

When Technology and Democracy Collide:

A report on the SPRITE+/RISCS
Futures Summer Camp 2023

A large, abstract graphic of wavy, overlapping lines in shades of blue and white, creating a sense of motion and depth against a dark background.

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EXECUTIVE SUMMARY

The 2023 Futures Summer Camp was funded by SPRITE+ and organised jointly with the Research Institute for Sociotechnical Cyber Security (RISCS) and facilitated by the School of International Futures (SOIF). We invited 28 experts from academia, government, and industry to explore what the future holds for the complicated intersection of technology and democracy. The multi-disciplinary group was asked to consider:

- the threats and challenges to democratic institutions that will be faced by society in 5, 10 or 15 years,
- how the collision of technology and democracy might lead to positive impacts, and
- what actions we should take now to mitigate negative outcomes and maximise positive ones.

Across two days, workshop participants developed five distinctive themes at the intersection of technology and democracy that might characterise a near-to-midterm future (taking a five-to-fifteen-year perspective). The themes that emerged are summarised in Section 4. They are:

1. An Inauthentic World: A future of increasingly perfect ‘fakes’ and anonymous activity, in which nobody is sure what is real and who they are interacting with—whether human or machine.

- 2. Swarms to Flocks:** Digital technologies have enabled humans and machines to ‘swarm’ in novel ways, resulting in unprecedented behaviours and opportunities for group formation and action.
- 3. Simulating the Future:** Ever more sophisticated simulations of the future come to underpin political decision-making, with democratic institutions taking new forms as a result.
- 4. Beyond the Nation State:** The failure of traditional democratic institutions to respond to new technologies, and the democratisation of those technologies, pushes people to take matters into their own hands.
- 5. New Models of Dissent:** A future in which technology has enabled and necessitated the emergence of new forms of dissent, while rendering some existing forms ineffective or obsolete.

The research questions that emerged from these discussions are summarised in Section 5. They cover these areas:

- Inauthenticity
- Privacy, agency and safety
- Groups and communities
- New ways of sustaining democracy
- Strengthening critical responses to technology

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1. INTRODUCTION

The 2023 Futures Summer Camp was funded by SPRITE+ and organised jointly with the Research Institute for Sociotechnical Cyber Security (RISCs) and facilitated by the School of International Futures (SOIF).

One of SPRITE+'s goals is to stimulate future-focused collaborations across disciplines and sectors to explore challenges and opportunities for digital security, identity, privacy, and trust. One of RISCs's strategic research themes is 'Futures Literacy', which aims to support and inform cyber security policymakers and practitioners to prepare for a range of possible futures. Our main aim for the 2023 Futures Summer Camp was to explore how emergence of or changes in technologies might affect democratic institutions and processes in 5-15 years' time. Our secondary aims were to trial facilitation techniques that would help experts think creatively about the mid to long-term future, and to enable new connections between participants.

We invited 28 experts from academia, government, and industry to a two-day workshop to explore what the future holds for the complicated intersection of technology and democracy. The multi-disciplinary group was asked to consider:

- the threats and challenges to democratic institutions that will be faced by society in 5, 10 or 15 years,
- how the collision of technology and democracy might lead to positive impacts, and
- what actions we should take now to mitigate negative outcomes and maximise positive ones.

The workshop was held under the Chatham House Rule, to encourage free-flowing discussion and frank exchanges.

This report summarises the outputs from the workshops, including five 'themes for the future' developed by participants, and summarises lessons learned from the application of different 'futures thinking' techniques.

The emergent themes have informed the early stages of SPRITE+'s second phase with an expert fellows meeting in May 2024 focused on the TIPs challenges and opportunities arising from emerging technologies and a specific sandpit derived from one of the themes in June 2024 with a title of 'Living in an Inauthentic World'.

A SNAPSHOT OF TODAY

Participants began by sharing their perspectives on the present landscape through a dialogue exercise.

Complexity and dependency

- The sheer complexity of the networks, devices and users involved in the digital ecosystem means that they are poorly understood (even by experts), they behave in emergent ways (that is, their overall behaviour may arise from the interactions of their components, often resulting in novel or unexpected outcomes), and they are at risk of failure even when designers try to ensure graceful degradation.
- The systems we use have multiple dependencies, including on each other. A significant example of this is the critical dependence on Positional and Navigational Technologies (PNT; tools and systems designed to determine and track the position of objects or individuals, as well as aid in navigation from one point to another). The current space literature suggests that the long-term stability of these systems should not be taken for granted (see for example Manulis et al 2020).
- These issues spill out into other fields, which are increasingly shaped by digitally enabled and digitally supported research and development processes. An example is the dependence of current biotech research on digital data and digital processing.

Dominance of digital technology space by a small number of global commercial actors:

- The technology sector is dominated by a small number of US-headquartered companies with global reach that have largely shaped the sector in their own interests. The list of these companies includes the obvious ones, such as Google, Apple, Meta (Facebook), and Amazon, and their effects are amplified by a list of technology enablers (such as Cisco, Intel).
- The structuring of these markets also leads to potentially misaligned incentives. It is in the interests of the companies to experiment, because when this succeeds the commercial gains are large. Such experiments have costs to users: erosion of privacy rights, distortion of markets, and manipulation or narrowing of choice.
- ‘Tech giants’ have shaped a powerful narrative around their importance for economic competitiveness and technological innovation. As a result, commercial interests of the global tech companies have historically been privileged over managing the consequences of their scale and activities, although more recently the US Federal Trade Commission and EU competition authorities have made efforts to address this.
- Most digital public spaces are shaped by commercial factors, leaving few credible spaces for digital democratic engagement and deliberation. The spaces that do exist are designed for commercial ends (mostly advertising), and at a global level and a national level many are excluded.

Social structuring of political and public discourse

- Digital technologies have profoundly influenced the way in which political and other public discourse is conducted. Social media and digital networks have become central to many forms of social organisation, from local school associations or sports clubs to global mass movements.
- The immediacy of social media, and the ease of sharing audio-visual content, has exacerbated a long-term trend towards rapid short-term public responses to events. Such responses are sometimes shaped deliberately by political actors and activists. However, they have the effect of sharpening the focus of politicians and journalists on short-term cycles around stories that can be framed emotively, rather than thinking in a longer-term way about political and policy issues.
- The extent to which digital technologies generate or exacerbate polarisation and the formation of ‘echo chambers’ remains contested, as does the success or otherwise of efforts by tech companies to respond to concerns about digital disinformation or attempts to influence elections in many parts of the world.
- By hoovering up local advertising revenues, tech giants have damaged the business models of local newspapers which were previously a source of local information and accountability (if sometimes partisan). People still consume information about local events via online sources, but without the standards of traditional media, the local news they get is significantly degraded in ways that have important implications for democratic processes.



Technological-based conflict around democratic norms

- Media landscapes have always been a terrain of transnational conflict, and digital media is no different. However, unlike traditional (non-digital) media, digital media open up greater possibilities for micro-targeting of communities or even individual users, based on identifiable online characteristics. This can take the form of deliberate, targeted disinformation campaigns, which may aim to cause societal upheaval and discord and/or to promote anti-democratic political positions.
- Digital technologies are widely used in routine surveillance and monitoring of populations, even in democratic states. This in turn raises concerns around potentially discriminatory profiling, and questions of privacy.
- The democratisation and normalisation of surveillance technologies (developed privately or by autocratic states) not only provides more power to the authorities but also to citizens to surveil each other and the state. They also enabled 'open source' investigations and shared analysis of data that opens new forms of public knowledge, new forms of investigation, and exposed abuses of power.
- Privacy-enhancing technologies (such as end-to-end encryption and anonymous browsing) protect individual citizens but can also be exploited by those with criminal or anti-social motives (e.g., enabling illicit activities at limited risk of identification and prosecution, or using anonymity to harass and bully others).

The dominance of data

- Digital technologies inevitably create, extract and consume vast amounts of data, sometimes of dubious reliability. Analysis of such datasets can fall victim to the 'garbage in – garbage out' problem, where analysis of poor-quality data can lead to results that appear plausible, but which include profound errors.
- At the same time, disparities in the collection and exploitation of data, mean that some communities (at the level of nation-states and globally) are excluded from datasets, and do not reap the benefits that may come from the exploitation of their data. This might mean, for instance, that advances in public services only benefit groups whose data has been carefully gathered and analysed, potentially denying other groups the same benefits.

Photo by Sigmund on Unsplash

3. POSSIBLE FUTURES FOR TECHNOLOGY AND DEMOCRACY

Through a series of three futures exercises, participants generated visions for the future of technology and democracy and associated research challenges. More details of the techniques are in Annex A.

Futures Postcards

This is a method first used by Andrew Curry and Victoria Ward, written up in the Journal of Futures Studies in March 2014 ([here](#)).

A large and varied selection of postcards was spread across two tables in the room. In groups of four, participants selected two postcards (per group) with which they could tell a story about the future of technology and democracy. These stories were then narrated to the room, with narratives captured on flipchart sheets alongside the relevant postcards.

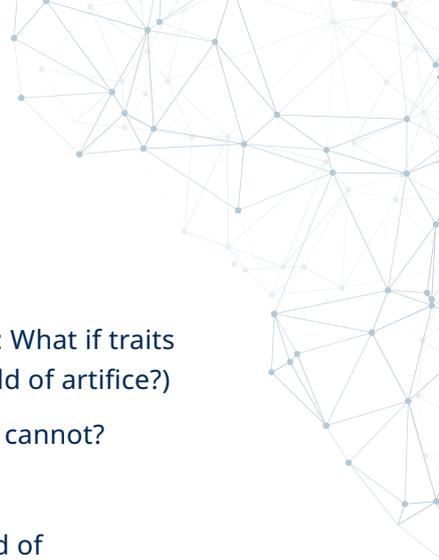
Futures Promenades

This is a new approach to developing some of the narratives from the postcards, used for the first time in this workshop.

Groups started by standing beside the flipchart associated with their narrative. Half of each group then moved clockwise, spending 15 minutes with each of the other group's narratives, asking questions and adding salient comments to flesh them out. Each of these discussions was had with the half of each group that remained with their flipchart sheet. The roles were then switched round, with the half of each group that had remained with the flipchart sheet moving anti-clockwise to do the same exercise, while those that had originally moved stayed in place. The images on the left shows examples of two of the flipcharts.



Sample images from the initial part of the workshop. Source: SPRITE+/ SOIF



This process resulted in eight broad questions:

1. What if programming is what happens to humans? (This evolved from: What if traits that have evolved in humans do not equip us to navigate a future world of artifice?)
2. What if people can make their own meaning? What does it mean if we cannot?
3. What if we can simulate futures effectively?
4. What if decision makers are not equipped to make decisions in a world of democratised technology?
5. What if we could harness the potential of swarms?
6. What if we live in an in-authentic democracy / world?
7. What might the emerging forms of dissent be?
8. What if we can make our technologies work for people, and people can move between them?

As participants discussed and deliberated further, they identified five themes:

- An Inauthentic World
- Swarms to Flocks
- Simulating the Future
- Outside of the Nation State
- New Models of Dissent

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Futures Wheel and Three Horizons

Participants chose which of these themes - visions of possible futures - was most interesting to them. Each group explored them further, in two stages. The first stage used the Futures Wheel method to explore potential first order and second order impacts of each theme. The second stage used the Three Horizons framework to synthesise the material generated in the futures wheel, and then to understand the nature of a possible transition to the possible future thus described.

The Futures Wheel is designed to help a group explore together not just the immediate consequences of change, but the second-order consequences as well, and to visualise it. It is sometimes known as an implications wheel. It was invented in 1971 by the futurist Jerry Glenn, and it may have been the first widely available futures method that is repeatable.

With the narratives taking shape, participants formed groups around those that they found most interesting. In those groups, they then constructed futures wheels. This involved:

- Placing the theme of change captured in the narrative in the centre of the wheel
- Considering its **Social, Technological, Economic, Environmental, Political or Legal** impacts, and its impact on **Values**
- Capturing these on yellow cards in a circle around the centre, in 'STEEPLEV' segments
- Discussing the consequential impacts of each yellow card, and writing these on green cards placed in an outer circle
- Identifying the **three** most interesting stories on the wheel. Looking at the second-order effects:
 - Does anything re-appear in two places or more?
 - Are there second-order implications that conflict with each other?
 - Do some of the second order implications combine to create stronger effects?
 - What would be disruptive?
 - What surprises you?
 - Feeding these back to the room.

4. FIVE POSSIBLE FUTURES

THEME 1: AN INAUTHENTIC WORLD

A future of increasingly perfect 'fakes' and anonymous activity, in which nobody is sure what is real and who they are interacting with—whether human or machine.

We live in a world of misinformation and disinformation, of fakes and deep fakes. Influencers can build, and lose, millions of followers overnight. How we use language and how ideas are framed is often contentious, many issues are deeply polarised, and one group's 'truths' are another group's 'lies'. Trusted media channels become ever less trusted. Yet, the internet has given us the ability to belong to many communities, should we choose, perhaps adopting a very different persona in each. We, at least in the west, have great freedom to explore different identities, ideas or beliefs, but our online world is often hostile and toxic.

Now imagine a horizon 3 future where we have come to accept, with far less hostility, a large degree of 'inauthenticity'. We might not care whether the movie had our favourite actors within it, or whether the whole thing was constructed using AI tools. If it is not quite to our taste, we might rewatch it with some of the actors, or dialogue, replaced to our liking. We might all have unique 'Rembrandts', or 'Picassos', on our walls, with provenance a thing of the past and distinguishing between a piece painted by the artist and one which has been fabricated an impossibility. And we, or our avatars, might live in immersive environments as anything we want to be. Our digital estates might continue long after our deaths, and amongst a sea of 'non-player-characters' distinguishing who is human might cease to be important.

Is this world possible? Is it stable, or does the anarchy, as we might think of it today, only take us to a much more dystopian state? Does it depend on an authentic core to keep going: we presumably need to have some confidence in our water, food, and medicines? Or will authoritarian regimes feel so threatened by creative freedoms, and other ideas, that they seek to shut down any possibility of such a future?

We debated at length, how much inauthenticity a society could cope with, and the kind of horizon 2 initiatives we would need to help steer us to embrace, or at least tolerate, inauthentic behaviour that (whilst perhaps challenging all sorts of current business models or beliefs) would not lead to dystopian futures. Maybe we did not fully grasp the possibility of inauthenticity everywhere, and were acting out of fear, but we focused on the mechanisms that might enhance trust in our food and water supply, in the provision of healthcare, and our ability to maintain democratic processes.

THEME 2: SWARMS AND FLOCKS

Digital technologies have enabled humans and machines to 'swarm' in novel ways, resulting in unprecedented behaviours and opportunities for group formation and action.

In considering the future, the SWARMS & FLOCKS scenario asked if technological progress would result in human societies becoming more swarm-like or flock-like. With regards to swarms, as a group we considered swarms to be a collection of individuals led by an external coordinating mechanism – so, for humans, this could be the equivalent of data trails, AI signals, or digital pheromone equivalents of a different type. Flocks, in contrast, had an individual in a lead position with a group following them. However, that individual was interchangeable; akin to geese following a lead goose so that others benefit from the uplift of their wings yet changing that leader as the geese migrate either north or south.

Early examples of technology enabling new forms of human collaboration exist, including Decentralised Autonomous Organisations (DAO) in which a combination of human and machine actors are willing to let their actions be coordinated digitally through euphemistically called 'smart contracts'. Another example right in front of us daily is the number of people willing to trust a GPS app that incorporates current traffic conditions – itself derived by the data trail left by other people using the app – to guess on traffic volume and steer people to their destination in the minimal amount of time. While humans may not consciously realise it, they are effectively serving as SWARMS & FLOCKS using the GPS app to both tip-and-cue other drivers and find the best path based on the digital pheromone equivalents of other drivers.

Governments and large corporations alike are finding suboptimality in top-down hierarchies. Technology applied to such structures has been found to not provide the same level of productivity gains compared to other forms of organising – and, as AI presents its ability to prompt people to respond to signals and cues, it could be that governments, corporations, and ultimately societies organise in behaviours more akin to SWARMS & FLOCKS. Estonia for example permits individuals to become 'e-residents' of Estonia online and as a result do business with Estonia and Europe regardless of geography.

Orthogonal to optimality, some states and institutions will see SWARMS & FLOCKS behaviour as a threat to having centralised 'appropriate checks and balances' needed for stability, and resilience. Analogous risks include allowing a decentralised swarm or flock to deplete otherwise sustainable resources (much like a swarm of locusts destroying crops), though centralised organisations can also do the same with the wrong incentives. From a technology perspective some states may seek to restrict SWARM & FLOCK behaviours and others look to influence SWARM & FLOCK behaviours, and it is likely authoritarian and democratic states will have different approaches and abilities with both these strategies.

Horizon 1: will see hierarchical organisations start to lose their effectiveness, and public as well as shareholder support, amid changing physical and digital environments.

Horizon 2: will see several people joining one or more Distributed Autonomous Organisations. Perhaps influencers around important causes usurp existing social media to accelerate public transitions to SWARMS & FLOCKS using social media as a coordinating mechanism. It will also see centralised, top-down hierarchical organisations 'fight back' using technology to prevent SWARMS & FLOCKS or design SWARMS & FLOCKS to support the needs of the centralised, top-down hierarchy. Other hierarchies may pivot to more bottom-up approaches, preserving some hierarchy yet becoming more decentralised and more influence-through-signals and incentives vs. command-and-control.

Horizon 3: begins with some of the extant examples shared and perhaps are accelerated by folks like Elon Musk encouraging people to buy Dogecoin using social media. This horizon will gain traction as case law pivots to provide for rules, laws, and justice in DAOs (the State of Montana already has done this). Ultimately some SWARMS & FLOCKS appoint AIs to be their coordinators, and there are open questions how they will live alongside and/or be integrated into democracies and authoritarian states.

THEME 3: SIMULATING THE FUTURE

Ever more sophisticated simulations of the future come to underpin political decision-making, with democratic institutions taking new forms as a result.

This was arguably the most meta of the scenarios as it brings into focus the rationale for futures work itself. Understanding even at a conceptual level what it means to simulate the future is challenging. A Gödel's theorem like paradox emerges immediately as any complete simulation of the future must necessarily include the simulation itself – with the obvious issue of recursive degradation. Incomplete versions would in effect be sophisticated version of predictive analytics.

An alternative framing is to consider the possibility of experiencing possible futures, perhaps embedding an experience of a possible outcome of a certain course of action. One could imagine those future decision makers who have access to such tools might be enabled to make better decisions (which are experientially focused on the possible outcomes). Similarly, access to such simulations could bridge the comprehension gap, whereby the increasing complexity of the world means that individual brains – even very smart ones – are increasingly unable to comprehend what is happening now (never mind what will happen next). This may open decision making to a wider range of people, with specific educational pathways no longer being favoured. It could be a tool for participational democracy.

The sociotechnical building blocks for such simulation machines are already in existence. Virtual reality, immersive gaming, data synthesis, agent-based models, digital twins, citizens juries, deliberative fora, open access, and, of course, AI all contain elements of such a system.

Educationally, an open library (or perhaps, more appropriately, an ecosystem) of simulations can be imagined, opening developing minds to experiencing the world from multiple perspectives and viewpoints. The possibility of enhancing collective empathy as well as cognitive skills could lead to richer and deeper learning.

The above description assumes that the simulation machine and broadening democracy go hand in hand. But another, darker scenario can be envisaged. What if such a machine was owned by an individual or group. Such a person/group would become disproportionately powerful, being able to understand possible futures and manipulate them. So, the machine would amplify existing power imbalances.

THEME 4: BEYOND THE NATION STATE

The failure of traditional democratic institutions to respond to new technologies, and the democratisation of those technologies, pushes people to take matters into their own hands.

Faith in democratic institutions is declining in the face of numerous challenges. Our electoral processes are facing significant challenges from the electronic world, with third-party actors intervening to manipulate the democratic processes from across state borders. There is also widespread corruption and exploitation of public resources. In an ever more polluted media environment, it also becomes increasingly difficult to understand what our politicians stand for.

We can imagine a Horizon 3 world where elements of governance become much more decentralised, moving away from Whitehall and towards local communities. This could happen at a micro level, with local councils and even local streets, deciding to regulate how their space is used. They may choose to ban external traffic on the weekend and reclaim the street for community activities. At a larger scale, we may see the growth of Citizen's Assemblies as a way of dealing with longer-term structural problems, such as climate change. Since government policy can often be heavily swayed by short-run electoral cycles, such assemblies may provide an alternative method of addressing the systemic issues such as climate change and housing shortages, whose impact is mainly felt over the span of years.

More decentralised finance could open possibilities of more decentralised public finance. While the world of decentralised finance has evident limitations, it will offer new tools, such as quadratic voting. Quadratic voting systems could allow better reflections of public support for government projects and help direct financing towards government projects in a way that directly reflects the preferences of the electorate. In such a system, citizens could be given a certain number of chips to vote in auctions towards projects they believed deserve funding. Such systems could be coupled with other new forms of governance, allowing for a balance of technocratic expertise from representatives in citizen's assemblies, who might shape the structure of these auctions, while allowing individuals to retain the ability to allocate funding.

The roots of this scenario lie in the breakdown in trust in Horizon 1 between government and its people. This 'trust gap' is already substantial and has been growing through the course of this century, but it is likely to be further exacerbated by longer-term issues, such as environmental damage, global warming and financial inequality.

The transition between Horizon 1 and Horizon 3 would likely see forms of devolved power, more metropolitan or regional autonomy, and more power transferred to Athenian-style citizen's assemblies to solve problems of trust. This creates space for greater diversity of political forms and, as a result, more innovation and experimentation in different regions and different localities.

H3 will see citizen's assemblies and other newer types of participatory institutions, such as sortition, take control of many of the issues that systematically affect the country. Government retains a more limited role in responding to short-term problems and helping to solve funding bottlenecks. Such assemblies will also run into the same problems that currently afflict long-term financing, but clever, potentially decentralised, systems which prevent corruption and exploitation of public resources, coupled with competent administrators, will ensure they function effectively.

THEME 5: NEW MODELS OF DISSENT

A future in which technology has enabled and necessitated the emergence of new forms of dissent, while rendering some existing forms ineffective or obsolete.

The group discussed how dissent functions in an increasingly polarised and technologised world. From today, to approximately twenty years in the future, the group explored the role of dissent in a functioning democracy, as well as the tension between 'legitimate' dissent and forms of dissent that could lead to extreme positions being adopted and reinforced. The central tension that prompted the discussion was the way in which historical forms of dissent (such as the Suffragette movement) come to be later celebrated, despite at the time of action being perceived to be disruptive – demonstrating that dissent might be ultimately beneficial but not recognised as such at the time.

Many of the trends discussed by the group are present in some form today, including:

- Increased 'public interest' hacking and releases of secure or private data (e.g. doxxing).
- Giving voices to marginalised groups – both positive and negative.
- The use of systems and technologies to both cement and impede perceived structures of power and control.
- The problems of access to technological platforms and systems and digital inequalities leading to different senses of 'being heard'.

To that end, many of the discussions considered the balance between supporting 'positive' forms of dissent and impeding 'negative' forms, with the caveat that who is determining 'positive' and 'negative' can lead to markedly different understandings. Possibilities for dissent in such a landscape might include concepts such as: 'gamified dissent'; micro- and macro-dissent strategies; manufactured, coerced, or confected dissent; active versus passive dissent.

It was imagined that increasingly technologised forms of participation (and dissent) can lead to transitory and contingent co-locations of groups and actors, shifting and merging across a plurality of channels and platforms, and determined by temporary alliances, before fracturing. In such a paradigm, dissent itself becomes splintered and diffuse, not determined by numbers (such as in petitions) but in technological tribalism, with some groups having a disproportionate 'public footprint' because of their digital capabilities, leading to significantly increased reach and impact beyond their actual size.

Technology, and engagement with platforms, becomes a form of social 'force multiplier' for such groups. However, equally, there is power in the withholding of data by individuals and groups, as such an act can become as significant as active attempts to voice dissent in a society governed by increasingly centralised technological organisation. There may be a rise of 'third-sector' or hostile-actor 'data hacking': the manipulation of input data to affect the conclusions reached by algorithms, meaning that their results cannot be relied upon. Increasing numbers of individuals might also operate multiple forms of identification, rejecting a 'digital doppelganger' in favour of operating different identifies in different contexts, to forestall easy amalgamation of their data. Trust in systems is increasingly unlikely in a fractured and ideologically driven mixed-media landscape. Conversely, established and trusted systems may increasingly be re-purposed by groups for their own ends (e.g., publicly driven lawfare, FoI requests as forms of bureaucratic DDOS attacks).



5. IMPLICATIONS FOR FUTURE WORK

In the final part of the workshop, the group generated some topics that the SPRITE+ network and RISCS might consider in future work. In addition to some initial questions related to and expanding on ‘five possible futures’, the group suggested that more research is also needed to better understand what factors are undermining or weakening democratic systems.

Inauthenticity

Participants asked how societies could manage growing inauthenticity, whether collaboration (or even democracy) can still happen effectively in the context of it, and whether inauthenticity could, in some contexts, be beneficial. Specifically, participants suggested exploring:

- The impact of the accelerating democratisation of ‘tradedcraft’, making it easier for people to hide their identities and operate anonymously.
- The mechanisms that might facilitate collaboration between humans and machines, when it is difficult or impossible to ascertain what, if anything, is authentic.
- The strategies that citizens might be able to use to authenticate things they see, hear, read, watch or otherwise interact with in a future world of perfect fakes. (This is critical to being able to make decisions in a democratic society).
- The contexts in which inauthenticity might be beneficial for democracy.

There was some related discussion about what it means to have more done by machines, with a question about the contexts in which not having a human involved in an action or decision might lead to positive outcomes, and another around whether it’s possible to do innovation without human communities.

Photo by Derek Thomson on Unsplash

Privacy, agency, and safety

While on the one hand technology might facilitate greater anonymity, several groups had also touched on the opposite problem, with new challenges to privacy, agency and safety in technologically enabled democratic societies. There appeared to be concern about how at-risk individuals and communities might be able to avoid harm, or even opt out of some future technological developments:

- How people who might need to 'hide' (such as victims of domestic abuse) can be anonymous and safe in a world of voluminous corporate and open data.
- Whether, and how, people who so chose might be able to live in future society without technology platforms or digitally based services.
- How, or if, the nation state might be able to protect its citizens in an age of trans-national, virtual communities.

These issues were touched on in other areas; for instance, underpinning work that might be done to apply technology in a beneficial way to democracy (more on this below). One of the main concerns around creating credible simulations of the future to guide decision making was the need to do so at the same time as preserving privacy and agency, for example.

Groups and communities

Another set of questions centred on the emergence and development of groups and communities in the context of digital technology, and on how these groups might relate to each other and to democratic institutions. Participants expressed interest in working on:

- How technology might interface swarm or flock communities with democratic governments.
- How to maintain productive tensions in and between groups, challenging institutions without leaning towards polarisation.
- How technology-enabled social groups of democratic process can get along.
- How, and whether, multiple swarms or flocks of dissenting humans and machines can co-exist and achieve productive outcomes.

More generally, the discussion touched on questions relating to how technology might be used to strengthen democracy in the round, and on how democratic societies can improve their responses to new technologies.

New ways of sustaining democracy

Participants felt there were opportunities to use technology to sustain democracy and make it more robust, but there was little clarity on what, precisely, these opportunities were. Accordingly, there was interest in exploring:

- The ways of maintaining and sustaining democracy in digital, technological societies. Addressing dependence on systems such as PNT [Positional and Navigational Technologies, that underpin GPS] was part of this— participants were uncertain whether society as it works at present could function effectively in a future in which PNT is untrustworthy.
- How digital technologies might be used to help surface the values of democratic societies.
- How (digital) anonymity might enhance judicial and democratic processes.
- How to create credible simulations of the future to improve democratic decision-making (while preserving privacy and agency).

Strengthening critical responses to technology

Underpinning much of the discussion was a sense that democratic societies and institutions are poorly equipped to manage the emergence of new technologies, resulting in lots of the problems we see today at the intersection of the two. Further work was proposed on:

- What 'critical technology education' might look like, for policy makers and for citizens.
- How far the electoral cycle hinders the possibility to make long term plans to address technological change, and how this might be addressed.
- How new social architectures and incentive structures might be engineered so that technologies are developed not just for profit, but instead in response to social challenges with the involvement of the wider community ('no innovation without representation').

There was also an eagerness to re-emphasise the sociotechnical and find ways of doing this effectively: for instance, by designing new social architectures around technological challenges that are not solely business-centric ('no innovation without representation') and finding ways of motivating businesses to explore technology development for reasons other than profit, leading to more equitable outcomes.

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