some cases, you should simply rule out AI, for example emotion detection”

Valerio De Stefano, BOFZAP Research Professor of Labour Law at KU Leuven

Valerio De Stefano is a professor at the University of Leuven, where he teaches labour law. Previously, he was an officer at the International Labour Office, where he worked on non-standard forms of employment. Already at the ILO, he started focussing on platform work, which falls under non-standard employment.

Along with analysing the working conditions of people who are doing platform work, De Stefano’s team examines various labour and technology trends. A massive chunk of his research involves how algorithmic management and AI are affecting the workplace.

While platform work seemed new at first, studies suggest that precarisation and casualization were already visible in the workforce and then transferred to the technological field. While technology could actually be able to reduce these issues, that isn’t the case yet. Initiatives have been made for changes, though, such as countries recognising that platform workers don’t have enough autonomy to be termed “self-employed”. As they’re being recognised as employees, they’re getting access to a broader set of rights.

Recently, a German court ruled that online platform workers could also gain employment status if certain conditions are met. The European Commission is also investigating the kind of protection provided to platform workers, including those falling into self-employment. And these changes are encouraging because until regulators step in so that the digital transition is just, simply relying on tech companies to do the right thing won’t relay many results.

After studying and examining algorithmic control, Valerio concluded that even though platform workers are termed independent contractors, the surveillance they go through by these companies often doesn’t let them enjoy any autonomy. So, he’s been arguing that some platform workers are actually employees, a conclusion most courts seem to agree with. His research also states that algorithmic management needs to be negotiated upon by the social partners, also to rule out bias in programming. The programmers’ and producers’ bias can lead the algorithm to incorporate values that can hurt workers.

The general belief is that AI is fact-based, so it's a valid tool against discrimination, but the truth is that AI develops its "conducts" by often taking into account past company decisions. So, if the past had discriminatory instances, the AI would perpetuate them in the future. However, it would be masked as neutral and justified because technology isn't suspected of discriminating.

Valerio states regulation is needed — that some technology should even be banned. New technology is being used to detect the slightest change in emotion in an employee's voice, and it's dangerous. It encourages privacy invasion, and it's far from accurate, so ultimately, it's useless as well.

Valerio points out that when he first started research on online work, people thought of it as something done to moonlight. His contribution to this is mainly the insistence and collection of proof that online work is just as valid and should have the same benefits that traditional forms of work have. That just because it's through technology, it isn't lesser.

According to De Stefano, social justice and freedom are two sides of the same coin. To be truly free, one also needs to be free of want. And to be free of want, a strong welfare system that takes care of everyone and some redistribution of wealth is necessary. De Stefano thinks that by making sure people are treated fairly in the workplace, we're walking towards a just and free society. He doesn't want the gig economy to have its own set of rules and social welfare system. He wants the welfare system to be universal and to cover all kinds of working activities.

The problem is that tech companies have so much sway, they have convinced policymakers that the usual regulations shouldn't apply to them. That's not how a just society works.

Valerio considers it fortunate that Europe still has a strong democratic system. He thinks it should be used to create a society that is free of want and fosters decent work, so people could actually engage in what they want to do and do it the best. They don't have to worry about not being able to live a decent life and settling for something they don't want to do.

Valerio questions how technology can be used to benefit everyone instead of the handful of tech companies that manage or make it. He thinks the answer to that will be the solution to a lot of problems.

Is the communitarian internet back in the wake of COVID-19? — A conversation with Howard Rheingold[21]

"Whenever computer-mediated communications technology becomes available to people anywhere, they inevitably build virtual communities with it, just as microorganisms inevitably create colonies."

I have been online since 1992 — hell, I practically *lived* online most of these 30 years. What drew me to the internet was not the presence of shiny, easy-to-use, free services — they were not there in the early days. On the contrary, you had to put in time and money if you wanted to, as we said then, "connect to the Internet".

But the reward was high. *Whatever your tribe, you would find it*. Whether you cared about particle physics, detective stories or board games, countless like-minded people were waiting for you "out there". And yes, you would occasionally encounter conflict and rants, but they would be overwhelmed by the sense of being welcome, of belonging. For me — a bookish, weird kid from an Italian small town who was into weird music, it was a lifeline.

But, of course, it was not about me. The sense of community was pervasive, generalised.

My direct observations of online behaviour around the world over the past ten years have led me to conclude that whenever computer-mediated communications technology becomes available to people anywhere, they inevitably build virtual communities with it, just as microorganisms inevitably create colonies.

These words were written by **Howard** in 1994, in a seminal book called *The Virtual Community*. In the intervening years, however, some of that sense of community has been lost. Some American computer networks had been offering commercial services since the late 1980s; in 1992, US Congress passed a law that allowed the academic NSFNET to connect to those commercial networks, and the latter to use NSFNET as their infrastructural backbone. Seven years later, the dotcom boom showed everyone the

[21] This essay was originally published on the NGI Exchange platform on March 25,20 under a CC-BY-3.0 license https://edgeryders.eu/t/is-the-communitarian-internet-back-in-the-wake-of-covid-19-a-conversation-with-howard-rheingold/12971

money-making potential of the internet. The original “digital settlers” described by Howard’s book were still out there, but increasingly drowned out by corporate types. The idea itself of virtual community gave way to that of social networking services (Facebook and similar), and the communitarian early internet of the 1990s to the surveillance capitalist one of today.

Then COVID-19 hit.

Suddenly, everyone’s social media feed is full of bottom-up, self-organised initiatives for mutual aid. Everyone is releasing previously paywalled content, offering help, and creating resources and directories. Is the communitarian internet back? The question is important, because Edgeryders considers itself a virtual community, one of the last of the original, early wave virtual communities. We were born as a response to the previous crisis, the 2008 financial collapse. In the wake of COVID-19, we are mobilising, just like everybody else. But: are we doing enough? Are we making the right moves?

The right person to ask is obviously Howard himself. He and **John Coate** are old friends, so I asked John to ask Howard if he would agree to a video call between the three of us. He did, and just like that, we were conversing across an ocean and eight time zones.

On coordinating and integrating the community’s response

Howard:

Have you guys thought of taking on the work of coordinating between large organisations and this patchwork of initiatives that are popping up in response to COVID-19?

Alberto:

Yes, but we struggle. Everyone is shouting for attention. And what you call greenspaces (nice name, by the way!) seem mostly hyperlocal, ephemeral — they are out there, but I do not see them connecting. No one is keeping track of the big picture.

Howard:

Right now, people are super focussed on just doing the job. I would suggest compiling a list of things that are happening, putting it online, and then inviting everyone to meet others. Point to something and tell people, “Look, we can get together and help each other!”

I know it sounds difficult. It is. But look: with COVID-19, this is the first time that everyone

on Earth is thinking about the same thing. Additionally, everyone is closer to each other because everyone is online. We now see people organising Zoom calls with their friends.

And note this: this is all happening two years into a backlash against “big tech”, when people — at least here in America — are starting to regard Google, Amazon, Microsoft, Apple and Facebook with suspicion and even fear. There is again some space for doing good online. We can take back the internet! The start of a network, of an online community, is very much like what we are doing here, the three of us having a Zoom call. We look at our computer screen, and see people. Hey, it’s people! I see their faces! We are all doing it anyway because of the pandemic, let’s maintain this greenspace online, these convivial spaces. Note that some of it is not even on the web, but on the indieweb — spaces like Scuttlebutt 3, that run their own protocols.

On helping folks to bring work online

Howard thinks the COVID-19 fallout offers an opportunity to rethink the way we collaborate in our daily work.

I have been working for a few years on the idea of remote working. I see the COVID epidemics as a force that could accelerate a societal shift that we should do anyway, for the sake of climate change.

An *idée fixe* of Howard’s is to move conferences online. Just like ourselves, he became interested in it mostly because large international conferences have a large climate impact. Of course, this is not at all easy, and requires effort; but suddenly, from lockdown, we are discovering that it might be possible after all. A similar advance is happening in the world of online learning (again, Howard was one the pioneers of this), as schools and universities bend over backwards to reach out to locked-down students.

You could be bringing orgs to remote work. In my experience, most people doing it have an approach oriented to deploying tools, typically chosen by some IT department. They miss completely the human and social dimension of working online. Community managers have existed for almost 40 years — actually, John here was the person who first used the expression “community manager”! They are key to getting humans to work together well online, but they are typically excluded from the corporate world.

Helping people to work online is super powerful, because it increases manifold the efficiency of their organisations.

Howard:

This is a historical transition. I predict that, at the end, medical/scientific work will be enormously accelerated by this connectivity.

John Coate:

Howard, do you think that Slack is a complete solution to online collaboration?

Howard:

No, I do not. Slack is good at coordination, but not at accumulating/organising knowledge. For that, you need a forum. Also, in general, different people are comfortable with different media. So, a mix of media is needed. Like now we are talking on video conference, then I suppose someone will do a writeup of it, and so on. That is a good thing.

Alberto:

... though then curation becomes even more important, both human curation (community management) and content curation (wikis, documentation, etc.). Very easy to lose the key insights of a workstream that happens in many different spaces. In Edgeryders, we have found nothing better than a combination of recaps (written, as posts in the forum) and periodic (virtual) team meetings.
(*Photo: https://commons.wikimedia.org/wiki/File:HowardRheingoldJI4.jpg*)

Why is all this innovation not being channelled into ways to help people live a better life?

Justin Nogarede, Digital Policy Adviser, Foundation for European Progressive Studies (FEPS)

Justin Nogarede works for the Foundation for European Progressive Studies, was previously at the European Commission focussing on competition law and European regulations.

As a trainee in the application law unit at the European Commission, he became aware of the issues involved in ensuring member states comply with EU law, finding that often there isn't the staff or resources available to enforce directives — for example, the directive on data protection has existed since 1995, but was not widely enforced. Justin now focuses more on data governance, and is finding that as new digital infrastructures are rolled out, they are driven by narrow efficiency concerns and are not accountable. Looking into these new infrastructures is a great opportunity to make the system more participatory and accountable — but we have to take it.

Feeding existing data into AI systems can create problems — for example, when predictive policing has been shown to drive more officers into wealthy areas, as data shows a higher rate of arrests in those areas. Data therefore creates a self-reinforcing loop. Further, digital systems often rely on a binary logic, which healthcare and social problems simply don't fit. The key problem is that data is a simplification of the real world. Further, some AI systems may support a conservative bias, such as when they are used to predict which offenders are most likely to reoffend.

Regulation of digital infrastructure would be a step in the right direction, and the argument that it would stifle innovation is weak — technological advances must make sense and make lives better. It may not be possible to have 100% compliance, but more involvement of public authorities (even at the local level) would be a good step, as would more transparency over how these technologies function.

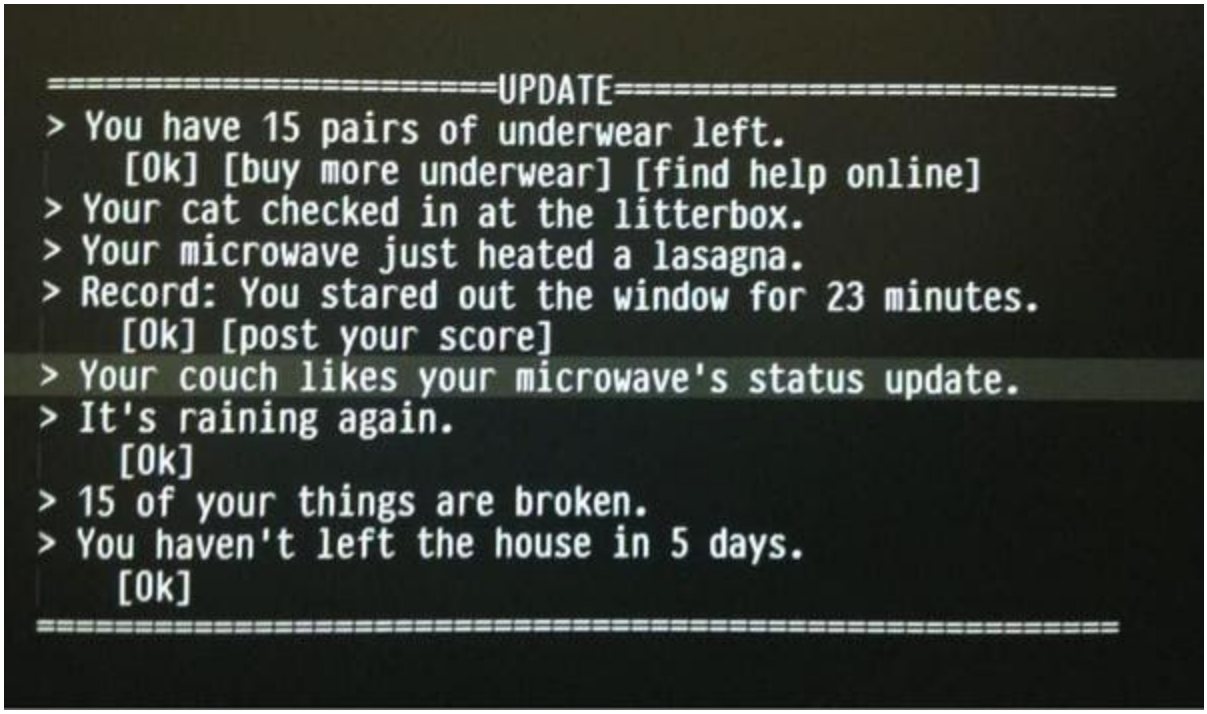
Welcome to Retirement

Jeff Andreoni, Writer

Congratulations, you've made it to retirement age, and without a pension or investment plan, you'll have to hack your way through your golden years like you did your youth. Have no fear, with a little bit of innovative thinking and peer collaboration, you can seamlessly cruise through your elder dementia in style!

Many precarious workers do manage to make it to retirement, and it just might happen to you. Some Americans have turned to "outsourcing eldercare" by shipping their parents off to India, to live like a Maharaja on $2000/month. In Japan, the film "Mezon do Himiko" tells the story of a retirement home for elderly transvestites and homosexuals. They managed to fund their retirement from a successful Tokyo nightclub and wealthy donors.

But are Ledgestriders™ so well prepared for our retirement? Do you really think people will want to read your pitch decks, funding or job applications when you're wearing a diaper? It's time to start exploring options for people who aren't part of the rank-and-file society before it's too late.



But you are now 96 years old and your robotic care assistant accidentally sucked up your dentures into the **#open source** vacuum cleaner because the IoT fridge and stove were chatting away and inadvertently knocked the robot offline.

It’s really not a problem because a neighbour in your HackGrace has a 3D printer and (after downloading a free 3D file off Thingiverse) you manage to print a new set of teeth. Unfortunately, they are not the right size and you wind up gumming your food at that evening’s Disco Soup event, getting chunks of organic radish all over your sustainable milk-fibre bib. Since your robotic helper is on the fritz, you decide to wash yourself off in the hipster bathing facility but slip and break your hip.

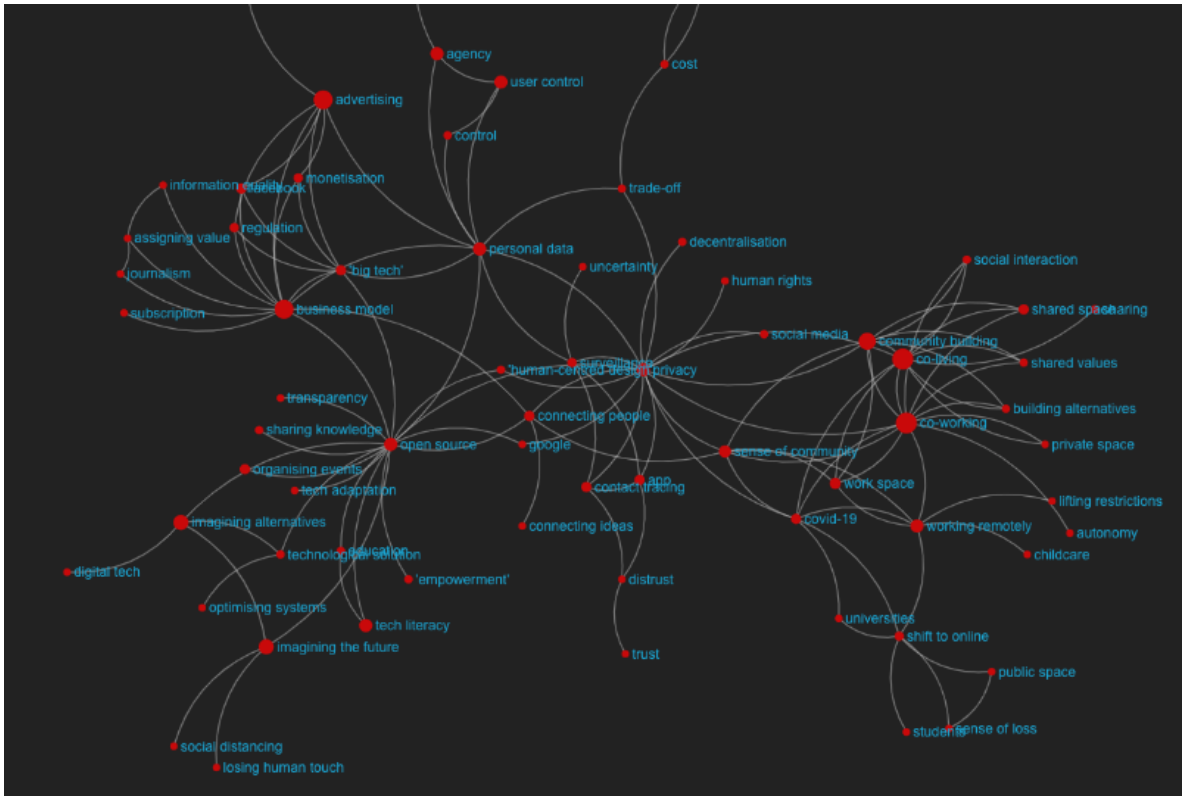
Again, your mates have this problem covered and start using 3D-printed bones to grow you a new leg. Unfortunately, the operation doesn't go well and you get an infection; however, there is a cure for those with sufficient computational capacity: you can manufacture your own patent-free medicine based on your individual DNA.

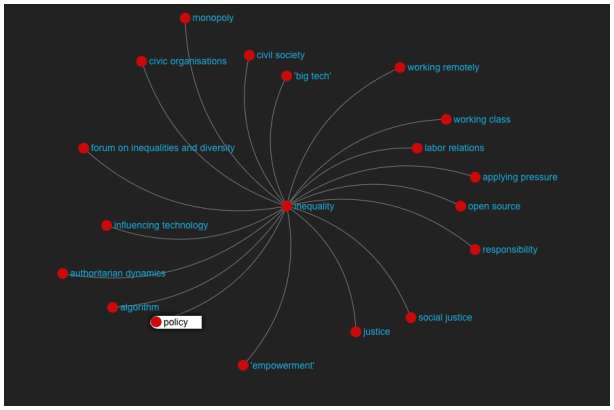
Hooray! You win! you have advanced to the next level of retirement: that of constantly badgering your kids to come and visit you! But not everyone will be so lucky in the future, so it is time to explore the different possibilities that can be made to exist for people outside the “system”.

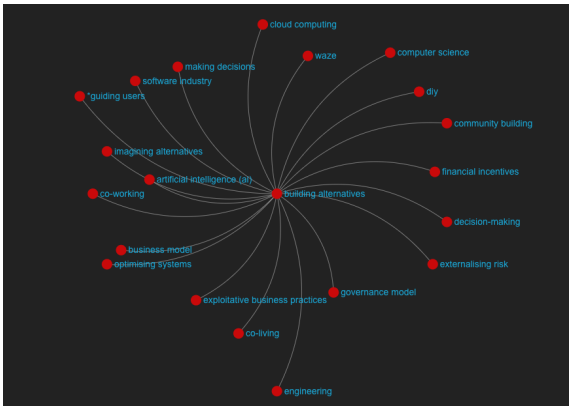
Part IV: Work, Livelihoods and Business

In this chapter, you will find the key insights from discussions on the NGI Exchange online community platform around the topics of labour and livelihood-generation in the context of networked technologies.

As well as a selection of articles that give a richer understanding of how these topics are experienced and responded to out in the real world of people's lives and work.







Key insights

The conversations around work, income and business yield insights around both problems we see as a consequence of introduction, use or monetisation of technologies and their root causes. We also get clues as to where we can invest in building alternatives to mitigate harms or do away with them all together. What is clear is that there is not one model that fits all, rather it is a puzzle where we can see the diversity of puzzle pieces that together build the whole. What is clear is that you cannot just throw more money at tech to solve the issues — rather, parallel investments.

Our main takeaway: As long as non-extractive resourcing technologies and their uses relies on voluntary donations or institutional funding fads, we cannot secure a next generation internet that offers new functionalities to support people's needs and to address global sustainability challenges, while respecting the fundamental values of privacy, participation and diversity:

"Running computer systems, in any form, comes with a cost — be it your time or your money — it's equally true. It's true also, that if you don't care — you are still free (under the four freedoms of FOSS) to USE the software as you please. However, if you think that running/modifying the software comes without cost, you need to rethink. Free and Open-Source Software has nothing to do with cost. It is about what principles the software operates under." [22]

So what is to be done to ensure the viability of better solutions?

Four candidates emerge:

- **Stocks over flows:** We should explore how to secure stocks that can provide a reliable source of income to finance development and maintenance of technologies as a public good.[23]
- **Design appropriate mechanisms and strategies** for better alignment and coordination of existing funding programs and procurement budgets so that they are, in effect, pooling resources towards securing reliable, secure and ethically sound digital infrastructure and tools to meet their needs.
- This includes adjustment of priorities and investments in different policy areas (e.g., housing, health, education, culture, etc.).

[22] This is a conclusion we have drawn from looking at all the material, including but not limited to, the documentation from discussions during various events.
[23] Drawn from Messina Advanced Social District Learning

- **Public procurement at the municipal and regional level as a key enabler**: It comes down to this: either we keep buying licenses from Microsoft, or we give the same money to local individuals and organisations who can design, deploy and maintain FOSS solutions in close consultation with organised civil society. The second option clearly builds more competence in the organisation. It also serves as an innovation support system to the capacity of local industries to grow innovation and technical capacity.[24]

- **Perhaps the NGI ought to be reframed as an emergent web of interdependencies between people, places and processes.** Placing special emphasis on *interdependencies* between our *technology-mediated human to human interactions* and the *impacts of these interactions on multiple dimensions of human needs and aspirations.*

An interesting story in The Atlantic[25] explores how pandemics have previously impacted society and economies. It talks about how the Black Death that swept across Europe between 1347 and 1350 resulted in a huge loss of lives — particularly among children. This inevitably led to a shortage of labour and farmers in northern Italy began to increase their wages to attract workers. A middle class began to develop and the region became more affluent.

Like previous pandemics, COVID-19 has changed our societies and economies. While we won't see some of these changes until further down the line, others are more apparent. Perhaps one of the more obvious is the move to remote working. While many companies and employees were beginning to adapt to this model in recent years, they still made up a small proportion of the entire workforce.

With the pandemic, employees based in offices have been forced to work from home, and those who were more cautious to this style have seen its merits. The crisis has propelled a definitive move to remote working for many; even major tech companies that were previously 'office-centric' are now fully committed to the model.

[24] Participant input into a debate on NGI exchange platform: https://edgeryders.eu/t/teaching-teachers-open-source/9881/15

[25] Pandemics Leave Us Forever Altered - What history can tell us about the long-term effects of the coronavirus, June 2020 issue: https://www.theatlantic.com/magazine/archive/2020/06/pandemics-plagues-history/610558

Community conversations have explored implications of this development on the health and wellbeing of individuals, families and communities. What kind of support is needed to improve the situation for zoomed out workers, parents struggling to balance personal and family life and distressed owners of businesses struggling to cope with a situation of extreme instability? With more people working from home and logging onto the internet to access their work network, it is likely that issues surrounding internet governance are more pressing than ever.

It's not just work and our new behaviours surrounding the internet that are changing because of the pandemic. The crisis has also shone a spotlight on inequalities — and in cases, exacerbated those inequalities — in our societies. People are demanding change to these old unfair systems on which our societies have been built. Several of our community contributors are actively exploring these topics in their work in academia and on the political arena.

Contributors have also identified the movement for social justice for ethnic minorities as a key battleground for reining in the threat posed by algorithmic decision making on our ability to secure, and grow, substantial freedom and prosperity for all. Another key domain is expanding our thinking about how the welfare systems adapt and extend protection to the new social and economic realities of life in the age of platform-mediated work. As well as securing the material means for us to be able to do so.

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Startups' grand illusion: You have to be 10x better than what's there[26]

Oliver Sauter, Founder at WorldBrain.io

There is an accepted "law" of entrepreneurship: in order to build something valuable, you have to be ten times better than what already exists (as proven by Google+, which arguably had some better features than Facebook but failed to tempt people away). Why does this law exist and what can we do to change it?

Oliver Sauter believes it comes down to: Costs to switch (time and mental effort) > additional benefit offered *~10. Such growth requirements have produced some great leaps in innovation — but these come with downsides. How would the world look if we focussed more on incremental innovations?

What is holding us back? The way companies make money, for one: the 2nd quarter of 2018, Facebook lost $120bn (billion!) in stock value within 48 hours, the biggest loss of any company in history. The reason: It posted the least growth since its founding, while still making 5BN in profits the same quarter and growing by 42% since the last year. Secondly, data and social lock-ins create counter incentives for interoperable formats, which would make it easier for users to migrate between services or integrate them.

Breaking this dynamic would require tackling the problem from multiple angles: namely, allowing users to move freely between services, creating economic models that reward quality of service rather than simple growth, and ideally adopting open-source software to allow companies to build on one another's work.

WorldBrain (dot) io is building open-source software in an attempt to enable incremental innovation, the foundation of which is Memex — an open-source privacy tool. Interoperability is baked deep into the core of Memex, it is fully open-source and WorldBrain (dot) io has no stock value, so is entirely focussed on building a sustainable service.

[26] This is a summary of a longer post by Oliver Sauter originally published on the NGI Forward exchange platform https://edgeryders.eu/t/startups-grand-illusion-you-have-to-be-10x-better-than-whats-there/10221

On digitalisation, industrialisation and loss of jobs during transitions between systems

Andres Ortega, Senior Research Fellow at the Elcano Royal Institute

Andres Ortega is a political scientist and a former journalist at El Pais, posted in London, Madrid, and Brussels. He has also worked for two prime ministers, in the 90s, in 2008 and 2011, as head policy planner.

Then, he sparked interest in the concept of the internet — the birth and contact of it, which brought him to develop in a book 2007 the concept of "the power of the few". He wrote a book on robots at one point, the first one to be published in Spain. Come 2016, his interest in technology intensified, reaching the conclusion that technology is the true power-holder and game-changer in our time.

Andres thinks technology allows us to do things that wouldn't otherwise be possible. It comes with negative and positive aspects, though Andres believes the percentage of positive is more. After all, the pandemic would have been unbearable without this kind of worldwide connectivity. He thinks that technology is going to destroy jobs, while also creating new ones, for which the job-losers won't have the necessary skills. There is a problem of transition that has already started.

In general, Spain's connectivity is something to be proud of, but digitalisation could take some criticism, especially with how things are for medium and small companies. They take up 80 percent of the Spanish economy. Yet, their digitalisation is at a low level, even though Andres believes that's the future, with the plans upheld by the European Commission.

Andres points out that Spanish companies tend to buy patents on software, but not enough money is spent on R&D (Research and Development). The government is recently starting to push for that. The pandemic has made it clear how important it is for Spain to create good jobs, which can only be done by developing software and technology.

By nature, a monopoly isn't good. This isn't a problem for Spain, but Europe at large. Some US tech companies have become too extensive, and as seen with other industries, where control of the big few has become obvious, policies are being made to change that to promote competition.

Internet connection and digitalisation need to become common goods. Not necessarily free or public sector provided, but accessible enough for everyone, even when private sectors offer it. Andres thinks access to internet connectivity belongs among the policies where the responsibility lies in the hands of the corporation to provide it. There are different objectives, some sustainable, some not. The UN is working on some of it.

The internet can be both a symbol of freedom and of control. Even in authoritarian countries where the internet is controlled by the government, sparks of protest in those very social media platforms can be seen.

Ortega confesses his values are in line with European values. The concept that democracy, freedom and rule of law complement each other but are not the same thing. One can't ignore privacy. Ortega thinks European values can and should be exported to other parts of the world where the internet and connectivity aren't fully developed. China is certainly ahead in this race.

Ortega points out that how all these countries export their values is different. In terms of data control or ownership, China is for the government, the US is for companies, and the EU puts more weight on the individual.

Remote and distributed working has the potential to be a great equalizer

Mayur Sontakke, Financial Analyst & Entrepreneur

My name is Mayur and I'm a financial analyst by trade. Last year, I started NomadGao, a coworking co-living place in Goa based on my first-hand experience as a coworker.

We are a small space with 15 to 20 coworking seats. Our focus has been more on human interaction, though the small scale helped us in experimenting with technologies.

Lockdown gave us time to think about how our systems should be. We have automated and streamlined our systems more. I feel that people should focus more on building the community, making sure that everybody here is happy, and connecting to drive synergies or collaborations, than technology.

Coworking has the potential to be a great equaliser. We have been working on skill share programs, but the government needs to focus on building the ecosystem of spaces and internet facilities in tier two, tier three rural cities. I feel that the worst has already happened, and now we are on a growth trajectory.

Recover from COVID with Flexibility

Erin Westover, Head of Expansion at UpFlex

My name is Erin Westover, and I work with Upflex. We're a New York based company. However, I'm based in Berlin. Of course, at the moment we are 100% remote. We love to promote flexible work styles.

We are technology based, a communication platform that allows companies to manage or develop systems so that everybody can work the way that they need. Touchless, for example, is a big trend right now and our app facilitates touchless entry.

COVID launched us into the front lines of how people are going to need to work from now on. Coworking is going to come back stronger than ever as big companies adapt and restructure for safety, and we're there to support that education. For example, we created a program called Safe Spaces, which allows people to filter for those that adhere to local regulations. The design of spaces will change, but the value of flexibility to communities is stronger than ever...

Tiny data for highly resilient societies of the future[27]

Matthias Ansorg, Co-founder and CTO, Edgeryders

My name is Matthias Ansorg. What I have discovered in my various explorations of and experiments with autarky-enhancing technology is that this is a largely unexplored area with a high potential for creating a resilient and sustainable civilization with modern comforts and only the essential complexity. This is certainly no silver bullet as there will not be total autarky on the household or city level in the foreseeable future. I'm mentioning it as a complementary approach to the problem of complexity: instead of only using better mental models to understand it and deal with it, we can also discard it and "start from scratch".

The last part of the book *Sociability Standards for the Internet of People* is a good summary of the design guidelines developed throughout that document (also good for everyone interested in joining the discussion but needing a *tl;dr*). Summing up my comments by going along that list:

- **Proximity:** I see that as an essential property of resilience and economic fairness in a future society, and it fits right in with my own notion of local autarky and PayCoupons, our innovation for local economic exchange. Proximity and local production should not be confused with anti-globalization: all knowledge should be globalized, for proper global collaboration. So it's rather in the realm of alter-globalization.

- **System Thinking:** Above, I proposed systems engineering as a complementary approach to system complexity, and a local and fully circular economy ("autarky") as a possible outcome. I like the practical proposals though, esp. "systems that automatically generate a fixed, public discussion URL for each item." That would be a good entry point to share user-generated knowledge about using an item/type of product, to report issues and contribute to its development in an open-source manner, and to interface with a lending system, second hand offers of the product, etc...

[27] This article is an adapted version of a comment, contributed by Matthias Ansorg as part of a discussion on the NGI Exchange platform under a CC-BY-3.0 license; https://edgeryders.eu/t/how-can-we-put-humans-citizens-first-in-our-smart-city-policies/9878/14

- **Affect:** That's really interesting to me as it shows a gap in my designs for local autarky so far. I have no idea though what kind of changes could incorporate a space for emotions and conflict into local autarky tech — I might not be the right person to have that idea, but then somebody else will be.

Service design in a climate emergency — What do digital services in a world of net-zero look like?[28]

Chris Adams, Environmentally Focussed Tech Generalist

"Our climate is changing, kids are striking for the future every Friday, and put simply, our house is on fire. How can we respond as practitioners designing and delivering the services people rely on? And what skills will we need that we don't have, and need to invest in learning?

We'll need more than hope and courage if we want to rise to the scale of the challenge facing us — we'll need to invest in specific skills, and learn to use an expanded vocabulary that includes concepts related to climate, carbon, and equity."

If we listen to the science, and follow the trends of carbon reductions being written into law, like we saw with the UK, Denmark and New York this year, we have significant changes ahead of us in how we deliver services, as we won't have the resources available to us that we used to.

We increasingly see service design as a tool for governments, companies and the third sector to help people meet needs they might have, and rethink how we structure organisations to support them.

In fact, some, like Matt Edgar, have gone further: *Most of government is mostly service design most of the time.* Great strides have been made in making services more legible to end users, but also delivering the required outcomes more effectively, often costing less to do so.

But in 2019, and a world where our climate imposes far-reaching changes to how we live, we'll also likely have far-reaching changes to how services are delivered to people, with new consequences we're not used to dealing with.

How do we avoid the unintended consequences in a world of binding legal carbon reduction targets?

[28] Condensed version of a post contributed under a CC-BY-3.0 license by Chris Adams on the NGI Exchange platform in October 2019: https://edgeryders.eu/t/workshop-on-service-design-in-a-climate-emergency-what-do-digital-services-in-a-world-of-net-zero-look-like/11070

Navigating COVID as a small location-based business

Nacho Rodriguez, Entrepreneur, Engineer and Community Builder in the coworking sector

I'm Nacho Rodriquez, founder of Coworking and Co-living Canary Islands. It can be hard to make a small coworking space sustainable, but the business became more interesting when we evolved, in response to demand from freelancers from all over the world, to establish three co-living spaces.

Co-livers have 24/7 access control via an app. This is crucial to our sustainability and more importantly, empowers co-livers to take ownership of the space. Work environments aren't just people in a space together, they are about interacting and generating positive synergies with coworkers. As more companies become remote-friendly, it's important that community remains a priority.

Our response to COVID has been more physical than technology based so far: no sharing of desks, minimum distance respected, and more demand for private offices. More generally, 5G will open opportunities to work in rural areas where connectivity currently is a challenge.

Can remote collaboration and coworking burst small-world complacency?

Faye Ahlund, Co-founder of Kumpul & President of Coworking Indonesia Association

My name is Faye Alund and I'm the CEO and co-founder of Kumpul, a co-learning platform that provides quality programs as an engine for ecosystem builders. I am also president of the Coworking Indonesia Association, supporting the development of coworking in Indonesia.

Our tech platform is a marketplace of four programs that ecosystem builders can tap into, but I think the key to my work is the power of community and local heroes. When we started, it was so difficult to explain coworking and why it's important for the economic development of a country. We really believe that coworking is one of the most effective ecosystem builders, and now there are 300 spaces across Indonesia.

When people get stuck in their bubble, they meet the same people again and again. It's important to burst that bubble, and coworking is accelerating that serendipity. Our yearly Unconference is a big part of that.

Virtual collaboration emerging as a competitive advantage

Jonny Cosgrove, Founder Meetingroom.io

My name is Jonny Cosgrove, I am the Chief Executive of meetingRoom.io, an Irish company that makes virtual reality meeting room software, primarily to provide virtual space-as-a-service for large enterprises. I'm a Trinity MBA with a background in advanced marketing technology and I've spent the last few years working on technology that contributes to structural changes in the way we all work.

We provide virtual meeting rooms — a digital office space that is consistent and available from anywhere. We bring body language to meetings, focussed on highly collaborative and participative meetings. Teams are more engaged, build rapport and achieve more than using traditional tele-presence. People use it for specific types of meetings, for highly participative, highly collaborative meetings of approximately three to 20 people, rather than one-to-one or one-to-many.

The idea for me is not to get everyone to wear these headsets all the time, but for people to be able to see one another when they need to. I know everyone's crazy for asynchronous communication right now, but for me this is the next stage. It cuts down on notifications, which keeps people focussed until it's time to show up for a meeting, just like in real life.

Pre-COVID, we had interest from specific teams — now that we have begun adjusting as a global society, we are seeing more and more types of organisations looking to improve their collaborative efforts. We're seeing a lot of different co-working spaces looking to get people back with their bums on seats, but it's about getting people to look beyond and say, "Look, what if I was here two days a week instead of three, what if I was here four days a week instead of the full five? How does that affect us?"

There is a huge amount of interest in what we do at the moment, but in terms of bringing it through, we've been focussed on working with large enterprises. We know who we want to work with and we know who we can help today, and tomorrow. Our solution fits in particular ways, and we don't try to compete with tools like Teams or Zoom, because that's not the point. We act as complementary tech for small group collaboration. We're in addition to your existing tool set, in the same way video calls didn't get rid of email.

When a meeting is one-to-one, or one person addressing a crowd, video works really well.

Where we kick in, is when the “Brady Bunch” grid doesn’t work. We focus on those three-to-20-person group meetings, where you want to know whose turn it is to speak, where you want to make sure that everybody’s engaged. A problem cannot always be solved or fleshed out via a Teams or Slack thread, or with four or five on one call — that’s the difference between communication and collaboration. Our calls are very much a case of everyone’s in, it’s high energy and it’s getting real problems solved.

A lot of the tools that we are using these days are built for people to be on all the time, which turns into a notification battle station. That works to a certain point, but you get used to being driven by notifications as opposed to driven by outcomes. For us, it’s very much the latter rather than the former; the real collaboration as opposed to people showing up the right way on video calls.

The next stage of virtual collaboration is going to be VR first. Not just adding brand new tools to the stack, but changing behaviourally how people are operating, how they’re working together. Our vision is to have over a billion people, or a billion task-oriented rooms being used in our platform, and the idea is that there’s a different mindset to each space. For example, I’m here in the green room talking to you, and I might be going to a red “management” room afterwards, which could mean being prepared for a tougher conversation, then meeting a customer in the blue room, where I want to make sure I’m in closer mode. Context switching is something we focus on, to ensure everyone is sure what is on the agenda for a particular meeting.

We learn by doing. Humans are social creatures; we get together to learn. When we’re introducing people to a room, it’s a tour, just as though I was showing you guys where we work at Regus today. Every client who comes on board with us is enrolled in our academy, which starts with a bit of education, but then we’re going to dig into what this might mean for your business, saying look, what are your metrics, what does it actually mean to you.

The industry is too young for people to be able to say, “Hey, this is what we’re doing, and this is what we’re going to do for it, and here’s the exact outcome we’re going to get at the end.”

After the last four months, we’re just starting to get to that point where people actually are able to reflect and say, “Okay, we made it through here.” This period has meant an

acceleration of what was already happening, and a lot of people have gotten two or three years' worth of learning in three months. They are understanding that they can get away with working remotely and they want to be really specific about the competitive advantages they can bring out from that. Virtual meetings are a part of that.

How the co-working spaces themselves might adopt this is really simple. It might be adding a few extra rooms in a digital sense to their existing booking system, offering it as extra services to their memberships. More and more corporations are starting to look at co-working spaces, not just in the capital cities but also in a rural sense of things.
We can all agree that you'll never have one tool that fits everything for all teams, but it's still very much at the fledgling stage. This period has probably been the biggest output of our virtual and physical lives converging, and physical co-working spaces are best positioned to make their competitive advantage, by the fact that their offices are safest. We link in on top of that.

There's a lot of uncertainty around generally, but overall, I suppose the biggest challenge from a technology point of view is that most people haven't tried these headsets before. Normally, you'd have someone on site to show them how to use it, to make sure it's a good first-time experience, but that's all changed. On demand, that actually helps with that behaviour change we mentioned earlier on, it's all the more important. The best way to get people to adopt or to react and educate to these things is making sure that everyone has the same ability to participate.

COVID presents opportunity to breathe life back into rural communities

Gary O' Meara, CEO of Meath Enterprise, Managing Director of the new Boyne Valley Food Innovation District

Gary O'Meara works for a local government organisation called Meath Enterprise, which is a very large community hub embedded in their community. They also have Kells Tech Hub, which is smaller with more of a focus on technology, and Gary is part of an association called the National Association of Community Enterprise Centres in Ireland.

Short term, the challenges presented by COVID have been reconfiguring spaces and bringing in new technology to support hubs and their clients; then the medium to longer term opportunities in terms of future work, blended working, remote working and how they can facilitate that.

With multinationals, the public sector and even colleges working remotely, COVID has accelerated the need for quality standards, technology and the adoption and digitization of these hubs and how they operate. COVID presents an opportunity for these hubs to be at the centre of a national regional development program where we can work with these remote workers, breathing life and bringing money and bringing energy back into local communities.

Data as Labour

Jennifer Lyn Morone, The Girl Who Became a Corporation

Jennifer Lyn Morone is an artist with a deep interest in charity work, as proven by her initiative in leading Radical Exchange Foundation, an NGO. In 2013, during her stay at the Royal College of Art in London, where she was teaching design interactions, she introduced a program that focussed on the kind of impact certain technologies left on society. It was only a short while before this that Snowden's revelation had come to light.

She was experiencing difficulties in her personal life and work field, feeling a bit helpless at the lack of opportunities and the presence of imbalance among different groups of people there during that time. All the while, she was noticing how addicted people were to technology.

Her research began then, first focussing on Snowden's revelation, then the concept of data, and then the government on why and how they collected data. It seems all the big corporations put great value on the data of people, thereby making regular people valuable, just by existing.

She had this idea that it's better to exist as a corporation than as a person and let her data be owned by the company, protecting the data in a roundabout way. She has a lot to sort with this concept, such as realizing individual data isn't that valuable.

It's when all these data are collected together — even the minor, insignificant things about a person — that corporations like Google use this data to gain insight and let their customer consume the data.

The challenge was now to locate this data and gain control over it. Something that wasn't possible by using the pre-existing tools already owned by large corporations.

Her idea was to create a dome, a database of her with several other people to host on a protected resource called "the platform". The people will take hold of their data, bargain on it, and decide what should be considered valuable and what not.

It seems she accidentally ended up creating an art project of sorts, joining several other artists and people from different walks of life examining similar problems along with the

concept of data. Data is a big part, though, acknowledging how the law doesn't cover it properly and that control should be in the hands of people who are giving up their data. Rights and limits have to be set on who consumes data and who sells it.

For isolated individual data, one can set their own prices. For data that overlaps with one another and what makes it powerful, further discussion is being held.

Jennifer has also been doing things like creative narrative fiction workshops on the side, where people make stories out of the visions they have for the world. A world where data cooperation exists and what that would be like, wanting to turn it into film and other media. She believes imagination has been lost in a world controlled by giant corporations.

The corporations have turned artists into their puppets rather than individuals with their own ideas and thoughts. Jennifer acknowledges this is, probably, what led her to look so deeply into data in the first place. She is a person with her unique background, ideas, and way of thinking, which helps her contribute multiple ways to a single problem.

She thinks some lawyers create problems while some technologists try to solve them. Artists have the unique advantage of questioning whether it should be solved at all. And while not all artists are willing to take a moral standing, the general assessment skill can be enough.

Ultimately, Morone believes a willingness to question the system can lead to changes in the system. Even one person pushing for change can motivate others to look back on their work.

Remote work with human interaction is the way of the future[29]

Jamie Orr, Founder of Cowork Tahoe and Jellyswitch

I'm Jamie Orr, one of the co-founders of Cowork Tahoe, in South Lake Tahoe, California. I've also for the past several years been working on a digital technology project called Jellyswitch, which is a mobile app solution to help manage co-working spaces that's being used at Cowork Tahoe as well as a few other places.

Cowork Tahoe was founded in order to allow professionals to work from Lake Tahoe. It's a small mountain town, a ski community and summer vacation spot, but there is a serious need for the economy to be more diverse in order to not be so susceptible to the swings of tourism. And we are seeing that pretty significantly right now during this current pandemic.

Six years ago, we set out to create a really vibrant space that would allow for that type of community to develop in the Tahoe region. We renovated the building in a district that the local jurisdiction was also trying to revitalize, and so we have brought a lot of great energy and people who spend money at lunches and the local shops.

Pre-pandemic numbers, we were looking at a community of about 150 professionals across a really broad and diverse range of industries. Anything from the software developer, the typical freelancer that you think of so frequently with co-working, to nonprofits, environmental consultants, architects, CPAs, our journalists. It's really neat to see that level of diversity in industries in our small town.

One of the issues we've seen with the community is that people tend to be transient, but if they can get those really great human connections in their workplace, then we can actually retain them much longer. So we're able to connect them in with people who they may want to go mountain biking with, or skiing with, but also with non-profits they may want to get involved with and support. They may meet other parents who have children in schools, and so they begin building that web and that fabric when they start working at Cowork Tahoe, and they become very vibrant members of our local South Lake Tahoe community, which is greatly needed.

[29] A condensation of an article produced based on an interview with Jamie Orr produced by Inge Snip and posted by Jame Orr on the NGI exchange platform under a CC-BY-3.0 license on July 7, 2020: https://edgeryders.eu/t/remote-work-with-human-interaction-is-the-way-of-the-future/14035

One of the great things about co-working is that you can facilitate these connections in a way, professionally, that is different from a traditional corporate structure working on a corporate campus. And it's great to see how people become inspired by one another professionally by learning about each other's different fields and contracts of work. I think that helps to create this emergent community that focuses on the entire person, not just their work persona.

We have very robust firewalls and protective systems in place, and the ability to set up individual networks if people need them. We have the most robust broadband and Wi-Fi signal you can get in town, which when you get snowstorms that can drop 10 feet of snow on you, is pretty important.

We largely closed our physical space during lockdown. There are a small handful of companies that work from our space that are essential, and we have one PPE supplier, and so it was critical for them to be able to continue operations. We made sure that the space was still accessible for them, and that it was safe and cleaned frequently. It was actually fairly simple for us as we are a full-time locked facility as it is, and we use an access control system that all of our members have access to through their mobile apps.

In the weeks immediately following the shutdown orders, we did jump on and try to make sure that all of our members were participating on Slack, or on our social media channel, and we started hosting a number of Zoom virtual meetings to check in with people and see how they were doing. But after the first few weeks, it became pretty clear that most of our members actually weren't asking for more of those coffee breaks or happy hours. I think people got Zoomed-out really quickly, and we didn't want to add to that. The way that we were able to support our community was actually by backing off, and so I think that was actually really interesting to see.

There's still a lot of anxiety and apprehension. Being a tourist community, we are seeing an influx of people, and frankly that does concern me quite a bit as we're hoping that we don't see a surge in cases, particularly serious ones. But again, being a locked co-working space with a highly professional clientele, we've been able to mitigate a lot of the risks. Even before the governor of California mandated face masks in public and in businesses, we already had that implemented as one of our reopening guidelines.

At the beginning of June, we cut back on about 50% of our open desks. We double-checked all of our ventilation systems. We have a lot of windows, we have high ceilings, there's really

good airflow throughout all of our systems. A majority of our space is small private offices, and so because of the way that our building was designed to flow people around the building as it was, we've actually been able to feel really good about inviting people back to the space, because they are primarily in private spaces or very, very spread out if they are in the open desk space.

Everybody's wearing face coverings in common spaces and the adoption has been 100%. We have hand sanitizer stations, we've got additional cleaning protocols, and all of our kitchen stuff is now spread way out so there's not the normal clustering around the coffee machine that we used to have.

We still have quite a few people who are still working from home, or maybe coming in part-time. But again, one of the key things that we did in designing this space and this business model is in providing flexibility. The most interesting development since reopening is, we are seeing an influx of new full-time residents to Lake Tahoe. They are actually relocating their families, now that they can work remotely, to somewhere with a better quality of life.

The relationship building is going to take longer than it would before because we're not doing any events. We used to host member's lunches or breakfasts fairly frequently, and we aren't doing those types of things. But we'll spend even more time than we did before making sure that new members feel comfortable and welcome in the space and in the community.

We run our entire space off of the Jellyswitch mobile app. One of the things that we require right now as part of our new opening guidelines, is we're being very strict on using the access control system, so we know how many people have walked in the door each day and I can see who's using the space, as well as reserving meeting rooms. We have a protocol where we are leaving a passing period in between meeting rooms to allow for cleaning and for ventilation, and an announcement feature that sends push notifications out to all members, which has been useful in terms of updating everybody on safety policies and procedures around mask wearing. It's been good to see tools like Jellyswitch are being used to even further support not only the safety aspects but the human needs of the space.

This pandemic has really accelerated the timeline on remote work, as many, many companies have had to quickly adopt work-from-home policies and stick with them for a

pretty significant part of their workforce. The thing that I worry about the most with all of the technological advances, is that if you lose the human interaction that we're so used to both personally and professionally, then the remote work experiment will fail.

I would like to see more co-working spaces kind of peppered through cities or communities that are maybe 10 miles apart and only serve about 150 members.

We have a growing coworking community around the lake and I expect to see that continue as we do have more people who choose Tahoe as their full-time home as a result of this. We have a mountain coworking alliance, that's an alliance of about a dozen ski town co-working spaces, and one of the requirements of that is that you're located in a community with a ski resort, and I'm active in the Global Workspace Association, a Women Who Co-Work group, plus one that's specific to coworking software. I am very optimistic about Cowork Tahoe and the co-working world overall.

I think remote work is the way of the future. I think people want flexibility, and I am looking forward to more people being able to choose a lifestyle that's true to what they need personally, and it's not driven by where they have to be to work.

Distributed Teams as Distributed Economic Development

John O' Duinn, Author and Senior Strategist

My name is John O'Duinn. Over the years, we've evolved from internet connectivity, to internet for businesses, to Internet of Things and now to the Next Generation Internet for Humans. The obvious question is — why now?

We are at an interesting inflection point in society, with several large tipping point changes happening at the same time:

- Technology changes — smartphones, free streaming video, high speed internet on smartphones. Internet usage is now mostly on mobile devices — not desktop.
- Changes in social contract — no more job for life. Average job tenure keeps shrinking. Even "temp/contract work" is shrinking to per-task/gig work.
- Generational changes — Millennials became the largest segment of the US workforce in 2016; GenZ will become the second largest segment of the workforce this year (2020). Also, people who would "normally" have retired by now are staying in the workforce because they lost their pensions/savings during the last big recession, so have no choice but to keep working. These factors together mean this is the first time we have five different generations all in the workforce at the same time.
- COVID-19 has been an accelerator of this trend, but it's important to keep in mind that these trends have been going on for years before COVID-19. We don't know how long COVID-19 will be a concern in the future, but I believe it is not measured in days or weeks.

Many companies in Silicon Valley have already announced not moving back to offices this year; some already said not until mid-2021, and many announced moving to a "remote first" workforce. While this might sound extreme, this is not "only" Silicon Valley.

To show how mainstream this is, in the City of London, some of the 30 largest employers are already talking about only 20-40% occupancy *at most*. One example I found recently was:

"I think the notion of putting 7,000 people in a building may be a thing of the past, and we will find ways to operate with more distancing over a much longer period of time." Jes Staley, CEO Barcley[30]

The "old normal" was not working for most people.

- Traffic and commuting are so bad that demand for housing near offices is causing a housing crisis as well as gentrification-and-displacement disruptions for others who don't work for that employer yet still need to live there for their job.
- People were spending more time commuting to work. This caused the creation of "commuter towns" and "bedroom communities", built for people who live and sleep there, but commute to work in a different town.
- The environmental impact of all this traffic is significant. According to the California Air Resource Board, people driving cars, mostly to and from work, is 28% of total emissions. 28%. Everything else, trucks, planes, agriculture, electricity stations, are each under 10%.
- Those who lived outside of commuting distance of employer offices have higher rates of long-term unemployment. Over time, they accurately felt more side-lined from the "booming economy", which in many cases led to resentment of the economic and political status quo.
- No surprise that two weeks ago, a Yougov survey in England found only 6% wanted life to be exactly the same as it was before COVID-19.

Traditional Economic Development is when a jurisdiction gives money to a large employer so they move to your town.

- The company will pay corporate taxes, so eventually the jurisdiction gets its money back. Additionally, the company hires local humans, trains them as they progress up the career ladder and work there for life. But the social changes mean that formula no longer works.
- Because of "no more job for life", employers only want to move to a location where there are pre-trained unemployed candidates waiting to be hired. If not enough are

[30] "Big offices may be thing of the past after coronavirus lockdown is lifted", The Independent 29 April, 2020 https://www.independent.co.uk/news/business/news/barclays-offices-after-coronavirus-ockdown-jes-staley-a9490291.html

there, a sudden influx of people can cause gentrification and displacement of existing humans.

- Because of "no more job for life", humans don't want to relocate for a new job. Relocating is expensive and disruptive to family life. The trend towards dual-income families means someone has to give up their job to become a trailing-spouse. Especially when you know you'll be switching jobs again in 1-2-3 years.
- Encouraging companies to relocate is hard, expensive and takes a long time. As Amazon discovered in New York recently, these disruptions are not always welcomed — for the reasons already described above.

If Traditional Economic Development is no longer working, now what? How about trying something different — Distributed Economic Development.

This is the heart of a law I helped write for the State of Vermont.

This "Remote Worker" law has these essential parts:

- Encouraging knowledge workers/creative class workers to relocate is easier, cheaper and faster than encouraging corporations.
- Each employed knowledge worker creates 4.8-5.7 jobs in the local community.
- Remember that humans are a social species. Even if we have high-speed internet at home and can work from home all the time, we need social interaction with other humans to work online over prolonged periods of time.
- Find an existing unused building in a formerly-walkable neighbourhood and convert it into a mixed-use neighbourhood coworking space. Think of this as a node on the Next Generation Internet of Humans. Nacho Rodrigues, Jamie Orr and others here[31] are also doing this.
- Remodel the building with a specific layout — different to the typical coworking spaces seen in larger metro cities and which helps increase foot traffic to nearby businesses to help them also survive!
- Provide incentives for some knowledge workers/creative class people to move to your community to help introduce these new concepts into daily life and start the movement in that location.
- Have existing residents help newly-arriving residents with practical logistics and local advice, fostering a sense of community. This helps new arrivals feel welcomed,

[31] "Here" is referring to the NGI exchange platform (Nacho and Jamie are participants and users of the platform).

which improves the “retention rate” for the community. This also helps new arrivals feel comfortable, showing how they work online to existing residents who have useful work skills, yet never considered they could stay in the community they live, and also have a real career online.

How does this work?

- People move to live in your neighbourhood, bringing their *existing* jobs with them and start working from your small neighbourhood coworking space. Even when they change employer jobs every few years, they still live in the same neighbourhood and still walk to work online from the same neighbourhood coworking space.
- These people diversify the tax revenue for your community, which is important to avoid the “all eggs in one basket” risk.
- The more people do this, the more their neighbours see they also can find real meaningful jobs online. This helps reduce “brain drain” caused by people graduating school/university and leaving town looking for jobs elsewhere.
- Because they are all walking to neighbourhood coworking spaces, they are not commuting in cars or public transport, which helps the environment immediately and for low cost.

Does this really work? YES!

This was an important part of the State of Vermont’s “Remote Worker” law I helped write; it was wildly successful and I’m now working on similar laws and policies for other jurisdictions. It’s not just me. In the US, others have done similar initiatives for places like Tulsa, OK, Savannah, GA, Alabama and Utah.

Jamie Orr, Nacho Rodriguez, Faye Scarlet and Mayur Sontakke[32] (and others!) are each doing this, in slightly different ways, with their neighbourhood community coworking spaces. Each is successful in their own business. Each has been successful in supporting other businesses in their community. Each is helping their local economy.

[32] Names of participants in the NGI Exchange platform

How to build a financially sustainable school for free and open-source developers?[33]

Elenor Weijmar, Tech and Entrepreneurship Teacher at KomTek

I'm Elenor, I study at changecourse.se, exploring social entrepreneurship and leadership.

I also run the platform https://handlingar.se/ where you can request public documents and use freedom of information law digital. And in a few weeks, you will hear me in Civic Tech Sweden's new podcast about civic tech (https://civictech.se).

During this year, I have been exploring and researching what tech initiatives there are in Stockholm for children and youth to learn tech outside of regular school as a leisure activity.

With the emerging shortage of 70 000 IT-workers per year in Sweden (such as programmers, developers, technicians), Sweden is in danger of falling behind when it comes to digitalisation and internet development. I believe that if we introduce and teach tech to youth early, there is a bigger chance they would have an interest in the topic later in life, and even when "choosing" a career.

I want to start a tech school that compliments the other tech initiatives in Stockholm.

Ideally, this tech school would:

- Teach and use FOSS.
- Not be on a volunteering basis.
- Be outside of Stockholm, where the other initiatives do not reach (and in the future, the whole of Sweden)
- Also focus on schools and teachers, change school curriculums to focus more on tech and educate about opportunities of programs for learning.

Some of the question I still have to think more about:

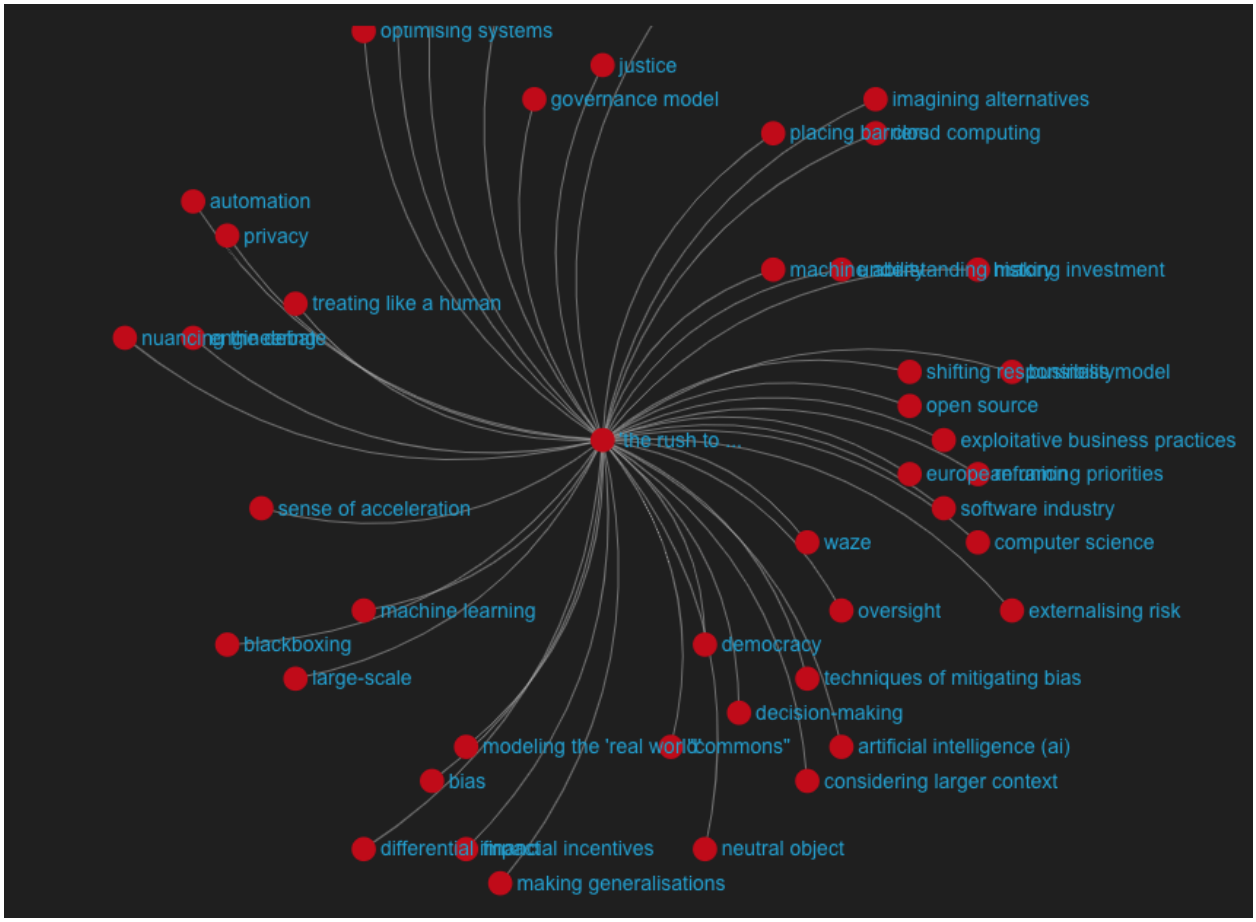
[33] Adapted version of a post originally published by Elenor Weijmar on the NGI Exchange platform under a CC-BY-3.0 license on November 15, 2019: https://edgeryders.eu/t/foss-techschool-in-stockholm/11562

- How this school would survive economically
- How to teach and use FOSS (and how you *only* do that)
- The basic layout of the school
- Who to collaborate with

Part V: Freedom, Control and Justice

In this chapter, you will find the key insights from discussions on the NGI Exchange online community platform around the topics of freedom, control and justice in relation to networked technologies.

As well as a selection of articles that give a richer understanding of how these topics are experienced and responded to out in the real world of people's lives and work.



Key insights

- **More time and discussion are needed to understand AI.** There is still a need to spend quite some time to get a grip on a shared idea of what AI actually is, and how it works. Even amongst experts.
- **Value-based software architecture.** Scuttlebutt deprioritized making their software available for multiple devices based on their values of “this being software

that is made for people who only have one device". That's a major architectural decision, which might not be possible to adjust later without rewriting the whole software. So they really poured their values into their software. In comparison, politics are not yet good at getting their values implemented into technological developments. So we need a better process that implements our values into our technology. It's about a process strong in accountability.

- **What is human?** If an actor (any party/organisation) says they are human-centric, they often do not even define what "human-centric" means in their case. For example, "human" in "European human-centric Internet" is left undefined. This generates conflict potential, as it stays so general.
- **The economics behind AI.** There's an interesting study of "the cost of developing universal chips after the end of Moore's law". It means that now that we're at the end of Moore's law, the money sunk into developing faster chips is unlikely to come back. So instead, the industry took a risk by developing *specialised* chips. There are two main types of such chips: AI and blockchain. That's the only reason why AI became a hype and we're talking about it: it's being pushed on us, because industry needed a new profitable outlet for investments, and high levels of capital investment are backing AI already. "If we are not buying it, it's going to go down. If we are not buying it, we are going to go down." We are still in the process of making that choice if we (also: the Commission) want to invest money into AI.
- **Good and bad AI architecture.** Let's differentiate between "AI for research and solutions'' and "AI for the production of services''. The first type is benign research aimed to solve intricate problems, for example done by universities. The second type is commercial SaaS software that scoops in data out of profit interest of the company. Maybe Google Maps might in the future adapt your routing so that you see adverts of parties that paid Google for audiences for these adverts. This means: the problem of this is about the economics of who runs the data centres: Amazon and Microsoft and Google built "clouds'', data centres for people to run their applications. Due to economies of scale, they provide the cheapest solution, but also are able to monitor and keep the data going through them. This is an undemocratic process for plain economic reasons, and it's a hard problem to crack.
- **The structure defines the function.** The type of governance structure defines how a new technology gets used. So it may be that we have allowed the wrong governance structures to happen, which will lead to the wrong outcomes of AI technology. In addition, Google and Facebook have been advertising companies but are not anymore — trying to rule them in as advertisers with regulation is already

not applicable anymore, instead we should rule in their new structure of “AI-first” companies.

- **Is AI anti-human by definition?** What AI (as rebranded Bayesian statistics) does is to put the individual differences between human beings (everyone’s “spark of the divine”) into the epsilon, the error term at the end of the equation. That makes AI non-human-centric by design. Because the definition of human for an individual is “that which cannot be predicted by AI, which is not part of the ‘normal’”.
- **On tech interfering with relationships.** Intermediating the patient-doctor relationship with data collecting and analysing systems has degraded the value of that relationship. Because medicine is not about diagnosis, but prognosis: improving a patient’s future condition, and that is a negotiation with the individual, and that individual might be very much on-average, refusing certain treatments, etc., and should have and keep a right to that individualism. That still allows for tech systems that could benefit relationships — it’s just that the tech systems we have currently in medicine do not do that.

Experts working at the cutting edge of tech, policy and human rights spaces call for greater consideration to be given to the way that AI is altering the very fabric of society. Both academics and policy makers agree that current AI systems risk amplifying existing human biases that entrench inequality — not least because of the widespread, and misguided, perception that data is inherently neutral. Systems for the reporting of sexual assault, for example, are encoded with developers’ assumptions about sexual violence which do not grasp the complexity of victims’ experiences. Those working and researching in the field caution that AI systems are only as unbiased as the humans who build them, and that continuing to give AI undue weight will cause serious harm to the most vulnerable in society.

Across medicine, law, entrepreneurship and gender studies, concern is growing that the pressure to innovate for its own sake comes at great risk to privacy, protection and human rights. Experts caution that companies in both the public and private sectors are rushing to implement technology they don’t fully understand, and that it is crucial due care and consideration is taken when building these systems to ensure they are value-driven and accountable. Unchecked digitisation in the fields of medicine, social work and the reporting of sexual assault fails to recognise human needs which are more nuanced, individualised and unpredictable than AI can fathom. It is critical we ensure that AI is designed and used in such a way that it serves society’s needs — not the other way around.

Directory of Articles

Is AI really worth the trouble: A meeting of minds on the promises and threats

Jesse, Roberto Trevini Bellini, Maya, Sarah, Daniel Leufer, Antonio, Andy Vermaut, Neel, Mirko, Foteini, Filippo, Elizabeth, Niels van Kemenade, Hans, Ruben Lasuy, Paul Theyskens, Simeon, T Rob Van Kranenburg,, Seda, David Rinaldi, Justin Nogarede, Inge Snip, Matthias Ansorg, Riccardo, Marco Manca, Fabrizio Barca, Kate Sim, Hugi, Cath-Speth, John, Marina,Inge, Alberto, Nadia, Mark, Irene Palomino, Oliver, Jassica, Joris, Erin Anzelmo, Gennaro, Maria Baltag, Welf, Ekarina

A discussion on the topic of justice in the age of AI and other networked technologies... This article is a summary of a two-year-long interdisciplinary conversation between experts from academia, policymaking, engineering, business, medicine, education, law and social justice activism. While the participants are mentioned in the list of contributors at the end of this anthology, we have used Chatham House rules to get the ball rolling, so in what follows, we do not attribute statements to anyone in particular.

We have come to realise that even in convening experts, there is a need to spend quite some time to get a grip on a shared idea of what AI actually is, and how it works, before we can meaningfully discuss its regulation. Occasionally, the discussion veers into being quite technical, and not everybody can follow it all the time, even in settings where we have an over-representation of computer scientists and digital activists. This is in itself a result: if this crowd struggles to get it, democratic participation is going to be pretty difficult for the general public.

We kicked off by reminding ourselves that the new von der Leyen Commission had promised to tackle AI within the first 100 days of taking office[34]. Brussels is mostly happy with how the GDPR developments played out, that is by recognising the EU as the de facto "regulatory superpower". The AI regulation in the pipeline is expected to have a similar effect to that of GDPR.

Participants then expressed some concern around the challenges of regulating AI. For example:

34 https://www.atlanticcouncil.org/commentary/blog-post/von-der-leyen-new-commission-take-aim-at-ai-legislation/

A directive may be the wrong instrument. The law is good at enshrining principles ("human-centric AI"), but in the tech industry, we are seeing everyone, including FAANG, claiming to adhere to the same principles. What we seem to be missing is an accountable process to translate principles into technical choices. For example, elsewhere I have told the story of how the developers of Scuttlebutt[35] justified their refusal to give their users multiple-device accounts in terms of values: "We want to serve the interconnected, and those guys do not own multiple devices. Multiple device accounts are a first world problem, and should be deprioritized."

The AI story is strongly vendor-driven: a solution looking for a problem. Law making as a process is naturally open to the contribution of industry, and this openness risks giving even more market power to the incumbents.

AI uses big data and lots of computing power, so it tends to live in the cloud as infrastructure. But the cloud is itself super-concentrated, it is infrastructure in a few private hands. The rise of AI brings even more momentum to the concentration process. This brings us back to an intuition that has been circulating in this forum, namely that you need antitrust policy to do tech policy, at least in the current situation.

The term "AI" has come to mean "machine learning on big data". The governance of the data themselves is an unsolved problem, with major consequences for AI. In the health sector, for example, clinical data tend to be simply entrusted to large companies: the British NHS gave them to Deep Mind[36]; a similar operation between the Italian government and IBM Watson was attempted[37], but failed, because data governance in Italy is with the regions, and they refused to release the data. We learned much about the state-of-the-art reflection on data governance at MyData2019: to our surprise, there appears to be a consensus[38] among scholars on how to go about data governance, but it is not being translated into law. That work is very unfinished, and it should be finished before opening the AI can of worms.

AI has a large carbon footprint. Even when it does improve on actual human problems, it does so at the cost of worsening the climate, not in a win-win scenario.

The internet should be "human-centric". But machine learning is basically statistical analysis: high-dimensional multivariate statistical models. When it is done on humans, its models (for example a recommendation algo) encode each human into a database, and then models you in terms of who you are similar to: for example, a woman between 35 and

[35] https://www.scuttlebutt.nz/

[36] https://www.theregister.co.uk/2019/09/19/five_nhs_trusts_do_data_deal_with_google_one_says_no

[37] https://europa.today.it/attualita/una-scelleratezza-consegnare-le-cartelle-cliniche-degli-italiani-all-ibm-rossi-attacca-il-governo.html

[38] https://edgeryders.eu/t/10893

45 who speaks Dutch and watches stand-up comedy on Netflix. Everything not standardisable, everything that makes you *you*, gets pushed to the error term of the model. That is hardly human-centric, because it leads to optimising systems in terms of abstract “typical humans'' or “target groups'' or whatever.

As a result of this situation, the group was not even in agreement that AI is worth the trouble and the money that it costs. Two participants argued the opposite sides, both, interestingly, using examples from medicine. The AI-enthusiast noted that AI is getting good at diagnosing medical conditions. The AI-sceptic noted that medicine is not diagnosis-centric, but prognosis-centric; it has no value if it does not improve human life. And the prognosis must always be negotiated with the patient.

IT in medicine has historically cheapened the relationship between patient and healer, with the latter "classifying " the former in terms of a standard data structure for entry into a database.

Somebody quoted recent studies on the use of AI in medicine. The state of the art is:

Diagnostic AI does not perform significantly better than human pathologists. (Lancet[39], Ar.xiv[40])
Few studies do any external validation of results. Additionally, deep learning models are poorly reported. (Lancet[41])
Incorrect models bias (and therefore deteriorate) the work of human pathologists (Nature[42], Ar.xiv[43])
There are risks that AI will be used to erode the doctor-patient relationship (Nature[44])
Based on this, the participant argued that at the moment, there is no use case for AI in medicine.

We agreed that not just AI, but all optimisation tools are problematic, because they have to make the choice of what, exactly, gets optimised. What tends to get optimised is what the entity deploying the model wants. Traffic is a good example: apparently innocent choices

[39] https://www.thelancet.com/journals/landig/article/PIIS2589-7500(19)30123-2/fulltext

[40] https://arxiv.org/abs/1911.07372
[41] https://www.thelancet.com/journals/landig/article/PIIS2589-7500(19)30123-2/fulltext
[42] https://www.nature.com/articles/s41591-018-0300-7
[43] https://arxiv.org/abs/1911.07372
[44] https://www.nature.com/articles/s41591-018-0300-7

as to what to optimise for turn out to have huge consequences. When you design traffic, do you optimise for driver safety? Or for pedestrian safety? Or minimise time spent on the road? Airport layout is designed to maximise pre-flight spending: after you clear security, the only way to the gate goes through a very large duty-free shop. This is “optimal”, but not necessarily optimal *for you*.

We next moved to **data governance**. Data are, of course, AI’s raw material, and only those who have access to data can deploy AI models. A researcher called Paul Oliver Dehaye[45] wants to model discrimination of certain workers. To do this, he needs to pool the personal data from different individuals into what is called a “data trust”. Data trusts are one of several models for data governance being floated about; the DECODE project’s data commons are another[46].

In this discussion, even the GDPR’s success appears to have some cracks. For example, Uber is using it to refuse to give drivers their data, claiming that would impact the riders’ privacy. A participant claimed that the GDPR has a blind spot in that it has nothing to say about standards for data portability. US tech companies have a project called Data Transfer, where they are dreaming up those standards, and doing so in a way that will benefit them most (again). Pragmatically, she thought the EU should set its own standards for this.

We ended with some **constructive suggestions**. One concerned data governance itself. As noted above, the MyData community and other actors in the tech policy space have made substantial intellectual progress on data governance. Were this progress to be enshrined into EU legislation and standards setting, this would maybe help mitigate the potential of the AI industry to worsen inequalities. For example, saying “everyone has a right to own their data'' is not precise enough. It makes a huge difference whether personal data are considered to be a freehold commodity or an inalienable human right. In the former case, people can sell their data to whomever they want: data would thus be like material possessions. In this case, market forces are likely to concentrate their ownership in a few hands, because data is much more valuable when aggregated in humongous piles of big data. But in the latter case, data is like the right to freedom. I have it, but I am not allowed to sell myself into slavery. In this scenario, data ownership does not concentrate.

Another constructive suggestion concerned enabling a next-generation eIDAS, to allow for

[45] https://paulolivier.dehaye.org/stories/about.html
[46] https://decodeproject.eu/what-decode

“disposable online identities”. These are pairs of cryptographic keys that you would use for the purpose of accessing a service: instead of showing your ID to the supermarket cashier when you buy alcoholic drinks, you would show them a statement digitally signed by the registrar that says more or less “the owner of this key pair is over 18”, and then sign it with your private key. This way, the supermarket knows you are over 18, but does not know who you are. It does have your public key, but you can also never use that key pair anymore — that’s what makes it disposable.

Further suggestions included legislating on mandatory auditability of algorithms (there is even an NGO doing work on this, AlgorithmWatch[47]), investments in early data literacy in education, and designing for cultural differences: Europeans care more about privacy, whereas many people in Asia are relatively uninterested in it.

[47] https://algorithmwatch.org/en/

When your tech is used to imprison and torture people[48]

Inge Snip, Journalist

Leading US facial recognition expert Anil K. Jain, the head of Michigan State University's Biometrics Research Group, is facing major backlash for his involvement with Chinese academics, especially since his research is used by the Chinese government for their facial recognition tech to track Uyghurs and send them to internment camps.

In 2018, Jain travelled to Xinjiang's capital Urumqi to give a speech about facial recognition at the Chinese Conference on Biometrics Recognition (CCBR). Jain was also on the CCBR's advisory board and was pictured receiving an honorary certificate.

Jain is regarded as one of the world's most influential computer scientists and a pioneer in areas of pattern recognition and biometric recognition systems. He has won countless awards and honours and is often quoted on US facial recognition issues in publications like *Wired* and *Slate*. In the same month as Jain presented a paper titled "From the Edge of Biometrics: What's Next?" at the CCBR conference in Urumqi, a United Nations human rights panel described Xinjiang as resembling a "massive internment camp that is shrouded in secrecy." [49]

Biometrics have played a major role in the Chinese "anti-terror" crackdown on its Muslim minority, the Uyghurs. Thousands have been detained in so-called "re-education camps," and facial recognition, DNA collection, iris scans, and more have played a major role in it.

We're talking here about a new internet, one where the internet and tech (such as in smart cities) is a tool to help us move forward. But what if the research isn't used to help us move forward, but instead is used against us?

David Tobin, a lecturer at the University of Glasgow who studies security in China, said researchers in technical fields often ignore the real-world applications of their research. "It is imperative that natural scientists be trained in social sciences to understand these

[48] Article is an adaptation of a post and ensuring discussion originally posted on the NGI Exchange forum under a CC-BY-3.0 license on September 13, 2019: https://edgeryders.eu/t/when-your-tech-is-used-to-imprison-and-torture-people/10768

[49] "Influential US scientist under fire for Xinjiang links"- Article by Charles Rolle, published on Codastory website on September 12, 2019: https://codastory.com/authoritarian-tech/influential-us-scientist-under-fire-xinjiang-links

effects and the world they make things for and in ethics to be able to ask these questions when they construct, conduct, and disseminate their research," he said. "However, such training and knowledge is sadly lacking in these fields and public debates rely on false dichotomies between natural and social worlds and between facts and values."

"This is super scary, and no one wants to touch the subject.
It is not even a new subject. Northern Italy is the home to a healthy industry around firearms and assorted weaponry. Everything is overboard. Workers are well treated and unionized. Companies pay their taxes and sponsor cultural events. They say they "supply police forces" and "national defence systems", and they do. But they also make dark, cruel products.

One such company, called Valsella, was destroyed by a massive scandal in the 1990s, when it became known it was selling anti-personnel landmines to Iraq, later deployed in the Gulf War and against the Kurdish populations. The political pressure became too strong, and the company had to fold.

In internet tech, too, Italians have their own dark history. If you have been paying attention, you will remember a company called Hacking Team (Wikipedia), who sold offensive intrusion and surveillance systems to governments like Sudan, Venezuela or Saudi Arabia. This became known in 2015, when the company was itself hacked, and internal documents put on BitTorrent and picked up by Wikileaks. The scandal led to the Italian government revoking the company's license to sell spyware outside of Europe.

So what to do? Not sure. Double edges are an integral part of innovation. The printing press was developed to print indulgence certificates, and its "venture investor" was the archbishop of Mainz; but it was immediately appropriated by Martin Luther's reformers to condemn the practices of selling indulgences. It was also used to print bibles, pornographic literature, advertisements, etc., etc. It comes down to whether you believe in liberal democracy. If you do, you build an elaborate system of checks and balances, and hope for the best.

It would also help to break the alignment between obvious evils like imprisonment and torture and profit. Alexandria Ocasio-Cortes says that prisons should never, ever be run by private companies, and I can see where she is coming from. Maybe you could consider taking biometrics out of the private sector?" [50]

[50] Comment on the article originally posted by Alberto Cottica on the NGI Exchange Platform under a CC-BY-3.0 license on September 18, 2019:
https://edgeryders.eu/t/when-your-tech-is-used-to-imprison-and-torture-people/10768/2

"A better predictor for whether a government will procure this technology is related to its military spending. A breakdown of military expenditures in 2018 shows that forty of the top fifty military spending countries also have AI surveillance technology. These countries span from full democracies to dictatorial regimes (and everything in between). They comprise leading economies like France, Germany, Japan, and South Korea, and poorer states like Pakistan and Oman. This finding is not altogether unexpected; countries with substantial investments in their militaries tend to have higher economic and technological capacities as well as specific threats of concern. If a country takes its security seriously and is willing to invest considerable resources in maintaining robust military-security capabilities, then it should come as little surprise that the country will seek the latest AI tools. The motivations for why European democracies acquire AI surveillance (controlling migration, tracking terrorist threats) may differ from Egypt or Kazakhstan's interests (keeping a lid on internal dissent, cracking down on activist movements before they reach critical mass), but the instruments are remarkably similar." [51]

[51] Comment on the article originally posted by John Coate on the NGI Exchange Platform under a CC-BY-3.0 license on September 25, 2019: https://edgeryders.eu/t/when-your-tech-is-used-to-imprison-and-torture-people/10768/4

Front-running legislatures can foster AI that empowers users of digital technologies

Dr. Kristina Irion, Assistant Professor at the Institute for Information Law (IViR) at the University of Amsterdam

Kristina Irion is an assistant professor at the University of Amsterdam's Institute for Information Law. As a lawyer with a strong edge on technology and policy making, Kristina has shifted into studying the transnational digital technologies of an increasingly interconnected world.

Kristina believes that human rights are now under an enormous pressure from territorially indistinct technologies, which our existing regulatory structures are often unfit to hold accountable. She has a special interest in the protection of personal data, especially when the flow of data across borders calls for its continuous protection. Much of Kristina's current work has consisted of combining her expertise of the personal data protection fields with that of transnational digital technologies. In the global digital context, there are many other human rights exposed, including those concerning non-discrimination, personal autonomy, and other individual freedoms.

Fortunately, the European Union and European countries have begun to better understand their geopolitical position in the world; and these authorities are intent on preserving human rights as modern technologies become more pervasive in everyday life. There is now a better recognition of European values which helps to correct the narrative that less regulation of digital technology is the key to actually compete with technology titans of the world. Irion firmly believes that Europe should preserve its values in the next decade–specifically about protecting its human rights and democratic fabric in this highly connected global space.

Without protections built-in, a globally interconnected civilization could result in what Irion calls "the digital dark ages." While social media enables freedom of expression and spaces for discourse, it has also created a host of new, potentially dangerous problems. From the rise of the anti-vaccine movement, conspiracies, and even manipulation of electoral processes, social media has transformed the discourse and ideologies of those who use it.

Kristina, however, believes the European Union is on track in being more assertive about its policy ambitions. With many more initiatives already rolling, Europe's adaptations to a

global pandemic have prioritized user rights with their greater dependence on digital communications. But ideally, policymakers listen more to Europeans in order to gauge user needs in digital spaces. In fact, Irion believes we should move away from treating social technologies as purely private businesses, and instead consider them as social utilities that have a profound impact on the lives of Europeans. However, in current digital ecosystems, the existing regulatory formations simply aren't adapting quickly enough.

Kristina's expertise provides particularly valuable foresight to transforming digital spaces, as her research about the impact of cross-border digital trade on data privacy and accountable digital technologies helps to catalyse policy changes. Of course, this kind of vital research is difficult to fund independently. Academics, especially, are constantly hunting for grants that are hard to come by. Money in the industry is often poured into the pursuit of specific agendas. Irion is hopeful that, one day, even a fraction of lobbying budgets of large companies might be redistributed to those invested in public interest research.

In all of her work, Kristina's mission remains bringing users on par with those who control digital technologies. Currently, much of the labour of maintaining control over one's own personal data falls on the user. Whether it means micromanaging privacy settings or clicking away cookie banners, this rather large burden is one that she finds to be grossly unfair. She states that "our cognitive abilities are limited, and we cannot waste our lifetime crusading against our own technology."

Ultimately, the European Union's intellectual capacities, innovative power, and financial resources should be employed to develop what Kristina calls "a Guardian AI" — one that is free from the powers of higher authorities and commercial interests. This application should allow individuals to connect with one another and serve as a sovereign technology to all Europeans. To prevent crowding out by ever-evolving technology, laws should mandate that social media services, personal digital assistants, and smart home applications create interfaces to interoperate with the Guardian AI that monitors data protection, manages preferences but also keeps tabs on the fairness of algorithms. A vision like this will take the creation and support of an empowering technology that works on behalf of the users; and Kristina hopes to see it within the next five to ten years.

Lastly, Kristina advises that we should begin treating our devices as personal space worthy of the same protection as our homes. Leading by example, the European Union's initiatives to integrate its values with digital technology is something that can benefit the rights of

peoples elsewhere. While she believes that, in our modern age, not everything can be done with law, serious tools that empower users and embody societal values can help to get the job done.

A Radically New Internet — On P2P Protocols and Mesh Networks

Zenna Fiscella, Council Member at Scuttlebutt

Mesh networks are local networks of routers that are interconnected. Usually, they are a way for communities to share Wi-Fi connectivity with each other and in many cases, these mesh networks are run by communities as a means of free internet connection within an area, or at least cheaper internet connection within an area. Mesh networks can also be found within companies for more local infrastructure; these are seldomly, by those active in the mesh network scene, considered mesh networks though.

What's specifically interesting is when you take mesh networks in combination with peer-to-peer protocols, such as Scuttlebutt[52] or the DAT-protocol[53] as new features are enabled, seldomly else even imagined. They happen to fit very well together as the two technologies merge and creating something quite unique:

Some interesting use qualities are:

- Offline communication — Communication that can happen in the same geographical region without requiring http/"the internet". Be that file sharing, such as in the case of data, or actual person-to-person communication such as in the case of SSB.
- Free data — The only cost is the hardware, hardware similar to that already found in almost every single household in western society.

[52] https://scuttlebutt.nz
[53] https://datproject.org

- More private data, less vulnerability — As the data is stored locally, there's a much smaller risk in terms of third-party infringement, be that in the form of a data leak such as the Facebook scandal.[54]

I'm currently looking at use cases for these technologies and have sketched out three different areas for these kinds of implementations.

1. Underdeveloped regions where infrastructure is not always available. Having mesh networks in combination with peer-to-peer enables communication through Wi-Fi and that communication can still happen.
2. Local communities, for a very efficient means for communication, for example for eco villages, off-grid living — mesh networks are ideal.
3. Privacy/national infrastructure security — We are seeing a rise of cyber security attacks, specifically cyber security attacks that are targeting national and corporate infrastructure — taking communities and entire nations offline.[55] Mesh networks in combination with peer-to-peer protocols could be a solution for a lot of privacy issues that we are currently seeing in contemporary society.

If mesh networks and peer-to-peer protocols are implemented, especially in combination with each other, it would be a much more durable communication infrastructure for society. This also goes for company infrastructures and the flaws that we see — as a means for both international and business 2 business espionage is happening via cyber platforms. If companies use and communicate via meshnets and peer-to-peer, it is safer and not as easy to hijack.

One of the biggest safety issues in terms of privacy is also human error; some of those issues are eliminated with peer-to-peer solutions. Passwords are eliminated. User IDs and devices are tied to each other. A hacker would actually have to have physical access to someone's device or gain their private keys rather than password accounts, which are more easily cracked.

Currently, there are a lot of different mesh networks in the world. I do not have complete key insights at the moment. Guifi covers most of southern Europe. Freifunk is a big one in

[54]https://www.forbes.com/sites/kathleenchaykowski/2018/04/04/facebook-says-data-on-87-million-people-may-have-been-shared-in-cambridge-analytica-leak/1
[55] https://nordic.businessinsider.com/can-hackers-take-entire-countries-offline-2018-12

Germany. Then we have some areas in Greece which communicate via satellite connections, but local ones.

Those are the most interesting ones right now. There are actually no examples as of now having mesh networks plus peer-to-peer protocols implemented at the same time.

In regards to specifically Sweden and the Nordic region, I am looking into this right now. I am keen to explore this as with the three target areas mentioned above. On one hand, our communication infrastructure is not as durable as we would like to think. Both seen through examples as in northern Sweden, as infrastructure can be down and out for longer time periods when there is snow, for example. Also, with cases when there is highly fragile infrastructure which from a cyber security perspective can be taken offline entirely by a small team of 5 qualified hackers.

Decentralisation of currency and information could lead to a “utopia”

Pablo Velasco, Assistant Professor in Digital Design and Information Studies at Aarhus University

Pablo Velasco is a researcher at the University of Aarhus in Denmark, where he studies sociotechnical systems. His interests include new collaborative digital efforts, both social and infrastructural. In this interview, he discusses a number of topics including blockchain, utopias, artificial intelligence, and more.

While Pablo is well known in the academic world for his research into the concepts of blockchain, the root of his work lies in philosophy. After receiving his early education in electrical engineering, he became particularly interested in the writings of Friedrich Nietzsche. He went on to study philosophy at the college level, giving him a well-rounded background. Where electrical engineering presents a very logical way of viewing the world, philosophy allows for deep thought and introspection. This juxtaposition forms the basis of Pablo’s work.

After completing his master’s degree, Pablo began using Linux. He was particularly drawn to this technology because it presented an opportunity for a community driven source of information. He explains how this led to his interest in how the internet could lead to a more decentralised society.

Pablo points out that most historical political systems have been based on strong hierarchies in which the most powerful people have control of the distribution of information. The internet has been pivotal in breaking up these hierarchies. With information freely available, he theorizes that decentralisation is inevitable. He also applies this theory to digital currencies. Having been present at the start of bitcoin, he witnessed the struggle to centralise digital currency, which has yet to happen. He believes the evolution of digital currency is unpredictable but will be critical in shaping the future.

Pablo goes on to discuss how decentralisation of currency and information could lead to what he ambiguously describes as a “utopia”. Although there are many different visions of what a utopian future might look like, Pablo believes these major changes in society inevitably lead to speculation about a better future. He argues that while a perfect society

will never exist, opening our minds to new possibilities allows us to envision the future we want and begin making strides towards it.

Pablo analyses the ways these concepts have affected social movements. He discusses varied major organisations such as the Mexican political group Zapatistas as well as much more casual organisations like co-op living houses. Pablo believes operations like these may become more common in the future as information and currency continue to be decentralised.

A surveillance pandemic? Results of the community listening post on risks for freedom in the wake of COVID-19[56]

Governments and tech companies are reaching for tech-based tools to help defeat the COVID-19 pandemic. Many of the solutions under discussion imply restrictions to civil liberties and human rights, like the right to privacy (here is Edward Snowden weighing in).

This is creating uneasiness in the communities I am a part of — a disturbance in the Force, if you are a *Star Wars* fan. People worry, but no one is sure what an appropriate diagnosis and response to the situation would be. Is the situation "problematic" or "dystopian"? Can we do anything about it, besides worrying?

You see, there are two kinds of problems. For the first kind, the more knowledge people gain about the problem, the less they worry. For the second kind, the more knowledge they gain, the more they worry. Nuclear power production belongs to the first kind; climate change belongs to the second one. Is government-corporate use of tech surveillance more like nuclear power, or is it more like climate change?

The puzzle is complex, and no single person seems to have all the pieces. But that does not scare me: I am part of Edgeryders, and In Collective Intelligence We Trust. So we organised a community listening point to touch base with each other. It was open to anyone, but we made a few targeted invitations to people who hold important pieces of that puzzle. What follows is a summary of what I learned in that meeting. It is only my personal perspective. I make no claim to speak for anyone else. I offer it in a spirit of openness, and in the hope of contributing to a broad, diverse, honest conversation. Taking part in such conversations is, I find, the main way we humans navigate problems as complex as this one.

About the listening event, and Edgeryders's role in it

The listening event took place on April 9th, at 17.00 CEST as a Zoom conference call. We made it public through a post on the edgeryders.eu online forum. People learned of it mostly through Twitter. I took the initiative to reach out to some people whose opinion I was keen to hear. We discussed for two hours, with 32 to 36 people logged in at any given

[56] Originally published under a CC-BY-3.0 license on April 11, 2020 : https://edgeryders.eu/t/a-surveillance-pandemic-results-of-the-community-listening-post-on-risks-for-freedom-in-the-wake-of-covid-19/13183

time. About 18 of them spoke at least once — I counted 11 male-sounding voices and 7 female-sounding ones. Their backgrounds and expertise were in:

- The legal community.
- The medical/public health community.
- Digital tech. This was the largest group. People declared specialisations in the fields of: information security; privacy; digital identity; artificial intelligence; big data analysis.
- Privacy and human rights online.
- Public policy and democratic participation therein.
- Media.

My colleagues at Edgeryders and I participated as concerned citizens, like everyone else. But we were also working, because we are part of a project called NGI Forward. Its role is to advise the European Commission on how to ensure that the future internet upholds our common values of human rights and rule of law.

We adopted Chatham House rules. So, this post reports what people said, but not their names. The call was not recorded; I saved its chat to help me write this writeup, but then deleted the file. The information sheet contains full disclosure about our treatment of information from the event.

I take full responsibility for any incorrect reporting, and welcome any integration, correction or additional points of view. Please respond to this post, and let's improve each other's understanding.

Result 1: There is cause to worry, but also leverage for defence.

There are several good reasons to be on our guard.

- Policy makers tend to overestimate the effectiveness of technology-based surveillance vis-a-vis the pandemic. People spoke of pervasive solutionism (in the sense of Evgeny Mozorov[57] — "a little magic dust can fix any problem").
- Digital surveillance companies are treating COVID-19 as a business opportunity. Some of these have dubious track records with respect to human rights online. In the words of one participant:

57 https://en.wikipedia.org/wiki/Evgeny_Morozov#To_Save_Everything,_Click_Here:_The_Folly_of_Technological_Solutionism

"In the last week, it's been reported that around a dozen governments are using Palantir software and that the company is in talks with several more. They include agencies in Austria, Canada, Greece and Spain, the US, and the UK."

- The public is scared, so willing to accept almost anything.

Example: in Italy, drones are being used to check distancing in public spaces. There are talks of equipping them with facial recognition algos. Is this necessary? Why? Is it going to become a permanent feature in our cities?

Another example: car manufacturer Ferrari has a plan called "back on track". It involves re-opening the factory with a scheme that includes mandatory blood testing and a contact tracing app. Is this the kind of decision that your employer should make for you? What happens if you test positive?

There are two lines of defence against abuse of surveillance tech:

- Data protection laws, starting with the GDPR. They all state that any data retention should be "necessary and proportionate" to the need it tries to solve. This is a weak defence, because all such laws provide exceptions for public safety. Also, governments and corporations have a history of ignoring "necessary and proportionate".
- If this fails, civil society can invoke the European Convention on Human Rights. This has its own court, which is not part of the EU, and so it is at arm's length from the EU political space.

Result 2. Contact tracing apps are ineffective against COVID-19, but may help in the next pandemic.

Everyone in the call, without exception, agreed that contact tracing apps won't help against COVID-19. The rationale for building one such app, people explained, is to quickly quarantine everyone who got exposed to the first few cases. Once the virus spreads, confinement, as we have now, is a more appropriate measure. It is difficult to think that even the best app would prevent more contacts than people staying at home.

On top of this, these apps are easy to get wrong. Among failure modes, people cited:

- Data governance issues: possible breaches, difficulty to anonymize the data, and so on. More on this below.

- Lock-in effects: for these apps to work, they need 50-60% of the population to take them on. It's a "winner-take-all" service. There is potential for companies to lock authorities into long-term contracts, invoke all kinds of confidentiality to protect their business models, and so on. This situation could prevent better solutions from emerging.
- Loss of confidence: if the authorities roll out an app, and it does not deliver, the public may lose confidence in *any* app. This could happen as new cases rise again after lockdown is loosened, as is happening currently across Asia. This might burn an opportunity to help contain the next pandemic at an early stage.

So, why is everyone (including several people in our call!) building contact tracing apps? Because there is a political demand for it. It is linked to the end of the lockdown. Leaders are seen as doing nothing, while leaving people behind locked doors. They are eager to provide solutions. This, however, is very tricky to do. Evidence from Singapore shows that contact tracing is not working well to prevent new outbreaks. But what are the alternatives? Political leaders are reluctant to tell people "the danger is over, go back to your lives." This is sure to backfire in the political arena if the epidemic enters a second wave.

This is where solutionism kicks in: building an app can be presented as "doing something about it". On top of that, building apps is much faster, cheaper and easier, than, say, retooling the healthcare system. So, it's a political win, though not an epidemiological one. Several people pointed out that it is not a bad idea to build a contact tracing app. But it is a bad idea to rush it, because:

1. To be effective, tracing needs near-universal availability of testing, which is currently not there. Without this, contact tracing needs to rely on self-reporting.
2. To be effective, they also need a large, probably unrealistic, uptake (50-60%, where Singapore managed 12%).
3. We will not need one until the next pandemic. Rushing development might lead to the deployment of evil, ineffective or broken solutions. One participant had this to offer:
   "I am currently involved with a group building a contact tracing app. But I am uneasy, actually thank you for giving voice to my anxieties. I do not see my colleagues discussing the use cases for this tech. I do not see them asking themselves if their solution is going to be effective. I do not see them

discussing failure modes of the technologies. Almost everybody is hiding their head in the sand about the consequences of these solutions, intended or not."

So, the consensus in the group seemed to be for channelling tech repos.

To keep it simple, most “obvious” solutions in an emergency turn out to be counterproductive. [...] You need to do your emergency homework in advance, and trust the experts. So for my contribution, I would argue you send every “develop an emergency app” / “do-something-itis” developer to work on *future pandemic* solutions, rather than give them reign in a crisis.

Result 3. Immunity passports are an unworkable idea.

Another idea that is making the rounds is that of immunity passports.[58] The group agreed that they can turn into a civil rights nightmare. As one participant said:
“They are going to be basically ‘passports to civil liberties’. There are going to be a lot of perverse incentives around them.”

One perverse incentive that came up:
“Would that not create a huge incentive for people to go out and get infected, so they can get natural immunity? So nobody would want to do distancing, and we do not flatten the curve.”

Over and above such concerns, it seems unlikely that immunity certificates would be effective. Issuing certificates means having the capacity to do massive-scale testing. We do not have that. If that capacity was there, we would be much better off in fighting COVID-19 with traditional anti-epidemic protocols, and wouldn’t need immunity certificates. The medical professionals in the call also reminded us that we do not know how immunity works with SARS-CoV-2. How long does it last? Does it prevent reinfection, or only make it weaker? So, it’s not even clear what you would be certifying.

58 https://www.theguardian.com/world/2020/mar/30/immunity-passports-could-speed-up-return-to-work-after-covid-19

Result 4. Locational data are impossible to anonymise, and of limited utility. Capacity for data governance is bad.

Participants agreed that it is not realistic to promise anonymisation of locational data. A famous 2013 study[59] shows that human mobility traces are highly unique. Four data points were enough to de-anonymise 95% of individuals in a large cell phone operator dataset. As one person put it:
"I never trust a policy maker when they say 'this data is going to be anonymised.' They do not understand what anonymisation means. And any solution will increase the amount of data in play."

As explained above, people were also sceptical on the usefulness of locational data in fighting the pandemic.

I do not think that you get any useful information from these apps. They will show that people get infected in places, like supermarkets or hospitals, where people HAVE to come into contact with each other.

One participant offered these apps could help in assessing the efficacy of containment measures. That does not require granular data, but only pre-aggregated statistics. A recent paper[60] in *Science* argues that it is possible to do this securely. The EFF has just released a policy proposal[61] on this solution.

This was the one part of the conversation where I felt I could add my bit. After ten years of

[59] de Montjoye, YA., Hidalgo, C., Verleysen, M. et al. Unique in the Crowd: The privacy bounds of human mobility. Sci Rep 3, 1376 (2013). https://doi.org/10.1038/srep01376
[60] Quantifying SARS-CoV-2 transmission suggests epidemic control with digital contact tracing by Luca Feretti, Chris Wymant, Michelle Kendall, Lele Zhao, Anel Nurtay, Lucie Abeler-Dörner, Micheal Parker, David Bonsall, Christophe Fraser I Science 08 May, 2020 https://science.sciencemag.org/content/368/6491/eabb6936/tab-pdf

[61] Sustainable containment of COVID-19 using smartphones in China: Scientific and ethical underpinnings for implementation of similar approaches in other settings
David Bonsall, Michael Parker, Christophe Fraser, Big Data Institute, University of Oxford, UK Oxford University NHS Trust, University of Oxford, UK - Wellcome Centre for Ethics and the Humanities and Ethox Centre, University of Oxford, UK - Wellcome Centre for Human Genomics, University of Oxford, UK
file:///Users/chococanel/Downloads/Policy%20forum%20-%20COVID-19%20containment%20by%20herd%20protection.pdf

open data activism, I am pessimistic on the ability of EU governments and companies to do advanced, ethical governance of large datasets. The daily data on confirmed cases, hospitalisations and deaths are a mess. No standardisation, no metadata, collection criteria that keep changing. Belgium, for example, on some days (but not every day!) reports on the same day the sum of two inhomogeneous quantities:

- Number of people who died in hospital on that day, confirmed positive for SARS-CoV-2, plus
- Number of people who died in the "last few days" in retirement homes, not tested (example[62]).

Another example: the former head of Italy's pension administration authority deplored the lack of open data on unemployment benefit claims. Scholars and policy makers themselves are flying blind, with no reliable data. How can we trust people who cannot maintain a Google spreadsheet to steward a massive trove of sensitive locational data?

A silver lining in all this is that contact tracing apps were battle-tested ten years ago. This means we have open datasets which can be used to model the impact of public health measures (example[63]). If the goal is modelling, there is no need for more surveillance.

Result 5: Where to look for (pieces of) the solution.

People offered several suggestions for where we could look for solutions, or at least improvements.

- Medical and public health practitioners insisted on good execution over innovation. The WHO protocols, although devised for flu-type viruses, are well suited to coronaviruses as well. But their deployment was late and sloppy. Even at the time of writing, most EU countries cannot test at scale; they cannot provide adequate equipment. The medical community sees this emphasis on tech as misdirection. Part of any solution is to do public health well, without cutting corners. One participant from Italy remarked:
  "For example, we closed schools and universities, but did not inform students that

[62] Coronavirus en Belgique : la barre des 3000 décès dépassée - RTBF - Published April 10, 2020: https://www.rtbf.be/info/societe/detail_coronavirus-en-belgique-suivez-en-direct-la-conference-de-presse-du-centre-inter-federal-de-crise-11h?id=10479728

[63] Ruffle, S.J.; Bowman, G.; Caccioli, F.; Coburn, A.W.; Kelly, S.; Leslie, B.; Ralph, D.; 2014, Stress Test Scenario: São Paulo Virus Pandemic; Cambridge Risk Framework series; Centre for Risk Studies, University of Cambridge.

they should not be hanging out with their friends. We did not tell students from different cities and regions to go back home. The rules are simple: if you are ill, tell your friends, and tell them to get tested. But in Italy, it is hard to get tested, so the whole protocol fails. Contact tracing is the last thing we need. It is useless from a public health efficacy point of view, and not proportionate."

- Other participants highlighted the positive of labour-intensive "boots on the ground". A participant from the UK remarked:
  "I am worried that people fall through the cracks, because they are not on government databases and we do not see them. Maybe they are disabled, but have a job. They never touch the state, and fund their own care. I am worried about people with learning disabilities, for example. If you are not on social media, you have not seen the messages of your local authority, telling you where to get help."
- Several people remarked that the tech community can have the greatest impact by playing a support role. They identified three areas in which to do this. One is supporting what doctors are already doing, for example remote diagnosis or e-mail prescriptions. Another is supporting community organisers — another example of "boots on the ground". The third one is the people manning the supply chain.
- The tech community might find an important role to play in protecting the most vulnerable individuals from the worst consequences of the pandemic, and of the measures adopted to fight it. This was not mentioned in the call, but rather proposed in the ensuing online discussion.

“It’s really important for the next generation of the internet to really understand and be able to name Big Tech’s powerful and sophisticated systems of control and manipulation”[64]

Jon Rogers, Professor in Creative Technology, University of Dundee
Peter Bihr, Mozilla fellow, Co-author of View Source: Shenzhen and Understanding the Connected Home

Jon Rogers is a Professor of Creative Technology at The University of Dundee. He has worked extensively in design and engineering. Most recently, he has been working with Mozilla on their Internet of Things program, which aims to make the internet more transparent and open-sourced. Having worked in the industry since before the existence of the internet, he brings a unique perspective to the history and future of technology.

Jon starts by recounting the evolution of technology from analogue devices, such as handheld radios, to globally connected computers. He notes that as technology became more advanced and more accessible, its users have had opportunities to become more creative. He and his collaborators at Mozilla wanted to encourage this creativity in the early days of the internet. Subjects like computer science and engineering, which were once considered to be only for practical use, became tools for creativity and social progress.

Jon goes on to discuss how this intersection between art and science has impacted our vision of the future. He believes the best way to make decisions for the future is to imagine both good and bad versions. He notes that science fiction writers have been doing this for years. For example, he cites George Orwell’s *1984* as the type of dystopian technology based future we all want to avoid. On the contrary, he cites science fiction films with grandiose effects that inspire excitement about the future. His overall message here is that the future's not set in stone, and we must collectively take action to create the world we want to live in.

[64] This article is a summary of a conversation between Jon Rogers and Peter Bihr, the transcript of which was originally posted by Peter on the NGI Exchange platform on December 20, 2019: https://edgeryders.eu/t/interview-jon-rogers-of-opendott-university-of-dundee-on-participatory-futures/12220

To further address these issues, Jon has founded a PHD program called OpenDoTT. He believes that this program will help to fill in what he calls “gaps in training”. He points out that designers know how to design technology to be faster, more reliable, and more innovative; very few people know how to design things to be more trustworthy. He believes that this topic is worth intensive study in its own right and will be essential for human wellbeing as the world becomes more and more connected.

Jon elaborates on many other theories. His ultimate message is that human needs must always come first when imagining new technology. Innovation for innovation’s sake is bound to fail if it doesn’t make a tangible improvement in the lives of its users. He believes a compassionate and well-informed approach will lead to the best possible future.

Social media is broken, let's do better

Christian Buggedei, Founder of Darcy.is and Product Owner at PolyPoly

Hi, I'm Christian Buggedei, and I was one of the last remaining Google+ users. I joined when I still believed in Google's "Don't be Evil" motto. For years, I used it as my primary method of social communication. I shared pictures, thoughts, had intense debates about copyright, democracy, and changing economies with authors, publishers, end users, and activists alike, and used it as a resource for my hobbies.

Over this period, I got to know a number of good and interesting people, and would still say that my life was generally richer. But I also saw the nym-wars (when Google forced everyone to use their real name, driving away a lot of people), the rise of spambots, online harassment, untransparent moderation policies, and so on.

When they announced that G+ would shut down, I sighed and looked around for alternatives. I even made a spreadsheet[65] to check the feature sets of the various commercial and open-source offerings. And found them all lacking in one way or the other: Some are pretty but miss out on important features, some can do it all but have an actively hostile user interface, some look neat but then come unmoderated or have no safeguards against harassment, and so on. And I don't even want to go into the mess that is every ad-driven business model (I worked in the online advertising space for three years, trust me, it IS a mess.)
So, I've now gathered a merry band of misfits[66] to create something better. Darcy[67] is supposed to become a human-centric, decentralised, privacy-friendly but open, safe, open-source online civic space. It's a long and rocky road, but I think it'll be worth it.

We can't solve all the problems, but some are doable.

[65] https://drive.google.com/open?id=14KPoeMOVo4Sr4y43kj01tdm4xi2wsuIh_HZxsfi92vA

[66] https://darcy.is/who-is-darcy

[67] https://darcy.is/

Conversation

"Yesterday on Facebook I posted a photo of the house my grandmother grew up in, which is in the state of Idaho in the USA. Someone else then posted a photo of his house on the California beach showing the ocean waves. He made some comment about it and I said 'no surfing in Idaho.' because there is no ocean there.

For that FB suspended my account claiming that my comment was harassment and bullying. Of course, it was nothing like that, but people seem to not be making those decisions — bots do. Ok, we all know that. What bothers me is what came after.

They told me I was suspended and they let me walk through a process where I could dispute it. At the end of that they just noted that I disagreed with their decision, without indicating that anyone or anything on the other side even looks at it. Then I picked my way to a form where I could describe the situation, with the idea that someone would actually read it and perhaps override the bot. Except that when I got through, they said that function was not working and to try again later. Which I did for hours until I went to bed. So I reported that as a bug since their support structure was not working.

A few hours later, my ban was lifted without explanation. So does that mean someone saw my argument and reversed the decision? I have no way of knowing because they have not communicated with me about that.

I find this all quite disturbing because millions of people have given over a big chunk of their daily lives to this platform that acts with impunity based on robotic decisions and makes no effort to communicate with the user, even though they constantly tell me 'we care about you.'

So this part of social media is for sure broken. And it is to me an example of the creeping influence of bots making human decisions. @alberto pointed out to me that Facebook is too large — 2 billion people can't be managed. And I agree, I think. Except they have billions of dollars and could afford to do a decent job if they really wanted to.

Ultimately though, I believe the answer is to allow us the people to have more direct control over our own experience. Why can I not be my own content moderator? Why do I, nearly 70 years old and in this business for 34 years, need a censor, or need to be censored? They could provide a number of tools to help me improve my experience.

But that it seems, would hinder their business model and it gives more control to me and less to Facebook. This they will never agree to unless forced.

Which brings me to one more point. When power companies and phone companies first got started they were private companies that could do whatever they wished. But over time electricity and telephone service became so important to society that they could not be left to the whims of the companies and instead became publicly regulated utilities. I think this is where we are now with social media.

And it looks like Google has a variation of this kind of bot decision behaviour making ridiculous errors:

Techdirt. Why Are There Currently No Ads On Techdirt? Apparently Google Thinks We're...
You probably didn't notice it, but there are currently no third-party ads on Techdirt. We pulled them down late last week, after it became impossible to keep them on the site, thanks to some content moderation choices by Google. In some ways..."

A friend of a colleague who knows a lot about this sort of thing tells me it probably is not bots but humans making these decisions. That's even worse!" [68]

"My argument is: you cannot allow a platform with 2 billion people, because that is a monopoly, and monopolies trample on people if it benefits them, because there is no punishment for doing so."[69]

"*Do you believe this to be true of platforms in general? English Wikipedia is a platform of 40 million users. When taken with all Wikipedia entities, the platform essentially has a monopoly of encyclopaedic knowledge worldwide. It is the de facto source of "truth" on the internet. So is this also too large? Or does the difference in governance and motivation make all the difference? I've been thinking lately about these open-source communities, and how Wikipedia has demonstrably re-enforced real-world inequalities: Open-Source Communities. Whether it be 2 billion people (Facebook), 40 million people (English Wikipedia), or 4.5 million people (Wikidata): community management does not work well at that scale."* [70]

[68] John Coate

[69] Alberto Cottica
[70] David Schmudde

"I was trained as an industrial economist. We have a standard way of looking at this: yes, monopolies are always bad because they limit the freedom of the consumer/user to walk away and go find another supplier to his or her liking. But sometimes monopolistic provision is way more efficient than pluralistic provision. Classic examples are aqueducts: having five competing networks delivering water to your tap would be very, very inefficient. Water provision is a natural monopoly.

In those cases, monopolies can be tolerated, but must be locked down tight. The classic solutions are nationalization (takes away the profit motive, like you hint at in the case of Wikipedia) or regulation (profit motive stays, but there is a watchdog).

Wikipedia seems to have found a third solution: openness. If you do not like what Wikipedia is providing, you can look for a different source, but you can also change Wikipedia itself.

The problem is also mitigated by the fact that, to a first approximation, encyclopaedias are not a natural monopoly. Indeed, there is Wikipedia, but there are also specialised sources like Investopedia for finance, etc.

So, yes, motivation is a big factor, and openness helps. But also yes, monopolies are always bad, though sometimes a necessary evil."[71]

"I think Wikipedia is a rather interesting example — and not necessarily a purely positive one. But first — that 40 million is the number of total accounts. Actually actively editing users are more around 126.000, so significantly less. (And actually on par with Mastodon or Diaspora).

Now, why is Wikipedia an interesting example? For one, because of the discrepancy of who edits and who consumes it. There are over 800 million different devices accessing it each month, but only 126k editing and maintaining it. Active Editors are actually about 40.000 only.

Now, why is it that only a fraction of a percent are actually maintaining it? *I suspect several reasons:*

Editing is hard and unrewarding. The existing community makes it hard for new people to join, putting up layers of bureaucracy (this is especially true for the German Wikipedia, but I've talked to a Wikipedian from Hong Kong and they confirmed the same issue). Generally there is a discrepancy between consuming and maintaining

[71] Alberto Cottica

The other interesting thing is that Wikipedia has, as you pointed out, effectively killed traditional encyclopaedias.

And I am not too sure how much of a good thing this is. It does self-govern itself quite effectively in that it is stable. But it is also frighteningly good at resisting any kind of change. Which is good if you see it as 'protecting against outside influence', but very bad if viewed as 'maintaining the status quo of those in power'.

But regardless of that — I do not think that Wikipedia is a fitting example of 'this is large and still working', because in terms of people actively working on it, it is not particularly large. In fact, it has obviously managed to not grow over a certain active user threshold, and it does in fact not work as a large-scale community." [72]

"When put in those terms, it reminds me of the Emacs community. A small group of powerful people are very resistant to change. It makes onboarding new users or contributors very difficult.

But Emacs is just a tool. Wikipedia and Social Media platforms are places where information shapes people's perception of reality. Communities on these platforms have a different moral imperative.

In the 2016 election, the total amount of Facebook activity (likes, comments, shares, & posts) for Clinton was 410 million engagements. Trump has 960 million engagements. Who speaks on these platforms now has incredible consequences. There is something particularly discouraging about your (honest) depiction of Wikipedia's community. It's small enough to manage and purports to be open. And yet there have been no improvements on the byzantine tooling and top-line demographic problems in the last decade." [73]

"I'm starting to come around to Darius Kazemi's idea of human-scaled social media as the only real approach. Which kind of looks like a federation of 1980s BBSes. It's easy to dismiss as retro and regressive, but they honour millennia of human socializing.

I call it the Bedroom-to-Broadcast theory — we do well up to a certain scale, but lack the tools to properly navigate a landscape where you can start out a very private conversation that is

[72] Christian Buggedei
[73] David Schmudde

suddenly getting the attention of millions of people… And also do not really know how to have an open conversation with a few strangers but not open ourselves up to attacks by thousands.

So, yes, scaling back to human scale is useful and important, but I think the allure of potentially speaking to thousands is a factor we should not ignore." [74]

"Interesting. It takes the perspective of the individual user, I presume. When Grier and Campbell looked at the history of Bitnet in A Social History of Bitnet and Listserv, 1985-1991, it struck me that they really looked at the health of group dynamics as an indicator for the usefulness and health of the network. The scholars seemed to ascribe special value to groups that endured longer and expanded wider than Bitnet itself.

Groups are interesting because they can be managed and they provide value beyond the ego-centric 'I broadcast because I ideally want everyone to hear what I say.' This differentiation was stark when @THEHermanCain 1 (an individual person, THE individual person, blue checkmark and all) started necro-tweeting. Several people had come together in an attempt to turn the individual into a group. The transition was awkward for many reasons, but in part because Twitter has no good tools for people to make meaningful groups.

Groups have all sorts of governance benefits, including this one from the Bitnet article: 'A friend,' wrote one Bitnet representative, 'finds that a telephone call about annoying behaviour works well.'

When I reflect back on the aforementioned efforts by Kazemi and the Hometown branch of Mastodon, I'm starting to think these federated instances are less like BBSes and more like groups. Sort of like Paul Ford's experiment, Tilde Club. I've been a member for some time. When Paul moved on, there was enough interest for others to update and change the group." [75]

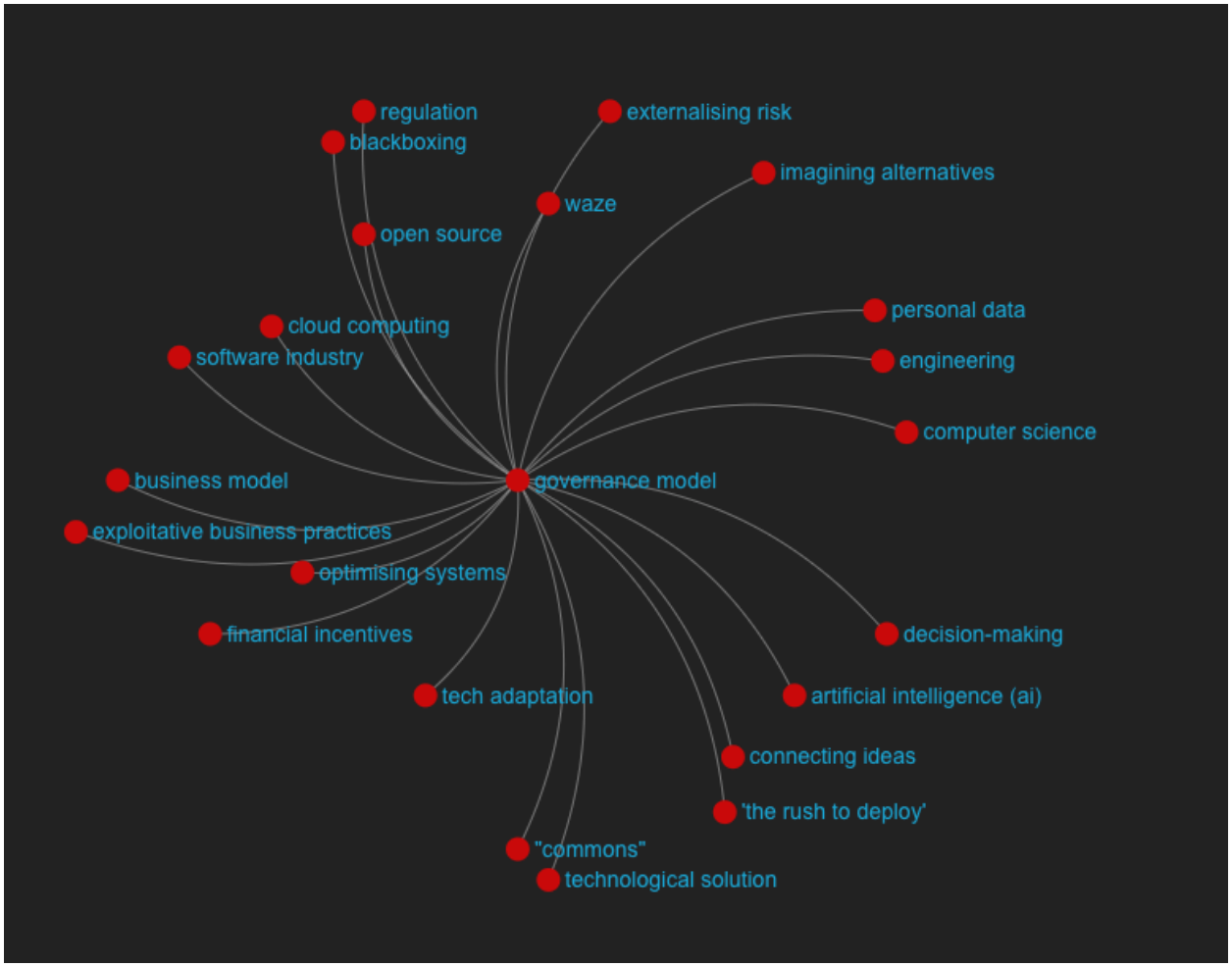
"Necro-tweeting — Great phrase. For those who don't know the story, Herman Cain had already died of COVID-19 when 'he' started tweeting that the virus was not that deadly." [76]

[74] Christian Buggedei
[75] Schmudde
[76] John Coate

Part VI: Polities, Politics and Democracy

In this chapter, you will find the key insights from discussions on the NGI Exchange online community platform around topics related to governance in the context of networked technologies.

As well as a selection of articles that give a richer understanding of how these topics are experienced and responded to out in the real world of people's lives and work.



Key insights

- Data are important for citizen engagement in the democratic process. Giving people data helps them see further. A data approach to collective intelligence helps to tap it in a more consistent, solid way.

- But if we want collective intelligence to really engage, we need to enable people to act, not just talk. And we need to turn over to them real power, including that of coming up with their own standard for what it means to be “developed”.

The good news is that the standards of “developed” need major overhaul anyway. The climate emergency is forcing our hand. Many if not most of the negative societal consequences of design, deployment and monetisation of technologies have their roots in economics that incentivise behaviour harmful to social cohesion.

Our economic model needs to change. Our economics need to change. Our indicators of economic health, like GDP growth, are no longer fit for purpose. We are seeing a deep societal longing for some kind of post-capitalist configuration. We are seeing a lot of experimentation, from eco-villages to local currencies, to commons-based peer production, to new cooperativism.

So, we have a major opportunity here to systematize and scale these experiences: encourage Europe’s regions to experiment with different economic models.

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Policymakers need to better understand interoperability between general use computers

Cory Doctorow, author and technologist

Cory Doctorow is a science fiction novelist, activist, and technologist. He is a research affiliate at the MIT media lab, and cofounder of The Open Rights Group in the United Kingdom. He has worked as European director for The Electronic Frontier Foundation, and as their delegate to the United Nations. Cory's primary interest is interoperability in emerging technologies and how the relationship between technologies will affect the economy of the future.

Cory begins by discussing interoperability, which is the ability for different computer systems to work together, despite having been made by separate manufactures. He theorizes that many policy makers do not properly understand interoperability between general use computers. This has led the computer industry to a long history of monopolies, with a small group of companies left in charge of all the decision making for an entire industry. Cory believes that this can be avoided. He notes that unlike physical technologies, such as rail lines, digital technologies are inherently designed for interoperability.

Cory goes on to discuss how a lack of interoperability has created a handful of disproportionately powerful individuals and companies, specifically Mark Zuckerberg of Facebook. He notes how Facebook's ability to merge with so many other platforms has made it a practical necessity for internet users. He then cites how companies such as Apple came to rival and eventually surpass the likes of Microsoft, IBM, etc. He speculates on what role interoperability, or a lack thereof, will play in the development of future computer systems.

In the next segment of the interview, Cory retraces his own experiences with the development of technology. Starting in 1979 when he got his first Apple device, he recounts how he witnessed the growth of technology. He recalls learning about how companies like AT&T and IBM dealt with scrutiny from the DOJ, and the subsequent effects on the industry.

Discussing the early evolution of the internet, Cory discusses how the web "went from being this incredible wild place to four giant services filled with screenshots of the other three." He then discusses whether or not anti-monopoly laws are ethical or effective.

Cory goes on to discuss privacy and data collection. He talks about the Cambridge Analytica scandal, and the preceding technologies that allowed it to happen. This topic segues into a discussion on how large tech companies have begun making consumers' decisions for them, with targeted advertising, paid placements, etc. He notes that companies like Facebook are held to some level of ethical standard, but if broken up entirely, the digital ad world might be run by smaller companies that are willing to be dishonest because they may not be in business for long.

Later in the interview, Cory discusses copyright law's role in technology. He specifically discusses Oracle's ongoing quest to make purely functional elements of software copyrightable, which he sees as a profound potential setback to interoperability.

Cory then speculates on a number of policy changes that could alter the course of developing tech companies. He ponders the role the court system could play in copyright law, technical protection measures, etc. He then proposes a number of policy changes that could be beneficial to society at large, and what it would take to have these policies implemented.

In closing, Cory discusses the personalisation of private devices and how people use them to improve their day to day lives. He ends by speculating on how different technology would be if your average user was allowed to take part in the designing of new technologies.

There are a range of applications of ai which under no circumstances can be compatible with human rights

Daniel Leufer, Author at Access Now

While Artificial Intelligence is Daniel Leufer's main area of study, his background in philosophy allows him to grasp the human consequences of new technology in a way that many data-oriented scientists cannot. Having studied the impact of WWI on technological change during his PhD, he has long been worried about the impact that a new crisis would have on current technological trends. Now that the crisis has arrived in the form of COVID-19, he is highly concerned about how certain actors will capitalise on the crisis to push the adoption of dangerous applications of AI (such as facial recognition).

Daniel is particularly concerned by controversial technologies such as facial recognition software and behavioural prediction technologies, such as those that claim to be able to identify "suspicious" behaviour or predict controversial attributes such as "trustworthiness" or "criminality". He fears a world in which people modify their behaviour at all times due to the threat of being identified, tracked, or having their behaviour misinterpreted. This could be extremely detrimental to human progress, as people would begin to avoid taking part in protests/demonstrations for fear of retribution.

Daniel is also concerned with the lack of proper oversight on research into the topic of AI. He notes that while new studies published in journals are subject to peer review, those peers often work within the same industry and hold the same values. Therefore, machine learning researchers with no background in social sciences or humanities may unknowingly push through information that is ultimately detrimental to human values, as evidenced by the proliferation of repackaged phrenology and physiognomy research in machine learning.

While advocates of applications of AI such as facial recognition technology claim it can help identify dangerous individuals or locate missing children, Daniel notes that it will always be used to surveil marginalised people and to increase already problematic power dynamics. This could lead to a situation in which individuals are living in constant fear of being surveilled.

Daniel also raises the issue of world-wide standards concerning new technology. For example, if the European Union were to uniformly ban a certain technology while other nations freely embraced it, what effect might that have on relationships between nations?

Ultimately, Daniel argues against the idea that human behaviour can be quantified in a simple manner. He believes that we risk fundamentally altering the meaning of being human if we allow the adoption of behavioural prediction and surveillance technology to grow unchecked.

The Future of Internet Governance[77]

David Schmudde, Software Engineer, Educator, Researcher, Developer Advocate

The United Nations' Internet Governance Forum (IGF) moderates discussion and publishes guidelines for public and private policy makers working in cyberspace. Governments, international organisations, businesses, and those representing the interests of civil society are invited to find common ground in a "multi-stakeholder" structure.

I attended the stakeholders' dialogue on the future of internet governance[78] on June 6th, an event initiated as part of the United Nations' Secretary-General *High-Level Panel on Digital Cooperation.*[79]

I have mixed feelings on the UN internet governance initiatives, but I do think they can be important for intra-state conflicts. The UN is looking at three different models for coordination[80] among stakeholders:

1. Internet Governance Forum+ (IGF+): this model reflects the current structure of internet governance and the United Nations, with some enhancements.
2. Digital Commons Architecture (DCA): a simplified structure of three bodies, a *tech panel*, a *digital commons platform*, and an *architecture secretariat*, that coordinate through the existing infrastructure at the United Nations.
3. Distributed Co-Governance (CoGov): two bodies, *network support platforms* and *digital cooperation networks*, that coordinate through a network of networks.

I found the DCA a compelling, internet-native model that sacrifices some of the speed of more centralised UN control. I somewhat doubt they will implement the model, but it is one I lobbied for.

[77] Originally published, and linked in to, respectively on the NGI Exchange platform under a CC-BY-3.0 license on June 8, 2020: https://edgeryders.eu/t/the-future-of-internet-governance/13818
[78] https://wetheinternet.org/
[79] https://digitalcooperation.org/
[80] https://schmud.de/papers/future-internet-gov.pdf

Top issues for member states

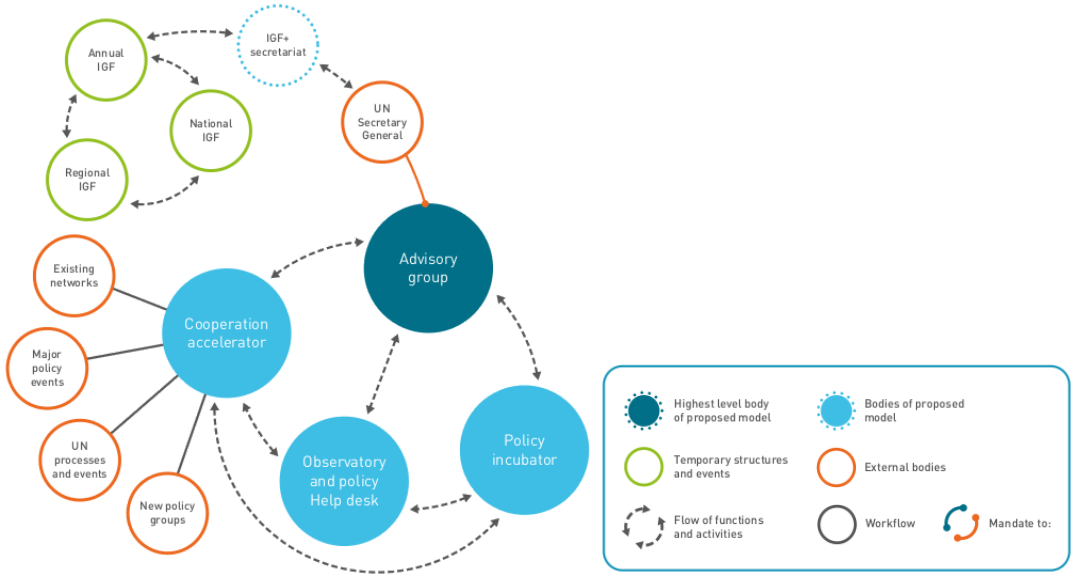
The panel is concerned about a broad range of issues on the internet. As constituted, the member's top issues include:

1. Cybercrime, cyberterrorism, cyberconflict;
2. Data ownership and governance;
3. Access to the internet and digital technologies;
4. Bias and transparency related to algorithms and artificial intelligence;
5. Disinformation and online freedom of expression.

The models are quite abstract. The models do not address specific issues such as how to ensure privacy on the internet or how to mitigate the fragmentation of the internet. Rather, they are different structures to help network citizens work towards more egalitarian solutions.

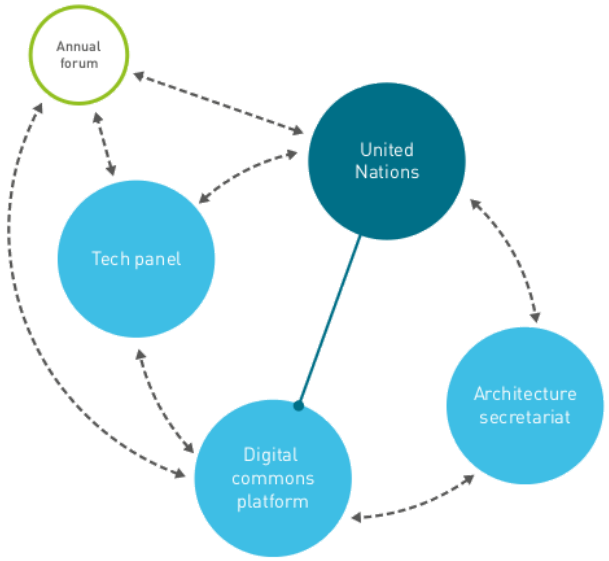
Model 1: Internet Governance Forum+ (IGF+)

This model reflects the current structure of internet governance and the United Nations, with some enhancements.



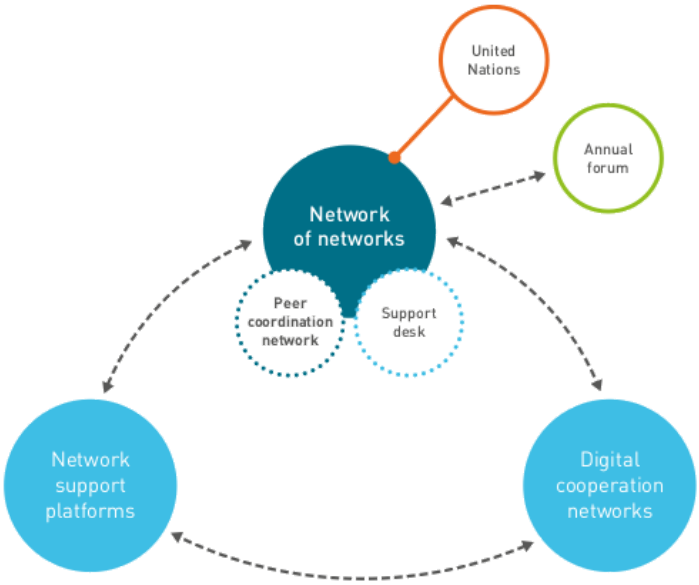
The *advisory group* will help coordinate efforts at the IGF. Some past efforts moved slowly and lacked direction; the additions of a *policy incubator* and a *cooperation accelerator* will help address this. The *observatory and policy help desk* will help effectively communicate clear guidelines — another criticism levied against the current IGF.
The heavy structure of the IGF+ will likely fall short when identifying existing trends and developments on the internet. However, it provides facilities to help facilitate partnerships around specific issues and coordinate policy outcomes for parties with different interests.

Model 2: Digital Commons Architecture (DCA)



This simplified structure only includes three bodies: a *tech panel*, a *digital commons platform*, and an *architecture secretariat*. They coordinate through the existing infrastructure at the United Nations.
Today's more mature internet has a common heritage to draw from when planning for the future. The argument of the DCA is that planning can be a more organic process without the burden of the existing IGF infrastructure and norms. Furthermore, this model will likely be more responsive to cultural movements and changes in technology than the IGF+ model.
Without more formal bodies, we worried about resolving conflicts or addressing crises online. I am specifically worried about states escalating from internet-born conflict to actual military engagement. This model also offers little protection for disenfranchised voices. How does it ensure inclusively?

Model 3: Distributed Co-Governance (CoGov)



The flattest model. Two bodies, *network support platforms* and *digital cooperation networks*, coordinate through a network of networks. The network of networks model has worked in the past: governments, institutions, and citizens want to connect to the internet through their network because of the massive opportunity it provides.

I like this model because it seems that local networks can stay local and serve local needs. They still must comply with the norms of the overarching network (the internet) if they want to connect. However, if the incentives aren't aligned, it can also lead to further fracturing of the internet. This is the trade-off:

- Global issues (the United Nations) can be resolved on the network of network level.
- Local issues are resolved locally.
- Glocal issues (global local) are deliberated between parallel *network support platforms* and *digital cooperation networks*, establishing agreed-upon norms without a parental intermediary.

These can be slow processes that are ill-equipped to handle crises. Norms can take quite some time to surface.

From monitoring and consultation to exploration: How do you successfully engage active participation in online policy-oriented platforms?

Alberto Cottica, Co-Founder and Research Director, Edgeryders

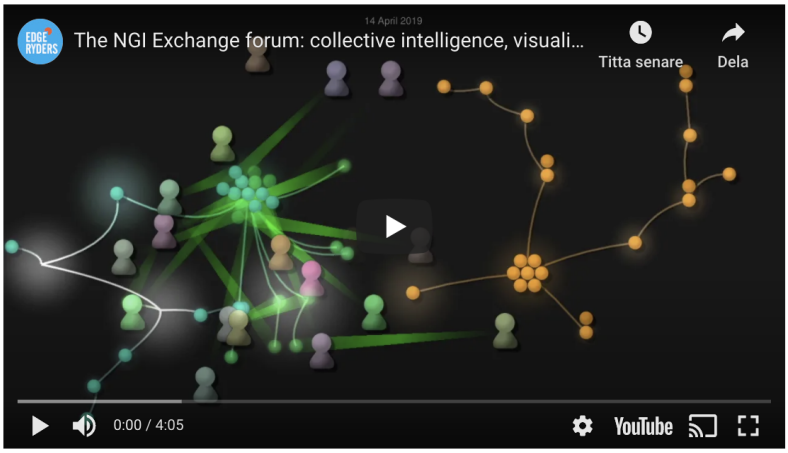
Citizens' participation in the definition, implementation, and monitoring of public policies is perhaps my central interest. I have a background in regional development, and that led me to look into citizen engagement with a lot of attention. If you have done any regdev at all, you will know how important it is for the local people to support what you are doing. Getting anything done in the presence of substantial opposition is impossible, of course; but many projects lose steam and ultimately fail just because there is not enough positive will to make them happen. In my country of origin, Italy, there is a landmark study by Luigi Bobbio,[81] who followed 100 local development initiatives over five years; by the end of the study, only five had been completed, with all the others being mired in procedural complexity, NIMBY fights, polemics.

So, in the early 2000s, I started to think we could use the internet, which at the time was becoming a mass commodity, to engage citizens on our work. Over the following years, I built up substantial experience, mostly while working for the Italian Ministry of Economic Development. In 2010, I felt that experience was mature enough to become a book on "government by wiki" and collective intelligence.[82]

In the 2010s, I left the government and became more of a researcher, but I kept following this idea, within the context of my current home, Edgeryders. Over the years, we have become quite good at engaging citizens on large online dialogues, which we think of as networks of social interaction carrying content, and performing sophisticated analysis on it.

[81] La democrazia non abita a gordio, Studio sui processi decisionali politico-amministrativi by Luigi Bobbio https://www.francoangeli.it/ricerca/Scheda_libro.aspx?ID=6130

[82] Welcome to Wikicrazia and Wikicrazia Reloaded: http://www.cottica.net/wikicrazia



Citizen engagement is a powerful way to tap into collective intelligence, and that intelligence only gets more far-sighted when you power it with data.

However, a data approach, in our experience, does not solve the fundamental problem of citizen engagement as we know it. Which is this: **it is fundamentally unfair**. Let me explain.
When you engage as a citizen, you are putting time and effort to help a professional decision maker (a politician or a civil servant) to do her job. You forego hanging out with your friends and family, or taking a walk in the park, or whatever you like doing. What do you get in return?
Well, you get a say. Your voice is heard. In resonance with others, your contribution might help change a public decision, and that will result in a world that you like better. In one word, you get **power**.

So, why is it so hard to get people to participate? Are people apathetic? Hardly so: from the Gilets Jaunes, to Extinction Rebellion, to Le Sardine, Europe is full of very committed, enthusiastic people, fighting for the world they want. In our experience, the main obstacle to participation is that most citizen engagement opportunities consist of **everyone going through the motions, while no real transfer of power takes place**. Take copyright: time and again, participatory exercises are rolled out, some quite successfully in terms of number and quality of contributions. Time and again, the great majority of those contributions express concerns for the freedom to share. Time and again, the lobbies of

the copyright holders get what they want, and the great majority of citizens do not.

This is, of course, part of the democratic game. But it does pose a problem: ritualistic participatory processes not only are time and energy sinks. They transform our time and intelligence into a justification for rubber stamping decisions that were never meant to be questioned. Copyright lobbies, for example, can rightly claim that the process leading to their political victories was highly participatory. This destroys social capital — because people conclude “fool me twice, shame on me” and disengage — and incentivize more aggressive forms of participation, like street protests.

Failure to transfer real power to the citizenry is a general problem with citizen engagement. Engagement in regional cohesion policies also has a specific problem. This: **regional cohesion tends to view development as a singular path,** rather than a plurality of paths. For cohesion policies, full success is defined as every NUTS2 region in Europe looking like, say, Île de France or North Holland. The corollary of that is that, say, West Pomerania or Thessaly are basically low-grade versions of Île de France. Their success is measured in terms of a model that evolved elsewhere, and that they have mostly given up believing they can deploy with comparable success. This narrative is demoralizing, and it makes it harder

to get people to engage. In fact, political entrepreneurs in various corners of Europe have moved to capitalise on this frustration, offering a cultural pushback ("the ways of our ancestors" vs. "EU technocracy").

So, what to do? At Edgeryders, we have been practicing a type of engagement that is **oriented more to action than to consultation**. For example, we worked with the World Bank to set up a sort of peer-to-peer business incubator for young would-be entrepreneurs in the MENA region. Most of it happens in an online forum, and the conversation therein unearthed a lot of rich information about what it means to start a business for a young person in that part of the world. But people do not participate to share their views. They participate to help each other start their respective businesses, a much stronger incentive, and the rich knowledge is a by-product of their interaction. Even if the policies don't change (which they probably won't), participants are still happy with the programme, because they are building their own businesses.

Another example: we ran the participatory part of **the Italian city of Matera**'s bid to win the title of European Capital of Culture 2019. The title was, of course, an excuse to reinvent the region's economy, as its traditional industrial backbone (upholstery) was being relocated to China. Our strategy consisted of finding out what kind of initiatives people were doing (around culture, the environment, public spaces, urban games, computer literacy for children...), and encouraging them to roll out "instant" initiatives to support the city's bid. The rallying cry was "show Europe that we can be different here, that the South is not condemned to lagging behind".

First, we convened a large-scale, open online conversation to find out what was happening on the ground. Next, we used a methodology that combines ethnography and graph theory to represent that conversation, encoded as data, and analysed it to extract a sort of map of key concepts and seminal projects. Finally, we suggested people could use their skills and networks to roll out "community projects" in support of the bid. We rolled out some minimal services to help them with rapid deployment. An explosion of activity ensued. Someone made an open-source solar tracker "to make the cultural programme greener". Someone else improvised a super-participatory performance in which the city's street lighting was turned off, and citizens were encouraged to take to the streets with candles.[83] Others set up the largest Coderdojo ever made[84], with over 1,000 children coding simple games. There was even a group who walked several hundred kilometres across the region,

[83] https://youtu.be/RXSjEEbChGs
[84] https://youtu.be/mxd9SlmWrqM

picking up new walkers as they walked, to solemnly ask the region's mayors to all unite behind the bid.[85]

The system was compounded by a barebones scheme of "social innovators in residence", the unMonastery,[86] inspired by sixth-century Western monasticism. Residents were coming from everywhere in Europe, connecting the local scene to its counterparts elsewhere. The city went on to win the title, and the participatory nature of the bid was an important factor in this victory. However, the story does not end with "happily ever after". Almost immediately after the proclamation, local politics took over, as it tends to do in these competitions. Many of the people and groups that had led the bid were frozen out of the delivery of the bid, as local politicians and institutions fought for control of the money. The "innovators" saw this as betrayal, and **reacted with negativity and disenchantment.**

Our conclusion, provisionally, is this: Data is important for citizen engagement. Giving people data helps them see further. **A data approach to collective intelligence helps to tap it in a more consistent, solid way. But in the end, collective intelligence is the magic dust that can propel regional cohesion**. And if you want collective intelligence to really engage, you need to enable people to act, not just talk. And you need to turn over to them real power, including that of coming up with their own standard for what it means to be "developed".

The good news is that the standards of "developed" need major overhaul anyway. The climate emergency is forcing our hand. Our economic model needs to change. Our economics needs to change. Our indicators of economic health, like GDP growth, are no longer fit for purpose. We are seeing a deep societal longing for some kind of post-capitalist configuration. We are seeing a lot of experimentation, from eco-villages to local currencies, to commons-based peer production, to new cooperativism. In 2019, we created a unit of maverick economists and entrepreneurs, the Sci-Fi Economics Lab, to systematise and scale these experiences.

So, we have a major opportunity here: encourage Europe's regions to experiment with different economic models. Maybe West Pomerania wants to be like Bhutan, focussing on "gross national happiness", rather than like North Holland. Maybe Thessaly would like to try out regional-scale commons-based peer production. Let them do it, let a hundred flowers bloom! This is good for Europe's long-term resilience, because it broadens our portfolio of

[85] https://youtu.be/q98tFM_zHmY
[86] https://youtu.be/ABPNRbeQtd4

economic models we can all draw from; and is *very* good for citizen engagement. It is much more fun to be doing R&D on Europe's future societal and economic model than to be the laggard students at the back end of the classroom.

The Algorithmic is Political

Dr. Annette Zimmermann, Postdoctoral Research Associate in Values and Public Policy
Leonie Schulte, PhD Candidate at the Institute of Social and Cultural Anthropology, University of Oxford.

Annette Zimmermann is an analytic political philosopher and ethicist at Princeton University's Center for Human Values (UCHV) and Center for Information Technology Policy (CITP). Annette's current work explores the ethics and politics of algorithmic decision making, machine learning, and artificial intelligence.

Annette's main focus has shifted to writing academic papers on algorithmic injustice and its scope for a while now. She feels that it's important to understand exactly what algorithmic injustice entails, and only then, it's possible to find a morally and politically sound solution. She also wants to research the lesser-explored concept of the lifetime of algorithmic bias and its development.

The highlight, though, among the plethora of things she's working on, has to be her upcoming book, *The Algorithmic is Political*. It's a short book surrounding the political and moral decisions that are deeply intertwined with technology. It involves deep discussion on who should be responsible when a moral or political failure occurs due to this interconnection. Suppose algorithmic bias is a problem, then who should be responsible for fixing it? Is it better to leave the automated decisions from AI in the hands of a person? What happens if that person's judgment is clouded by their personal bias? The idea of democratizing AI also comes up in this book, along with the question of whether that would change algorithmic injustice.

Dr. Zimmerman's interest in combining algorithms with social issues came from her personal interest in democracy, politics, and moral dilemmas at a broader level. She has been pondering how it's possible to determine who will bear the brunt of making the wrong algorithmic decisions in a society where equality and fairness is valued.

In general, the tech industry has become incredibly conscious of the idea of ethics when it involves AIs. Annette has particularly honed in on what should be the basis for determining the ethics the tech industry should follow rather than what the ethics should be. People fall prey to the idea of values being completely subjective, so the idea is, no one can make an

objective value system. Or some people think certain values are always right, because that's how most people see it. Instead, the values a domain has to follow should be determined on a case-by-case basis.

People also need to be open to the idea that making the wrong choice is inevitable, but constantly questioning those choices can keep the damage to a minimum. According to Annette, the central figure that AI ethics should protect is those who get negatively affected by the gender or racial bias shown by the algorithm due to the personal bias of those who make those algorithms.

Zimmerman refuses to agree with the pessimists or optimists of the tech world. She doesn't think that if an AI-based society is inevitable, people should just resign themselves to its judgments. She isn't of the opinion that an AI would always be right. She doesn't subscribe to the extreme view that the existence of AI will always turn out to be bad, either. Instead, she believed in a critical approach, where AI's purpose is always questioned and examined if a better society is needed.

Progress has been made in improving algorithms from a mathematically fair point of view by FATML — Fairness, Accountability, and Transparency in Machine Learning. Yet, Annette thinks a world with a history of injustice can't be treated equally by relying solely on a technological standpoint. Social and political implications have to be considered no matter what.

She's deeply aware of the conscious choices that go into designing those algorithms in the first place. As a result, it can be heavily biased, failing to take into context the people the algorithm is judging. These concepts will always come with moral dilemmas — but the solution is to face those problems rather than ignoring them. Otherwise, the algorithm will always be unable to represent the real world.

Lastly, she concludes that AIs aren't some interdependent creatures shown in dystopian movies as the general public seems to think. Instead, they're domain-based tools reliant on humans, and so, the accountability falls on the humans who make the decisions — including the developers and the government who often uses it. Previously, she has claimed that some AI should never have been deployed. She elaborates on it further by stating that a society, already biased against certain protected individuals, will be oppressed further by coming in contact with those AI systems.

Her main argument is that the tech industry individuals need to start realizing the social and political choices they make while creating those algorithms, whether they want it or not. One has to be conscious of the ethical decisions they make before an AI is deployed. They should also be open to changing the ethical posts once it’s revealed the decisions might have certain roadblocks they don't foresee. The ethical critiquing should be a regular business rather than a one-time gig.

On ownership of data, digital identity, and democracy

Nicole Immorlica, Senior Principal Researcher, Microsoft

Nicole Immorlica is employed by Microsoft, where she researches the intersection between economics and computer science. The views presented here are her own and do not represent the Microsoft Corporation.

In the current globally connected marketplace, many of the aspects that make up a person's individuality can easily be quantified by data. Everything from political affiliations to shopping preferences is being tracked, collected, and sold. Nicola theorizes that people may begin to take ownership of their personal data, giving them a uniquely modern opportunity for financial growth. Additionally, she believes that an understanding of how computer systems control the distribution of information around the world is integral to building a more peaceful world.

Nicole's research has three main components. The first has to do with solving the problem of the social media "echo chamber". When someone logs onto Facebook, they are instantly inundated with posts from their friends, most of whom likely have the same values and beliefs. This leads to an individual being siloed into very specific patterns of thought. It also cuts off opportunities for people to reach across party lines and create more meaningful global discussions. While this problem is simple to diagnose, Nicole hopes that her research will help provide solutions that lead to more well-intentioned communications.

The second component of Nicole's research is centred on the concept of ownership of data. She believes that people should be able to control their own data, selling it if they see fit instead of leaving it in the hands of powerful corporations. Nicole foresees the creation of data unions and marketplaces as a key step. She believes this would open up a variety of new opportunities for individuals and corporations alike.

The third topic Nicole is researching has to do with digital identity. While the current system revolves around government appointed features, such as your social security number or passport, Nicole believes we will soon be able to provide a digital identity through a decentralised societal structure. She theorises that with the huge mass of data we have available to us, people might be able to create a way of "proving" their identity without government assistance. Thus, we might be able to create a more trusting society with less emphasis on government oversight.

While Nicole is aware of the powerful role AI plays in shaping society, she emphasizes the importance of the human element above all else. She seeks to remind people that all of our technology is simply a tool for improving the human experience.

Unchecked digital expansion could be a force for democratisation — or further entrench inequality

Corinne Cath-Speth, PhD Candidate at the Oxford Internet Institute

With a background in human rights and policy, Corinne Cath-Speth worked as a policy officer for a human rights NGO in London before coming to the Oxford Internet Institute and the Alan Turing Institute to pursue her PhD. Her research focusses on human rights advocacy efforts within internet governance, with a broader interest in how human rights NGOs are responding to the new (and old) challenges raised by emerging technologies.

In working with human rights activists, Corinne saw that digital technologies — like social media — can give the plight of activists more visibility, but that often these same technologies entrench existing power inequalities and biases. She became interested in studying what happens when activists try to change the infrastructure of the internet itself, rather than simply use it. A number of well-known human rights organisations, like the ACLU and EFF, actively do so by contributing to internet governance fora. She found that these organisations are welcome and can operate in these spaces with relative ease, given their open and multi-stakeholder nature. At the same time, she also saw that while getting the tech "right" is an important part of the puzzle of human rights advocacy in the digital age, it is also a narrow frame through which to understand the broad spectrum of social concerns raised by networked technologies.

Corinne's work in internet governance also led her to consider human rights advocacy in AI governance, as AI systems are raising a host of questions regarding privacy, safety, anti-discrimination and other human rights. One of the problems with developing AI advocacy programmes is that many of these systems are developed by private companies, so it is difficult to gain access to their technology to examine and understand it. Many NGOs are therefore calling for the regulation of AI systems, but are facing pushback, with companies arguing that it hampers innovation. Yet, it is this same "innovation" that encourages many governments to deploy AI systems. A drive for "innovation" for innovation's sake is particularly concerning when it encourages governments to step into technologies that they don't fully understand or even need.

Obviously, a lot of human rights NGOs have been worried about these various dynamics for a while and are consistently raising their concerns — sometimes by bringing in academic work to show some of these issues. Human Rights Watch, for example, has a

great program, as does Amnesty International, Privacy International and Article 19. Several of the largest human rights NGOs are focussing on issues of AI systems and bias. But they're also forced to play whack-a-mole as the application of AI systems becomes more common. How to focus your resources? Which companies and applications are most concerning? Which solutions are most tractable and comprehensive? Do we need sectoral guidelines, or do we need guidelines that focus on impact? Do we need self-regulatory ethics frameworks or hard data protection frameworks? All of the above? These are the issues I see a lot of NGOs grapple with and are questions I hope to discuss with you on this platform.

Contributors

We would like the following people for their generous contributions to this report either in the form of posts contributed via the NGI Exchange platform, or in allowing us to interview them:

Kate Sim, PhD Candidate, Oxford Internet Institute

Kate Sim is a PhD Researcher at the Oxford Internet Institute studying the intersection of gender-based violence and emerging technologies. Her doctoral research examines how power relations are encoded into the design and implementation of data/AI-driven reporting systems. She works with ethnographically-informed methods and draws heavily from feminist epistemology and critical data studies. Beyond research, she has organised and collaborated with anti-violence practitioners in the US, UK and South Korea. In her spare time, she is scrolling through memes and talking about Rihanna.

Anton Ekker, Attorney (LLM, PhD) at Ekker Advocatuur

Anton Ekker practice focuses on the legal aspects of large-scale and complex data processing, specifically privacy and IT law. He advises on Data Governance, Privacy and Security and assists clients with the negotiation and drafting of contracts. He also litigates on behalf of commercial parties and individuals. Recently, he won a landmark case on risk profiling by the Dutch government (Systeem Risico Indicatie, 'SyRI'). At the moment he represents a number of Uber drivers in a case about data transparency and automated decisions.

Seda F. Gürses, Postdoctoral Fellow at Leuven, Associate Professor in the Dept of MultiActor Systems, TU Delft

Seda studies conceptions of privacy and surveillance in online social networks, requirements engineering, privacy enhancing technologies and identity management systems.

Recently, she has started two new research projects. The first focuses on the implications of current cybersecurity research and development on technical solutions for privacy. The second looks at paradigmatic changes in software engineering practices with the shift from shrink wrap software to services and agile programming.

Hugi Ásgeirsson, Creative Producer, Researcher, Developer, and Community builder

Positioned between technology and participatory culture and politics, Hugi is interested in how people can collaborate better together today and in the future, online and offline. He currently works from Stockholm, where he co-founded the participatory culture center and social enterprise Blivande.

As a co-director of Edgeryders, he runs the development lab Participio developing software for participatory culture and is involved in a number of projects exploring how technology can enable participation, social cohesion and resilience.

Hugi has a background in informatics and analytics and has a degree from KTH Royal Institute of Technology where he studied biotechnology engineering.

Raquel Jorge Ricart, Fulbright Fellow

Raquel Jorge-Ricart is a Fulbright Fellow studying in the Security Policy Studies program at the Elliott School of International Affairs, where she is specialising in technology and digital policy, and its implications on strategic risk management as well as security and foreign policy.

Raquel has worked on policy making projects at the Harvard University's Berkman Klein Center for Internet & Society, and at the GWU's Institute for Science and Technology Policy, on AI, cybersecurity, quantum computing, and 5G issues related to trade and industry, cities, defense and security, and foreign policy.

She is a member of the Spanish Observatory on the Social and Ethical Impact of Artificial Intelligence. Raquel earned a master's degree in International Relations from the University of Madrid, and a double bachelor's degree in Political Science and Sociology from the University of Valencia (Spain) and Université Paris X (France).

Adrian Cochrane

I live in New Zealand. I'm starting a software/open-standards contracting company with my father, after having graduated from Victoria University of Wellington with a BSc Computer

Science. I really value software freedom and privacy, and hope to do my small part in bringing it further forward. Climate change is the other main issue I care about

Jeff Andreoni, Writer

Jeffrey Andreoni is a writer spending his time between London and Athens. His writing covers a variety of subjects from fine art to adventure travel.

Marco Manca, Member, NATO working group on Meaningful human control over AI-based systems I Co-Founder and Chairman of the Board of Directors, SCimPulse Foundation

A Medical Doctor by education, with more than 10 years of research and clinical practice in Internal Medicine, and a long history of volunteer activities, including providing medical services for free in refugee shelters in South of Italy, and in social-care centres for troubled children. CoFounder, and Chairman of the Board of SCImPULSE Foundation, a sandbox and incubator Foundation dedicated to philanthropic projects ranging from financial inclusion, to the future of medicine. Senior Research Fellow of the Director for Medical Applications at CERN, the European Nuclear Physics Organization, where he has experienced the complex ways of International Diplomacy, and the facilitating role of science and education.

Britta Schneider, Prof. Dr. at Europa-Universität Viadrina Frankfurt (Oder)

Leonie Schulte, PhD Candidate at the Institute of Social and Cultural Anthropology, University of Oxford

Leoni Shulte is a linguistic anthropologist and PhD Candidate at the Institute of Social and Cultural Anthropology, University of Oxford. Her research explores the relationship between Germany's language and integration policy and experiences of time, waiting and boredom among refugees and migrants in Berlin.
Most recently, she joined the Department of Anthropology at Princeton University as a Visiting Student Research Collaborator (fall/winter 2019).

Andrew Puddephatt, Founder Director at Global Partners & Associates trading as Cedar Partners

Founder Director of Cedar Partners, a network of individuals working to improve life for all ; founder Director of Adapt, a new start up helping companies manage user data ethically. Also Chair of the Internet Watch Foundation which helps prevent child sex abuse online, Board Chair of the Board of Global Partners Digital focussing on human rights implications of internet policy. Also Deputy Chair of the Sigrid Rausing Trust and member of European Council of Foreign Relations.

Cory Doctorow, author and technologist

Cory Doctorow is a science fiction novelist, activist, and technologist. He is a research affiliate at the MIT media lab, and cofounder of The Open Rights Group in the United Kingdom. He has worked as European director for The Electronic Frontier Foundation, and as their delegate to the United Nations. Cory's primary interest is interoperability in emerging technologies and how the relationship between technologies will affect the economy of the future.

Alias: Slaughter

Howard Rheingold

Howard is an American critic, writer, and teacher, known for his specialties on the cultural, social and political implications of modern communication media such as the Internet, mobile telephony and virtual communities (a term he is credited with inventing).

Mattias Axell, Kaospilot and Creative process leader

Mattias is a creative process leader educated at Kaospilot in Aarhus, Denmark. He thrives in the magic that happens with people when they work together. He loves leading processes, projects and making change happen through creativity, collaboration and commitment. With a background in social sciences & environmental studies he dwelves in everything cultural, digital, sustainable and open. Mattias believes that ordinary people together can co-create extraordinary things.

Peter Bihr, Mozilla fellow, author of View Source: Shenzhen and Understanding the Connected Home (with Michelle Thorne) (Multiple)

Peter Bihr explores the impact of emerging technologies, and how to put them to work responsibly and for the public good. Peter is the founder and Managing Director of The Waving Cat, a boutique research, strategy & foresight company. He co-founded and chairs the board of ThingsCon e.V., a not-for-profit that advocates for responsible practices in the Internet of Things (IoT). Peter was a Mozilla Fellow (2018-19), and Postscapes named him a Top 20 Influencer in IoT (2019). As a current Edgeryders Fellow, he focuses on how we can build smart cities that put citizens' needs first. He blogs at thewavingcat.com.

Michelle Thorne, Senior Program Manager at the Mozilla Foundation

Michelle Thorne (@thornet) is interested in climate justice and a fossil-free internet. As a Senior Program Officer at the Mozilla Foundation, Michelle leads a PhD program on Open Design of Trust Things (OpenDoTT) with Northumbria University and research initiatives in Mozilla's Sustainability Program. She contributed to the creation of Mozilla Common Voice, now the world's largest multilingual public domain voice dataset. Michelle publishes Branch, an online magazine written by and for people who dream about a sustainable internet. She also co-founded a sustainable fashion label, Zephyr Berlin.

She is a member of ClimateAction.Tech, a network of tech workers accelerating climate action. She is also a jury member of the Prototype Fund, which supports open source projects in civic tech and a Thinker in Residence at Climate KIC. Michelle founded Mozilla's Open Internet of Things Studio, Ding magazine, the Mozilla Festival and a web literacy program called Maker Party. Michelle managed the Creative Commons international affiliate network from 2007 – 2010.

André Staltz, Open Source Developer and Freelancer

I build open source software, teach programming, and write articles. My areas of focus are: JavaScript, user interfaces, reactive programming, React Native, and peer-to-peer networks.

I am creating Manyverse, a social network off the grid. My hope for the project is to be a reliable and non-commercial mobile social app, specially for communities with limited internet connection. I want to help the world experience more kindness and simplicity, also in the information age. You can help me by donating to the Man Verse OpenCollective or to my Patreon (thank you!) page.

Fabrizio Barca, Founder of the Forum on Inequalities and diversity, Ex General Director , Italian Ministry of Economy & Finance

Fabrizio Barca is an economist and politician. He has held the positions of head of the Research Division of the Bank of Italy, head of the Department for Development and Cohesion Policies at the Italian Treasury, and General Director of the Ministry of Economy and Finance. He was president of the Committee for territorial policies of the OECD from 1999 to 2006 , and in 2009 he created the independent report on cohesion policies for the European Commission: An Agenda for a reformed cohesion policy. From November 2011 to April 2013 he was a minister without portfolio with responsibility for territorial cohesion in the Monti government.

Erik Lakomaa, Affiliated Researcher at the Department of Marketing and Strategy and Executive Director of The Institute for Economic and Business History Research, at Stockholm School of Economics

Erik's field of academic research is how organisations, public and private, adapt to external change (new technology, new markets, new regulation). Erik is also a political consultant known for his role as strategist for the no-campaign in the 2003 Swedish referendum on the euro. He has advised a number of Swedish centre-right politicians, most notably Lars Wohlin and Nils Lundgren.

Tino Sanandaji, Economist at The Research Institute for Industrial Economics, Stockholm School of Economics

Tino Sanandaji is an economist and author. He is a regular contributor to the National Review, and has authored articles in Swedish and American publications, including The American, Wall-Street Journal, Critical Review, The Independent Review and Axess magasin.

Valerio De Stefano, BOFZAP Research Professor of Labour Law at KU Leuven

Valerio is a professor at the University of Leuven, where he teaches labor law. He was an officer at the International Labor office, where he researched unconventional ways of employment. After leaving ILO, he started focussing on researching platform work, which falls under non-standard employment methods. De Stefano's research interests include

the development of the notion of subordination, the protection of freedom of association and trade union rights and the regulation of precarious work.

Inge Snip, Journalist

Inge is a Dutch multimedia journalist who has been based in Georgia since 2012. She's been working with Edgeryders on a variety of projects in a variety of roles. She joined openDemocracy in March 2020 as a fellow focussed on the health impacts of the backlash against women's and LGBTIQ rights in Eurasia. From September 2020 to March 2021 she is developing her commissioning skills with Tracking the Backlash and openDemocracy's oDR section. Previously, Inge worked as Coda Story's Impact Editor. She has also worked with organisations including UNDP and UNICEF.

Marcel Schouwenaar, Creative Director at The Incredible Machine Co-founder Proxemy (makers of Bubble, the social distancing sensor)

As a creative director and technologist, Marcel looks for opportunities to bring new innovations to market. In his work, the impact and ethical aspects of technology are always in focus.

Justin Nogarede, Digital Policy Adviser , Foundation for European Progressive Studies (FEPS)

Justin joined FEPS in summer 2018 to lead the digital policy portfolio. He previously worked as policy officer in the Secretariat-General of the European Commission. He started in the Directorate for Better Regulation, and then proceeded to take on the digital policy portfolio in the President's and Vice-President's Briefing Unit. After that, he became a policy coordinator working on digital and single market policy files.

In the past years, Justin has been among others involved in drafting the European Commission's mid-term review of the Digital Single Market Strategy, and in policy on standards and standard-essential patents, audio-visual media, Internet governance, the collaborative economy, product liability and the internal market for goods.

John Coate, Co-Director and Community Manager, Edgeryders

John was employee number two at The WELL, where he was instrumental in creating the online community that Wired Magazine called the "world's most influential". There he was

the first to work as what is now known as an “online community manager” and he wrote the first treatise on building online communities. He co-founded the first major news website, sfgate.com, which today has more than thirty million monthly visitors and more than 476K Twitter followers. He was the online manager of a teen social network and game site that had thousands of members. He managed a regional media organisation that combined terrestrial radio and the internet in innovative ways. Through it all the core of his community knowledge comes from direct personal experience living and working with others who are consciously building lasting relationships as the building blocks of community.

Jasen Lakic, Serial Entrepreneur and Board Game Designer

Currently busy with growing my Brussels-based company and opening another one in Croatia. If it has something to do with sustainable development, social responsibility, empowering others, making healthy and top quality products or GAMES, COUNT ME IN!

Andres Ortega Klein, Senior Research Fellow at the Elcano Royal Institute

Andrés Ortega Klein (Madrid 1954) is Senior Research Fellow at the Elcano Royal Institute. He is an independent consultant and director of the Observatorio de las Ideas. He has been twice (1994-1996 and 2008-2011) Director of the Department of Analysis and Studies (Policy Unit) at the Prime Minister’s Office, and also worked as counselor at the Spanish Ministry of Foreign Affairs and Cooperation. He has developed an extensive career in journalism as London and Brussels correspondent and columnist and editorial writer for El País. BA in Political Science (Complutense University of Madrid), and M.Sc. (Econ) in International Relations at the London School of Economics (1979). He is a member of the ECFR council and the board of trustees of the Ortega-Marañón Foundation.

Mayur Sontakke, Financial Analyst & Entrepreneur

I am a financial analyst by trade. Last year I started NomadGao, a coworking coliving place in Goa based on my first-hand experience as a coworker.

Erin Westover, Head of Expansion at UpFlex

My name is Erin, and I work with Upflex. We're a New York based company. However, I'm based in Berlin. Of course, at the moment we are 100% remote. We love to promote flexible work styles.

We are technology based, a communication platform that allows companies to manage or develop systems so that everybody can work the way that they need. Touchless, for example, is a big trend right now and our app facilitates touchless entry.

COVID launched us into the front lines of how people are going to need to work from now on. Coworking is going to come back stronger than ever as big companies adapt and restructure for safety, and we're there to support that education, For example we created a program called Safe Spaces, which allows people to filter for those that adhere to local regulations. The design of spaces will change, but the value of flexibility to communities is stronger than ever...

Matthias Ansorg, Co-founder and CTO , Edgeryders

Matthias is a computer scientist and technology generalist with a long experience in open source software and hardware development. A social innovator and digital entrepreneur who has studied alternative value measurement and non-monetary economic exchange mechanisms extensively for his award-winning commons funding platform PayCoupons (former Makerfox).

Chris Adams, environmentally focussed tech generalist

Chris Adams is an environmentally focussed tech generalist, spending the last ten years working in tech startups, blue chip companies and government, as a user researcher, product manager, developer, sysadmin and UX-er. He is an organiser of ClimateAction.tech, a community for technology professionals taking climate action, and a director of the Green Web Foundation, an NGO using open data and open source to speed the transition of the web from fossil fuels.

Kathryn Hing, Head of Design at Idagio

Kathryn is the Lead Product Designer at IDAGIO, the world's leading classical streaming platform. She values design education and is an active member of the design community

co-organising IxDA Berlin, UX Bookclub Berlin, was a founding member of ResearchOps, is a coach at Berlin's Service Design Jam, and has been on the judging panel at Adobe's Creative Jams.

Hama,

Nadia EL-Imam, Co-Founder Edgeryders

Engineer and designer born in Sweden, raised between Europe and Asia. Cofounder of Edgeryders, a distributed think-tank combining the focus of consultancy with the scale, openness and democratic legitimacy of citizen consultation. Based in Stockholm and Brussels.

Nacho Rodriguez, Entrepreneur, Engineer and community builder in the coworking sector

Nacho is the beating heart of the remote worker/ digital nomad scene in Las Palmas de Gran Canaria. He is a seasoned entrepreneur with a huge heart and passion for connecting people and building community.

Faye Ahlund, Co-founder of Kumpul & President of Coworking Indonesia association

Kumpul is a co-learning platform that provides quality programs as an engine for ecosystem builders. Their tech platform is a marketplace of four programs that ecosystem builders can tap into. They believe that coworking is one of the most effective ecosystem builders, and now there are 300 spaces across Indonesia.

Jonny Cosgrove, Founder Meetingroom.io

MeetingRoom is a Deep Tech company which, through virtual reality (VR) technology, provides virtual meeting rooms in the cloud allowing global teams to meet and virtually gather around a table from anywhere, on any device.

Gary O' Meara — CEO of Meath Enterprise, Managing Director of the new Boyne Valley Food Innovation District

Gary is currently CEO of Meath Enterprise and Managing Director of the new Boyne Valley Food Innovation District. He is also Chairperson of Ireland's National Association of Community Enterprise Centres (NACEC), a member of the governments SME & Entrepreneurship Consultation Group (SMEe), the national partner and advisor for Startup Genome and an active member of the Institute of Directors in Ireland.

Jennifer Lyn Morone, The Girl Who Became a Corporation

Jennifer Lyn Morone (1979) is an American born artist who in 2014 graduated with an MA in Design Interactions from The Royal College of Art, London, where, dismayed by the Snowden revelations in 2013, she designed a protest against the data industry and corporate personhood. She is now the founder, CEO, shareholder and product of her own company, Jennifer Lyn Morone™ Inc. As she underlies, JLM Inc is not a speculative project, but a new business, established to determine the value of an individual, as a means to enter the economic and legal system in order to play with and challenge the rules. Her work has been nominated and received an honorary mention from Ars Electronica (Linz), and has been exhibited, screened and presented internationally, recently at the Martin Gropius Bau (Berlin), Haus der Kulturen der Welt (Berlin), Carroll/Fletcher Gallery (London), ZKM (Karlsruhe), Victoria & Albert Museum (London), and the HeK (Basel).

Jamie Orr, Founder Co-working Tahoe and Jelly Switch

Jamie is one of the co-founders of Co-Work Tahoe, and is working on a digital technology project called Jellyswitch. Co-Work Tahoe allows professionals to work from Lake Tahoe. There was a serious need for their economy to be more diverse and less susceptible to the swings of tourism, so we set out to create a really vibrant space that would revitalize this small business district. They initially found that people tend to be transient, but that if they could encourage human connections we can retain them much longer. They are using technology to support reopening and transitions, as the pandemic accelerated the timeline on remote work. One of the key things they did in designing the business model was provide flexibility, so they already had that in place. Relationship building will take longer, but human interaction is what they believe we so desperately need right now.

Rowena Hennigan, Remote Work Educator and Expert

She has developed University accredited courses in Remote Work, blending industry and academic knowledge in a unique way. She is a highly regarded keynote speaker (both virtual and in person) and experienced corporate trainer. Rowena is a published academic writer and involved in various global and regional initiatives related to Remote Work.

In July 2020, she co-founded RISE Emotional Intelligence, a training service specialising in enabling individuals and work culture to become more human-centric through the power of Emotional Intelligence, with a particular focus on remote teams.

John O' Duinn, Author and Senior Strategist

John O'Duinn is a computer guy who has written code and led teams in companies ranging from four person startups to nonprofits to multinationals – including in the US Government as part of the U.S. Digital Service in the Obama White House.

He has worked in distributed companies of one form or another for 27 years, led distributed teams for 14 years, run workshops and mentored distributed companies for 6 years. His "Distributed Teams: The Art and Practice of Working Together While Physically Apart" is a practical, easy-to-read, management book.

John also helped write the State of Vermont's "Remote Worker" law – a very different approach to Economic Development. John is now helping write policies for multiple other jurisdictions world-wide.

Kristina Irion, Assistant Professor at the Institute for Information Law (IViR) at the University of Amsterdam

Kristina Irion is Assistant Professor at the Institute for Information Law (IViR) at the University of Amsterdam. She is the Director of the Annual IViR Summer Course on Privacy Law and Policy and the Coordinator as well as a Lecturer in the Research Master's Information Law. She is a non-resident Fellow of the Center for Media Data and Society (CMDS) at Central European University in Budapest where she had been, until 2017, Associate Professor at the School of Public Policy. Kristina is a member of the Scientific

Committee of the annual Computer Privacy and Data Protection (CPDP) International Conferences and the International Advisory Board of the Electronic Privacy Information Center (EPIC).

A baseline of Kristina's research is the interpretation and analysis of the transformational processes that reconfigure the legal properties of digital data in line with societal needs. She has commented on key developments in EU data protection law and its progressive constitutionalization and how European law interfaces with a global digital ecosystem. As a Marie Curie Fellow she accomplished her individual research project on Governing Digital Information which explores the transformational impact of consumer cloud computing. Kristina's current research agenda focuses on the governance of transnational digital technologies and global data value chains from the perspective of European law and international economic law.

Much of the commissioned research she has led or contributed to has generated impact on public policy. A number of these studies have helped to catalyze real policy shifts, for instance the so called INDIREG study on EU audiovisual media law or the study 'Trade and Privacy: Complicated Bedfellows?' which left a positive mark on the EU's external trade policy. She recently lead-authored a pioneering study on 'Artificial Intelligence and EU Trade Policy' that has been commissioned by the Dutch Government. Kristina frequently provides expertise to the European Commission and the Parliament, ENISA, the Council of Europe, the OECD, national governments as well as civil society organisations.

Zenna Fiscella, Council Member at Scuttlebutt

I'm Zenna, more commonly known as Zelf. I'm a current KaosPilot and a settled habitator of Scuttlebutt. I dabble with grant writing, party hosting and am currently on the lookout to buy a boat, preferably Shipman 28 or Albin Vega.

Jon Rogers, Professor in Creative Technology, University of Dundee

Jon Rogers is a professor in creative technology at the University of Dundee with over twenty five years of experience working at the interface between design and emerging technologies. His work explores the human intersection between digital technologies and the design of physical things. He balances playful technologies with cultural and societal needs to find new ways to connect people to each other and to their data in an approach that explores not just what is possible but also what is responsible.

Following a recent three year fellowship based in Mozilla Berlin he is co-directing OpenDoTT, an EU funded doctoral training programme with Mozilla in trusted IoT. Beyond his work with Mozilla, Jon is collaborating with Quicksand and the National Institute of Design to explore how we can design for India's sustainable digital futures. With the Lucerne University of Applied Sciences and Arts he is exploring new narratives for the design of voice assistants in our homes. In June 2020 he will take up a new professorship in Northumbria University's School of Design.

Jon has worked with organisations like BBC, Microsoft, NASA, and the Victoria and Albert Museum. He was trained as an engineer in the 90s with a doctorate in neural networks awarded during the "winter of AI". Just before the start of this millennium he shifted position to embrace design. He believes, as many others do, that design was at the heart of what made the internet companies so powerful at that time. Since then, design has effectively provided the deception force that allowed us to be plugged into this surveillance driven digital economy. Design therefore has a responsibility to own up to this and make good what it has done to society. It is from this position that he is taking up a new professorship in Northumbria University's School of Design in June 2020.

Stefania Milan, Associate Professor of New Media and Digital Culture at the University of Amsterdam

Stefania Milan is Associate Professor of New Media and Digital Culture at the Department of Media Studies, University of Amsterdam. Her work explores the interplay between digital technology, activism and governance.

Stefania is the Principal Investigator of DATACTIVE, a project financed by the European Research Council exploring data- and algorithmic-mediated forms of political participation (data-activism.net). She is also the Project Leader of "Citizenship and standard-setting in digital networks", funded by the Dutch Research Council, and co-Principal Investigator in the Marie Curie Innovative Training Network "Early language development in the digital age" (e-ladda.eu). In 2018-20 she directed the Algorithms Exposed (ALEX) project (algorithms.exposed), tasked with developing open source software tools for auditing personalisation algorithms on social media and online shopping platforms. In 2017, she co-founded Big Data from the South Research Initiative, a network of academics and practitioners critically investigating the impact of datafication and surveillance on communities at the margins.

Prior to joining the University of Amsterdam, she worked at, among others, the Citizen Lab at the University of Toronto and the Central European University. Stefania is the author of Social Movements and Their Technologies: Wiring Social Change (Palgrave Macmillan, 2013/2016) and co-author of Media/Society (Sage, 2011). She enjoys experimenting with digital and action-oriented research methods and finding ways to bridge research with policy and action.

David Schmudde, Software Engineer, Educator, Researcher, Developer Advocate

I use quantitative and qualitative analysis to improve software products and technology policy. My interdisciplinary background is an asset for teams that need help educating the public about their work, defining the social impact of their technology, and implementing innovative products. I am an advocate of Linux, Lisp/Clojure, and Jupyter/Python notebooks. Areas of research include the structure and transmission of information, the history of technology, digital art, and applied computation.

Daniel Leufer, Author at Access Now

Daniel works as Europe Policy Analyst at Access Now's Brussels office. He works on issues around artificial intelligence and data protection, with a focus on facial recognition and other biometrics. Previously, he was hosted by Access Now as a Mozilla Fellow from October 2019 to July 2020.

Alberto Cottica, Co-Founder and Research Director, Edgeryders

Data/Network Scientist and Economist. An expert on collaborative governance and participation, with a proven track record of managing processes of ICT-enabled design and delivery of public policy – and even public services – in collaboration with citizens.

Alberto has first-hand experience in establishing, nurturing and running communities of citizens that work towards common goals, sometimes in alliance with government). Also has a proven track record of driving adoption of innovative practices – and, more importantly, of a practice of openness and transparency in policy delivery – in fairly conservative large organisations, including government agencies.

Dr. Annette Zimmermann, Postdoctoral Research Associate in Values and Public Policy

Annette Zimmermann is an analytic political philosopher and ethicist at Princeton University's Center for Human Values (UCHV) and Center for Information Technology Policy (CITP). Her current work explores the ethics and politics of algorithmic decision making, machine learning and artificial intelligence.

Annette has additional research interests in moral philosophy (the ethics of risk and uncertainty) and legal philosophy (the philosophy of punishment), as well as the philosophy of science (models, explanation, abstraction).

In the context of her current research project "The Algorithmic Is Political", she is focussing on the ways in which disproportionate distributions of risk and uncertainty associated with the use of emerging technologies—such as algorithmic bias and opacity—impact democratic values like equality and justice.

At Princeton, Annette has a joint appointment as a postdoctoral research associate at the Center for Information Technology Policy and at the Center for Human Values. She holds a DPhil (Ph.D.) and MPhil from the University of Oxford (Nuffield College and St Cross College), as well as a B.A. from the Freie Universität Berlin. She has held visiting positions at the Australian National University, Yale University, and SciencesPo Paris.

Corinne Cath Speth, Phd Candidate at the Oxford Internet Institute

Corinne Cath-Speth is a doctoral student at the Oxford Internet Institute. As a cultural anthropologist, she applies the tools of anthropology to the study of Internet governance, in particular, the culture of the often-opaque organisations that enable the technical functioning of the Internet. Within that context, she focuses on the participation of human rights and civil liberties NGOs, that are aiming to change computer code instead of legal code to effect social change.Prior to joining the OII for her DPhil, she worked as a program officer for the "Digital Team" of human rights NGO Article 19 and as a policy advisor for the US House of Representatives in Washington D.C.Corinne is part of the inaugural cohort of students that received a doctoral studentship from the Alan Turing Institute, the UK's national institute for data science. She has a BA in anthropology and an MA in International Relations from the University of Utrecht, and an MSc in Social Science of the Internet from the University of Oxford.

Leonie Schulte, PhD Candidate at the Institute of Social and Cultural Anthropology, University of Oxford.

Leoni Shulte is a linguistic anthropologist and PhD Candidate at the Institute of Social and Cultural Anthropology, University of Oxford. Her research explores the relationship between Germany's language and integration policy and experiences of time, waiting and boredom among refugees and migrants in Berlin.
Most recently, she joined the Department of Anthropology at Princeton University as a Visiting Student Research Collaborator (fall/winter 2019).

Nicole Immorlica, Senior Principal Researcher, Microsoft

Nicole is a theoretical computer scientist at Microsoft Research, known for her work on algorithmic game theory and locality-sensitive hashing. Immorlica completed her Ph.D. in 2005 at the Massachusetts Institute of Technology, under the joint supervision of David Karger and Erik Demaine. Her dissertation was Computing with Strategic Agents.

After postdoctoral research at Microsoft Research and at the Centrum Wiskunde & Informatica in Amsterdam, Immorlica took a faculty position at Northwestern University in 2008, and moved to Microsoft Research in 2012. In 2019, Immorlica was elected chair of SIGecom, the Association for Computing Machinery Special Interest Group on Economics and Computation

Christian Buggedei, Founder Darcy.is and Product Owner at PolyPoly

I work on two projects that help bring us a better, more open and private internet: polypoly and Darcy

Polypoly.eu builds a truly decentralised ecosystem that stores private data where it belongs — not in the cloud, but on devices under the end users control, never sharing the actual data with other parties, unless absolutely needed.

Darcy.is will bring a decentralised online civic space — social media as it should be: Safe, ad-free and with open standards.

Elenor Weijmar, Tech and Entrepreneurship Teacher at KomTek

Simona Ferlini, Public servant in Health, Activist, Political philosopher

PhD in Political Philosophy and in Public Health. As a public servant, I deal with public health, health promotion, public participation and gender medicine. As a political philosopher, I deal with the concepts of organising power, multitude and democracy, mainly through Spinoza's frame.

Cherryrecently

My background is as an applied mathematician. I study complexity and chaos mostly with a lot of focus on networks. I'm currently working on creating/finding/synthesizing alternative interest-free financial products based on risk sharing and networks of communities to aid in construction and maintenance of local/communal grids (broadband, energy, water, etc). I'm also working on using the Pirate Box project and expanding it a bit to create neighborhood/city level isolated internets.

Noah Schoeppl, Social entrepreneur and Technology researcher

I'm a social entrepreneur and technology researcher, currently enrolled as an MSc candidate at the Oxford Internet Institute. I'm interested in the global governance of emerging technologies, and how we could possibly shift the narrative shift from "cyberwar to cyber peace" as a practical utopia and a guiding north star, including internet-related technologies such as the governance of AI.

Pablo Velasco, Assistant Professor in Digital Design and Information Studies at Aarhus university

I'm a researcher at the university of Aarhus in Denmark, looking (critically) at sociotechnical systems, I'm also a supporter and big user of FLOSS, and try to include it in all my projects/teaching/etc.

Carl-Johan Svenningson, Technical project manager

Computer engineers concentrated on advanced applications in the areas of computer security, cryptography and computer networking.