

The New Balance of Power: A Network Theory of Media and Its Implications for Policy

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The Internet increasingly mediates nearly every interaction imaginable: friendship; entertainment; political discourse. The resulting cyberspace is a powerful force for social and political change, as well as a phenomenon in its own right. Technologically-mediated communication may well be the fastest-growing and most influential part of Schroeder's *media subsystem*—a semi-autonomous network that shapes the larger political and cultural realms whose messages it carries.

But like a rather delicate ecosystem—wherein, if you harm a plant, the animals die with it—the layers of the Internet are intricately intertwined. Castells articulates a theory of Communication Power, by which global media are linked by a vertically and horizontally integrated network¹. Castells casts the major players in this network as members of a two-way street, where global media networks influence local ones, and local networks influence global media in turn². The resulting cross-communication is a new forum—a “global public sphere”—that provides “both an organizing tool and a means for debate, dialogue, and collective decision making³.”

Castells's theory has been incredibly influential in our understanding of media, particularly its role in shaping democracy and culture. However, the mechanisms of cultural dissemination that Castells describes are not comprehensive. Castells attributes the driving force of communication to large media conglomerates, who broadcast via global partnerships⁴. He explicitly acknowledges trends across different actors—grassroots individuals, NGO's, social movements, and actors seeking to control public opinion⁵—but he paints them as heavily reliant on a capitalist media network. For example, even among local actors, movements gain traction via large media organizations: “the mainstream media rebroadcast and repackaged these citizen journalists' reports, made from the frontline, around the world⁶,” leading to global exposure and social change.

However, in recent history, we see cases that do not conform to the capitalist media model: governments often manipulate or produce media on their own; individuals disseminate content in decentralized networks outside of an established conglomerate. These non-capitalist media, as I will show, are in fact a unique piece in shifting dialogue away from the hands of the powerful. While insightful, Communication Power does not quite tell the full story.

My essay seeks to rework Castells in light of political and social developments, and ultimately set the stage for a theory of technology regulation. In the first half, I will propose a

¹ Castells, Manuel. *Communication Power*. (Oxford: Oxford University Press, 2009), 70.

² *Ibid.*, 89-90.

³ Castells, Manuel. "The New Public Sphere: Global Civil Society, Communication Networks, and Global Governance." (*The ANNALS of the American Academy of Political and Social Science* 616, no. 1 (2010): 78-93), 86.

⁴ *Ibid.*, 90.

⁵ *Ibid.*, 83-85.

⁶ *Ibid.*, 86.

new network theory of communication, analyzing three areas where Castells falls short. My model then defines mediated communication as a directed, weighted graph, where institutions and individuals form nodes, and media form edges. The revised theory expands on Communication Power, using the graph framework to visualize how the global network can facilitate incredibly nuanced, powerful relationships.

In the second half of this essay, I will apply the revised theory to the modern-day public sphere. Technology has forged new avenues of communication, creating fresh edges in the global communication graph. In particular, where there had been a one-way broadcast between powerful entities and people, technology has made it possible to communicate in the other direction: individuals are empowered to influence or criticize the traditionally powerful. Technology should therefore give us new hope in the public sphere. It creates a more equalized balance of power—one that regulation should seek to sustain rather than suppress.

To begin sketching out where we can rework Castells, it is useful to first examine three of his shortcomings. First, Castells's conception of the network is focused on capitalist media hegemony, lending itself to criticism that it does not account for different media paradigms. Second, his theory is overly technologically deterministic, often ignoring existing trends that would have created a similar outcome. Finally, Castells oversimplifies some of the relationships between entities in the network—he implies that partnerships and cross-relationships exist, but he fails to clearly model their interactions.

Schroeder's response to Castells gets at the first flaw. Castells's overreliance on capitalist media conglomerates does not account for some countries, such as "China, where the party-state exercises much control over media, or Sweden, where public-service media continue to be dominant⁷." Here, Schroeder tells half of the story. Castells *does* account for governments' role to some extent, gesturing at a "complex set of regulatory institutions, policies, and practices⁸." The trouble is, his articulation of the relationship between corporations and the government is not fully accurate.

In Castells's network, each actor—grassroots organization, NGO, government, and so on—acts through the media. Businesses with global reach form the core of the media network. Governmental regulation is merely a gatekeeper for these corporations: "regulatory processes...shape multimodal digital communication⁹." However, unaccounted for by Castells's theory is that governments often do far more than regulate. Sometimes, state-run media make the government *itself* a media hegemon (i.e., China Central Television, Russia's RT). It is clear that governments are media producers in their own right, not merely the media regulators that Castells assumes them to be.

And even when engaging with corporate platforms, the production of political influence takes place not as a form of regulation, but as a form of co-opting the designers' intention. Governments commonly disseminate political messages through existing media outlets: Russia's propaganda machine, fueled by bots and targeted advertisements, influenced 126

⁷ Schroeder, Ralph. *Social Theory after the Internet: Media, Technology, and Globalization*. (UCL Press, 2018), 2.

⁸ Castells, *Communication Power*, 100.

⁹ *Ibid.*, 101

million Facebook users¹⁰ in the course of the 2016 election. More broadly, some 48 countries engage in social media manipulation¹¹. Even grassroots organizations share this tactic. In the United Kingdom, Labour Party supporters used Tinder bots to initiate political conversations. The movement's leaders later claimed success after several narrow Labour victories in targeted districts¹².

It's clear that Castells's theory, focused on networks between media companies, does not give government or grassroots actors enough credit. The network of global and local media companies forms only one piece of the picture. It is for this reason that Schroeder criticizes Castells for not accounting for China and Sweden—there, the government is both producing and regulating, and Castells's theory had left out the former.

In fact, there are three kinds of media producers: government, individuals, and associations of individuals (corporations, political organizations, and the like). The power of each type of producer at various different times opposes, balances, and strengthens the power of each of the others. A Russian bot shares a political post; a real human user views and shares it with her own network, thus lending the bot its influence. Associations of people protest the Russian interference via social media, and Facebook responds by shutting down thousands of automated accounts. Here, the global network takes on a far greater complexity than what Castells had imagined.

The second shortcoming of Castells's theory is that he over-attributes societal transformations to the Internet, when in fact they are continuations of existing trends. As Schroeder points out, "the Internet is not responsible for a wholesale change in society¹³." Castells's observation that the media is entrenched in systems of power actually long predated the Internet; In 1991, Habermas had made criticisms about newspapers and televisions that Castells argues are unique consequences of the Internet. Equivalently, one source of technological influence that Castells cites is "mass self-communication," which enables a unique form of persuasion through targeted messaging. But targeted persuasion had already existed during the age of newspapers and advertisements. Writing of 1814, Habermas describes newspapers as having become a "capitalist undertaking...enmeshed in a web of interests¹⁴." His wording here surprisingly echoes the network analogy.

In fact, for as long as media has existed, powerful interests have wanted to use the media to amplify their own voices. This takes place not merely in the public sphere, but in every context of governance. Foucault describes governance as a complex "ensemble formed by the

¹⁰ Howard, Philip N. "How Political Campaigns Weaponize Social Media Bots." IEEE Spectrum: Technology, Engineering, and Science News. October 18, 2018. Accessed May 14, 2019.

<https://spectrum.ieee.org/computing/software/how-political-campaigns-weaponize-social-media-bots>.

¹¹ Bradshaw, Samantha, and Philip N. Howard. "Challenging Truth and Trust: A Global Inventory of Organized Social Media Manipulation." The Computational Propaganda Project. 2018. Accessed May 14, 2019.

<https://comprop.oii.ox.ac.uk/research/cybertroops2018/>.

¹² Howard, "How Political Campaigns."

¹³ Schroeder, *Social Theory*, 6.

¹⁴ Habermas, Jürgen. *The Structural Transformation of the Public Sphere: An Inquiry into a Category of Bourgeois Society*. (Cambridge, Mass: Massachusetts Institute of Technology, 1991), 185.

institutions, procedures, analyses and reflections¹⁵," historically emerging from several spheres: morality, economy, and politics¹⁶.

Schroeder describes three remarkably similar "spheres," or "powers." Replacing morality with culture, Schroeder claims that media is a subsystem—interweaving between politics, culture, and the economy¹⁷. And unlike Castells, who sees technologically-mediated networks as the driving force of change, Schroeder sees technology as only a single (albeit very influential) domain in a wider system, originating from the cultural sphere. Schroeder and Foucault's analysis re-groups the network concept: institutions do not interact in a mass, disorganized web. Rather, the connections of influence, subdivided into "spheres," can help us understand how distinct parts of society interact in predictable ways. It helps inform a paradigm for setting policy (how does the political sphere influence the economic and cultural?) and a paradigm for resistance.

The idea that technology is only one aspect of this system also helps us understand that, at times, new forms of media simply strengthen existing trends rather than start new ones. Habermas writes, somewhat gloomily, that the public has disappeared under the "engineering of consent¹⁸"—using propaganda to persuade citizens to accept political agendas unquestioningly. This tactic is not new. But propaganda and censorship (particularly in countries such as China) have been emboldened through sinister applications of technology. DNS poisoning, bandwidth throttling, and keyword filtering are among many tactics used by the Chinese government in its "Great Firewall¹⁹". The Internet, then, is merely a new battleground in an existing cultural war. Castells's theory would fall short here: technology did not set Chinese censorship and propaganda into motion. And rather than drive social change, it pushed the government more strongly in its previous direction. Considering this shortcoming of Castells, my revised theory will incorporate the concept of spheres to account for existing interconnections.

A third and final shortcoming of Castells is that he oversimplifies some of the relationships between entities in the network. Despite the myriad producers, regulators, and special interests involved, Castells's theory centers around corporate hubs, who influence one another through partnerships and cross-investments²⁰. However, this conception oversimplifies reality. The model of partnerships and horizontal/vertical integration ignores, for example, cases where companies blatantly copy each other's features in a non-collaborative fashion: see Facebook's recent copying of Snapchat's features, and WeChat's subsequent replication of the same features²¹. And Castells leaves out corporate-government partnerships entirely, such as, in 2017, where the NSA collected more than 534 million records of phone calls and text

¹⁵ Foucault, Michel. "Governmentality." in *The Foucault Effect: Studies in Governmentality*, edited by Graham Burchell, Colin Gordon, and Peter Miller, 87-104. (Chicago: University of Chicago Press, 1991), 102

¹⁶ *Ibid.*, 91

¹⁷ Schroeder, *Social Theory*, 13.

¹⁸ Habermas, *The Structural Transformation*, 194.

¹⁹ "Media Censorship in China." Council on Foreign Relations. February 17, 2017. Accessed May 14, 2019. <https://www.cfr.org/backgrounders/media-censorship-china>.

²⁰ Castells, *Communication Power*, 76.

²¹ Velasco, Carl. "After Facebook, It's Now WeChat That's Copying Snapchat." Tech Times. December 26, 2018. Accessed May 14, 2019. <https://www.techtimes.com/articles/236767/20181226/after-facebook-it-s-now-wechat-that-s-copying-snapchat.htm>.

messages from AT&T and Verizon²², or when regimes in Zimbabwe and North Korea purchased surveillance equipment from Western corporations²³. Thus, Castells's description of the connections between these major entities does not provide a good way to model the different natures of the relationships they take on.

Despite these flaws, Castells's conception of the media as a network is an incredibly useful one. Specifically, networks are very versatile, and they easily visualize the idea of interwoven connections between the political, economic, and moral/cultural spheres as described by Schroeder and Foucault. A few modifications to the network model can help incorporate my critiques into a revised theory. This revised theory, I will later argue, will be critical to evaluating the state of technology regulation and the public sphere in 2019.

I propose modelling media networks as a directed, weighted graph rather than as a generic system of connections. This graph serves as not only a visualization but also a quantitative model of the media subsystem. Each node in the graph will be one of three types: a government, an individual, or a collective. And each edge in the graph will describe how the entity interacts with the media: producing/consuming, regulating, collaborating, copying, patronizing, and so on. Edges will be directed; to lead *away* from a node is to be a producer or regulator; to lead *toward* a node is to be a consumer or the regulated. As new means of interaction are developed—for example, through technology—new edges will be added to the network.

The resulting graph will be clustered around three major groupings of nodes. This would reflect Schroeder and Foucault's three spheres: the Political Cluster would reflect interconnections within the political sphere—governments' attempts to influence the politics of other governments, interactions between different government agencies, and so on. The Economic Cluster would reflect connections within the economic sphere—for instance, Hollywood's influence on the fashion and retail industries—and the Cultural Cluster would reflect the connections within the cultural sphere—for instance, the rise and popularity of social media and Selfie Culture. Of course, these spheres are not perfectly distinct; many nodes exist in between two or more spheres. For now, the simplified visualization below (Figure 1) provides a useful mental model as I lay out the theory.

²² Savage, Charlie. "N.S.A. Triples Collection of Data from U.S. Phone Companies." The New York Times. May 04, 2018. Accessed May 14, 2019. <https://www.nytimes.com/2018/05/04/us/politics/nsa-surveillance-2017-annual-report.html>.

²³ Timm, Trevor, and Jillian C. York. "Surveillance Inc: How Western Tech Firms Are Helping Arab Dictators." The Atlantic. July 10, 2015. Accessed May 14, 2019. <https://www.theatlantic.com/international/archive/2012/03/surveillance-inc-how-western-tech-firms-are-helping-arab-dictators/254008/>.

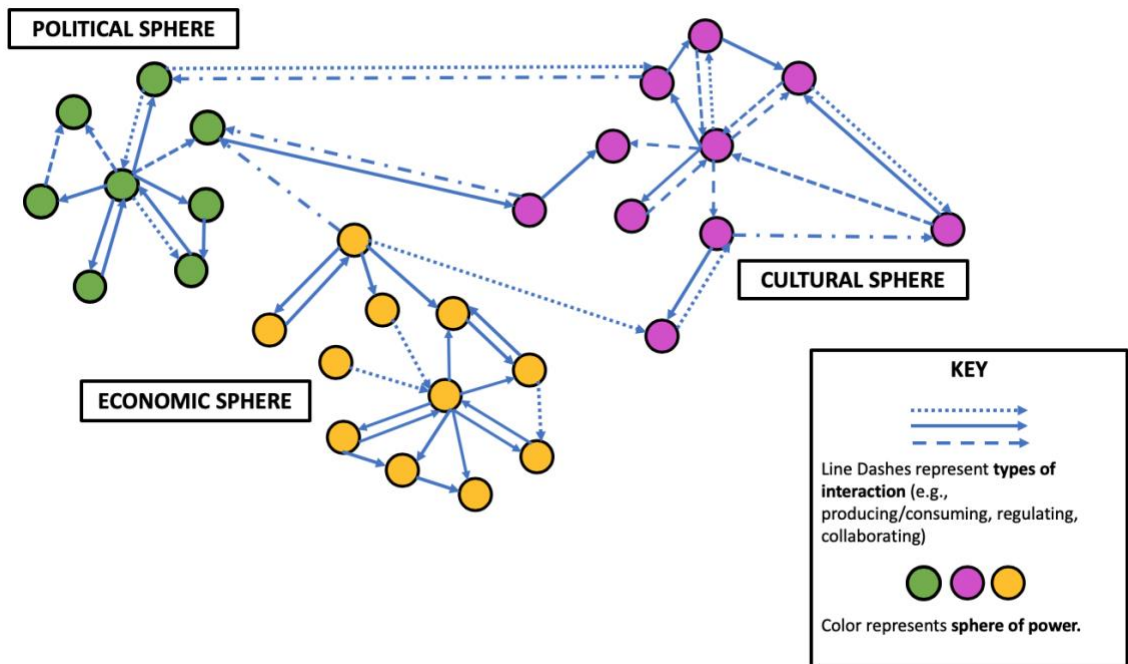


Figure 1. Interactions of the Three Clusters in my Revised Theory.

An important feature of the revised theory is that it recognizes that there are many different kinds of connections, both within and across the major spheres of power. It establishes and easily visualizes the fact that the entities influence one another. The following figure provides a simple example of one such interaction, involving all three spheres of power:

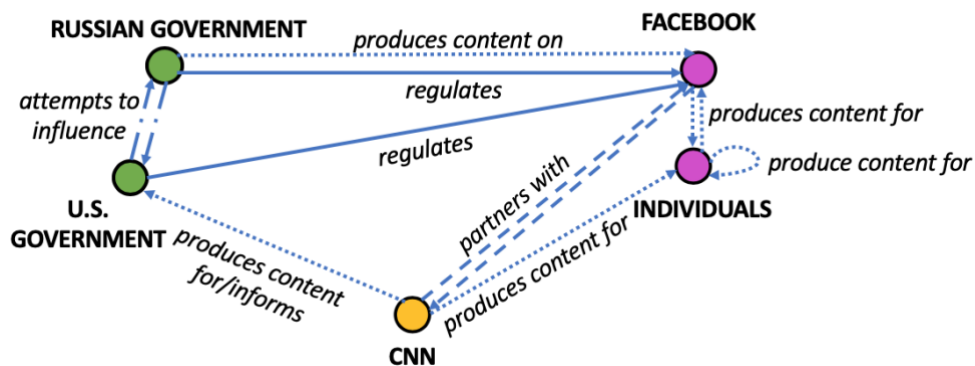


Figure 2. Simplified Example of Interaction Across All 3 Spheres.

Finally, the model demonstrates that these different interactions can take on different levels of strength. This is done by weighting each of these edges with a value from 0 to 1. A value of 0 would indicate that one node has no influence over another node; a value of 1 would indicate that a node has complete control over another (i.e., when a state dominates and manages all press). The mechanism of setting these weights could be drawn from existing empirical data, such as measures of free press in a particular country; the weights provide valuable insight into the particular balance of power in a given context. Below, Figure 3

illustrates (a simplified case) where the Chinese government heavily censors the microblogging platform Weibo, while Weibo produces discourse that can subvert the government's authority.

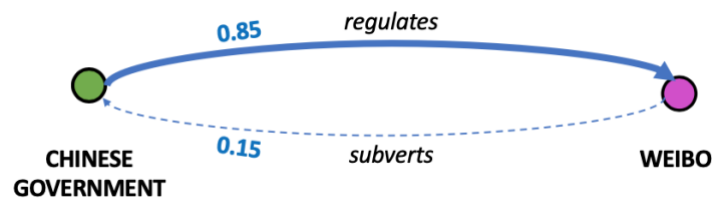


Figure 3. *Simplified Example of Relationship with Weighted Edges.*

Of course, adding weights will be the most challenging aspect of this model. Critics might argue that it is impossible to reduce the complex layers of influence down to a single number. They may even question whether it is useful to map out the connections between each government body, corporation, and activist group.

However, graphs of the Internet (however vast) already exist, so creating an empirical version of my model is within reach. Stanford's Large Network Dataset Collection has directed weighted graphs of a myriad of digital networks²⁴. Indices that compress a complicated concept into a single number are also not unheard of (for example, the Gini coefficient), and a similar thing can be done for the edge weights here.

Empirically documenting relationships across the three spheres of power will be an enlightening future project. The visualized data will enable us to track the impact of social movements, measure the health of democracy, and investigate the nuances of specific situations (such as Russian interference in U.S. politics, a simplified version of which is shown in Figure 2). Even this simple example provides an insight: we can see a cyclical relationship between Facebook and individuals—accounting for why injecting a small amount of falsified content might compound itself in the cultural sphere.

My revised theory subsumes the discussion of historical trends. Even as we create new edges for upstart technologies, existing connections (older edges) remain. It will be easy to visualize the fact that technology bolsters the historical tendency to “engineer consent” and conduct surveillance, while also modeling areas in which technology produces novel problems (creating a connection where none previously existed). Here, we satisfy Schroeder: the revised theory accounts for both old and new media.

My revision connects the thinkers to each other: it incorporates the core idea of Communication Power (that media forms a horizontally and vertically integrated network across the global and local) and applies it to new types of entities. It provides an account for the state-dominated press, for public service media, and for broader historical trends of governance. It reconciles Castells's network with Habermas' public, and it models Schroeder's media subsystem.

How, then, might this revised theory of media describe the modern public sphere? The web of connections between these three spheres creates a new conception of the public. If the public is “the space where people come together as citizens and articulate their autonomous

²⁴ Leskovec, Jure. "Stanford Large Network Dataset Collection." Stanford Large Network Dataset Collection. Accessed May 14, 2019. <https://snap.stanford.edu/data/>.

views to influence the political institutions of society²⁵,” then the power of these citizens’ voices can be measured by their influence on political institutions. Here, the new theory is useful, because it gives an account of influence through the distribution of connections. In my model, the public sphere is a set of edges. The nodes representing individuals and organizations—the users of Facebook, the protestors on Twitter, the Planned Parenthoods, the NRA’s, and so on—are the members of civil society. The edges leading away from them, representing discourse originating from civil society, is the public sphere. Here, graph theory applies: we can measure how willing individuals are to communicate, for instance, by measuring the density of these outgoing edges (the average degree of the nodes).

Similarly, by examining the edges that connect governments and civil society, we can use the model to quantify mass media, or communication “between societal organizations and state institutions²⁶.” This allows us to create a measure of a civil society’s health: to what extent does the citizenry meaningfully engage in political issues, and to what extent are they merely recipients of mass media? The ratio between the number of connections originating from civil society and those originating from the government can be a powerful indication of how much influence each sphere wields. If the strength of the public lies in its ability to lift up the people’s voices to the government, rather than unquestioningly accept the whims of the ruling party, measuring this influence will be critical to evaluating the success—or failure—of a government in sustaining its public.

Habermas lamented in 1991 that the rationally debating public had collapsed²⁷, having been subsumed by mass media. Nearly thirty years later, many notable pieces in the landscape remain the same. However, with the Internet’s entrance into the political, cultural, and economic spheres, the landscape has also shifted in notable ways. Powerful actors have the same incentives, and with even greater influence—the tools of electioneering and political influencing have become ever more common. There are now more ways to monitor, censor, and convey propaganda to the citizenry than in any other point in history. Habermas would likely find the 2016 to be a tragedy of the public, and the Facebook flame wars that have replaced discourse to be another mark of the public’s demise.

However, what distinguishes the 2019 public from the 1989 one is the set of tools that civil society now wields. Thirty years ago, when corporate and political interests held the reins of power, ordinary citizens were left with no recourse. They were not wealthy or influential enough to purchase newspapers and advertisements. The public sphere had flooded with private interests, and, their voice having been drowned out in the din, “the public [was] no longer composed of persons formally and materially on equal footing²⁸.”

Crucially, the decentralized nature of technology returns power to the people. Social media lowers the cost of publishing, as making an account and writing a post is relatively inexpensive. The floodgates for public discourse once again open. And social media catapults community organizers into the leaders of a national movement, as it did with Alicia Garza,

²⁵ Castells, “The New Public Sphere,” 1.

²⁶ Habermas, *The Structural Transformation*, 248.

²⁷ *Ibid.*, 247.

²⁸ *Ibid.*, 227.

Patrisse Cullors, and Opal Tometi²⁹, who founded the Black Lives Matter movement with a single viral post on Facebook.

The fact that a national movement began with three local activists, all of whom hailed from backgrounds that were not traditionally powerful, was no accident. To some extent, existing at the fringe of mainstream is a feature of being 'viral' online. In their 2012 study of online communities, Dahlander and Frederiksen found that being in the periphery of a social sphere creates a greater amount of cultural innovation³⁰—in other words, fringe ideas are more likely to take flight in the form of new conversations. Social media uniquely gives an innovative role to those who do not conform to social norms. Similarly, decentralized networks of activists subvert established power in a myriad of ways: hacktivism, open-source software, anonymous computing (Tor), and "fair" alternatives to corporate-run tools (DuckDuckGo versus Google Search) have all been used by individuals to subvert the traditional halls of power.

This bodes well for the public sphere. Taking on the lens of the theory I proposed, the Internet may certainly have increased the connections leading from the government to the citizens—strengthening mass communication and the "engineering of consent." But it has also forged new connections where none previously existed. Individual members of society now have a mechanism to communicate to powerful institutions. They can post about it; begin a new hashtag; start a petition; organize a revolution. The Internet may have strengthened the powerful, but it has also given the powerless an unprecedented means of fighting back. I suspect that, in the end, Habermas would see the public in 2019 as partially restored. Or, at the very least, a dynamic new tool now has the potential to restore it.

We have so far shown that the Internet has a role in tipping the scales away from governments and the powerful and back toward the citizens. The question is, of course, how far the scales should tip. The addition of new technology creates new edges in the network; governance determines the weight of each edge (that is, how much relative influence a particular entity is allowed). Too much regulation, and the edge weight weakens: mass media becomes an overpowering, dominant voice. Too little regulation, and the edge weight strengthens: society becomes ruled by online shaming and by mob.

The key is to strike a balance, whereby the government sets just enough rules to prevent the public from growing into an unruly mess, but not so many that the public loses its freedom. Yochai Benkler, writing of the "networked information economy," takes a libertarian stance: since state action is most likely to "support the incumbents," the only justified intervention is that which prioritizes the freedom of private action. Despite his skepticism of the state, Benkler nevertheless concedes that the government has a role to "adjust its policies to...improve support for core liberal commitments³¹."

Castells, on the other hand, has a bit more faith in the state. He advocates for a more engaged government, directly interacting with the digital public sphere. "It is essential," he writes, "for state actors...to relate to civil society not only around institutional mechanisms and

²⁹ "Herstory." Black Lives Matter. Accessed May 14, 2019. <https://blacklivesmatter.com/about/herstory/>.

³⁰ Dahlander, Linus & Frederiksen, Lars. "The Core and Cosmopolitans: A Relational View of Innovation in User Communities." (*Organization Science*, no. 23 (2012): 988-1007), 990.

³¹ Benkler, Yochai. *The Wealth of Networks: How Social Production Transforms Markets and Freedom*. (New Haven, CT: Yale University Press, 2007), 22.

procedures of political representation but in public debates in the global public sphere³².” After all, in order for the public to provide feedback to the state, the state must be listening in the first place. Recall Figure 3, where the state and (one instance of a) social media platform create a feedback loop. The example depicted an imbalanced scenario, whereby the Chinese government’s regulation overpowered the ability for users to fight back. However, one easily imagines a more balanced relationship: 0.5 and 0.5, whereby the state and the public speak on equal terms.

Here, Benkler might quip that such thinking is naïve because the state is rarely inclined to create such a balance. But I argue that the idea of an entirely minimalist state—particularly in a world where even very liberal governments are quite interventionist—is extremely difficult to achieve. A far more plausible aim is to recognize that it is impossible to remove some of the state’s structures of power consolidation. Instead, empowering the state is permissible so long as the people have a means of defending themselves. So long as the people are empowered in tandem, creating a counter-force to the state’s force, the public sphere lives on.

The insight of my theory is that technology, rather than being a deterministic force in society, creates a network of forces that act upon each other. Technology is not a monolith. Rather, in the spheres of politics, culture, and economy, technology brokers new connections. Some of these connections had existed previously and are merely strengthened or weakened; others are entirely new. Like any network theory, these “links between units of analysis—whether organizations, individuals, or content—are more revealing than the units on their own³³.” In envisioning a future public sphere, then, this network theory leads to a view of balancing the state’s power with that of civil society, recognizing that, for the first time in history, the rich and powerful no longer hold a monopoly on the media. Moving forward, the most defining problem of technology regulation will be the task of finding a precise balance.

³² Castells, “The New Public Sphere,” 90.

³³ Howard, Philip N. *Castells and the Media*. (Cambridge, UK: Polity Press, 2011), 2.