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The Automated Public Sphere

Frank Pasquale

Abstract

The public sphere has experienced yet another structural transformation. Firms like Facebook and Google have largely automated the types of decisions made by managers at television networks, or editors at newspapers – but with much more powerful effects. Long critiqued in academic circles, the manifest inadequacy of this new media landscape is now itself a matter of public debate. The deficiencies of the automated public sphere are so manifest that consumer protection and media regulatory authorities must intervene. As they do so, they should carefully examine how emergent dynamics of communicative capitalism vitiate older societal protections. New methods of monitoring and regulation should be as technologically sophisticated and comprehensive as the automated public sphere they target.

This article first describes the documented, negative effects of online propagandists' interventions (and platforms' neglect) in both electoral politics and the broader public sphere (Part I). It then proposes several legal and educational tactics to mitigate platforms' power, or to encourage or require them to exercise it responsibly (Part II). The penultimate section (Part III) offers a concession to those suspicious of governmental intervention in the public sphere: some regimes are already too authoritarian or unreliable to be trusted with extensive powers of regulation over media (whether old or new media), or intermediaries. However, the inadvisability of extensive media regulation in disordered societies only makes this agenda more urgent in well-ordered societies, lest predictable pathologies of the automated public sphere degrade their processes of democratic will formation.

Introduction

As internet usage grew in the 2000s, scholars promoted its emancipatory potential. Yochai Benkler praised not only the wealth that would be promoted by networks, but also its distribution – toward a platform of platforms that would enable millions of new voices to be heard online (Benkler 2007). This optimism also animated one of the United States’s seminal cases on internet regulation, *Reno v. ACLU* (1997), which presumed the openness of the internet would redound to the benefit of all. The majority opinion in *ACLU* darkly cautioned the US government to avoid mucking about in many forms of internet regulation, lest it infringe on free expression rights in an online environment that the justices, as well as later boosters, idealised. Large platforms themselves harbour utopian pretensions to this day; for example, Mark Zuckerberg has marketed Facebook as a nascent global community (even as social critics lament how time online diverts citizens from in-person engagement with friends and neighbours) (Rushkoff 2016).

Even in the 1990s, scholars warned about the implications of deregulating the internet (Chin 1997). By the mid-2010s, it is hard to remain optimistic about the role of the internet in organising a new, and critically important, digital public sphere. Wealth has emerged in online advertising, but it is largely claimed by two firms – Google and Facebook take about 75% of the USD 73 billion digital advertising market in the US (Bond 2017). These information intermediaries are driven by profit, and their methods of selecting and arranging newsfeeds and search engine results pages are secret (Pasquale 2015b: 59-100). The promised *Wealth of Networks* has given way to a black box society – one where trolls, bots, and even foreign governments maraud to distort the information environment on Twitter, Facebook, Google News, Reddit, and other networks.

We now know that virtually every positive promise made about the internet in the early 2000s, has a shadow side. While secrecy has empowered some voices who would otherwise be afraid to speak up, it has also protected trolls, doxers, and other bad actors online who silence others’ speech via intimidation. Moreover, online anonymity is of a piece with financial anonymity, which has empowered thousands of shell companies to obscure who is actually funding messages that could sway the public, legislators, and regulators. Everyone is invited to

participate, but so too is ‘everyone’ capable of disrupting other communities of interest online, via hashtag spamming or trolling – whether by civil society groups, state actors, or miscreants pursuing disruption ‘for the lulz.’ First celebrated as a way to hold states accountable for illegal actions, Wikileaks has emerged as a witting agent of authoritarian state interference in elections with a troubling tendency to emit anti-Semitic messages. Manipulation of algorithmically generated and organized content has disturbed many thoughtful observers of internet culture (Bridle, 2017). While major content owners have found their grip on public attention diminished, fragmentation of audiences has given megaplatforms unprecedented global power over attention-commanding interfaces.

That last reversal is the subject of this article. In a world of stable and dominant media firms, large social networks and search engines were in a rough equilibrium of power relative to the owners and creators of the content they selected and arranged (Pasquale 2010b). However, a general trend toward media revenue decline (and platform revenue growth) makes a new endgame apparent: online intermediaries as digital bottlenecks or choke-points, with ever more power over the type and quality of media that reaches audiences (Bracha and Pasquale 2008; Pasquale 2008b).¹ The source of this power is, at bottom, Big Data – the ability of megaplatforms to accumulate ever-more-intimate profiles of users, which are then of enormous interest to commercial entities, political campaigns, governments – indeed, anyone aspiring to monitor, monetise, control, and predict human behaviour. Megaplatforms readily deploy Big Data to individualise and demobilise voters, rather than to unify and motivate them.² Tailored manipulation disrupts already fragile processes of democratic will formation, undermining media pluralism and deliberative dialogue.

Large online intermediaries tend to reduce at least one good type of media pluralism, and tend to promote a very destructive type of diversity.³ They make the metric of success online ‘virality,’ promoting material that has received a good deal of attention or seems to match a sub-public’s personalisation profile, regardless of whether it is true or even minimally decent (Pasquale 2006). That reduces pluralism by elevating profit considerations over the democratising functions of public discourse, and effectively automating the public sphere. Decisions that once were made by humans with plural aims and aspirations are now made by profit-maximising

algorithms, all too prone to self-reinforcing logics of rapid, vapid, viral dissemination. Moreover, the same intermediaries also promote a very troubling diversity by permitting themselves to be manipulated by the most baseless and dangerous propagandists (Marwick and Lewi, 2017).⁴ Such media is particularly capable of influencing low-information, floating voters – exactly the persons all too likely to swing the results of elections.

This article first describes the documented, negative effects of online propagandists' interventions (and platforms' neglect) in both electoral politics and the broader public sphere (Part I). It then proposes several legal and educational tactics to mitigate platforms' power, or to encourage or require them to exercise it responsibly (Part II). The penultimate section (Part III) offers a concession to those suspicious of governmental intervention in the public sphere: some regimes are already too authoritarian or unreliable to be trusted with extensive powers of regulation over media (whether old or new media), or intermediaries. However, the inadvisability of extensive media regulation in disordered societies only makes this agenda more urgent in well-ordered societies, lest predictable pathologies of the automated public sphere degrade their processes of democratic will formation.

The Long Shadow of Intermediary Irresponsibility

As Jürgen Habermas observed in 1962, 'the process in which societal power is transformed into political power is as much in need of criticism and control as the legitimate exercise of political domination over society' (Habermas 1962: 210). As part of the Frankfurt school, Habermas was sensitive to the ways in which new media, manipulated by both corporate and state actors, had fundamentally altered processes of democratic will formation. He deemed such transitions a 'structural transformation' of the public sphere, since new forms of media both accelerated, altered, and reshaped the expression critical to opinion formation.

The basic contours of mass media-driven politics and culture evolved through much of the second half of the twentieth century. Since the mid-1990s, change has accelerated here, as it has in much of contemporary society (Rosa 2015). Megafirms like Facebook and Google have

largely automated the types of decisions once made by managers and programmers at television networks, or editors at newspapers. Automated recommendations are often helpful, aiding audiences as they seek to sort out the blooming, buzzing confusion of topics online. But they are also destabilising traditional media institutions and circuits of knowledge.

For example, the US election featured deeply disturbing stories about manipulation of social media for political ends. Unreliable sources proliferated, particularly among right-wing echo chambers. In December 2016, a Facebook-fuelled fake news story about Hillary Clinton prompted a man to arrive in a pizza parlour in Washington D.C. with a gun (Abrams 2016). The fake story reportedly originated in a white supremacist's tweet. Politically motivated, profit-seeking and simply reckless purveyors of untruths all prospered. A Macedonian teen churned out stories with no basis, tarring Hillary Clinton with an endless series of lies, in order to score quick profits (Smith and Banic 2016). For profit-minded content generators, the only truth of Facebook is clicks and ad payments. Bence Kollanyi, Phil Howard, and Samuel Woolley estimated that tens of thousands of the tweets 'written' during the second US presidential debate were spewed by bots (Kollanyi et al 2016). These bots serve multiple functions – they can promote fake news, and when enough of them retweet one another, they can occupy the top slots in response to tweets from candidates. They can also flood hashtags, making it very difficult for ad hoc publics to crystallise around an issue.

On Facebook, a metastatic array of fake content generators and hard-core partisan sites flooded news feeds with lies and propaganda. Facebook, as usual, disclaimed any responsibility for the spread of stories falsely claiming that the Pope had endorsed Donald Trump, or that Hillary Clinton is a Satanist (to give a mild pair of the lies that swarmed the platform) (Schaedel 2016; Evon 2016). But the Silicon Valley firm has several levels of responsibility.

Basic design choices mean that stories shared on Facebook (as well as presented by Google's AMP) have all looked very similar, for years (Chayka 2016). Thus a story from the fabricated 'Denver Guardian' can appear as authoritative as a Pulitzer Prize-winning *New York Times* investigation (Lubbers 2016). More directly, Facebook profits from fake news—the more a story is shared (whatever its merits), the more ad revenue it brings in (Molina 2016). Most

disturbingly, we now know that Facebook directly helped the Trump campaign target its voter suppression efforts at African-Americans (Winston 2016).

Google has suffered from other racially tinged scandals (Noble 2018). Consider, for instance, recurrent problems with Google's 'autocompletes' – when Google anticipates the rest of a search query from its first word or two. Google autocompletes have often embodied racist and sexist stereotypes (Cadwalladr 2016). Google image search has also generated biased results, absurdly and insultingly tagging some photos of black people as 'gorillas' (Guarino 2016; Barr 2015). If Google and Facebook had clear and publicly acknowledged ideological agendas, users could grasp them and 'inoculate' themselves accordingly, with scepticism toward self-serving views (Pasquale 2011). However, the platforms are better understood as tools rapidly manipulated to the advantage of search engine optimisers, well-organised extremists, and others at the fringes of political respectability or scientific validity. Thus a search for 'Hillary's Health' in October 2016 would have led to multiple misleading videos and articles groundlessly proclaiming that the US Democratic presidential candidate had Parkinson's disease. Google search results reportedly helped shape the racism of Dylann Roof, who murdered nine people in a historically black South Carolina church in the US in 2015. Roof said that when he Googled 'black on white crime, the first website I came to was the Council of Conservative Citizens,' which is a white supremacist organisation. 'I have never been the same since that day,' he said (Hersher 2017). So too are sources of support for climate denialists, misogynists, ethnonationalists, and terrorists easily developed and cultivated in what has become an automated public sphere.

These terrifying acts of violence and hate are likely to continue if action is not taken. Nor is democracy safe in a carelessly automated public sphere. Without a transparent curation process, the public has a hard time judging the legitimacy of online sources. Twitter, Facebook, and Google have permitted unreliable, manipulated sources to gain extraordinary prominence in the wake of mass shootings and other crises. Top executives at each firm have eschewed easily administered remedies (such as banning or downranking obviously unreliable sites and message boards). In response, a growing movement of academics, journalists and technologists is calling for more algorithmic accountability from Silicon Valley giants (Pasquale 2015a). As algorithms take on more importance in all walks of life, they are increasingly a concern of lawmakers. And

there are many steps both Silicon Valley companies and legislators should take to move toward more transparency and accountability.

Toward a Robust Regime of Intermediary Responsibility

Activist and academic responses to these imbroglios have been multifaceted. Some communication scholars have rightly criticised Facebook for its apparent indifference to the problem of fake or misleading viral content (Tufekci 2016). Others have focused their ire on the mainstream media, claiming that it was the recklessness or lack of professional responsibility at right-wing news sources (and established media institutions like CNN and the *New York Times*) which accelerated the rise of candidates like Trump (Kreiss 2016; Robinson 2016).

In truth, there is no contradiction between a critique of the new media and deep disappointment in old media. The pathologies of each are mutually reinforcing. Moreover, any enduring solution to the problem will require cooperation between journalists and coders. Facebook can no longer credibly describe itself as merely a platform for others' content, especially when it is profiting from micro-targeted ads (Pasquale 2016a). It has to take editorial responsibility. So, too, should megaplatforms like Google take on some basic responsibilities for the content they distribute. This section describes several specific initiatives that would help counter the discrimination, bias, and propaganda now too often polluting (and even overwhelming) online spaces.

Label, monitor and explain hate-driven search results

In 2004, anti-Semites boosted a Holocaust-denial site called 'Jewwatch' into the top 10 results for the query 'Jew' (Pasquale 2006). Ironically, some of those horrified by the site may have helped by linking to it in order to criticise it. The more a site is linked to, the more prominence Google's algorithm gives it in search results. The Anti-Defamation League and other civil rights organisations complained to Google about its technology's gift of prominence to entities eminently unworthy of such attention.

Google responded to complaints by adding a headline at the top of the page entitled ‘An explanation of our search results.’ A web page linked to the headline explained why the offensive site appeared so high in the relevant rankings, thereby distancing Google from the results. The label, however, no longer appears. In Europe and many other countries, lawmakers should consider requiring such labelling in the case of obvious hate speech. To avoid mainstreaming extremism, labels may link to accounts of the history and purpose of groups with innocuous names like ‘Council of Conservative Citizens’ (Pasquale 2016a; Pasquale 2008a).

Are there free expression concerns here? Not really. Better labelling practices for food and drugs have escaped First Amendment scrutiny in the U.S., and why should information itself be different? As law professor Mark Patterson has demonstrated, many of our most important sites of commerce are markets for information: search engines are not offering products and services themselves but information about products and services, which may well be decisive in determining which firms and groups fail and which succeed (Patterson 2017). If they go unregulated, easily manipulated by whoever can afford the best search engine optimisation, people may be left at the mercy of unreliable and biased sources.

Audit logs of the data fed into algorithmic systems

We should expect any company aspiring to order vast amounts of information to try to keep its methods secret, if only to reduce controversy and foil copycat competitors. However wise this secrecy may be as a business strategy, it devastates our ability to truly understand the social world Silicon Valley is creating. Moreover, like a modern-day Ring of Gyges, opacity creates ample opportunities to hide anti-competitive, discriminatory, or simply careless conduct behind a veil of technical inscrutability.⁵

A recurring pattern has developed: some entity complains about a major internet company’s practices, the company claims that its critics don’t understand how its algorithms sort and rank content, and befuddled onlookers are left to sift through rival stories in the press. Massive search

operations are so complex, and so protected by real and legal secrecy, that it is almost always impossible for those outside a search engine or social network firm to identify all the signals that are driving a given set of results. Silicon Valley journalists tend to give their advertisers the benefit of the doubt; national media outlets find the mysteries of online content ordering perfectly fit into their own templates of balanced reporting. No one knows exactly what's going on when a dispute arises, so rival accounts balance into an 'objective' equipoise.

Regulators need to be able to understand how some racist or anti-Semitic groups and individuals are manipulating search and social media feeds (Pasquale 2010b). We should require immutable audit logs of the data fed into algorithmic systems. Machine-learning, predictive analytics or algorithms may be too complex for a person to understand, but the data records are not. They can be subject to algorithmic audits.

A relatively simple set of reforms could vastly increase the ability of entities outside Google and Facebook to determine whether and how the firms' results and news feeds are being manipulated. There is rarely adequate profit motive for firms themselves to do this — but motivated non-governmental organisations can help them be better guardians of the public sphere.

Ban certain content

In cases where computational reasoning behind search results really is too complex to be understood in conventional narratives or equations intelligible to humans, there is another regulatory approach available: to limit the types of information that can be provided.

Though such an approach would raise constitutional objections in the U.S., nations like France and Germany have outright banned certain Nazi sites and memorabilia. Policymakers should also closely study laws regarding 'incitement to genocide' to develop guidelines for censoring hate speech with a clear and present danger of causing systematic slaughter or violence against vulnerable groups. It is a small price to pay for a public sphere less warped by hatred. And unless

something like it is done, expect social media driven panics about minorities to have even more devastating impact.

To be sure, this approach would almost certainly draw immediate legal action in the United States, where a form of free expression fundamentalism has protected even the most reprehensible speech (Peters 2005). Cyberlibertarians tend to support further expanding First Amendment protections for algorithmic orderings of information. Relatedly, the same scholars and judges eager to protect the ‘speech’ of computers also promote the idea that massive corporations’ ‘expression’ is deserving of exceptional protection from the very state so often suborned or co-opted by those same corporations. The science fictional appeal of Asimov-ian ideals of ‘speaking robots’ has fed into a romanticisation of corporate speech. The logical endpoint is a continual ‘battle for mindshare’ by various robot armies, with the likely winner being the firms with the funds to hire the top programmers and the network effect dynamics to gather the most data for the optimal crafting of messages for microtargeted populations. It goes without saying that this type of decomposition of the public sphere does not represent a triumph of classic values of free expression (autonomy and democratic self-rule); indeed, it portends their evaporation into the manufactured consent of a phantom public.

Permit limited outside annotations to defamatory posts and hire more humans to judge complaints

Limited annotations – ‘rights of reply’ – could be permitted in certain instances of defamation of individuals or groups, or unfair or unbalanced depictions of them (Pasquale 2008a). Google continues to maintain that it doesn’t want human judgment blurring the autonomy of its algorithms. But even spelling suggestions depend on human judgment, and in fact, Google developed that feature not only by means of algorithms but also through a painstaking, iterative interplay between computer science experts and human beta testers who report on their satisfaction with various results configurations. As Sarah Roberts, Lily Irani, and Paško Bilić have shown, supposedly digitised companies are constantly reliant on manual interventions by

human beings (Bilić 2016; Irani 2013; Roberts 2016a; 2016b). Requiring a few more is not a major burden for these firms.

This step is important because we now know (if we ever doubted) that the hoary ‘marketplace of ideas’ metaphor is misleading. The best ideas are not necessarily the most highly valued; the most sensational or gratifying propaganda can beat out careful reporting. Highly motivated, well-resourced groups can easily manipulate newsfeeds or search engine result pages (SERPs). ‘Dark ads’ and sophisticated personalisation algorithms enable constant experimentation on unwitting human research subjects, so A/B testing (particularly when used to measure divergent responses among thousands of users) can reveal exactly what manipulation works best. Without conscientious and professional curation of such algorithmic orderings of information, the public sphere’s automation is susceptible to distortion by the most well-resourced entities.⁶

Limit the predation possible by online intermediaries

Personalisation is leading advertisers to abandon traditional, and even not-so-traditional, publishers in favour of the huge Internet platforms. No other rival can approach either the granularity or the comprehensiveness of their data. The result is a revolution-in-process about who can afford to keep publishing, and concomitant alarm about the concentration of media clout into fewer and fewer hands. One platform owner, Jeff Bezos, accumulated wealth equivalent to one hundred times the total value of the United States’ second most important newspaper, *The Washington Post*. He bought the *Post*, with concomitant chilling effects on the paper’s ability to criticise his own business empire-building, or similar strategies by platform capitalists. Given the leverage potential of their own ever-higher expected earnings, large platforms may soon be able to move to buy more content producers themselves, as cable networks and internet service providers (ISPs) have done – or perhaps buy cable networks and ISPs. Further vertical integration would be a major threat to the autonomy of journalism.

Given all the negative externalities generated by online intermediaries, policymakers should limit the profits such intermediaries make relative to revenues of the content owners whose work they

depend on. In the health care context in the US, private insurers can only keep a certain percentage of premiums (usually 15 to 20%) – the rest must go to health care providers, like hospitals, doctors, and pharmaceutical firms. Such a rule keeps the intermediary from taking too much of the spending in a sector – a clear and present danger in monopolistic internet contexts, as well. Governments could limit the amount of profits that search engines and social networks make as intermediaries, requiring them to pay some share of their revenues to content generators like newspapers and media firms (Lanier 2013; Lehdonvirta 2017). Alternatively, policymakers could simply force large platforms to pay a fair share of the tax they now avoid by shuttling income to tax havens (see Schneider in this volume), and use some of that revenue for public broadcasting alternatives.

Obscure content that is damaging and not of public interest

When it comes to search queries on an individual person's name, many countries have aggressively forced Google to be more careful in how it assembles data dossiers presented as search engine result pages. Thanks to the Court of Justice of the European Union, Europeans can now request the removal of certain search results revealing information that is 'inadequate, irrelevant, no longer relevant or excessive,' unless there is a greater public interest in being able to find the information via a search on the name of the data subject (Pasquale 2016b).

Such removals are a middle ground between information anarchy and censorship. They neither disappear information from the internet (it can be found at the original source, and in searches on terms other than the complaining party's name), nor allow it to dominate the impression of the aggrieved individual. They are a kind of obscurity that lets ordinary individuals avoid having a single incident indefinitely dominate search results on his or her name. For example, a woman whose husband was murdered 20 years ago successfully forced Google to take news of the murder off search results on her name. This type of public responsibility is a first step toward making search results and social network newsfeeds reflect public values and privacy rights.

Concerns and Concessions

There will be fierce opposition to virtually all of the proposals I have listed above. Some will arise merely out of commercial motivations: policing hate speech and fake news is more expensive than letting it flourish. Platforms would rather just pile up advertising revenue. As Jodi Dean has demonstrated, outrageous content stokes at least as much engagement online as it has in the traditional media (Dean 2010). Indeed, the problem is easily intensified online, as personalisation allows platforms to deliver material precisely targeted to maximise clicks, likes, and shares (Citron 2014). Slowing down that accelerated engagement costs a platform potential advertising, and all-important data about its users (Srnicek 2017). It also impedes the platform's ability to shape its users into the kind of people who uncritically act in behaviouristically manipulable ways (Schüll 2012). Unless platforms can demonstrate that the intermediary responsibilities discussed above would compromise their ability to run the platform at a reasonable rate of return, such cost-based objections should be dismissed. Neither Mark Zuckerberg nor Facebook shareholders have any legitimate expectation of permanent, massive returns on their investment. Indeed, impeding their ability to accumulate the surplus they have used to buy rival and adjacent firms may well encourage innovation (Stucke and Grunes 2017).

Many apologists for big tech firms claim that this type of responsibility is impossible (or unwise) for a firm like Facebook to take on (Turton 2016; Lessin 2016). They argue that the volume of shared content is simply too high to be managed by any individual, or team of individuals. But this argument ignores the reality of continual algorithmic and manual manipulation of search results at Google. As technology writer Timothy Lee explains:

During the 2000s, people got better and better at gaming Google's search algorithm. Some were running quasi-media companies whose writers churned out dozens of extremely short, poorly researched articles based on popular search terms. (...) In a January 2011 blog post, Google search quality czar Matt Cutts acknowledged that Google had a big problem with these 'content farms.' (...) Later that year, Google brought down the hammer, releasing changes to its search algorithm that caused traffic at major content farms to plummet. (...) [This] represented Google making a deliberate value judgment

that some kinds of content were worse than other kinds. Early versions of Google took a naively data-driven approach, assuming that a link from one site to another was a sign of quality. [In later, more sophisticated iterations,] Google include[d] human reviewers in the mix because algorithms inevitably make mistakes and manual human review is needed to keep the algorithms on the right track. Previously reviewed pages can be fed back into Google's software, allowing the algorithms to learn from human judgment and get better over time. So Facebook doesn't have to choose between fighting fake news with algorithms or human editors. An effective fight against fake news is going to require heavy use of both approaches. (Lee 2016)

There are powerful lessons in this passage. First, be wary of platforms' convenient self-reification. Facebook may aspire to be merely a technology company. Those aspirations may express themselves as a petulant insistence that unsupervised, rather than supervised, machine learning is the ideal way to solve problems on the platform. But that 'identity' is a constructed and convenient one, directly at odds with tech firms' repeated invocation of free expression protections to shield their actions from governmental scrutiny (Pasquale 2016c).

Beyond economic and technical objections, there is a third, deeper objection to intermediary responsibility, focusing on the regulatory apparatus necessary to make it meaningful and robust. Authoritarian regimes have tried to stifle political dissent by regulating Facebook and Google. For example, the Thai, Russian, Chinese, and Turkish governments have aggressively policed criticism of national leaders, and have intimidated dissidents. Corrupt governments may be susceptible to excessive influence from well-organised lobbies. Fossil fuel lobbyists may influence regulators to force intermediaries to monitor and censor environmental activists committed to resistance against pipeline projects (Citron and Pasquale 2011: 1445; ACLU 2017). Overly onerous annotation requirements, or rights to be forgotten, may become a pretext for driving a popular platform out of a country. Governments may abuse taxation powers, too, in retaliation against a platform that enables stinging or politically effective criticism of them. Or platforms may successfully lobby to have their own personnel and allies appointed to the agencies and commissions set to regulate them. A search or robotics or social network

commission, for example, might start out with a robust agenda, but over years or decades, may gradually find itself taken over by appointees closely aligned with dominant industry players.⁷

Still, there is little reason to assume that the actions of the worst governments are likely in other, more developed and democratic public spheres. Indeed, intervention in the public sphere while a polity is still well-ordered may be the only way to keep it well-ordered. Some of these concerns are variations on the classic problem of regulatory capture: the very institutions meant to regulate an industry may be taken over by that industry. Fortunately, the problem has now been so carefully studied that many prophylactic measures could be put in place to avoid it (Carpenter and Moss 2014). Revolving door rules could prevent officials and bureaucrats from working for the industry they are regulating for five or ten years after they depart their agency. Higher pay for regulators, coupled with long-term or even lifetime bars on revolving door employment, would also help assure more independence. So, too, would self-funding mechanisms limit certain forms of political interference (Kruly, 2013). While serious, the problem of regulatory capture is not insurmountable.

More serious is a larger problem of circularity, well-identified by Charles Lindblom: the ability of powerful economic entities, to take over political institutions, and use that political power to enhance their economic power, which gives them resources necessary to further entrench political power (Lindblom 1977: 201-213). The rise of oligarchical power in nations around the world suggests how deep the problem of circularity can be (Winters 2011). The tendency of oligarchs to enact programs that simultaneously harm the material conditions of their electoral base, while cultivating and consolidating its sense of political identity organised around common grievance, should also serve as a spur to reconsidering the foundations of the critiques that motivated the program of reform developed above. In other words: in some societies, reform aimed at the public sphere is doomed to be counterproductive or worse, since governing institutions are hopelessly corrupt. This is the likely end-stage of what Jack Balkin has described as constitutional rot: the gradual corrosion of democratic institutions. Such a process may be incipient in many self-styled democracies today (Balkin 2017).

Well-intended reformers may also end up exacerbating the very dynamics they propose to ameliorate. For example, consider the classic problem of the filter bubble (Pariser 2011; Sunstein 2007), and its opponents' efforts to expose more persons to views they disagree with.

Personalisation often enables internet users to ignore points of view they disagree with, so the filter bubble model states, and therefore increases polarisation. Common solutions to the filter bubble dynamic presume, first, that 'all sides' or 'both sides' can be exposed to some critical mass of opposing or diverse viewpoints via, say, must-carry rules, or some privately implemented version of them (Pasquale 2016a: 499-500). To make modelling of that reform tractable, assume for now a binary society, divided between left and right voters. The great problem for advocates of 'filter bubble' reforms is that they cannot adequately model whether exposure of one side's adherents to the other side's version of facts, priorities, ideology, or values, will lead to understanding or revulsion, reconsideration or recalcitrance.

To be sure, effects studies in media have been contested for decades. It may be impossible for today's digital deliberative democrats to demonstrate the empirical likelihood of open-mindedness among voters. But they should be open to understanding the danger of plausible models of asymmetrical openness to opposing views. A society may have a 'hard left' and a 'soft right,' such that those on the right are quite willing to assess and even adopt some left proposals, while the vast majority of the left is unalterably opposed to accepting any right ideas. In such a scenario, all an assault on the filter bubble will likely do, is chip away at conservative self-identification among the 'soft right,' and succour the hard left. A 'spiral of silence' may even develop (Noelle-Neuman 1977). Perhaps intuiting that danger to its coherence and ability to project power, today's right in the United States may be inoculating itself against such ideological slippage. Very often, those in the centre right will defend or applaud those to their right, but the comity rarely goes the other way (Nagle 2017).

In a situation of asymmetrical persuadability, filter bubble inspired reforms will tend only to consolidate the power of the social group or political party most steadfastly committed to maintaining its own position. We can, of course, imagine *12 Angry Men*-type scenarios where a small remnant of deeply moral hold-outs uses its reform-granted exposure to others to gradually convince the rest of society of the wisdom of its position. However, just as likely is a splitting of

society into the more contemplative and the more active, alas the famed quote on the ‘reality-based community’ from a member of the George W. Bush administration.⁸

This elementary challenge to filter-bubble driven reform suggests a larger problem with deliberativist political theory (Pasquale 2008c). How can democracy operate when large swathes of the population subscribe to diametrically opposed conceptions of the nature of politics? Consider the deliberativist approach as one end of a spectrum of theories of politics, with a Schmittian, decisionist approach on the opposite end. Deliberativists see politics as fundamentally a realm of reasoning, culminating in some form of agreement (or at least improved understanding) after debate (Parkinson and Mansbridge 2012; Gutmann and Thompson 2004). Jürgen Habermas detailed the ‘ideal speech situation’ as the regulative ideal of such political deliberation, where everyone would either be able to voice their own views, and learn from others, or at least count on their political representatives in a legislative body engaging in a similar process (Habermas 1991).

Habermas’s conception of parliamentary democracy was part of a long scholarly campaign to lay to rest the type of post-rational, emotivist politics associated with Carl Schmitt (Müller-Doohm 2017). But Schmitt’s critical ideas are finding more traction today, both in diagnoses of political polarisation, and in the actual attitudes and actions of many voters and politicians. For those committed to a Schmittian perspective, there are friends and enemies in politics, and almost no new information can dissuade them from their attachment to their party or leader. Donald J. Trump memorably bragged that he could ‘shoot someone on Fifth Avenue,’ and his voters would still support him. That is a Schmittian devotion par excellence, increasingly reflected in polling data (Struyk 2017). More strategically, a political party may change voting rules to entrench its power, creating a self-reinforcing dynamic: the more the rules change in its favour, the more opportunities it has to entrench majorities and super-majorities that enable further rule changes (Daley 2015; Berman 2016). In such circumstances, some or all of the reforms mentioned above could backfire, simply adding to the power of a dominant party in a disordered polity, rather than preserving and promoting the type of pluralism that is a hallmark of a well-ordered democracy.

Conclusion: A Return to Professionalism

Given the potential pitfalls of regulating the automated public sphere, implementation of the reform ideas in Part II above should be undertaken with care in well-ordered polities, and may be impossible or counterproductive in disordered polities. But regardless of those difficult distinctions, those in media can do much to respond to the automated public sphere's infirmities. Journalists should be more assertive about their own professional prerogatives and identity. In the aftermath of the fake news scandals, Tim O'Reilly asserted that decisions about the organisation of newsfeeds and presentation of information in them were inherently algorithmic functions, to be supervised by the engineers at Facebook (O'Reilly 2016). Certainly the alpha geeks whom O'Reilly describes as his subject share that view: the human editors of trending topics at Facebook were low status, contract workers, who were unceremoniously dumped when a thinly sourced news story asserted that conservative content was being suppressed (Ohlheiser 2016; CBS News 2016). Shortly thereafter, Facebook was swamped by the fake news which now is the topic of so much controversy. The real lesson here is that human editors at Facebook should be given more authority. Their deliberations should also be open to some forms of scrutiny and accountability; for example, an ombudsperson or public editor with staff should interface between editors and members of the public aggrieved by their decisions.

Some communication scholars have resisted the idea of professionalisation of online content creation, curation, and delivery, in the name of democratising the power of the press to anyone with a computer and an Internet connection. While a beautiful ideal in theory, in practice, a failure among the de facto sovereigns of the Internet to distinguish between stories on the real *Guardian* and the dubious *Denver Guardian* is not simply a neutral decision to level the informational playing field. Rather, it predictably accelerates propaganda tactics honed by millions of dollars of investment in both data brokerages and shadowy quasi-state actors now investigated by the CIA as sources of bias, disinformation, and illegal influence in the election (Revesz 2016; Feldman 2016). Freedom for the pike is death for the minnows. A true citizen journalism depends on some basic forms of intermediary responsibility.

In the 1980s, the chair of the US Federal Communications Commission, Mark Fowler, dismissed the bulk of regulation of broadcasters as irrelevant, since he viewed the television as nothing more than ‘a toaster with pictures’ (Boyer 1987). In the 2010s, for better or worse, vast conglomerates like Facebook and Google effectively take on the role of global communication regulators. Mark Zuckerberg’s repeated insistence that Facebook is nothing more than a technology company is a sad reprise of Fowler’s laissez-faire ideology. It is also deeply hypocritical, for the firm imposes all manner of rules and regulations on both users and advertisers when such rules generate profits (Pasquale 2015b).

The public sphere cannot be automated like an assembly line churning out toasters. As Will Oremus has explained, there are aspects of the journalistic endeavour that are inherently human; so, too, are editorial functions necessarily reflective of human values (Oremus 2014). Expect deep and persistent conflict over the proper balance between commercial interests and the public interest in assigning prominence to different sources and stories. These are matters of utmost importance to the future of democracy. They can no longer be swept under the rug by plutocrats more interested in stock returns and artificial intelligence advances than the basic democratic institutions and civil society that underpin each.

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Notes

¹ Note, too, that the filter bubble problem is not altogether plausibly one of left voters needing to be exposed to right voters' worldview, and vice versa (for who knows how far along the spectrum of ideology one should search for alternative views, or how rotten centrist consensus is). Rather, it is one of a lack of autonomy and understanding of how one's media environment is shaped.

² As Deleuzian social theory teaches, the subjects of Big Data analysis 'are becoming less individuals than "dividuals:" entities ready to be divided into any number of pieces, with specific factors separated, scrutinized, and surveilled. What the person does becomes less important than the consequences calculated in response to emanated data streams' (Sadowski and Pasquale, 2015).

³ Media pluralism is necessary for maintaining the integrity of the democratic process; reducing the impact of the misrepresentation and suppression of information; promoting access to diverse information and opinions; and protecting freedom of expression (Smith and Tambini, 2012; Smith, Tambini, and Morisi, 2012).

⁴ While the platforms will often insist that they are the true victims of propagandists, they somehow manage to seek out and stop a great deal of the web spam and manipulation that threatens their advertising business models.

⁵ The Ring of Gyges is a myth from Plato, which describes a ring which renders its wearer invisible. It is often framed as the prompt for moral reflection: would individuals act morally if no one knew what they were doing?

⁶ The European Union's commitments to rights to be forgotten, and rights of erasure, show that the algorithmic ordering of information can be a socially inflected process, with fairer modes of participation for citizens and civil society (Wagner 2016a; Wagner 2016b; Pasquale 2016b). To be sure, the right to be forgotten should not be a matter almost entirely decided by private firms with only cursory or very rare review by governmental authorities. Developing better-resourced management of difficult issues in data provision and management, should be a key priority for authorities in this field. But the initial step toward algorithmic accountability is laudable.

⁷ Bracha and Pasquale (2008) included the first discussion in legal literature of a regulatory body targeted at search engines.

⁸ The journalist Ron Suskind authored an article that quoted a senior George W. Bush administration official as saying 'that guys like me were "in what we call the reality-based community," which he defined as people who "believe that solutions emerge from your judicious study of discernible reality." (...) "That's not the way the world really works anymore," he continued. "We're an empire now, and when we act, we create our own reality. And while you're studying that reality – judiciously, as you will – we'll act again, creating other new realities, which you can study too, and that's how things will sort out. We're history's actors (...) and you, all of you, will be left to just study what we do.'" Suskind (2004).