

Foresight in a Network Era: Peer-producing Alternative Futures

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Abstract

The advent of the network form has ushered in new practices and possibilities for participation and collaboration based on emerging on-line technologies. It is no surprise that new approaches to futures / foresight research and engagement are being developed in the context of these technologies and emerging practices. In dwelling within this juxtaposition between participatory futures and the maturing network era, we ask what the implications are for foresight / futures studies, and how this can help us re-imagine Anticipatory Democracy in the 21st century. A developmental narrative for the emergence of the network form in futures studies provides context for our understanding of new pathways. Within this we identify key emerging issues with implications for Anticipatory Democracy: instantiation, replication, openness and control. Explicated, these emerging issues provide a rich picture of the challenges and possibilities for building Anticipatory Democracy in the network era.

Keywords: Anticipatory Democracy, network form, peer-to-peer, participatory foresight, collective intelligence

Introduction and Methodology

What is the future of public participation in the exploration and articulation of probable, possible, preferred and alternative futures? Can network-foresight strategies lead to real anticipatory democracy, policy development and social change? What are the dynamics and implications of the network form applied to anticipatory democracy? To answer these questions we begin by providing a theoretical framework for the emergence of the network form, which can inform a normative focus on building Anticipatory Democracy (AD). We then narrate the emergence of the network form within the futures studies field, drawing out some of the key lines of development that have particular relevance to Anticipatory Democracy. We then focus in on some of the key emerging network form dynamics at play in the futures studies field, offering some analysis. Finally we draw some insights from the analysis by exploring the latent potentials and pitfalls of online / participatory networked foresight approaches, and re-assess the prospects for anticipatory democracy in the 21st century.¹

Anticipatory Democracy and the Network Form

This article discusses several contemporary efforts at conducting foresight projects in a networked, collaborative mode, a style of project which is currently attracting a lot of positive attention in the futures community. Is this simply a stylish fad driven by our enchantment with social media? We intend to argue rather that these projects prefigure a style of global, collaborative, post-statist policy development ideal for addressing wicked problems. Far from being a pointless fad, these efforts form the early stages of a kind of anticipatory, collective intelligence which can potentially motivate action from multiple stakeholders acting from multiple directions in coherent and powerful ways. We believe it is important to understand these early efforts, learn from their successes and failures and continue to innovate, as a community, new, even more effective approaches. This section briefly suggests why.

Rittel and Webber (1973) first named the class of “wicked problems”, problems which are each novel and unique, for which the problem is not understood until after the formulation of a solution, for which the solution is not right or wrong and so on. Most of the pressing threats to global civilization fall into this class of problems: climate change, terror networks and global crime, extreme poverty, child slavery are commonly cited examples. Roberts (2000) surveys some common approaches to wicked problems: authoritarian, competitive and collaborative, and concludes that collaborative approaches are significantly more effective at addressing wicked problems.

Anticipatory Democracy was coined by Alvin Toffler as his prescription for Future Shock in his book by that name (Toffler 1970). Clem Bezold, working with Toffler, then edited a book of examples (1976) as a vision for a state of affairs in which citizenry were engaged in considering, imagining and influencing society. Toffler defined Anticipatory Democracy as:

"The simplest definition of anticipatory democracy ... is that it is a process for combining citizen participation with future consciousness" (Bezold, 1978 in Bezold, 2010).

Functioning on a state government scale, AD makes a strong case that social policy to address wicked problems in a democratic society is perhaps best developed using large-scale futures methods which consult with a broad base of citizens to discover a shared vision for a preferred future. The experience of large-scale projects like “Alternatives For Washington” (reviewed in Bezold (2006)) demonstrate the strengths of the approach at this scale. Bezold’s approach with AD is to inform the policy of the state institution by drawing on the knowledge, ideas and passions of the populace and the approach has been successfully used at the local and state level in the USA. Could a similar approach work for global wicked problems?

In a theoretical project ranging over more than a decade, David Ronfeldt (1996, 2005, 2007) has argued that all societies are composed of admixtures of four, and only four, pure organizational forms: kinship tribes (T), hierarchical institutions (I), competitive markets (M) and collaborative networks (N). These four forms have emerged in human collectives sequentially through time and, as human societies have become more complex and successive communications technologies have emerged, each form has risen to its strength. Each form solves its own core problems, brings its own form of coordination and governance and promotes certain values, ways of belonging and so on.

As each form arises, the society must accommodate this new kind of complexity and the contradictions between new and old forms. Each new form subverts the older order, disrupting prior forms, then brings additive effects which lead to a new order in which the older forms are limited but strengthened. T societies become T+I societies, which become T+I+M societies – prior forms are not lost, but they are restructured, recontextualised and placed in new relationships to the whole of society.

In Ronfeldt’s TIMN work, the rise of global communication networks of increasing sophistication has led to the gradual emergence and strengthening of the network form. This emergence is widely narrated, but the strength of Ronfeldt’s analysis is that it provides a way of seeing how the network form disrupts, but does not replace prior forms. TIMN allows us to focus on the strengths of the network form without becoming ideologically intoxicated by it. What are those strengths?

In relation to the argument we are making, Ronfeldt’s network form is global, it is horizontal – rather than hierarchical, it cuts across markets, institutions and tribes connecting individuals regardless how they affiliate with prior forms (we note that this disruptive capacity resonates well with Deleuze and Guattari’s (1980) idea of the “rhizome”) and its form of coordination is collaborative. This is not a shatteringly original insight, but these are the characteristics we have foreshadowed above as necessary for solving global wicked problems. Ronfeldt (2006) notes,

“... this form is suited to enabling people to address modern, complex policy issues that may require efforts from many directions at the same time...”
(Ronfeldt, 2006, p22)

Anticipatory Democracy suggests the sustained transformational power that can be mustered by a motivated society – legislature, government apparatus and citizenry – engaged in a mutual vision of a desired, achievable future. We argue that the networked, participatory foresight which the projects in this paper exemplify are the initial stages of a global successor to AD, addressing wicked problems in

a global, T+I+M+N society that encompasses the T+I+M societies that formed the original stage for AD. Far from being a stylish fad, these approaches and the Anticipatory Action Networks they prefigure offer a compelling, essential and hopeful way to address the most serious and threatening wicked problems our planet faces.

The network form in the futures studies field

The emergence of the network form in futures studies predates the birth of the internet, when in Oslo in 1967 the seeds of the World Futures Studies Federation (WFSF) were sown in a gathering called Mankind 2000. According to van Steenbergen, the Oslo meeting was a reaction to the close ties US futures studies had with the military-industrial-complex. Thus, the WFSF emerged as the network association which would hold an alternative position with respect to global political-economy. And while allied and supported by UNESCO it would have “features of an international social movement more than of a strictly professional and academic organization” (van Steenbergen, 2005, p356). Ronfeldt (1996, p.15), drawing on Gerlach and Hine (1970) argued the modern emergence of the network form emerged with new social movements or “segmented, polycentric, ideologically integrated networks” (SPINs). Parallel to this was the founding of the World Future Society (WSF) in 1966, which brought together diverse professionals from around the world in conference meetings. Like WFSF, the WFS also operated like a platform for networking and exchange, rather than a strictly professional and academic organization. Both organizations embodied elements of cultural ‘horizontalism’ (Tormey, 2005), a feature that paralleled the horizontal-izing nature of the internet.

The Global Business Network, founded in 1987, drew a network of colleagues and associates together, who acted as a think tank to consult for clients. The shift from think tank as institution (e.g. RAND) to network would later be (somewhat ironically) paralleled by Arguilla and Ronfeldt’s research from within RAND on the emergence of the network form (Ronfeldt, 1996). In Australia, the Futures Foundation, founded in 1996, played a similar role, linking government and corporate clients with a network of futurists.

Early practices in crowd-sourcing foresight can be seen in two prefigurative examples from the 1990s. The Millennium Project (MP) was founded in 1996 as a global distributed think tank that would grow to 40 nodes and more than 5,000 contributors. From these contributions the MP then publishes its State of the Future report. The TechCast Project, founded in 1998 by Georgetown professor William Halal, created a virtual think tank which brings together hundreds of experts from around the world in a network process of forecasting, which is then used to advise government, business and civil spheres. Both these early examples showed an emergent capacity for engaging a global civil sphere in collaboration on future oriented collective goods (Ronfeldt, 1996, p.17).

Shaping Tomorrow first launched in 2003 and went on to become one of the first web 2.0 participatory foresight platforms in 2005 when the site was changed to allow anyone to add their own scanning hits. Shaping Tomorrow was set up with the ambitious target of helping “every organization in the world to use foresight in their strategic decision making.” To support this aim, Shaping Tomorrow offers a variety of pay-for services that augment the core website including tailored

consulting and stand-alone versions of the site. The core site is publicly available and free to join, additional materials and the ability to keep some material private depends on subscriptions and level of service. Parallel to this, Wikistrat claims to have created the world's first Massively Multiplayer Online Consultancy (MMOC), bringing subject experts together using an interactive crowd-sourcing methodology for strategic forecasting.² Other commercially sponsored sites such as Vodafone's FutureAgenda developed an interactive site to promote discussion on megatrends.³ Here, it is important to note that, while the network form is ascendant, this does not preclude hybrid forms. Indeed hybrid forms may be a key feature of networked foresight initiatives in a world dominated by Institutional and Market actors.

Further to this hybridity, government institutions are adopting the network form as a mode of strategic foresight intelligence. Finpro, a core member of the Finish Foresight Network (KEV), is a consulting service which supports the internationalisation of Finish companies, and employs a crowd-sourcing method using its staff members as scouts. Employees are incentivised to capture a number of emerging issues each month. Employees load these emerging issues on to a website developed by Data Rangers, a data mining software company. The target is set low enough to not create a significant overhead for staff. These issues are then analyzed by the core Foresight team. The results are reported as trends or scenarios which highlight weak signals. These are used by Finnish businesses in their strategy and innovation processes (Hiltunen, 2011). Likewise, the UK's Sigma Scan 2.0 is a repository of futures research and interview material intended to provoke and disturb future oriented assumptions.⁴ The European Commission created the iKnow futures project, which like Shaping Tomorrow allows for crowd-sourced and collaborative environmental scanning, as well as large-scale analysis of research databases, applied to foresight and innovation. Prediction Markets are mostly concerned with short term predictions of discrete events, and thus should not be considered true futures research. Nevertheless, they are potentially significant because they are very new and still being refined, with funding connected to the US intelligence community through the Intelligence Advanced Research Projects Activity (IARPA), which funds two projects, Forecasting World Events and Forecasting Ace.⁵

The Institute For The Future (IFTF) is perhaps the best example of hybridity, straddling Institutional, Market and Network forms. IFTF, founded in 1968, was a spin-off of the RAND corporation, with an early focus on academic and government advising, and later corporate services. Importantly, it played a critical role in researching the impacts of the Advanced Research Projects Agency Network (ARPANET), which would later become the internet, and the impacts of collaborative (later 'web 2.0') software. IFTF later developed the Foresight Engine, one of the most successful innovations in crowd-sourcing foresight. Recent clients include the Myelin Repair Foundation, the US Navy and Magnetic South (on behalf of the City of Christchurch, New Zealand), and the Rockefeller Foundation. In each case a short introduction video is made available to the (as much as 10,000) players to set the scenario context. They then play cards such as 'Positive Imagination' and add Twitter length text explaining their forecast. Players can add a new card of their own or add to another's card. This adding to or challenging another's card allows a conversation style development of the original idea. Points and awards are given to the players with the best ideas (as judged by the IFTF and client analysts) adding to the overall 'gamified' nature this process. *Catalysts for Change*, sponsored by

the Rockefeller Foundation, is the most recent iteration (2012) aimed at addressing global poverty and is “based on the premise that collaboration on a global scale can yield unique insights into ways to create a more prosperous, equitable future.”⁶

These last few examples are more indicative of a more mature network form:

The Open Foresight Project (OFP), led by Venessa Miemis, has run ‘The Future of Money’ and ‘The Future of Facebook’ series. The first was initially developed for SIBOS (a finance conference) in 2010 which included a presentation and video.⁷ This was followed up by the Future of Facebook. Similar to the Future of Money, most of the project was crowd-funded, and made use of existing network resources such as: YouTube, Twitter, Quora and Facebook. Fifteen questions based on the STEEP model were developed and used in video interviews with thirty experts; these questions were also put on the Quora site to enable public participation. The best responses were incorporated into the video series along with the expert analysis. The videos are in the process of being loaded onto the Future of Facebook website at the time of writing.⁸

Evolver is a global, progressive social network which emerged from the online magazine site "Reality Sandwich" in 2009. Initially conceived as an online networking site for the reader community of Reality Sandwich, the management team - apparently noting the emergence of localised groups in the network - launched "Evolver Spores" in late 2009. Spores are local, in-person meetings of Evolver members. A Spore meeting is organised around a theme (such as "Water", "Noosphere", "Unified Field Theory") and organisers bring together local speakers on the topic and relevant movies or other media with interested audiences. These themes are globally coordinated by the management team in New York City using a deliberative process in consultation with local leaders through the medium of a discussion list. Spores happen all over the world on roughly the same theme (local leaders have latitude to adapt the theme) at roughly the same time (within the same week or so).

Recently, Noah Raford (2011) developed “large-scale participatory futures systems” for web 2.0 style scenario generation, building a variety of systems for a number of clients, the International Futures Forum (IFF), Cognitive Edge and Superflux.⁹

Not all of these are examples of AD *per se*, but they do provide a rich picture of the emergence of the network form in the futures studies field. These examples provide a starting point to consider the network form’s implications for AD.

Analyzing the Dynamics of the Network Form

We are concerned with the implication of the network form for the further development of AD. From here then we deepen the inquiry into specific issues and dynamics within the network form that have implications for AD. Within the theoretical framework offered by Ronfeldt (1996), the network form matures in a post-industrial era. It privileges civil society actors, in their variegated quests for knowledge, justice and equity. Co-work is open and fluid across ‘flat’, ‘horizontal’ and cooperative nodes, focused on collective goods and empowerment, and temporally oriented toward the future (Ronfeldt, 1996, p.17). The flavour of AD, then, also changes in the era of the network form. While AD has been extensively applied in the context of industrial Western liberal democracies (Bezold, 1978), what are the issues for AD which arise within a network era?

If only from the short reading in Section 2, we may first posit a number of shifts in:

- **Funding** – from institutional to market to peer funding dynamics, the most recent being crowd-funding opportunities.
- **Audience** – from academic and policy circles, to corporate demand for strategic foresight, to a global public citizen sphere of interest.
- **Legitimacy** – from government commissions and academic institutions, to market literature (book publishing), to peer publics (wiki-everything) as arbiters of truth.
- **Instantiation** – from political jurisdictions, to corporate polycentric boundaries, to highly localized swarms.
- **Replication** - from state / gov. sanctioned, to market led enterprises, to peer produced projects.
- **Participation** – from government or academic experts, to corporate stakeholders, to the broad public.
- **Ownership** – from state controlled information, to market property, to global knowledge commons.
- **Transparency** – from town hall politics (pony express), to national scandals (broadcast age), to a world of wiki leaks (digital).

We now deepen this analysis with inquiry into various inter-related dynamics which are emerging expressions of the network form as applied to AD. These include Instantiation (localization and prefiguration), Replication (franchise and rhizome), Openness (transparency and participation), and Control (ownership and the commons).

Instantiation: Localization and prefiguration

For the purposes of our research, we see localization as a shift beyond only the virtual, physically-stationary world of first-wave social networking, where on-line experience and networking was ruptured from geographic space. Localization in this sense is the re-entwining of virtual and the physical activity, where our virtual presence is increasingly an expression of our physical presence. Our grounding in the many ambient contexts which surround our physical body – cultural, political, economic, ecological – become the anchor points for our engagement with the networked world beyond the territory. On a sociological note, the idea of localization aligns strongly with Latour's (2005) suggestion that emerging socialities are composites of local and non-local modes of agency. Localized network connectivity reconfigures what relationality means, integrating the local and non-local as assemblages / instantiations of the social where embodied cognition is enacted through fluid geo-spatially complex and emergent networks (Lakoff, 1980; Maturana, 1998; Varela, 1992),

Related to localization is the idea of prefiguration. We can consider the distinction between a proposed alternative future (to be enacted in future) or one which is 'embodied' (it exists today and is 'prefigurative'). Articulations of alternative futures which are part of reports, proposals and positions (e.g. a manifesto) are fundamentally different in character from working alternatives, which *embody* alternative futures and prefigure wider change. Prefiguration here can mean active experimentation, co-innovation in meta-formative 'heterotopic' spaces (Juris,

2004, p.453-454; Oases, 2007). Prefiguration requires the instantiation of values and visions within a community, and if an alternative can work in the present, it signals the possibility of its survival, expansion and the ‘seed’ of an alternative possible future (Ramos, 2010).

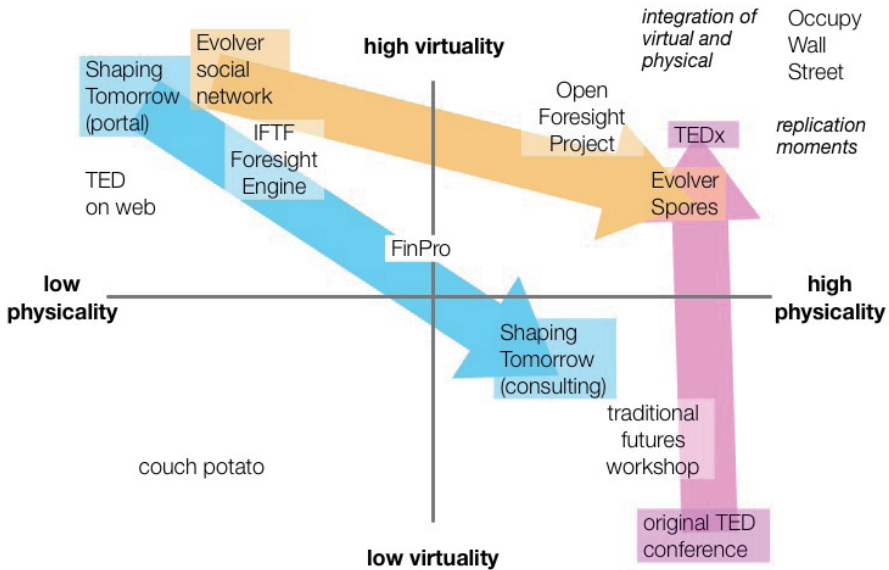


Figure 1. Intersection between physical and virtual presences

Here we examine how localization and prefiguration are expressed through the network form. As seen in figure 1, low virtual matched with low physical presence can be characterised as passive participation. High virtual activity and low physical presence is the domain of “Avaaz” (avaaz.org) and similar brands of virtual activism with large groups emailing or signing virtual petitions, but without much physical element of action. Its counterpart, high physical presence and low virtual presence is characterised by traditional town hall meetings, workshops, protest marches, etc. The integration of these two dimensions, the localization of the virtual, has seen the rise of the hash tag revolutions (e.g. the Arab spring and occupy movement. etc), as examples.

The physical localization of virtual presence provides a ‘multiplier effect’. That is, people who are not physically present can twitter support; people can turn up and occupy a physical space without a virtual presence and people watch passively through multiple media channels.

Traditional workshops and foresight as a prefigurative practice (being the change one wants to see) occupies the lower right space of the high physical and low virtual. In this lower right quadrant there is a greater degree of agency either through ‘doing’, innovation or participation. Prefiguration in the upper right quadrant implies the viral replication of the new form (discussed below). Reviewing the examples, the following may be considered:

- IFTF’s foresight engine, Shaping Tomorrow and Finpro web platforms are pioneers of the highly virtual space.

- IFTF gamers are not expected to participate in US Navy actions, they only occupy a highly virtual space.
- With Shaping Tomorrow and Finpro, activity is also of a virtual kind. Trend / data spotters may take actions based on the associated foresight process, but this is not transparent.
- The “Future Of” series occupies a similar position although some of the people interviewed in the Future of Money production were also involved in other organizations that represented prefigurative foresight, through pioneering new monetary social innovations.
- Evolver is the best candidate as an experiment in the upper right with its Spores combining localised physical meetings with virtual global social networks, adapting a generalised concept to make it locally relevant.

Replication: Franchise and rhizome

In the network era, the power of replication takes on new meaning. Content, textual or audio-visual, can be easily replicated and transported. We are specifically interested in replication as a localized and prefigurative dynamic, where a process in one locale may be replicated and re-localized in a new geo-structural context – re-localized replication. Localization allows us to conceive of replication as a feature of networked bodies, where learning through dynamic interaction leads to the capacity to re-produce process and identity. Prefiguration here means the creation of a pioneer process / form which is replicated / re-localized into new contexts. The pathways to re-localized replication can both travel from the physical to virtual spaces and *visa versa*.

The idea of franchise denotes replication from one geographic context to another within institutional authority structures. The structure and process of the re-localization is fundamentally set, and a central coordinating body hold the power to sanction replication. Examples of the network franchise include meetup.com, ning.com groups, 350.org, Evolver and TED. For example, TED conferences were physical and then went virtual and then were franchised into local versions. While themes and functions differ, structure and process are often relatively set.

The idea of rhizome, drawing from Deleuze and Guattari’s work (Deleuze, 1987), denotes a different type of replication and re-localization of form. There is no controlling hub, each new instantiation can adapt and evolve autonomously. The World Social Forum Process is one of the best examples of rhizomatic re-localized replication, as the initial WSF event led to hundreds of other social forums around the world. The Occupy movement started virtually via Adbuster tactical briefings and quickly became a physical occupation dynamically incorporating network-centric peer production, and then later rhizomatically spread across the world.¹⁰

Reviewing some of the existing examples, the following may be offered:

- The Millennium Project may be one of the best early examples of the franchise, with its nodes in dozens of countries.
- Foresight franchises can enable locales to draw on powerful foresight platforms, such as IFTF’s Foresight Engine. Shaping Tomorrow can be replicated in a franchise pay-for way. Potential for replication, however, is limited by institutional and market priorities.

- The example of Finpro, with the physical instantiation of crowd-sourcing foresight within an institutional / market setting may be considered a high potential model for rhizomatic replication in a variety of organizations.
- Evolver straddles franchise and rhizome, with participants able to set up new spores semi-autonomously, but a central brand and coordination still exists.
- The Open Foresight Project is the only example aiming for pure rhizomatic replication.
- Within the high virtual and high physical space localized replication becomes possible, however requiring certain conditions to fulfil its potential: virtual and physical integration, 'sticky' or 'viral' memes, process transparency, and the ability to adapt something to make it locally relevant.
- Finally, the replication of prefigurative innovation is significant. The seeds of alternate systems, processes and practices increasingly influence global audiences. Examples of innovation which prefigures a different future, for example the work of Wikispeed, Earthship Biotecture or Bitcoin,¹¹ positions social innovators as the pioneers of alternative futures, and gives concrete context for their expression. Networked re-localization then allows for rapid global replication / enfranchisement of social innovations.

Openness: Participation and transparency

The theme of openness is intrinsic to the ongoing development of a network age. Here, traditional institutional and organizational boundaries and walls are slowly eaten away by the ubiquity of networked relations. Two aspects of this are relevant for our study, openness as participation and openness as transparency.

Openness as public participation arises from the rise of open source and crowd-sourced web projects that have had dramatic impacts over the past decade. Along side this new expectations have emerged among consumers and citizens for the right to contribute to web projects, and to be included in web enabled decision- making. Three non-converging values for participation include:

- numbers - how many people does an open participatory web project include, a local community linked by a web network or tens of thousands of people?
- depth - through the process, at what part stage are participants allowed to engage in, data sourcing, analysis, interpretation, moderation, adjudication?
- diversity - how diverse are the participants, do they come from a variety of contexts, are a variety values represented?

In this paper participation as numbers of participants and depth is considered as these elements can be more easily assessed. The importance of diversity as participation remains and is likely to be an increasingly important issue for open foresight projects.

Alternatively, openness as transparency arises from the increasing potential for consumers and citizens to peer into the databases (and life worlds) of public and private institutions and relations. Alongside this are rising expectations for our institutions to be willingly transparent, rather than grudgingly transparent. Part of this shift are citizen activist attempts to puncture information holes in institutions, and subsequent haemorrhaging(s) of information (e.g. WikiLeaks), but as well the increasing advocacy for the importance of openness for example via digital right advocates such as Beth Novack (Novack, 2010).¹² Related to this are expectations

for authentic ‘individuals’ to emerge from their institutional guise and engage with their publics.

Types of openness as transparency include:

- transparency/sousveillance - organizations being open (or opened) to individuals (e.g. Wikileaks)
- panopticity/surveillance - individuals being open to organizations / publics (e.g. Josh Harris’ work)¹³ (Timoner, 2004)
- authenticity - individuals being open to individuals about themselves and each other (e.g. Facebook)

Taking a view on transparency it is very important to distinguish between the **Foresight Platform** (which engages participants) and the overall **Foresight Process** (which is longer, synthesizes the data and is often run for a client or group).

Transparency of the foresight platform

Table 1 below provides a summary of different types of transparency as it relates to the foresight platform.

Table 1. *Analysis of transparency in respect to Foresight Platform*

Transparency Type		Workshop	Finpro – scanning system	OFP – public social networking sites	Evolver	Shaping Tomorrow – website system	IFTF – Foresight Engine
Sousveillance	Organization open to individuals	Depends on process	No	Yes	No	Some	Some
Surveillance	Individuals open to organizations	Yes	Some (Employees)	Some	No	Some	Some
Authenticity	Individuals open to individuals	Informal	Individuals to Foresight team	Some	Yes	Some (more being developed)	Yes

The openness in a workshop process will depend on the overall design and the individuals who are participating. Transparency is only for the duration of a workshop. With Finpro individuals are open to the organization because their everyday scanning work (an expression of their preferences and ways of knowing) are open to the Finpro crowdsourcing platform. In this way employees bring new elements of their experience and interest from outside of the organization back into the organization. The Open Foresight Project’s ‘Future Of’ approach is based on multiple public social networking platforms (Facebook, Twitter, Quora, etc). The purpose of the exercise is to be publically watched, as a means to promoting futures styles of thinking. Some individuals were open through participation in video recordings, questionnaire responses, and individual interactions through comments.

The Shaping Tomorrow *foresight platform* allows individuals or organizations to contribute to the central pool of information. Paying organizations are given a privileged position of being able to draw on individual crowd-sourced contributions, but do not need to reciprocate, thus paying organizations do not need to be transparent to individuals. The platform has different membership levels; it can be a platform for individuals or companies. In this way it presents a blended model that support bounded openness such as found in the Finpro model, while drawing on contributing individuals from outside of the organization.

The IFTF *foresight platform*, its Foresight Engine, enables some openness, as the process is run on behalf of a specific client and the public therefore get a scenario brief. Individuals are invited to submit Twitter account details so they can be followed during and after the game. The game itself allows individuals-to-individual interaction, discussion, and deliberation (agreement and disagreement). The Evolver platform focuses on individual interactions, rather than interactions between individuals and organizations.

Transparency of the foresight process

When we consider the levels of transparency for the whole process (not just the platform for participation, but longer value development) there is a different result, as shown in table 2 below.

Table 2. *Analysis of transparency in respect to Foresight Process*

Transparency Type	Workshop	Finpro	Shaping Tomorrow	OFP	IFTF
Organization open to individuals	Depends on Client	Some	Depends	Yes	Depends
Individuals open to organizations	No	No	No	No	No
Individuals open to individuals	No	No	Some (More being developed)	Some through comments	No

While Finpro publishes materials that results from their foresight processes allowing some insight into the organization's thinking, the overall *foresight process* is largely done by analysts. The 'Future of' series as an overall *foresight process* is largely open to the public as is the organization. Individual interactions could take place but only through comments. For Shaping Tomorrow and IFTF the work outside of the *foresight platform* is for the client and may or may not be published and the process to get that result may or may not be shown, in this way it replicates the traditional workshop model.

Openness

Earlier we defined openness in terms of transparency and participation. Participation rates are much higher for each of the networked examples compared to a standard futures workshop. Overall the openness of each of these five examples is much greater than a workshop. Finpro becomes more open by increasing internal transparency and employee participation. It is a model of inward looking openness. The Open Foresight Project's 'Future Of' series is organizationally open by design,

promoting futures thinking by being open to interested individuals on the web. Shaping Tomorrow and IFTF both act as a bridge between client organizations and individuals. Although different, they both support increased levels of openness between clients and individuals. Finally, Evolver supports deep and authentic conversations between individuals on a large scale.

Control: Ownership and the commons

Control of intellectual property is an important fault line in the era of the network form. Wark argues that the forces of the appropriation of intellectual labour and monopoly control of immaterial property are creating a condition of digital stratification (Wark, 2004). Lessig argues outdated Intellectual Property regimes render people increasingly dependent on what should be a global knowledge commons. Developing ‘Creative Commons’ as a legal alternative, he has argued for the right to remix - content should be liberated for its perpetual transformation by future generations (Lessig, 2005).

The internet as a new space for creativity has brought forth intense debates with respect to the rights of ownership and control of digital content. Different niches carry different orientations toward the ownership and control of online content. Sharp argues there are four main niches: a social currency niche, a collaborative niche, an extractive niche, and a hybrid niche (Sharp, 2006). In the social currency niche, the sharing of objects (music, text, video) offers users social currency (e.g. friends and watchers), whereas the business is often proprietary and funded through advertisements. In the collaborative niche, users are involved in ‘commons-based peer production’ (for example open source software) (Benkler in Sharp 2006). In the extractive niche, private companies use crowd-sourcing strategies to draw upon user creativity, but appropriate and commodify user contributions. Finally in a hybrid niche, there is an integration between raw value extraction and rewarding users for their contributions.

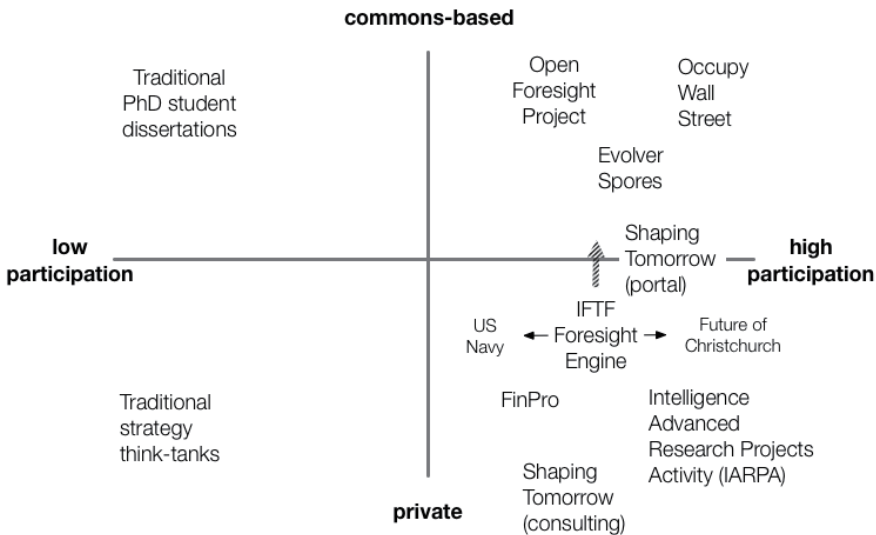


Figure 2. Correlation between ownership and participation

In figure 2 participation is considered in terms of numbers, whereas ownership considers the variation from the privately owned and copyrighted to creative commons and free to use ownership (or copyleft). Private/proprietary and low participation rates would include unpublished corporate foresight (for example competitive intelligence analysis). Articles, blogs and commentary written under Creative Commons licences are examples of the low participation and high commons ownership. Both of these quadrants are also home to traditional foresight workshops for organizations. Usage depends on whether the organization that has commissioned the work publishes the results and for what purpose. There are many examples of government and corporate foresight that retain copyright but the results are made public and can prompt public discussion. Moreover:

- Finpro publishes the results of the process for commercial purposes.
- For IFTF, the conversations within the games are necessarily visible to participants and sometime these may be made public after the event. The publication of the results of any associated foresight processes off the back of these IFTF games will depend on the client.
- IFTF, however, retains ownership of the Foresight Engine.
- Any input, analysis or prospection by community members of Shaping Tomorrow with basic membership is available to everyone, although copyright is held by Shaping Tomorrow.
- The OFP's "Future Of" series is the only project which is published under a Creative Commons licence.

Increased participation, particularly of the volunteered kind, may lead to an increased demand for greater commons-based licenses (creative commons, GNU, opensource) for the outputs of the process. Such an approach may lead to novel methods where outputs are 'mashed-up' to provide new material, and increase the potential for replication and 'franchise moments'.

Discussion

Design space of the network form

The implications of the emergence of the network form for the future of futures studies, in particular participatory foresight and prospects for Anticipatory Democracy are highlighted by the eight dynamics presented: localization and prefiguration, franchise and rhizome, transparency and participation, and ownership and the commons. At a more general level each of these can be grouped more succinctly into four core issues: 1) instantiation, 2) replication, 3) openness and, 4) control. The Network form differs fundamentally from other forms (Market, Institution and Tribe) in each of these areas.

The instantiation of projects is no longer just based on either institutional directives or market supply / demand, but increasingly on peer based intentionality (often called 'intent-casting'). Replication via the Network form is not subject to institutional rigidity or market templates, but becomes adaptive and emergent. Openness is no longer a policy option, or just good for business, but a societal expectation. Control over knowledge is not just in state or market hands, but

increasingly within the jurisdiction of commons-based systems of stewardship. The Network form, however, does not make other forms obsolete, but rather displaces and recontextualises earlier forms into a larger ecology of processes. Tribal, Institutional, and Market forms all interact with each other, and now include and are contextualised by interactions with the Network form. The remainder of this discussion aims to provide insights into the implications of the network form for futures studies and AD.

The transformation of participatory foresight

Current global processes, for example social stratification under capitalist globalization and the production of ecological risk within post-industrial development, create greater conditions for the politicization of foresight projects.

New approaches to foresight which twine physical embodiment with virtual networks may augur new types of emergent foresight action networks. These action networks may emerge to contest short-term political decision-making, or be deliberative 'town halls on-the-move'. We may also imagine a 'foresight swarm', which would be a locally instantiated action-network which could emerge rapidly to promote, contest, or develop a future(s), consistent with Arguilla and Ronfeldt's original conception of the network as a locale of netwar, which noted the ability of networks to act as a 'swarm' attacking a particular target from many angles and in many ways (Arguilla, 1999; Hardt, 2004). 'Foresight swarms' would be actors countering institutional or market short termism and extending social foresight aims.

As discussed earlier, localized replication can include the franchise or the rhizome-mode. Both offer great potential for foresight. A franchise can enable locales to draw on powerful foresight platforms, such as IFTF's Foresight Engine. Alternatively, via mobile networking, publically open foresight approaches, which engage local populations in discrete events or on-going inquiry, could become rhizomatic. The potential for localization can be latent until particular strategies are adopted and conditions met. For examples an organizing template can help to spread the franchise, while a vision, target or telos can form the basis of rhizomatic expression. This points us towards adapting existing, and building new, methods which integrate the physical and virtual via foresight methodologies, while allowing localized permutations, diversity and openness.

The dynamic shift toward transparency / sousveillance may lead to opening foresight-informed policy development to the public. Government accountability to the public would thus extend to how it links futures thinking and research with policy. This type of 'foresight in public' or 'naked foresight', where the aim is not to involve the public in actively participating (as in the IFTF and other examples), but rather to allow the public to engage in the observation of public foresight projects, providing an educational role and the capacity for citizen oversight, where the public is able to see a project evolve and develop, which portends to be an ascendant feature of foresight projects. This may be considered a healthy expression of the conjunction of Institutional and Network forms of foresight.

In the network era ownership and control of knowledge has become a central issue and point of contestation. From the hyper-commercialization of personal online data via Facebook, to the commons-based orientation of Wikipedia, the network era augurs a new frontier in the control of intellectual property. This applies to efforts at crowd sourcing and peer producing foresight / futures. In the examples in this paper,

we see hybrid, commons-based and proprietary strategies. Increasingly, however, we expect two factors to contribute to a push for a foresight commons: the increasing scale of global risk which requires greater sharing / participation and coordination, and the emerging popular desire for public contributions to be established as public domain. This idea has high profile advocates: Carol Dumain argues for the construction of a “global foresight commons”, which would pool resources into a global sharing platform (Dumain, 2010). As the value of peer produced collective intelligence efforts emerges, harnessing the deep well of potential, indeed the inspiration, within the global population, will require ways of valuing these exchanges – in particular personal to structural enfranchisement in the ownership of networked foresight efforts.

Conclusion

We began this article as an inquiry into the participation by publics in the exploration and articulation of probable, possible, preferred and alternative futures. We asked whether network-foresight strategies lead to real anticipatory democracy, policy development and social change and what the dynamics and implications of the network form applied to anticipatory democracy might be.

Set against the backdrop of: an increasingly complex world beset by wicked problems, the emergence of the Network organizational form and emerging from a long history of global, participatory projects in the field of Future Studies, we have described a set of five key network-based, participatory foresight efforts amongst an emerging field of related endeavours. We analysed a number of these efforts.

We have argued that, far from being a social media fad, these efforts prefigure a style of global, collaborative, post-statist policy development ideal for addressing wicked problems – in effect a network-centric, peer-to-peer Anticipatory Democracy. This movement is post-statist, not in the sense that it replaces or removes the need to affect government policy, but in the sense that, in the style of Ronfeldt’s Network form, it interpenetrates and recontextualises communities, governments and corporations.

We believe the projects and systems we have discussed prefigure this development and the eight dynamics describe a design space which can guide further efforts, but this work is far from complete. In closing, we are left with further questions.

Democratizing futures means that many people, diverse people, have a say in defining the terms by which future(s) are understood, studied and communicated. In this regard the participatory turn, enabled by ICT, can and should be harnessed to 1) make futures / anticipatory thinking a popular process, and 2) allow futures / anticipatory thinking to reflect the needs of the vast majority of people, rather than the interests of the few.

In 1999, Sardar proclaimed that “the future has been colonized” (Sardar, 1999, p.9). He argued that special interests had already defined the socially preferred, acceptable future, and the terms by which we conceive of what is possible. Yet, after a decade of worsening ecological indicators, crisis-capitalism, and social stratification, and with the recent “hashtag uprisings”, this façade may be lifting. Can network-foresight strategies be used to de-colonize futures, and provide an ascendant civic sphere a new capacity to explore and articulate alternative visions?

And can network-foresight strategies facilitate a global scales process of

building common ground toward shared visions of sustainable futures? As Bezold writes:

“The evolution of anticipatory democracy, and the advances and setbacks it has faced over three decades, reinforces the importance of developing shared vision. The more effectively efforts have developed shared vision, particularly across diverse communities, the more successful these efforts have been.”
(Bezold, 2010, p.167)

This begs an important question: what new social foresight technologies and strategies are needed for collaboration and coherence building with the scale-complexity shift inherent in the network era? Addressing the 21st century’s wicked challenges will require us to invent new socio-technical platforms, fully re-inventing Anticipatory Democracy for a network era.

Future Adventures

We consider the potentials within network foresight strategies for developing Anticipatory Democracy to be a green-field for research and development (R&D). We see broad potentials for:

- R&D on strategic pathways including scenario development on the futures of AD
- R&D on current projects and future prospects for building global foresight commons
- R&D on collective intelligence / wisdom of crowds foresight strategies
- R&D connecting anticipatory governance with AD and the politicization of social futures
- R&D on network foresight strategies to address sustainability and social justice issues
- R&D on replication and re-localized, mobile and embodied forms of foresight development
- R&D on publicly accessible and transparent foresight activities

Network foresight provides an opportunity to engage new publics and organizations in a deeper questioning and development of futures thinking and practice, which carries great potential for collective resilience and enabling response capability to address our planet’s most significant challenges. The futures of Anticipatory Democracy is yet to be written, and is open for all of us to create.

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Notes

- 1 The ideas presented here draw on a multi-year futures research project conducted

through the Smart Services CRC of Australia, in particular its Services 2020 project. The project's overall aims are to study key shifts in the emerging eGovernment, eBusiness and eCitizen nexus, and to imagine and conceptualize the futures of on-line services. This research draws on data and findings from two previous reports, "Dimensions of Change and Transformation Relating to Online Services" (Ramos & Mansfield, 2011) and "Strategic Issues in Government Service" (Mansfield et al, 2011).

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- 7 Retrieved Feb, 2012 from <http://www.emergence.cc/futureofmoney/>
- 8 Retrieved Feb, 2012 from <http://emergentbydesign.com/2011/03/01/announcing-open-foresight-the-future-of-facebook-project-2/>
- 9 Retrieved June, 2012 from <http://news.noahraford.com/?p=780>
- 10 See: http://p2pfoundation.net/Occupy_Wall_Street
- 11 See: <http://wikispeed.com/>, <http://bitcoin.org/>, <http://earthship.com/>
- 12 See for example: <http://www.openthegovernment.org/> and retrieved Feb, 2012 from <http://longnow.org/seminars/02010/mar/04/transparent-government/>
- 13 Retrieved Feb, 2012 from [http://en.wikipedia.org/wiki/Josh_Harris_\(internet\)](http://en.wikipedia.org/wiki/Josh_Harris_(internet))

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