Debunking the Democratisation Myth

Honk, J. van

Cover Page

Debunking the Democratisation Myth

By Jeroen van Honk
Student of Books and Digital Media Studies at Leiden University

Introduction

Utopianism has been an important characteristic of the digital revolution from the git-go: from its roots in counterculture to its decentralised structure, and from its early adoption primarily in university settings and its anti-corporal attitude up and until the beginning of the 1990s, the movement has had its fair share of utopians outdoing each other in their claims for the future of the internet. There was an important anti-elitist element in all this, spurred on by the absence of hierarchy in the network. Therefore, the claims pertaining to democracy made intuitive sense. However, since the early 90s many things have changed, and the internet has taken turns that nobody back then had predicted. It has drastically changed from anti-corporate to a web dominated by capitalist ventures. Before expounding upon the problems of the internet as it stands now concerning democracy, it will be helpful to repeat some of those early claims here. Al Gore, for instance, as Vice President of the United States in 1994, announced:

> The Global Information Infrastructure will not only be a metaphor for a functioning democracy, it will in fact promote the functioning of democracy by greatly enhancing the participation of citizens in decision-making. And it will greatly promote the ability of nations to cooperate with each other. I see a new Athenian Age of democracy forged in the fora the GII will create.[1]

This parallel to Athenian democracy has been a popular one from the start. It also pops up in a 1999 report by the European Information Society, who claims that the

new information technologies will usher in 'the perfect information arena, the agora of Ancient Greece, a meeting place where citizens could go to be fully informed and to participate directly, with no intermediary, in the government of the city.'[2] Kevin Kelly, of *Wired Magazine*, pronounced that 'the internet revives Thomas Jefferson's[3] 200-year-old dream of thinking individuals self-actualising a democracy'.[4] Perhaps most famously, *Time Magazine* chimed in by announcing 'You' as their coveted person of the year in 2006, stating that it was all about 'the many wresting power from the few', and pronouncing not the World Wide Web as invented by Tim Berners-Lee in 1991, but Web 2.0, a revolution.

What all these claims have in common, is a firm belief in the willingness of the people to fulfil their latent political potential. They suggest that up until now, well-intentioned citizens have been silenced by malignant elite forces, and that the internet will offer them direct influence on how they are governed. As this essay will make clear, there is no evidence for this. For instance, one of the more popular new initiatives in the digital era has been to offer citizens the chance to contact their representative by email or some other electronic way. This is not necessarily a new possibility. In the past, it was also possible to write to your representative, to make your voice heard. While the threshold of sending an e-mail might be lower, this can hardly constitute a revolution.

One of the problems in the claims made above might be the very word democracy, which over the years has become a vague concept, meaning vastly different things to different people. We will look at this definition first.

Defining democracy

If we want to discuss 'democratisation', it is of course necessary to first define it. Over the years, many different definitions have been given. A discussion of these is beyond the scope of this essay. I will therefore focus on the different definitions that the advocates of digital democracy allow. Dahlberg outlines four major 'positions' through which the extension of digital democracy is seen. These are *liberal-individualist, deliberative, counter-publics*

The Internet is considered as a resource or tool, a place where citizens can educate and inform themselves, free of censorship

and *autonomist Marxist*. I will focus on the first two positions, since these are the most discussed, and they are often problematically, though interestingly, confused, whereas the latter two are somewhat more marginalised, concerning, among other things, the potential for activism and the construction of a completely new society.

The first position, the liberal-individualist position, is by far the most common and popular of these four. It considers the internet as a resource or tool, a place where citizens can educate and inform themselves, free of censorship. This also includes interaction with representatives, petitions, and aggregational tools, etc. This position considers the citizen as a rational

individual actively seeking out information to inform himself. Generally speaking, it sees the extension of democracy by digital means as an extension of the communicational possibilities between politicians and citizens, focusing on interaction. This is also the position that has most readily been adopted by governments, making all state documents available and easily accessible online, and facilitating channels through which representatives and citizens can communicate.[5]

Deliberative democracy advocates, on the other hand, consider the digital medium as a new public sphere for discussion and deliberation. Like the liberal-individualists, they presuppose the citizen as a rational individual actively aiming to inform himself, but theirs is a more *participatory* approach, suggesting discussion between individuals can create wholly new positions instead of simply allowing the individual to make up his mind concerning the traditional voices of politics. Dalhberg has formulated six criteria to which a democracy should adhere in order to be deliberative: autonomy from state and economic power; reason rather than assertion; reflexivity; ideal role taking; sincerity; and discursive inclusion and equality. Though most of these are subjective and difficult to test, the first and the last are relevant, assayable, and particularly interesting. Autonomy from state and economic power was one of the prime feats with which the internet was initially heralded, but the increasing tendency of all internet traffic to run through large corporate companies has made this criterium more and more problematic. This will be discussed in section three. The last criterium, discursive inclusion and equality, brings up the problem of the digital divide to which we will return in section two.[7]

The distinction drawn above between interaction and participation is also made in Carpentier. Basing himself on audience theory, he names two dimensions, active/passive and interaction/participation, along which audiences can be divided. As pointed out above, both the liberal-individualist and deliberative position consider the individual as active, contrasting their stance with traditional one-to-many broadcasting media like television and newspapers, where the individual can only take information in. He then defines 'the interaction component of audience' as referring 'to the 'traditional' processes of signification and interpretation that are triggered by media consumption' and more broadly explains this to mean engagement 'with the media texts that are offered to them'.[8]

The internet is a pull technology, as opposed to push technologies like television

Both sides of the discussion, the liberal-individualist as well as the deliberative, are prone to wishful thinking. To support their ideas, they presuppose the average citizen as active, willing but previously unable to better inform themselves. However, even if the internet expands the possibilities to do so, it is not as if the possibilities that existed before were completely exhausted and in dire need of expansion. The internet is a pull technology, as op-

posed to push technologies like television which do all the selecting and filtering, and send it out regardlessly. This is seen as a benefit to democracy by digital optimists, but it could just as easily be an actual disadvantage. If people do not actively seek out political topics on the internet, and they also stop watching television and reading newspapers, they will be even less informed than before. Indeed, as we will see in the next section, political web sites are not even close to being amongst the most popular ones online.

Technological determinism might be at hand here, but the root of the problem lies deeper. As Lax notes,

> the problem is a lack of political accountability. If electors have little control over decision-making once they have voted their politicians into government, they are unlikely to get very excited about the formal political process. Without some means of ensuring that collective decisions will result in political action, there is no reason to imagine that electors are any more likely to participate in political debate on computer networks than they are currently to vote or write to their representatives.[9]

Even if people do turn out to be more eager to look for information online, there is the problem of veracity. The Web 2.0 revolution that gave everyone a voice is a double-edged sword. There will be many opinions available online. Moreover, it is the algorithms of search engines, social networks and news aggregators that will decide what opinions will be most easily found, and veracity—to name one critical element—is not a part of the algorithm (because it cannot be computed). This issue will return in a later section.

Everybody's talking, but who's listening?

On October the 27th, 2009, Intelligence Squared held a debate in which prominent people from within the news industry argued over the motion 'Good riddance,

mainstream media.' The argument was formulated as follows:

> The democratisation of news, in an unfiltered internet to which all bloggers and news aggregators have equal access, is a good thing. It encourages a diversity of voices, competing to provide information and analysis.

In his conclusive remark, panellist David Carr, journalist for the *New York Times*, arguing against the motion, first held up a print-out of the front page from popular news aggregator Newser. He pointed out that Newser was an interesting site and recommended people to visit it. Then he held up another print-out where he had cut out all the news articles of that front page that had come from mainstream media. Hardly anything remained.

There are now so many voices on the internet, there is now so much data generated, that far more is produced than can be actually appreciated. Only a small selection will make it to public attention, and that small selection still primarily comes from mainstream sources. Just because these new voices, these so-called 'produsers' are there, does not mean anyone is reading them. Are they not just trees falling in a forest where no one wanders, not making a sound? The empirical evidence quoted in this section will argue strongly against both the liberal-individualist and the deliberative democratic positions outlined above, not so much in theory as in practice.

In *The Myth of Digital Democracy*, Hindman analysed the traffic of various political and news websites and blogs and reached various interesting conclusions. First of all, he finds that of the top 100 most frequently visited websites, not one can be considered political. In fact, he finds that among all web traffic, political sites have a share of less than 0.1%. In April 2007, he found the Huffington Post ranked 796th and FreeRepublic ranked 871st as the most visited political websites.[10]

The top 10 websites in general and the top 10 news and media websites, have a larger audience share than the top 10 radio stations and newspaper outlets

More interesting, perhaps, is the large share which the top ten sites consistently have through all Hindman's data. One of the arguments in favour of the internet was that it would allow more voices to be heard, that it would be less concentrated than traditional media. This doesn't show in the statistics. In fact, the top 10 websites in general, as well as the top 10 news and media web sites, have a larger audience share than the top 10 radio stations and newspaper outlets (respectively 26% and 29% versus 9% and 19%). Even when the same newspapers online and in print are compared, online audience is substantially more concentrated (the top 10 holding 42%) than print (30%).[11] The data of this experiment were replicated and confirmed

by Pitts.[12] Similarly, Wired reports that 'the top 10 Websites accounted for 31 percent of US page views in 2001, 40 percent in 2006, and about 75 percent in 2010'.[13]

This argument of large online giants has been countered by the concept of the long-tail, popularised by Anderson. The long-tail theory suggests that the internet is particularly suited for niche markets, where if you make a small number of sales many times, you can still be successful. While this might be true for commodity markets, Anderson's claim that 'all those niches can potentially add up to a market that is as big as (if not bigger than) the hits' simply does not match the data provided above.[14] There is a tail, it is just not as long as Anderson claims.[15]

The Internet is particularly suited for niche markets, where if you make a small number of sales many times, you can still be successful

Instead of a long-tail, Hindman argues that we are dealing with a 'missing middle'. He thereby opposes Benkler's view that the internet allows more 'moderately read outlets' to find an audience.[16] Though it is true that the very small websites have gotten a (slight) boost from the internet when compared to newspaper concentration,[17] they have been eating from the plate of the middle class, not the elites. Lanier comes to a similar conclusion, when he points out that the Web is a star-system or winners-take-all paradigm, and that this will eradicate the middle class.[18]

The effect of the internet on political engagement and participation has been widely researched, but unfortunately a clear research paradigm and methodology is absent. In most cases, a more liberal-individualist reading of participation was used (including civic (more general, non-political) engagement and petitioning). Even then, a positive correlation was hardly found (nor was a negative one, as has also been predicted by some scholars).[19]

One of the problems here is that two of the participatory affordances of the internet outlined above, the deliberative aspect that includes voicing an opinion and discussing it, and the broadcasting aspect that gives every one of these opinions a potential audience of millions of people, are generally conflated. Deliberative democracy, almost by its nature, can only work in small groups, where every voice is listened to and reasoned with, where less vocal people are still able to get themselves heard. Perhaps the affordance of the internet is many-to-many, but as the statistics show, the reality is few-to-few: few people participate, and even fewer people listen to them. This confusion is also clear in the online media's affection for the term 'user'. Carpentier explains:

> Arguably, the notion of the user became popular because of its capacity to emphasise online audience activity, where people were seen to 'use' media technologies and content more actively. This semantic process only emphasised the passive

> connotations of the signifier audience by creating a distinction between the signifiers audience and user, but at the same time problematically privileged online media worlds (and their (prod) users) as sites of audience activity. But paradoxically, when user, producer and audience become conflated, the user-component dominates the chain of equivalence, articulating all audiences as active participants; rendering passive consumption either absent or regrettable. Moreover, the lack of attention for the reception of online content leads to the presupposition that this content is appreciated and considered relevant by its audiences (in the assumption that the content is even ever discovered).[20]

There is, indeed, a lack of attention for news reception with regard to the internet, which, as we have seen, might be related to that parenthesised final comment of Carpentier. There might be no attention for it simply because there is hardly any feedback to be had.[21]

There is also, still, a digital divide. Initially, this term was used to point to differences in access to new technologies across different social groups. If the internet were to truly democratise, people from every strata and demographic should be involved. While many of the divides signified in the past—gender, race, age, education—are gradually closing (though they are still significant), as of 2010 there was still, for example, an enormous gap between the number of households with access to internet in developed (66%) and underdeveloped (16%) countries.[22]

So the *digital divide* has not disappeared, but in as far as access to internet has become more equal, the problem of the digital divide has mostly shifted in nature from access to skills—or what is sometimes called digital literacy—and patterns of usage. Age and education were found to be important contributors to skill levels in performing certain tasks on the internet,[23] men were found to be more politically active online than women, and more affluent people more politically active than the less affluent.[24] In the same study, the same differences were found in willingness to become politically active in the next year, with those above 60 also significantly more willing than their younger peers.

In analyses of the producers of online content, we find a perpetuation of the elite classes instead of a more diverse group. Education, class and the 'information environment' greatly influences people's likelihood to blog or contribute online.[25] Moreover, Hindman finds that of the most popular blogs, nearly all were run by 'either educational elites, business elites, technical elites, or traditional journalists.'[26] Many other studies also confirm digital divide effects in online content creation.[27]

Disintermediation

We have seen that an extension or improvement of democracy by digital technologies requires, under both of the popular definitions of democracy, active 'users' of the internet, either interacting with representatives or discussing prevalent issues amongst each other. We have also seen that the internet's many-to-many affordance is at this point not much more than a theoretical possibility. We will now

see why, as we look at the evolving structure of the internet that can explain the research results discussed above.

Contrary to popular belief, the structure of the internet as it is now is not egalitarian, and it is not (being) disintermediated. 'The rise of networking did not eliminate intermediaries, but rather changed who they are'.[28] The traditional gatekeepers, the publisher and the editor, have been replaced by new ones, the very Web 2.0 services that appeared to facilitate democratisation. While methods of quality assessment between the traditional and modern gatekeepers differ, they both function in effectively the same way: they decide what will and will not gain attention. Just because the latter uses an algorithm does not mean it is more fair or more democratic, or serves an objective truth.

The traditional gatekeepers, the publisher and the editor, have been replaced by new ones, the very Web 2.0 services that appeared to facilitate democratisation

Large companies like Amazon, Google, Yahoo! and Microsoft, as the Web has progressed over the last two decades, have together moved more and more into a system of oligopoly.[29] Just these four companies, in the Alexa top 100 most visited websites of August, 2013, owned 35 of the 100 domains listed.[30] In this sense, the Web is nothing new.The introduction of new technologies in the past has often featured a brief unrestrained period—akin to the incunabula period of books—before crystallizing into a fixed pattern. Similarly, other, non-technological, industries have moved and are still moving more and more into oligopolies.

As Lawrence Lessig wrote, 'code is the law' meaning that the architecture of the services that we use shapes our behaviour and nudges us towards certain predestined goals.[31] Morozov, via Tim O'Reilly, calls this algorithmic regulation: 'Information-rich democracies have reached a point where they want to try to solve public problems without having to explain or justify themselves to citizens.'[32] While Web 2.0 gave everyone the tools to raise their voice, it is done only through these intermediary technologies. Like all technologies before them, these empowering tools have their own biases, their own blind spots. They are effectively mediums, and often enough they *are* the message.

In 1994, Nicholas Negroponte wrote, excitedly: 'The medium is *not* the message in a digital world. It is an embodiment of it. A message might have several embodiments automatically derivable from the same data'.[33] Certainly, this is a possibility of the Web. But services that store most of our data, like Google and Facebook, offer us access to data only, data that does not come to us in raw form but rather in the specific form in which the services want us to access it. Lanier elaborates on this:

> Individual pages as they first appeared in the early 1990s had the flavor of personhood. MySpace preserved some of that flavour, though a process of regularised

> formatting had begun. Facebook went further, organizing people into multiple-choice identities, while Wikipedia seeks to erase point of view entirely.[34]

Web 2.0 services are by definition a double-edged sword: they make publication and interaction on the internet easier and more accessible, and they do this by doing a lot of the work. By doing a lot of the work they make implicit decisions for the user.

Google's PageRank algorithm, for instance, creates what has been termed a 'googlearchy', an online infrastructure where the number of incoming links, not the content, is the predominant factor for visibility. Since most people using search engines do not browse past the first page of search results, this results in a vicious cycle, the winner-takes-all effect that was described before. Other search engines, though claiming to use different cues, were found to produce predominantly similar results. PageRank has essentially turned the internet into a free market, where those with the largest influence and resources come out on top.[35]

This is a curious instance of technological determinism. PageRank uses quantity, not quality, at least in part because quality is not computable. If quality is in fact the desired variable, it has to be defined by proxy, and that proxy has become the variable of inbound links. Google defines a link as a vote from one site for the other. Like in politics, a vote cannot necessarily be bought, but participants with more money, and therefore more visibility, have better chances. Making matters even worse is Google's apparent shift to a 'shareholder democracy'[36] where the votes of more influential websites are allotted more weight.[37] This again mirrors the political situation off the web, where, at least in the United States, 'wealthy interests play an outsized role in the election'.

A more recent development is personalisation. In recent years, probably due to the vast growth of information generated online, many websites have started offering users individual search results, book recommendations and news updates. While such a feature can certainly be useful, the problem is its non-optionality in the majority of the cases. There is no objective search result in Google given a certain query at a certain time. Location and user information (at the least) affect the results considerably. Search results are hidden from users, and it is not clear on what exact grounds this happens. This is a new, impersonal (and at the same time highly personal) method of censorship in the same way that PageRank is a new method of gatekeeping and, again, its algorithmic nature does not necessarily make it more democratic or objective.

Moreover, a personalised internet can greatly harm democracy, both the liberal-individualist and, especially, the deliberative interpretation. This is related to the concept of the public sphere touched upon in the first section. In a personalised environment, all groups of people that coalesce on the internet will be increasingly homogeneous, and discussion and deliberation will be reduced to yea-saying. This is what Pariser has dubbed the 'filter bubble'.[39]

Even without such algorithmic personalisation, filter bubble effects already occur. Both Sunstein and Hindman found, in analysing political blogs, that 'liberals link mostly to liberals and conservatives link mostly to conservatives'.[40] What this means is that once someone is on a web-

site supporting a certain view, he will most likely remain on such websites for the rest of the session. Combined with a search engine which after guessing your view on something returns only websites supporting that view, this is a very powerful polarising effect, since groups tend to become more extreme when dissent and appraisal of alternatives are suppressed.[41] While this polarisation is often understood in terms of audience fragmentation, this is not necessarily the case. As we saw in the second section, online audiences are even more concentrated than offline audiences. What is more likely, then, is that audiences will become more segregated, that the common public sphere will multiply in a few largely unconnected public spheres, divided by ideological borders and internally strengthened by the popular 'sharing' features of social media.

All groups of people that coalesce on the Internet will be increasingly homogeneous, and discussion and deliberation will be reduced to yea-saying

The idea behind personalisation is, ostensibly, to help users find what they are looking for. The assumption, then, is that people are always looking for something. But this is just one out of two methods of research. The other is browsing. It is no accident that we use 'browsers' to navigate the Web: this was the dominant mode in the early years. The very idea of hypertext serves itself perfectly to browsing. It brings order to vast amounts of information and allows for semantic paths to step through them. However, somewhere along the way, the 'search' mode has come to dominate the 'browse' mode. Now, 'the vast digital library is there to help you answer the question with which you began'. The concept of 'distant reading' (or 'not reading'), in digital humanities, is related. This method, though useful, is only meant to corroborate an idea that was already there from the start. It will skim over the irrelevant (new) parts. Pariser speaks of a 'shift from a discovery-oriented Web to a search-and-retrieval focused Web'.[43] He points out that this is a problem not just for politics, but also for science and arts. Some degree of serendipity—an element of random chance—is necessary, he argues, to spur creativity and come to new ideas.

To sum up, personalisation, by only preaching to the choir, so to speak, will help crystallise society into their multiple public spheres, into partisan factions. Web 2.0 services, while giving their users a voice, have the power to shape and manipulate this voice. Digital profiles of people reduce them to information, and 'information underrepresents reality'.[44] Finally, the plurality of voices that the advent of the internet announced, apart from being filtered by personalisation algorithms, is also reduced by search engine algorithms, with a bias towards elite and resourceful people and organisations, just as it was before the internet.

Conclusion

The two popular 'positions' of democracy described in the first section both depend on active, wilful 'users' of the internet. This has been shown to be overly optimistic. Moreover, insofar as citizens are willing to actively look for data, their quest is complicated by the changing structure of the web, which promotes targeted search over exploratory browsing, and hides from them the very sources most likely to expand their views. The research cited in section two confirms that this plurality of voices is not heard, and that democracy, at least in the nature and variety of the information people consult, has not been substantially altered by the digital revolution. In fact, the multiplied public sphere that personalisation algorithms are creating might actually harm instead of benefit democracy, especially a deliberative one. Research on the digital divide, as well as considerations on the 'Googlearchy', question the idea of the Web's being more egalitarian. In general, opaque algorithmic regulation has replaced traditional power structures with structures that are also biased, albeit in different ways. Whether these algorithms will provoke democratic change in the future and in what way remains unanswered, but under present conditions there is no good reason to believe so. ■

Notes

1. A. Gore, *Speech to the International Telecommunications Union*, 21 March 1994, <http://cyber.eserver.org/al_gore.txt> (23 January 2014)
2. S. Coleman & J.G. Blumler, *The Internet and Democratic Citizenship: Theory, Practice and Policy* (Cambridge: Cambridge University Press, 2009).
3. It might be interesting to note here that in Jefferson's time, the word 'democracy' did not have the positive ring it has nowadays. Naess (1956) notes: 'Jefferson and his political adherent as a rule denominated themselves 'Republicans' and were only called 'democrats' when the Federalists wanted to discredit them.'
4. P. Baczewski, *The Internet Unleashed* (Indianapolis: Sams Pub., 1994).
5. L. Dahlberg, 'Re-constructing Digital Democracy: An Outline of Four "Positions"', *New Media & Society*, 13 (2011), pp. 855-872.
6. J. Habermas, *The Structural Transformation of the Public Sphere: An Inquiry into a Category of Bourgeois Society* (Boston: MIT Press, 1991).
7. L. Dahlberg, 'Re-constructing digital democracy: An outline of four "positions"', pp. 855-872.
8. N. Carpentier, 'Contextualising Author-Audience Convergences: 'New' Technologies' Claims to Increased Participation, Novelty and Uniqueness', *Cultural Studies,* 25 (2011), pp. 517-533.
9. S. Lax, 'The Internet and democracy', in D. Gauntlett (ed.), *Web. Studies* (London: Arnold, 2000), pp. 158-69.
10. To be fair, since then, *the Huffington Post* has gotten much more popular, ranking 86th on Alexa.com as of January 2014. Then again, their website is not solely dedicated to political news. At the same time, news websites, who do somewhat better in Hindman's results, can also be political, as many people traditionally use newspapers for both reporting and op-ed political articles.
11. M. Hindman, *The Myth of Digital Democracy* (Princeton: Princeton University Press, 2009).
12. B. Pitts, *Evaluating Googlearchy: Assessing the Diversity of Political Websites*, (Georgia: PhD dissertation, University of Georgia, 2010).
13. C. Anderson & M. Wolff, 'The Web Is Dead. Long Live the Internet', *Wired*, 17 August 2010, <http://www.wired.com/magazine/2010/08/ff_webrip/> (24 January 2014).
14. This depends of course on the definition of niche. For news and media websites in Hindman's research, the top 50 web sites already has a 51% market share. It is unlikely that anyone would consider any of the top 50 newspapers in the country niche.

15. C. Anderson, *The Long Tail: Why the Future of Business is Selling Less of More* (New York: Hyperion Books, 2008).
16. Y. Benkler, *The Wealth of Networks* (New Haven: Yale University Press, 2006).
17. The top 500 news and media web sites have a 79% share, whereas the top 500 newspapers have a 91% share.
18. J. Lanier, *Who Owns the Future?* (London: Allen Lane, 2013).
19. For an overview of the research, see Boulianne, S., 'Does Internet Use Affect Engagement? A Meta-Analysis of Research', *Political Communication*, 26 (2009), pp. 193-211.
20. N. Carpentier, 'Contextualising Author-Audience Convergences: 'New' Technologies' Claims to Increased Participation, Novelty and Uniqueness', *Cultural Studies,* 25 (2011), pp. 517-533.
21. Besides, as we will see in the third section, this specific trait of the internet is now seriously threatened by the algorithmic regulation of the largest and most influential websites, from Google and Facebook to aggregators like Digg and Huffington Post.
22. Anonymous, 'ITU: Measuring the Information Society 2011', <http://www.itu.int/ITU-D/ict/publications/idi/> (20 January 2014).
23. A. Van Deursen & J. van Dijk., 'Internet Skills and the Digital Divide', *New Media & Society,* 13 (2011), pp. 893-911.
24. S. Coleman & J.G. Blumler, *The Internet and Democratic Citizenship: Theory, Practice and Policy.*
25. J. Schradie, 'The Digital Production Gap: the Digital Divide and Web 2.0 Collide', *Poetics*, 39 (2011), pp. 145–168.
26. M. Hindman, *The Myth of Digital Democracy*.
27. For an overview, see D.R. Brake, 'Are We All Online Content Creators Now? Web 2.0 and Digital Divides', *Journal of Computer-Mediated Communication* (2013) <http://onlinelibrary.wiley.com/doi/10.1111/jcc4.12042/full> (20 January 2014).
28. T. Wu, *The Master Switch: The Rise and Fall of Information Empires* (New York: Alfred A. Knopf, 2010).
29. R. McChesney, *Digital Disconnect* (New York: New York Press, 2013).
30. J. Van Honk, 'Monopoly: A Non-Trivial Pursuit', 19 August 2013, <http://jeroenvanhonk.com/monopoly-non-trivial-pursuit> (23 January 2014).
31. L. Lessig, *Code and Other Laws of Cyberspace* (New York: Basic, 1999).
32. E. Morozov, 'The real privacy problem', *Technological Review*, 22 October 2013 <http://www.technologyreview.com/featuredstory/520426/the-real-privacy-problem/> (21 November, 2013).
33. N. Negroponte, Being Digital (London: Hodder & Stoughton, 1995), pp. 71.
34. J. Lanier, You are not a gadget (London: Allen Lane, 2010).
35. M. Hindman, K. Tsioutsiouliklis & J.A. Johnson, 'Googlearchy: How a few heavily-linked sites dominate politics on the web', In Annual meeting of the Midwest Political Science Association, 4 (2003), pp. 1-33.
36. T. Gillespie, 'The relevance of algorithms', in T. Gillespie, P. Boczkowski & K. Foot (ed.), *Media Technologies* (Cambridge: MIT Press, 2013).
37. Google's refusal to be transparent about their algorithm is an additional concern (if logical for a large corporate business) given the importance of the algorithm for the whole of society. For an overview of such concerns, and speculation as to the many variables considered in the algorithm, see Granta (2010).
38. R. McChesney, *Digital Disconnect*, pp. 51.
39. E. Pariser, *The Filter Bubble* (New York: Penguin Press, 2011).
40. C. Sunstein, *Republic.com 2.0* (Princeton: Princeton University Press, 2007), pp. 150
41. I.L. Janis, *Victims of Groupthink: A Psychological Study of Foreign-policy Decisions and Fiascoes* (Oxford: Houghton Mifflin, 1972).
42. S. Ramsay, 'The Hermeneutics of Screwing Around; or What You Do with a Million Books', *Stephen Ramsay*, 17 April 2010, <http://www.playingwithhistory.com/wp-content/uploads/2010/04/hermeneutics.pdf> (17 December, 2013).
43. E. Pariser, *The Filter Bubble*, pp. 103
44. J. Lanier, *You are not a Gadget*, pp. 69