The Futures of Power in the Network Era*

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Abstract

This article asks questions about the futures of power in the network era. Two critical emerging issues are at work with uncertain outcomes. The first is the emergence of the collaborative economy, while the second is the emergence of surveillance capabilities from both civic, state and commercial sources. While both of these emerging issues are expected by many to play an important role in the future development of our societies, it is still unclear whose values and whose purposes will be furthered. This article argues that the futures of these emerging issues depend on contests for power. As such, four scenarios are developed for the futures of power in the network era using the double variable scenario approach.

Keywords: network power, surveillance, political-economy, netarchical capitalism, commons, cosmo-localization

Introduction

This article examines the futures of power in the network era from the vantage point of two critical uncertainties: the contest of power in the political and economic domains. As we move deeper into a cybernetic civilization, where the distance and indeed the distinction between internet technologies and the people that use them begin to blur,[1] new potentials and predicaments emerge.

The key interest in this article is the empowerment of people in the face of significant

issues, dangers and opportunities related to both capital and state power. The aim of this paper is therefore to interrogate the power dynamics across these two axes, political and economic, and to postulate alternative futures that can inform wiser strategies, policies and choices in the present that lead to better futures.

Methodology: two contests for power

This article positions critical social changes in economy and politics as major contest for power typified by uncertainty and indeterminacy.

On the political front is the increasing capability and indeed practice of widespread surveillance by governments of their populaces for the purpose of social control, if not outright repression. Reciprocally, citizen groups are increasingly using network forms of activism to break through the veil of government secrecy, with the espoused aim of creating transparency and accountability. Thus we might imagine a worst-case scenario in which government apparatuses with totalitarian designs win the struggle to control communications in the network age, creating a world of mass surveillance, social control and terror, reminiscent of George Orwell's 1984, and resurrecting the horrors of Stalinism, but with much greater sophistication. Or we may see dynamic citizen movements to create open governments which are transparent and accountable (Greenberg, 2012).

On the economic front, we see the emergence of what Bauwens et al (2012) refer to as 'netarchical capitalism', where great network conglomerates of the early 21st century jostle for power, and in the process absorb, stifle or co-opt smaller network enterprises. Reciprocally, an emerging peer-to-peer (p2p) economy may be outside of anyone's capacity to control, as a variety of p2p enterprises and industries emerge that are both highly localized but embedded in a global open source service system, displacing the existing corporate mode of service. This implies a struggle between netarchical capitalism and community based p2p enterprises, where big network conglomerates oligopolize, subsume or criminalize localized p2p alternatives, or where we see a flourishing of p2p enterprises and industry which fundamentally displaces netarchical and/or vectoralist capital.[2]

While the emergence of the network form is the foundational dynamic within which associated emerging issues owe their source to, neither can the network form be rendered in historicist terms as "outside" of human influence (Goldthorpe, 1971). Indeed the futures of power in the network era rests upon the decisions, actions and commitments that people make today. Thus in constructing four scenarios through the double variable method (Inayatullah, 2008), what is posited are not simply uncertainties related to emerging issues, but more fundamentally who wins major struggles for power in the network era? The approach to developing scenarios here is focused on highlighting the institutional patterns within each distinctive scenario.

Institutions can be seen as a *meso* or a mediating level in the circulation of power, between the micro dimension of the individual and his or her subjectivity, and the macro level of political economy (Boulet, 1985). Each scenario in effect carries a distinctive political economy depending on the winners and losers in each axis of uncertainty. What this political economy looks like is interrogated by asking how key institutional structures or functions change in the areas of: education and research, health care, law, policing and emergency services, agricultural production, primary and secondary industries, media, government, transport, energy, and other

institutions.

Within each scenario's distinctive system of power emerges the overall system purpose and identity characterized by its political economy; and within each scenario's distinctive system are nested an array of subjectivities – people either conscious of unconscious of the systems they are embedded in. Soft power must circulate in each scenario in a way that legitimates the winners, and de-legitimizes the losers. Or in other terms the political economy within each scenario is accompanied by a distinct form of cultural hegemony.

Scenario development method

Within each of the two contests for power, network politics and network economics, two critical uncertainties emerge, represented by two axes.
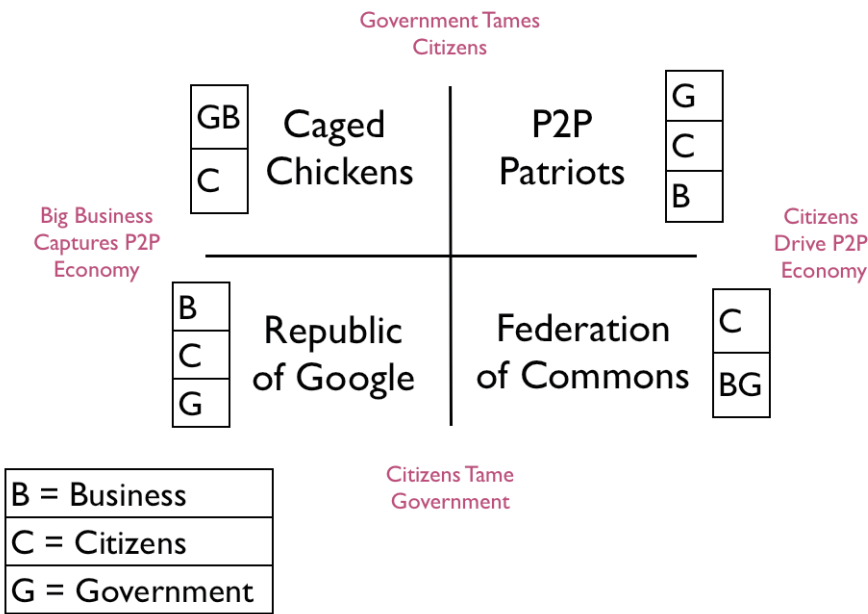

Figure 1. Four futures of power in a network era

With respect to the economic axis (horizontal in diagram 1 above) the question that emerges is whether the network economy devolves toward p2p producing communities, or whether this network economy is incorporated into large-scale centralized corporations (netarchical capital). If network economic power shifts toward a meshwork of networked communities and individuals (both local and trans-local), we can call this a citizen driven p2p economy. If network economic power is ensconced into large networked multinational corporations, we can call this netarchical capitalism. In this polarity, major corporations, like Google and Facebook, co-opt the potentials of the emerging p2p and sharing economies, and provide the infrastructure and networks for sharing and exchange, though suppressing and squashing its diversity and autonomy, while extracting surplus value from such platforms

With respect to the political axis (vertical in diagram 1 above) the question that

arises with the emergence of network politics is whether surveillance technologies, soft power and network control tilt in the favor of government, or alternatively tilt in the favor of citizens. If existing forces for surveillance and social control have their way, governments will increasingly collect large amounts of data on the lives of the average citizen. When a person becomes of interest to the state they can be surveilled and monitored, and effectively tamed. This condition would be one in which citizens lose their capacity for privacy, while government is increasingly shrouded in secrecy. If citizen movements for transparency and accountability have their way, then the inner workings of government are pried open for all to see, government transparency becomes the norm, and the citizenry tame government. Importantly, in this polarity, individuals retain certain rights to privacy.

The scenarios in this paper are written generically, to allow for their application across geographies. As an author, however, my own worldview, fears, hopes and concerns are imprinted throughout the text. I grew up in California, where I spent the first half of my life, and I therefore use the United States as an imaginative and contextual backdrop. And thus the 'uncertainties' are uncertain by virtue of geography. In other geographies they may be more certain or even less certain. Particular countries may already be examples of one of the four scenarios, and I have therefore added some examples (by way of speculation) in Appendix A.

Secondly, my notion of privacy is shaped by both historical and geographic contexts. As a non-digital native I have a naturalized attachment to privacy as a good, and am somewhat uncomfortable posting mundane aspects of my life online. This is also influenced by the strong and foundational views in the US with regard to constitutional rights to privacy. Residents of other countries, (e.g. Singapore) or those from younger generations who post much of their lives on Facebook, may not consider privacy an issue at all. Categories of analysis and problematization thus arise from context and embodied disposition.

Emergence of the Network Form

The emerging network society creates new forms of network-based organizations, not possible in a pre-network world. As Castells (1996) argued, network organizations may have a 'telos', values and ideological direction. As such 'networks' are not only value free systems of pragmatic exchange (e.g. eBay), but as well normatively constituted. In similar fashion, Kellener (2005) coined the term 'techo-politics' to express the emerging political nature of network actors. Earlier, Arguilla and Rondfeldt (1999) used the term 'noo-politik' to describe a new type of power dynamic in the age of networks . 'Noo' is drawn from the idea of a noosphere, the domain of a global conversation, or more hyperbolically 'global consciousness', thus implying a political struggle for popular global consciousness.

While networks are normatively charged inter-spaces, pre-network forms (e.g. Tribes, Institutions, Markets) are persistent structural features of human organization. As such, they too will partake in the network form, but very much on their own terms (Ronfeldt, 1996). Tribal forms use the network form to strengthen traditional identities in the face of globalized hybridity. Institutions use the network form to maintain their cultural hegemonies of governance and power. Markets use the network form to de-territorialize and open global market opportunities, production and consumption. Yet while, as Rondfeldt argues, Tribes, Institutions, and Markets will use the network form to their advantage, the network form is also

fundamentally disruptive in respect these previous forms.

A counter movement associated with network actors can therefore also be discerned. First, rather than simply strengthening existing tribal identities, p2p potentialities create new transnational tribal identities, satisfying critical existential needs of affiliation, but in conditions of globalized hybridity. Secondly, rather than simply strengthening the legitimacy of institutional forms, action networks reconfigure institutional legitimacy toward openness, transparency and public conversation. Thirdly, rather than simply strengthening market actors via trans-territorial opportunities and investment, p2p enterprises may displace or make obsolete some market actors, in particular those extracting value through the imposition of artificial immaterial scarcities.

One supposition here is thus: in the early development of the network era, persistent human structures (Tribes, Institutions, Markets) will co-opt network potentials and win out. Examples include Al-Qaeda's early successes, China's lockdown of political organization on the internet, Nike's global factory. As the network era matures, incumbents fight ever more pitched battles, protecting pharmaceutical's IP, buying out and destroying rival social networking platforms, jailing cyber activists. Early modes of co-optation are 'vectoralist' in nature, as the corporate-state power structure imposes the idea of property and control on immaterial intellectual resources (processes, designs, genetics, pharmaceuticals, art, etc.), which are in themselves not scarce, but extensively reproducible (Wark, 2004). This creates a division between the owners (vectoralists) and producers (hackers) in a class hierarchy based on artificially created scarcities. More recent modes of co-optation, following Bauwens' argument, see a shift from vectoralist capital to what he terms 'netarchical capital', what amounts to deriving surplus value from participatory platforms - via the commodification of everyday relationships. As he writes:

> Netarchical capitalism is a hypothesis about the emergence of a new segment of the capitalist class (the owners of financial or other capital), which is no longer dependent on the ownership of intellectual property rights (hypothesis of cognitive capitalism), nor on the control of the media vectors (hypothesis of MacKenzie Wark in his book The Hacker's Manifesto), but rather on the development and control of participatory platforms.[3]

Yet as the network era continues to evolve, developments empower civil society as the realm capable of mobilizing network potentials with greatest efficacy. Identities take a post-institutional turn. Political institutions are tamed by 'sousveillance' (the broad social network surveils the organization) from citizen networks; production and exchange of everyday needs shifts toward p2p enterprises. To rephrase Marx, the question now becomes, in our futures, who controls the means of relationality?

To more deeply understand transformations in the network era, some context via political economy is developed. Two major crises are at the heart of shifts in the network era, a crisis of capitalism and the state.

Table 1: *Three contradiction of capitalism and the state*

	Capitalism	**State**
Contradiction 1	Ecological Externalities	Ultimate Authority
Contradiction 2	Wealth and Power Stratification	Legitimate Governance
Contradiction 3	Cosmo-localization	Management of the Commons

The Crisis of Capitalism

The three contradiction within capitalism include 1) ecological externalities, 2) wealth and power stratification and 3) cosmo-localization. The first two contradictions are drawn from neo-Marxist theory, (Galtung, 1971; Wallerstein 1983, 2002; Robinson 2004; Sklair, 2005). The third draws from Peer to Peer theory through Bauwens et al (2012) and cosmo-localization via Ramos (2010).

The first contradiction is of an ecological nature. Capital accumulation through various stages of the capitalist historical process has been partly based on the capacity to externalize ecological costs. As ecological problems deepen, there are both louder and stronger calls and demands to internalize ecological cost and to apply ecological governance to capital enterprises. Likewise, as 'nature' as a source of endless bounty becomes less and less a reality, and resources become more scare, extraction shifts focus from extraction from 'nature' to extraction from industrial (close loop) metabolisms. This works in tandem with the re-internalization of ecological costs.

The second contradiction is of a social nature. In a neo-liberal world that privileges highly mobile capital investors or venture capitalist, a transnational capitalist class (TCC) is able to influence political processes, where the end result is increasing social stratification between the policy empowered and policy disempowered, hence between the have's and have-nots. In classic Marxist terms this can be considered part of the crisis of oversupply, a deflationary processes, accompanied by a superstructure that legitimizes capitalist led policy. In both cases stratification as a phenomenon owes its existence to a plutocratic (government by the wealthy) policy process.

The third contradiction draws from the work of Bauwens et al (2012), who argues we are shifting from a world typified by material abundance and immaterial scarcity; to a world increasingly typified by material scarcities yet immaterial abundance. The advent of a global digital knowledge commons and p2p infrastructure has a profound and destabilizing effect on typical forms of capital enterprise. A process that can be termed 'cosmo-localization' arises, where emerging localized enterprises draw on freely available global digital resources, and can peer finance and produce goods (Ramos, 2010). This subverts the established industrial capital means by which citizens and communities satisfy their needs, allowing them to sidestep reliance on large-scale capital enterprises in favor of local Maker communities and enterprises.

Implications for network economics

From these contradictions we can look at key locales of struggle or tension between the values in capitalist vs. p2p enterprises. For example, a typical struggle is between vectoralist (film and music co.) attempts to criminalize file / torrent sharing, while on the opposing extreme Pirate Party advocacy for a world of non-proprietary

digital content.[4] More moderate but significant are advocates like Lessig (2002) for Creative Commons and the creation of mashable / remixable digital content. While Wikipedia crowdsources content from the public under a general public license, Amazon's Mechanical Turk is at the razors edge of neoliberal outsourcing, with over 100,000 workers in over 100 countries doing basic intelligence tasks. This stark difference reflects the very diverse and contrary nature of crowdsourcing generally. Peer banking is emerging as an alternative to traditional institutional banking.[5] In small scale manufacturing prosumer 3D printing is significant, where a printer costs approx. US $2000.00 and allows a user to draw from a global pool of open source / shareable designs to make tens of thousands of things.[6] Sharing and peer procurement systems / services allow for ride sharing, house / room sharing, tool sharing, etc, with the potential to disrupt incumbent businesses (such as taxi companies and hotels).[7]

One critical argument made by advocates for sharing / p2p economies is that the first two contradictions discussed (ecological and social) provide a mandate for the third (cosmo-localization). Within conditions of ecological crisis, resource costs increase, which then necessitates a more intelligent use of existing resources drawing on a wealth of models, and via network enabled sharing platforms and peer communities. Conditions of social crisis are typified by what Mike Douglass terms a 'new normal', described as:

> *"repeated economic crisis that result in chronically high levels of unemployment, precarious employment, no long-term careers, no home ownership, no pensions, and declining welfare for the majority of people on the planet."[8]*

Because people must increasingly create social life outside of 'typical' economic support systems, cosmo-localization empowers local actors / peer producers with global knowledge resources and network enterprise capabilities, be this in manufacturing, art, or science, etc. Cosmo-localization allows for a more efficient use of resources and empowers creativity in discrete locales. But this is at odds with the dominant industrial-innovation systems wedded to existing intellectual property regimes. One example of cosmo-localization is the Handmakers Factory, which has developed a pool of globally crowd sourced designs in clothing, that facilitate people's capacity to physically produce them in their locales.[9]

Fundamentally different principles, held by different groups, are at work in creating the futures of the network economy. The open source and digital commons movement aim to create global knowledge commons that allow for free localized instantiation of value, with open and common use. Relationships, networks and interaction are seen as sources of shared enrichment and value, not commodifiable. Large scale platforms, operated through netarchical capital, see human relationships and interactions as sources of economic rent. Netarchical enterprises provide stability and integration across multiple platforms, but see user interactions as commodifiable and exploitable. They seek to either buy out or destroy alternative platforms – incorporating any useful elements into the existing system of shareholder driven investment and interest, driven by the logic of accumulation within the global political economy of capitalism.

The Crisis of the State

The crisis of the State also includes 3 major contradictions: 1) ultimate authority, 2) legitimate governance and 3) the management of the commons. The first two contradictions are well established in cosmopolitan theory (Falk, 2004; Chandler and Baker, 2005; Keane, 2005; Kriegman, Amalric, and Wood, 2006) while the third relates to a resurgent area of research pioneered by the Commons Strategy Group (Bollier and Helfrich 2012).

The first contradiction concerns ultimate authority. Over the last century the nation state has assigned to itself the status of ultimate authority. Today the nation state is in crisis in part because it neither has the capacity to address many global / interstate challenges, but importantly its design often prevents it from acting outside of national interests. Meanwhile, a variety of citizens group, some local and others transnational have assumed moral stances that are transnational / global in character. This process is seeing the transfer of ultimate authority from the state to transnational citizen groups.

Historically, the development of the state after the treatise of Westphalia saw the gradual erosion of all competing forms of ultimate authority, (the church or other groups). Empires had accommodated overlapping systems of authority, in particular the ultimate moral authority of religious elites. Through the 19th and 20th centuries, as the state developed, alternative or competing systems of ultimate cultural authority were sidelined or dissolved. Nationalism as ideology represented a marriage of cultural authority / allegiance with the states instrumental power. Today we inherit a system where the state assumes itself as the ultimate moral authority along side its status as the primary holder of instrumental political power.

This emerging contradiction concerns how transnational civic organizations challenge and attempt to displace the state as the ultimate moral authority, as these citizens take a planetary view inclusive of many or all nations, e.g. in the area of climate mitigation, human rights, transparency, etc. To be clear, however, the challenge to state authority is not a general challenge to its authority - the majority of its law making process. The general authority of states is vast. This change merely displaces the state as the ultimate authority, a status it had accrued over the past century. The key gap then is between the transnational citizen organizations' status as new ultimate moral authorities and their lack of instrumental capacities to enact change. While the state increasingly loses its status as ultimate authority, it retains vast instrumental political capabilities.

The second contradiction concerns the crisis in the democratic process or legitimate governance. Notwithstanding the increasingly plutocratic mode of policy making in the West through neo-liberalization (USA + Eurozone), access to information, the capacity for citizen group to engage with the complexities of the policy making process, renders existing systems of democratic representations antiquated (Dator, 2007). Increasing citizen engagement and desire for devolved localized governance or direct / participatory democracy runs counter to the increasing closure of the political process.

The third contradiction relates to the State's limitations in the governance and management of shared Commons. The State's role in protecting ecological commons (oceans, rivers, beaches, ground water, etc.) and building social commons (roads, services, libraries, etc.) is perpetually constrained by virtue of the need to satisfy

powerful State-producing interests (industries, investors, military, voters, media, etc.). The outcome of this power brokering process creates winners and losers, as the State 'closes ranks' with these interests, rather than producing policy geared toward common interests. This is especially acute today, where transnational capital dictates much national policy, whose investors are abstracted from those concretely affected by such policies (as per the second contradiction of capitalism). Communities are forced to develop parallel systems of governance outside the state system which can achieve adequate levels of social and intergenerational enfranchisement (Bollier and Helfrich, 2012).

Implications for network politics

Networked civil society organizations have become confident political actors with ultimate moral authority on their side. Despite limitations in instrumental power, they express a new socio-political reality, what Arquilla and Ronfeldt (1999) articulated as 'noo-politik':[10]

> *Noopolitik is an approach to statecraft, to be undertaken as much by nonstate as by state actors, that emphasizes the role of soft power in expressing ideas, values, norms, and ethics through all manner of media. This makes it distinct from Realpolitik, which stresses the hard, material dimensions of power and treats states as the determinants of world order. (Arquilla and Ronfeldt, 1999, p29)*

In the case of Wikileaks, for example, 'they' (a plural network of actors) do not consider the state an ultimate authority, but rather their own cause to expose state secrets as a superior moral position. To instrumentalize their cause members engage in new 'techno-political' strategies (Kellner, 2005), and yet their leader remains holed up in the Ecuadorian embassy for fear of being extradited to a US grand jury and being tried in a kangaroo court. The gap between instrumental power and soft power is stark. The US' attack on Wikileaks is a response in the context of soft power – as soft power works by strengthening or weakening the legitimacy of actors, whether they be economic, state, or non-state. As Arquilla and Rondfeldt presciently argued, where Realpolitik is used to repress the noetic sphere of information and culture, it amounts to a failure in information strategy (Arquilla and Ronfeldt, 1999, p.41)

In networked environments where populations with smart phones have extensive sensing (sound, video, air composition, radio activity, etc.) capabilities, citizens can surveil each other as well as police and businesses, police can surveil government and citizens, government can surveil citizens, commerce etc. The video recording of the Rodney King beating, which led to the Los Angeles riots, provided an early example of these new potentials. The widespread diffusion of mobile computing makes the possibility of ubiquitous ambient sensing common place (via visual, audio, text, etc), as seen in the recent uprising in 2007 in Burma, 2008 in Iran, the recent Arab Spring and Occupy movements. The shift toward mobile and ubiquitous networking will increasingly extend the capacity for people to document and transmit an environment.

The internet pioneer, Josh Harris, a dot-com entrepreneur who founded Jupiter Research and Pseudo.com, pioneered extreme experiments in the eradication of

privacy, was behind the bizarre avant guarde project "Quiet: We Live in Public", predating the show "Big Brother."[11] Of course the idea was well developed in George Orwell's 1984, and it could be argued this practice has existed for as long as repressive political regimes have found ways to spy on their populace in comprehensive ways. One recent example includes Nokia's assistance to Iran's regime in tracking political dissidents.[12]

Netarchical conglomerates, such as Google and Facebook, have added a new dimension to this, as part of the movement toward Big Data. Passive data collection has become an internet era norm in a new service model in which data mining algorithms learn to know us better than we know ourselves. Drawing on this trend, US defense firm Raytheon has developed predictive software called Rapid Information Overlay Technology (RIOT) aimed at neutralizing 'security threats' based on such public data.[13] RIOT follows the development of other systems such as Palantir.[14] Since the 9-11 terrorist attacks on the US, and ambiguous legal language in the Patriot Act opened the door to government surveillance of citizens, security agencies such as the NSA have revived large-scale communications surveillance. Despite the defeat and discarding of the controversial Total Information Awareness (TIA) program, the NSA has continued to develop surveillance infrastructure through programs like TrapWire, which provides all encompassing surveillance capabilities, now well established through US communications infrastructure.[15]

Segments of civil society, businesses and governments are engaged in both reactive and proactive activities to guard and extend their powers within the new field of network politics. The vanguard for techno-political global civil society, WikiLeaks, is just the first in a series of social innovations that will attempt to break through the veil of government and corporate secrecy (Greenberg, 2012). Reciprocally, governments have already (China) or are in the process (USA) of developing large-scale comprehensive surveillance systems designed for ensuring social control and neutralize dissent.[16] Meanwhile, the network conglomerates already have the most comprehensive platforms for peering into the world of people, aided by the very same consumers that use them.

The Four Scenarios

Scenario 1: Caged Chickens

[Formula: Gov. and business collude / citizens dis-empowered]

The Occupy movement of 2011 could only be squashed through coordinated paramilitary force. Elites in the United States quickly understood that they were on the precipice of losing power, and began to reformulate a more aggressive strategy for power maintenance. Systems developed for counter terrorism, such as TrapWire and Echelon, began to be focused on citizen activists. Bloated government security agencies had ample resources to infiltrate and identify dissidents and agitators, be they 17-year-old anarchists or 70-year-old libertarians. New laws were put into place that blurred the line between foreign-born terrorist activity and political radicalism.[17]

A series of terrorist attacks, attributed to political radicals, but which many suspected were planted, galvanizes the United States. Adbusters and Democracy

Now! are designated terrorist-affiliated organizations and shut down, along with hundreds of other politically active organizations. As in the aftermath of 9/11, thousands of suspected terrorists are rounded up and rendered offshore for detainment, interrogation and processing. The state apparatus uses systems like Palantir to easily anticipate civic protests and neutralize protest leaders.[18]

In the aftermath of a weakened and cowed civil society, the further maintenance of power using soft means becomes easier. Ambiguous legislation is used to silence institutional dissent. Media companies can lose their licenses when television and online news reporters say the wrong things. Self-censorship becomes the order of the day. The pervasiveness and power of the corporate-state surveillance system allows the government to neutralize dissent in its most nascent forms. An email to a friend expressing dissatisfaction, a random joke about the government, or association with the wrong person at the wrong time. A culture of fear begins to seep into everyday life. Many ask will I be next, or when will they come for me?

The 21st-century corporate-state becomes stronger. The circulation of power from government to business and vice versa interlocks. The massive influence of corporate money to government is not only normalized, but a cottage political science industry (funded by industry but convenient for government puppets) emerges that constructs the corporate-state as a "natural state of affairs" in the evolution of society. It is argued the corporate-state offers people great efficiency, safety and security, and identity.

While the stratification of wealth was an issue at the turn of the century, the second order consequences of hyper-stratification could never have been imagined. But by the first quarter of the 21st century strong patterns emerge. The elite now get global educations, traveling widely and gaining crucial worldly experience, while the vast majority are locally trained in a technical capacity - liberal and reflective learning is prohibited left wing propaganda. New medicine can prolong the life of elites into their 120s and 130s, but the vast majority live till their 60s, succumbing to a variety of industrial illnesses connected to the biological environments they ingest or live in. The wealthy live in safe enclaves, the rest must deal with substandard security and policing. Most law making reflects a struggle between powerful interests, wealthy families and corporations mobilizing large sums of money to mount sophisticated legal battles that dwarf the common wage. Increasingly the 'inner commons' or 'mental commons', ones mind, attention, time, is enclosed and commodified. To gain momentary satisfactions, people are encouraged to sell 'personal futures' (future labor and loyalty) as a commodity. One can 'leverage' their future mind or body. The age of network endenturement arrives.

Netarchical conglomerates enable people to connect, but all networking is through sanctioned channels. Citizens are monitored, and all nongovernment organizations are registered and tightly regulated. Those people which offer countervailing wisdom are silenced, often through a series of "bad luck" incidents, the loss of a job, inability to find a new job, or if that does not work through more severe intimidation. People disappear and rendition, torture and terror exist behind a veil of silence.

Research and technology development is geared toward making production and consumption more efficient across the system. Networks allow allocation optimization. The state has an interest in middle aged healthy citizens who produce for the industrial state and who make loyal workers, but not much interest in older

people, or those that do not fit into this system. You have become a caged chicken. Don't stop laying eggs, or you end up in the pot.

Scenario 2: Peer to Peer Patriots

[Formula: Gov. and citizens collude / big business disempowered]

Under pressure from international competition, rising energy prices, traditional primary and secondary (resources and manufacturing) sectors go into major decline. The anticipated post-recession recovery from the great financial crisis of 2008 never materialized. Instead, recession led to a "new normal" of out of work but active class of "creatives". In the early 2010s new sharing startups begin to emerge that allowed people to peer procure basic services like transport, health services, and entertainment. But as the crisis of the new normal deepened, with more straight out of college jobless, more intensive "post-industrial" enterprises emerged to satisfy the basic needs of people.

The mix of creative classes, from artists, graphic designers, architects, entrepreneurs, and others, with time on their hands and needs to meet, begin building a new economy based on peer systems of production. Grow-your-own solidarity farms, micro-manufacturing based on open-source design pools, cradle to cradle collectives, 3D / additive manufacturing for highly engineered products, and other peer enterprises begin to take hold as new forms of economic activity.

At first these new peer based industries offer basic livelihoods for those who cannot get a "regular" job in the new normal. But as these enterprises grow in strength and popularity, they begin displacing traditional industrial forms. Wikispeed was only the first of hundreds of "design your own car" enterprises that churned out high-efficiency and low-cost modular automobiles. Traditional automotive companies attempted to enforce legal monopolies to support their traditional scale based manufacturing, but provincial and state-based citizen campaigns targeting and attacking politicians with close industry ties force legislatures to open a wide variety of activities to peer production communities. Soon these communities are legally enfranchised and competitively displacing older economies of scale based production and services.

> "traditional American industrial corporations come up against a situation in which cheapening, distributed means of production means no profitable outlet for all the investment capital sitting around. "Capitalism is eating itself .... The days of companies with names like General Electric and General Mills and General Motors are over." Desperate Fortune 500 corporations, selling off corporate jets and other assets at fire sale prices, attempt to buy into garage micromanufacturing operations as a Hail Mary pass to stave off irrelevancy and bankruptcy." Doctorow (2012) in ...Kevin Carson (2012)[19]

And yet these nascent industries also understand that without political support with the right legislation, the fledgling revolution could be reversed. Already, finance capital and netarchical conglomerates attempt to buy out peer production

enterprises. Google and others develop competing sharing and micro-manufacturing platforms in the hope of cashing-in on the surge. Backroom corporate lobbyists attempt to convince government regulators that citizen-based enterprises are not capable of proper regulation. The issue comes to a head when a Christian extremist group massacres 52 people using weapons produced through homemade 3D printing devices. A battle ensues between an alliance of Netarchical and industrial capitalists that wish to enclose or lock out p2p capabilities into rentier platforms, while hundreds of thousands of peer production and sharing communities come together into political federations.

Local and state governments know that a return to a pre-p2p economy would mean increasing joblessness and a weakened economy unable to compete globally. Yet the radical potential opened by p2p processes is potentially destabilizing. People are also worried about the shadow of decentralized production and finance (BitCoin has become the primary platform for money laundering by global mafias).

Governments increasingly take the role of guarantors of security. While they leave the economic engine in the hands of the p2p pioneers, issues related to terrorism, the availability of 3D printable weaponry, the increasing threat of nano weapons, homemade drones, child pornography and other network era pathologies further push citizenry to accept the state's much needed role in surveillance and control. A consensus emerges that all people must be surveilled in order to maintain security. Yet the 'surveillor' must also be surveilled. Institutions exists in a complex and interlocking system of surveillance. As well, the state's role evolves toward increasingly disciplined eco-governance / eco-efficiency, where resources are strictly monitored for reuse. "Eco-crimes" are punished with severity. Additive manufacturing cooperatives must abide by strict disposal and re-use laws.[20]

The collapse of the industrial sector precipitates a weakened Wall Street, with citizen initiated reform of speculative practices. However, the bigger shift is how p2p financing displaces Wall Street, as crowd and community funding are the engines that propel p2p enterprises.

While government is not in the business of primary production of goods and services, the state plays a key role in regulating emerging p2p industries, such as peer banking, peer manufacturing, and peer media. Citizens appreciate the government's oversight role in these key sectors, and there's an acceptance of the intrusive, if not soft authoritarian approach that government now takes. Government, in partnership with citizen-based ubiquitous monitoring, makes sure that p2p production adheres to basic standards.

Because government is still the power base for surveillance, instances of corruption and abuse of surveillance powers exist. However, government surveillance powers must draw upon citizen based mobile sensing, and thus requires power sharing. In addition government sits in un-easy tension with respect to the new economic power of p2p communities. Peer producers, through economic federations, are able to influence policy outcomes.

The values of the creative class that created the p2p revolution become more solidly embedded in the legitimacy of government based surveillance and enforcement. While it started as a counterculture movement in the 60s and 70s, and transformed into the creative class in the first decades of the 2000s, oddly this group has morphed into a type of 'green conservativism'. While socially very liberal (e.g. pro GLIBTI rights etc.), these people are hardworking savers and community

builders, the Protestants of the 21st century. A new type of wealth emerges from green practices, eco-efficiency, whole systems design, education and conservation. This creates a new class dynamic based on the ascendancy of the green conservatives vs. 20th century 'unconscious consumers', previously known as modernists (Ray and Anderson, 2000).

While many find the intrusiveness and extent of social control within this new system unbearable: antisocial (e.g. anti-homophobic) and anti-green behavior is quietly and efficiently removed through the ubiquitous regulation of fellow networked citizens, the majority are content that the primary needs of security and economic provision are satisfied, and society has become more eco-friendly.

Scenario 3: Republic of Google

[Formula: Big business and citizens collude / gov. disempowered]

The 192 companies bought by Google from 2002 to 2011 was only the beginning. As p2p enterprises began to emerge driving a shift towards sharing and micro-manufacturing, big conglomerates like Google did not fail to notice.

The dynamics and power struggle for control of these new enterprises was complex. On the one hand, traditional industries, like taxi companies and supermarkets considered network sharing and peer-based systems enemy # 1: ride-shares and grow-your-own farm solidarity schemes. They lobbied government to shut them down, arguing they were unregulated forms of enterprise, dangerous and were not paying taxes. On the other hand, network conglomerates coveted these emerging enterprises as a source of network rents. Network conglomerates naturally sympathized with the p2p enterprises, but wanted in on the action.

A pincer movement emerged by which netarchic capital displaced traditional industries while enclosing and buying out community-based p2p enterprises. Netarchical pre-eminence in the early 21st century ensured its influence on government. A series of netarchic-sponsored laws were enacted which provided tax loopholes for peer based production, while at the same time requiring costly regulation, insurance and oversight. This had the effect of simultaneously legitimizing network based service provision which would displace traditional industries, while making it hard for small p2p community scale enterprises to run.

Unsurprisingly, as netarchy wins the legal battle, companies like Google buyout or "out-attention" thousands of small-scale p2p enterprises (under threat of duress) at fire sale prices, or p2p community leaders are co-opted ("you can work with us or work with no-one, your choice"). Soon services like "Google Manufacture™", "Google Grow™" and "Google Share™" are thriving platforms that allow people to network and peer produce basics, from transport, to food, to health services, and just about anything else, but require a new class of digital sharecroppers to offer an ongoing network rent to participate.

A new dynamic begins to emerge in the political landscape. Governments are increasingly weakened through round after round of fiscal austerity (especially with netarchic capital offshored) following major financial crises related to the economics of debt. Governments print money but are ultimately unable to service financial commitments, and topple like dominoes, as strong states become weak states, leaving impoverished pensioners whose paper dollars revert to the value of

wallpaper.

Network industries thrive, as the de-territorialized flows of ideas, designs, services and goods, based on individual talents and productive capabilities, underpin a dynamic and emerging cosmo-local economy. At first this network economy faces the challenge of decoupling from state-based currencies which are volatile and are losing value as states print money with abandon. BitCoin and other alternative currency enterprises are the first to address the need for this decoupling. However, with the enclosure of p2p enterprises by netarchical capital, the high-value flows in the emerging network economy are captured by platforms developed by conglomerates. The conglomerates require their own currencies by which they force users to transact business within the corporate family, that are fully integrated across the variety of peer-based sharing and micro manufacturing bases. Currencies are developed by conglomerates, GCoin, FBCoin, based on the BitCoin open-source protocol, which become credible and tradable on exchanges globally.

The netarchic conglomerates become powerful economic islands that span across city states and regions. As governments lose their economic capacities, the big netarchic conglomerate platforms take their place as providers of basic needs and services. Conglomerate platforms provide the funding for education, driven by network capabilities and requiring corporate loyalty. Employees can access peer-based health services, while health service providers are ensconced into rentier systems.

Netarchic conglomerates, which become transnational network entities that also connect with localized sharing and micro manufacturing, require the development of new legal codes and frameworks, and thus expand their jurisdictional and jurisprudential capabilities in the face of weakened states. Contract law between conglomerates, or between a company and a peer provider become central. Protection services are connected with those who are closer to the centers of corporate power. Research is driven by the Corporation for the Corporation, and large-scale energy provisioning for the corporation becomes a priority, while those outside of any number of corporate families experience the harsh realities of long-term post-peak oil energy decline. Ragged feral nomads live beyond the network families.

As state finances crumble they lose the capacity to surveil the population. On the other hand, citizens are ubiquitous in the halls of government. The capacity for citizens to share and peer into the world of government becomes more extensive, information which is automatically shared with big netarchic conglomerates, Google, Facebook, and other powerhouses of the network age. Citizens, ensconced into a system of perpetual ambient data gathering become the instruments by which government is undermined. Government loses the weapon of secrecy, which is now reserved for the rentier class of netarchic capitalists.

Citizen attempts to use government to tilt the balance of power are met with subtle yet effective marginalization. Successful p2p managers and digital sharecroppers cannot be political. Businesses have become disproportionately powerful, and, unlike government, are able to control flows of information much more effectively than government, and can counter citizen attempts to make business transparent.

Yet the netarchic conglomerates must remain somewhat accountable. Digital sharecroppers can jump corporate ship if desperate, people can move physically

and virtually in this globalized world of economic islands and city-states. People's 'enfranchisement' within the Corporation, through stock, reputation systems, and contracts form the basis for their survival, and is the counterbalance to the exploitative nature of the rentier systems that privileges the netarchical capitalists.

Scenario 4: Federation of the Commons

[Formula: Citizens divide and subdue market and state]

The 2010s were marked by a pitched struggle between an insurgent citizen movement and the ruling political and economic elites. Different manifestations of the movement, in the US, Russia, China, the EU and elsewhere, were correct in their diagnosis of power, the fundamental challenge to democracy was the influence of big business on government, and politician's reliance on corporate monies to maintain power.

The Occupy movement and Arab spring were only the beginning, as wave after wave of techno-political activism swept the world. WikiLeaks was the first of many platforms that began to dismantle the inner workings of government secrecy (Greenberg, 2012). In response to this, using the pretext of the threat of terrorism, governments attempted to surveil and detain the most radical agitators. And yet, the government's capacity for surveillance increasingly could not be matched by the sousvalent capacities emerging across civil society. Leaks proving government-business collusion continued to hemorrhage out of leaky institutions. Repressive government tactics, the use of paramilitary force and unlawful detainment, was quickly made public and condemned. The government-business power complex began to lose its popular credibility in many countries around the world. Civil society's soft power was winning.

This culminated in a globally coordinated campaign to break the power nexus between many governments and big business. The campaign used general strikes, protests and sit-ins that aimed at national referendums for constitutional reform. The reforms would limit the power of corporations to influence government, limit the power of corporations to produce media to influence the public, and limit the power of government to use media as a tool for self-promotion and self legitimation.

Throughout this period netarchic capital had been attempting to cash in on the p2p enterprise and sharing economy. Influencing government to enact laws and policy that forced sharing and p2p enterprises into costly regulation and insurance, the network conglomerates attempted to legally lock out public and commons based enterprises, and offer their own substitutes on their rentier platforms.

Yet throughout this period p2p guilds had become a new economic and political force. They were able to wage defensive political actions to resist the strategic enclosure of relationality as orchestrated by netarchic capital interests. The guilds mobilized the public to choose citizen based platforms.

P2p guilds had expanded into complex trans-local entities that exerted power locally but coordinated and pooled across national and global scales. They had become politically fearsome forms that influenced government policy toward supporting peer production.

When the new constitutional referendums came into play, p2p guilds, no longer hobbled by the imposition of laws imposing artificial scarcities, restrictions and

monopolies, are able to expand rapidly, replacing, substituting and making obsolete many of the core functions provided by both netarchic platforms, as well as older industrial forms that had protected their interests through lobby influence on government policy.

New sophisticated cosmo-local investment pools drawing from p2p networks provide the financial mechanism within which long-term investment is funneled into p2p enterprises. A new financial ecosystem, using new currencies, allow peer producers to exchange abstract value (currency value) with other peer producers globally, with greater efficiency and lower cost then with pre-existing currencies. The result is a new range of circulatory systems across peer producing industries.

Cosmo-localization becomes the new global norm. P2p guilds increasingly interlock with other peer producing guilds to form complementary 'social metabolisms,' complex organs of peer producers reciprocating dynamic value. While manufacturing in primary production is localized and customized, through 3D printing and p2p cottage industries, reciprocally, these localized manufacturing processes draw from an explosion of global commons content in artifice design. The end of artificial immaterial scarcities, which were maintained through the influence of incumbent business interests, leads to a productivity boost and a new wave of wealth creation.

New social formations flourish. Community sourced but globally enriched education drives transformations in learning. Health becomes multi-spatial across local barefoot doctors, to national insurance schemes, linking with global commons oriented expertise. A new commons oriented jurisprudence emerges to articulate new types of commons based rights and responsibilities. Research and development is increasingly driven by diverse citizen and stakeholder needs. Micro manufacturing forms into 'meta' manufacturing processes across thousands of producers enabling large-scale and complex, highly polished products and services. As industry becomes flexibly scalable, energy production too is decoupled from the grid, developed for thousands of contextually specific applications, making huge reductions in energy use. Protection services are citizen directed, peer managed and inclusive.

Conclusion

The four scenarios offer one way to discern power dynamics and strategies in the evolution of the network era. They can be used to inform how we may begin strategizing toward our preferred futures. As proposed in the appendix, we may find that particular nations are in or moving toward one of the four scenarios already. We may ask, what is the pathway from one scenario position to another?

A more fundamental question, however, is normative: what are our values, and how does this influence what futures we consider desirable? From the author's vantage point, with respect to the value of the fullest expression of human empowerment, scenario four is clearly the most desirable. In this fourth scenario, a federation of the commons, citizens and communities are actively engaged in shaping the fabric of their lives and societies through a process of 'deep democracy' (Ramos, 2012). But others may find greater affinity with a different scenario. Paraphrasing Ashis Nandy (1992), one person's utopia may be another's tyranny.

This exercise was merely a starting point. This paper was intended to provoke conversation, hopefully toward the refinement of our understanding of social forces, political dynamics and the alternatives we confront. It is neither conclusive nor

all encompassing. There are of course other axes that can be used. There are other scenario development methods. There are other assumptions that can be employed. For example, it may be that citizens partner with the state to create new p2p governance systems, challenging the assumption that one side must win over the other (Ramos et al, 2011).

The stakes are high, and if we are serious about creating the futures we prefer, we will need to create high visibility public conversations that catalyze new intelligent pathways for making our ideals a reality. A central theme and argument of this paper, following in the footsteps of others (Dator, 2005) is simply that there is no given future, the future is shaped by our capacity to imagine alternative futures, visualize and design them, strategize pathways and implement effective actions. No better example exists than the late Aaron Swartz's efforts to stop the SOPA legislation.[21] It is true that some people and groups have more power than others, economically, politically, and culturally – but no person or group has a monopoly on human aspirations. Visions are by design hard to achieve, but with intelligence and determination they are realizable.

Appendix
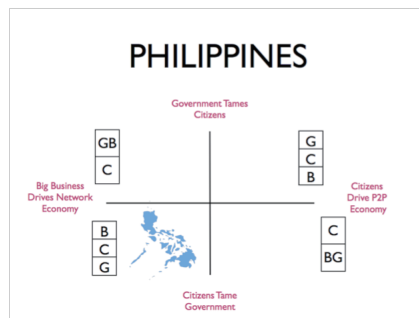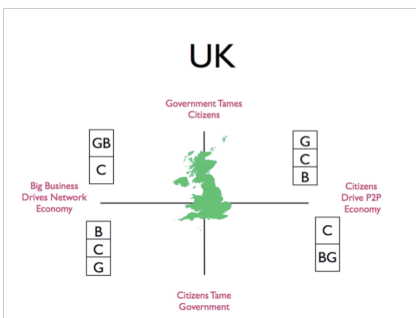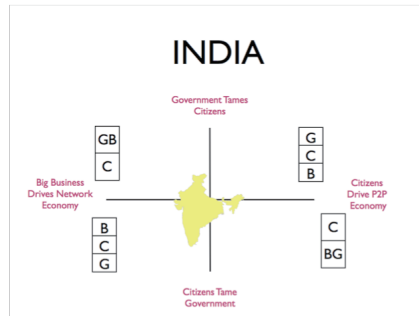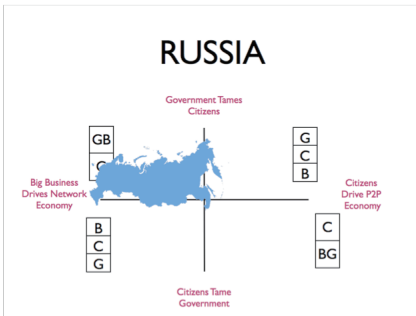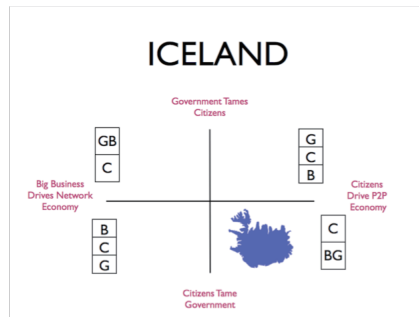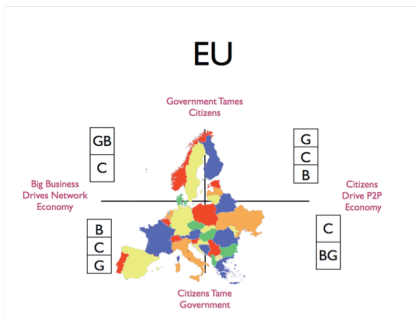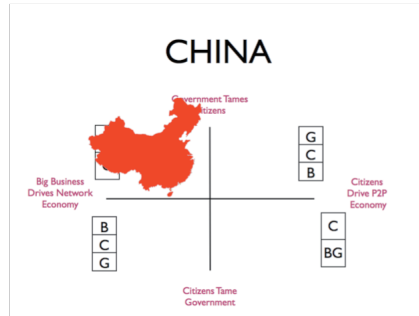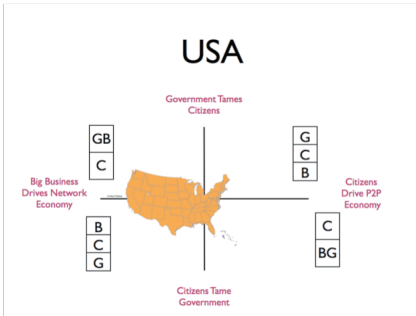
Speculative overview of position of eight nations within scenarios

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Notes

1 http://services2020.net/node/1331 accessed Jan 2013
2 http://p2pfoundation.net/Netarchical_Capitalism accessed Jan 2013
3 http://p2pfoundation.net/Netarchical_Capitalism accessed Jan 2013
4 http://en.wikipedia.org/wiki/Pirate_Party
5 http://uk.zopa.com/
6 http://www.makerbot.com/   and http://www.thingiverse.com/ accessed Jan 2013
7 http://www.shareable.net/blog/former-cabbie-ridesharing-is-the-future
8 From personal communication Oct 2012 documented in: http://theforesightepidemic.com/2012/11/01/the-future-of-cities-in-the-asia-pacific/
9 http://www.handmakersfactory.com.au/ Accessed April 2013
10 Noo-politik is a contraction of 'Noos' (Greek for 'mind'), and 'politik' (a play on the political discourse of Realpolitik). It signifies a new political reality in which culture, mediated through ICT, is the critical space of contestation and the mediator of political power.
11 The TV show Big Brother can be seen to have had a norming effect toward the acceptance of surveillance structures by the public, with significant changes post 9/11 patriot act.
12 See: http://www.zdnet.com/blog/government/nokia-burned-by-eu-for-assisting-iran-with-monitoring-technology/7080 accessed April 2013
13 http://www.guardian.co.uk/world/2013/feb/10/software-tracks-social-media-defence Accessed Feb 2013
14 http://www.businessweek.com/magazine/palantir-the-vanguard-of-cyberterror-security-11222011.html Accessed Feb 2013
15 See: http://www.guardian.co.uk/world/2012/aug/13/trapwire-surveillance-system-exposed-leak accessed Jan 2013
16 http://snuproject.wordpress.com/2012/12/24/the-internet-is-a-threat-to-human-civilization-julian-assanges-a-call-to-cryptographic-arms-via-p2p-foundation/ accessed Jan 2013
17 http://www.constitutioncampaign.org/blog/?p=11500&utm_medium=referral&utm_source=pulsenews#.UOpRtYV8MXw   accessed Jan 2013
18 http://www.palantir.com/ accessed Jan 2013
19 http://c4ss.org/content/13441 accessed Jan 2013
20 http://changeist.com/changeism/2012/10/30/plastic-overdrive accessed Jan 2013
21 https://www.youtube.com/watch?v=Fgh2dFngFsg&feature=youtube_gdata_player accessed Jan 2013

References

Arquilla, J., Ronfeldt, D (1999). *The Emergence of Noopolitik*. Santa Monica, RAND.

Bauwens, M., Iacomella, F., Mendoza, N., Pinchen, C. (2012). Synthetic Overview of the Collaborative Economy, Orange Labs / Peer to Peer Foundation, Chiang Mai, Thailand.

Bollier, D., and Helfrich, S. (Ed.). (2012). *The Wealth of the Commons: A World Beyond Market and State*. Amherst, MA, Levellers Press.

Boulet, J. (1985). *Action-Theoretical Reflections for Social and Community Intervention.* University of Michigan, Michigan.

Castells, M. (1996). *The Information Age: Economy, Society and Culture.* MA, Blackwell, p. 71-156.

Chandler, D., Baker, G. (Ed.). (2005). *Global Civil Society: Contested Futures* New York, Routledge**.**

Dator, J. (2005). De-Colonizing the Future. *Journal of Futures Studies*, 9(3), p. 93 - 104.

Dator, J. (2007). Governing the Futures: Dream or Survival Societies? *Journal of Futures Studies,* 11(4), p. 1-14.

Doctorow, C. (2012) *Makers*, UK, HarperCollins/Voyager.

Falk, R. (2004). *The Declining World Order: America's Imperial Geo-Politics*. New York and London, Routledge.

Galtung, J. (1971) A Structural Theory of Imperialism, *Journal of Peace Research.*

Goldthorpe, J. H. (1971). Theories of Industrial Society: Reflections on the Recrudescence of Historicism and the Future of Futurology. *European Journal of Sociology*, 12.

Greenberg (2012). *This Machine Kills Secrets: How WikiLeakers, Cypherpunks, and Hacktivists Aim to Free the World's Information*, New York, Penguin.

Keane, J. (2005). Cosmocracy and Global Civil Society. In D. Chandler, Baker, G. (Ed.), Global Civil Society: Contested Futures (p. 149-170). New York, Routledge.

Kellner, D. (2005). Globalization: A Contested Terrain. In E. Bronner (Ed.), Planetary Politics. Oxford, Rowman and Littlefield.

Kriegman, O., Amalric, F, Wood, J. (2006). Dawn of the Cosmopolitan: The Hope of a Global Citizens Movement. Boston, Tellus Institute.

Lessig, L. (2002). The Future of Ideas: The Fate of the Commons in a Connected World, Vintage Press, New York.

Nandy, A. (1992). *Traditions, Tyranny and Utopias.* New Delhi, Oxford University Press.

Ramos, J. (2010). Alternative Futures of Globalisation: A Socio-Ecological Study of the World Social Forum Process, P.h.D. Thesis Dissertation, Queensland University of Technology, Brisbane.

Ramos, J., Priday, G., and Mansfield, T. (2011). Strategic Issues in Government Service, Smart Services CRC, Cooperative Research Centres Programme, Australia, NSW.

Ramos, J. (2012). Deep democracy, peer-to-peer production and our common futures, *Futura, 31, 4.*

Ray, P., Anderson, S. (2000*). The Cultural Creatives*. NY, Harmony Books.

Robinson, W. (2004). *A Theory of Global Capitalism.* London, John Hopkins University Press.

Ronfeldt, D. (1996). Tribes, Institutions, Markets, Networks: a framework about societal evolution. Santa Monica, RAND.

Sklair, L. (2005). Generic Globalization, Capitalist Globalization and Beyond: A Framework for Critical Globalisation Studies. In R. Appelbaum, Robinson, W. (Ed.), *Critical Globalization Studies* (p. 55-64). New York, Routledge.

Wallerstein, I. (1983). *Historical Capitalism*. London: Verso.

Wallerstein, I. (2002). New Revolts against the System. *New Left Review,* p.29-39.

Wark, M. (2004). *A Hacker Manifesto*. Cambridge, MA, Harvard University Press.