

WEB 2.0 DIVIDES: A CRITICAL POLITICAL ECONOMY

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Abstract

This paper explores the relationship between Web 2.0 and digital divides, deploying a critical political economy approach. The paper first examines access and participation divides, drawing on current empirical research of Web 2.0 users. The examination indicates that due to the continuation of the systemic bases of digital inequality, large sections of the world's population do not have Internet access in any meaningful sense, even via remote means. Moreover, it shows that those who do have access are marked by significant distinctions in how they are able to deploy Web 2.0 to enhance their life chances. The paper then explores Web 2.0 divides developing from corporate colonization of the Internet, divides that are largely overlooked in both Web 2.0 rhetoric and also in digital divide research. These include divides in ownership and control, attention, exploitation, and surveillance. The paper concludes by reflecting on possibilities for stemming these divides.

Keywords

Digital Divide; Corporate Colonization; Critical Political Economy; Web 2.0.

Introduction

There is currently much enthusiasm about the participatory potential of the "next generation" Web, more popularly known as "Web 2.0". The "Web 2.0" celebrated here is an evolving signifier, but in general can be understood to refer to the now extensive user driven, collaborative Internet based networking, cultural production, and communication, including Web publishing and broadcasting (for example, Blogger, Wikipedia, and YouTube), integrated social networking services (for example, MySpace, Facebook, Flickr, del.icio.us), and interactive online gaming (for example, Second Life)¹.

Web 2.0 is seen as enabling inclusive, equalitarian, "do-it-yourself" (DIY) communication and cultural production (see, for example, Anderson & Gillespie, 2006; Benkler 2006; Grossman, 2006; Hartley, 2006; Twist, 2006). Web 2.0 rhetoric suggests that the associated technology is promising to overcome not just digital divides between included and excluded but also social divides more generally, blurring the traditional lines between, amongst other things, production/consumption or producer/user (Bruns, 2008; Hartley, 2006), public/private (Cammaerts, 2008: 359), active/passive (Grossman, 2006; Twist, 2006), and individual/communal (The Reality Club, 2006).

Such claims can be found emanating from a range of (mostly US) texts related to Web developments, including those of US futurist technology "gurus" and self-proclaimed

1 For more extensive definitions of Web 2.0 see Beer and Burrows (2007), O'Reilly (2005), and the "Web 2.0" entry in Wikipedia.

intellectuals (The Reality Club, 2006; Theil, 2009)², certain academics (Benkler, 2006; Bruns, 2008; Hartley, 2006; Reynolds, 2007), some social networking developers (Wales in Mangu-Ward, 2007), Web 2.0 entrepreneurs (Barrett, 2007, and see O'Reilly's Web 2.0 conferences)³, e-government advisors (Williams, 2008), and, subsequently, media reportage (Grossman, 2006; Twist, 2006). Finally, Web 2.0 companies, of course, promote such positive sentiments. As Gillespie (2010: 352-3) writes:

"YouTube and its competitors claim to empower the individual to speak – lifting us all up, evenly. . . . the promise of sites like YouTube. . . is primarily focused on ordinary users. The 'You' is the most obvious signal of this, and has itself found broader cultural purchase, but the direct appeal to the amateur user is visible elsewhere. YouTube offers to let you 'Broadcast Yourself', or as they put it in their 'Company History' page, 'as more people capture special moments on video, YouTube is empowering them to become the broadcasters of tomorrow' ".

Here I examine these Web 2.0 empowerment claims, specifically with regard to question of digital divides, where digital divides are taken in plural and expansively to include any distinctions in the digital empowerment of not only individuals and groups but also social institutions. This is a much broader approach than the one normally used in digital divide literature, which tends to focus only upon access and proficiency (Stern, 2010: 29). I stick with the "Web 2.0" signifier given that it operates as the central nodal point for Web 2.0 discourse. However, I do not see any fundamental break in Web technology and uses, but rather an evolutionary process. Moreover, the focus here is on the Web specifically and not the Internet or digital media in general, although the Web is layered on top of the Internet and affected by it, and also now integrated with other digital media such as mobile phones. I want to acknowledge that non-Web Internet user-driven interactive systems such as e-mail and Usenet have been around for decades longer, and, arguably include more democratic and inclusive digital communications forms. However, the focus here is on what is being referred to as Web 2.0, as defined above.

But why explore digital divides yet again? The question of digital divides, and here specifically Web 2.0 divides, is important for those embracing general democratic and equalitarian values, because inequalities in digital technology use, and more specifically with respect to Web participation, add to inequalities in society (Hargittai, 2008). As more and more of the "real world" goes online, one's Web participation increasingly affects one's life opportunities, impacting on participation in employment, social networks, politics, health resources, entertainment, and so on (Meyen et al., 2010: 873; Zillien & Hargittai, 2009). The impact will also be on socio-economic outcomes for individuals, groups, and society as a whole.

To explore Web 2.0 divides, I deploy a critical political economy approach. Such an approach is chosen because it allows me to undertake an examination of the political and economic conditions of possibility of Web 2.0, and thus to account for a much wider set

2 Peter Theil is the neo-liberal/neo-conservative and cyber-libertarian venture capitalist and futurist philosopher behind Facebook. See Hodgkinson (2008).

3 O'Reilly conferences are advertised at <http://conferences.oreillynet.com/> (last accessed, November 4, 2010).

of factors than research that simply focuses on the technological and individual aspects of participation, which can ideologically obscure background systemic conditions.

"Political economy" of communication comes in a range of forms (see Mosco, 2009). Here I follow Mosco (2009: 24-25) in understanding political economy as the study of the organization of human welfare through an extensive exploration of "the social relations, particularly power relations, that mutually constitute the production, distribution and consumption of resources", and more generally, "the study of control and survival in social life".

"Critical" here draws from critical theory traditions and as such signifies (at least) two orientations to critique. First, critical indicates reflexivity towards the contingency and value imbued nature of all analysis. As against a positivist-oriented political economy, that would wish to determine the ultimate truth of "the situation", a "critical" approach acknowledges its own socio-cultural embeddedness. Rather than objective truth, a critical approach challenges dominant status-quo understandings from particular, marginalized positions. It aims to highlight the social contingency of a situation, pointing to obscured social forces and alternatives, and thus to ways in which "the situation" could be otherwise. This suggests the second orientation of critique: "critical" indicates an approach which not only acknowledges the normative basis of all knowledge, but explicitly embraces normative critique with an orientation towards promoting progressive social change. The normative grounding in relation to examining digital divides is quite clear: behind such an examination stands the norm of equal opportunity for communicative participation, that is, a democratic normative perspective is contained in the questioning.

So, a critical political economy of Web 2.0 divides, as I aim to outline in this paper, will not just describe who is doing what in relation to "user-driven" Web activity, but how they come to be doing such, exploring the socio-economic and political conditions enabling or limiting existing forms of online participation, and also judging that in relation to the democratic norm of inclusion. This work must go beyond the analysis of technological potential and individual socio-economic demographics, as found in much digital divides research, and explore the systemic structuring involved. This particularly demands, with respect to the current Web, an analysis of what Habermas (1987) refers to as corporate colonization.

In the following sections, I first survey access and participation divides drawing on current empirical research of Web 2.0 users. I then explore a number of political economy divides not often taken into account in digital divides research, which stem from the corporate colonization of the Web. These include divides in ownership and control, attention, exploitation, and surveillance. It must be noted that this list does not exhaust the number of Web participation divides that could be identified and explored, such as ethnicity divide, gender divide, and so on, but unfortunately space limits the analysis. In fact, the general aim of the paper is not to undertake a comprehensive survey of divides, but to make two contributions to digital divides research: to extend digital divide research to an examination of Web 2.0, and to expand the scope of digital divide analysis to divides developing out of corporate colonization. I conclude the paper by reflecting on various possibilities for stemming these divides.

Digital Connectivity and Web 2.0 Participation

Whatever can be said about the hype, Web 2.0 technology in and of itself seems to be supportive of extending user participation since it is easy to use, facilitates social networks, and enables "free" publishing and other content production (Lovink, 2009: 1). But the question that this paper focuses on is: what does this translate into in relation to actual access and participation?

Even after a couple of decades of decreasing costs and increasing diffusion of digital technology, it is clear that there are still significant digital divides in access, however they are defined (Brabazon, 2008; Downey, 2007; Smith, 2010). It is hardly necessary to even say this, given that much of the world's population do not have the conditions necessary for access: not even access to electricity, let alone the skills, time, and equipment required to adequately participate. Systemic based access stratifications clearly exist between rich and poor nations, disparities in diffusion rates reinforcing international political-economic power relationships: "research shows that ... diffusion, or lack thereof, provides competitive advantage to the more 'wired' countries regarding, for example, access to world markets and cutting edge ideas" (Stern, 2010: 29). But even within rich countries, like the US, significant disparities in access persist, access being strongly positively correlated with income and education (Hargittai, 2008). Access barriers also remain due to language barriers (dominance of certain languages at national and global levels), lack of infrastructure in rural areas (particularly in the South but also in rich countries), and cultures devaluing women's education, in many communities (Alzouma, 2005; Whitacre & Mills, 2007).

Digital access divides will not be fully eliminated under current unequal global structural conditions. However, Internet access divides are clearly coming down between and within nations, particularly due to mobile phone connection (Alzouma, 2005: 343-4; Robison & Crenshaw, 2010). There are a number of organizations working to reduce access divides, such as the APC (Association for Progressive Communications). APC's vision is that "all people [will] have easy and affordable access to a free and open Internet to improve their lives and create a more just world" (APC.org). APC aims to achieve this by providing Internet access, information (on ICT policy, technologies, rights, etc), and applications (Web publishing software). Another example is The WiderNet Project based at the University of Iowa. WiderNet is a non-profit organization "that works to improve digital communication to all communities and individuals around the world in need of educational resources, knowledge and training" (<http://www.widernet.org/>). Connectivity is also being extended by the private sector. Most notably, as mobile phone companies see opportunities for huge profits in currently unconnected third world communities, particularly amongst women, mobile infrastructures are rapidly expanding, signalling the possibility for significant inroads into some of the final Internet access barriers (Coyle et al., 2010).

And once people do get Internet access, Web 2.0 interactivity and ease of use *does* considerably lower barriers to online participation (Fuchs, 2009a). The Internet in general, and the Web more specifically, *is* challenging many socio-political divides, including divisions in who can publish, broadcast, and produce cultural products, and also who can access such information and products. The unprecedented amount of information and interactive possibilities that is now made freely available on the Web is providing hope for bringing basic health, education, and other benefits to millions more people than just a few years ago. Yet

when we take a closer look, forms of online participation, including through Web 2.0 services, are very unequal and reflect offline inequalities. This is clear from Web 2.0 participation in one of the world's most connected nations, the US. US research by Esther Hargittai (2010a & 2010b) clearly shows that those who are taking greatest advantage of the Internet in general, and Web 2.0 in particular, can be predicted from their socio-economic background. The more wealthy, socially connected and educated you are, the more likely you are to use a range of Web 2.0 tools to enhance your life chances. Another similar study shows that "those with higher levels of education and of a more resource-rich background use the Web for more 'capital enhancing' activities" (Hargittai & Hinnant, 2008). In yet another Web 2.0 study, an examination of the creation and distribution of online content suggests that "despite new opportunities to engage in such distribution of content, ... consistent with existing literature, creative activity is related to a person's socioeconomic status as measured by parental schooling ... [and there is also a gender divide] with men much more likely to engage in it" (Hargittai & Walejko, 2008). The gendered difference here has been found to be related to differences in "digital confidence" (Hargittai, 2010a). Schraidie's (2009) US based research of Web 2.0 production confirms that "class [socioeconomic status] affects cultural production, affirm[ing] the existence of a digital production gap".

This research shows that, for the US at least, political, economic, and cultural resources are high predictors of the type and amount of Web 2.0 participation. It shows how a participatory divide lies on top of an access divide. As Meyen et al. (2010: 881) state:

"access to the Internet says nothing about the 'practical sense' in which people link with the net. Instead, the users vary widely in terms of their ability to take full advantage of the Internet. ... Without any doubt, the 'digital divide' remains a reality. ... differences in the type of contact with the Internet ... [are such that] those who already possess a high social status can enhance their [social] capital even more ... therefore, digital inequalities are maintained".

Most worryingly from a critical democratic perspective – of the conditions of possibility of Web 2.0 participation – is that there are global divisions of labour and systems of exploitation that enable Web 2.0 participation in the first place. To sustain those networking, many others in the world must work long hours labouring in factories (including in the production and recycling of digital technologies), cleaning streets and offices, ploughing and picking fields, and so on. Web 2.0 creativity is advancing the position of some over others, suggesting Web 2.0 (and the Internet more broadly) is contributing to an expansion rather than a reduction of not only digital divides but also socio-economic divides more generally.

Moreover, despite Web 2.0 empowerment of many individuals in relation to creative production, distribution and consumption, there are clearly significant participatory divides due to cultural divides being reproduced via Web 2.0. For example, in relation to gender, male voices dominate blogging (Cammaerts, 2008: 360) and Wikipedia (Hargittai, 2010a), often due to women's participation not being fully accepted on these supposedly democratic Web 2.0 sites (ibid). With respect to national cultures, content is being dominated by Western, and now Asian, providers. This is particularly a problem for African digital participation (Alzouma, 2005). Even content that is developed about and supposedly for

Africa is dominated by non-Africans (Wall, 2009). At the same time, the spread of national languages online, which in one sense can be seen as liberating, raises barriers to communication – online exchange is now taking place locally, regionally, and nationally within language enclaves (Lovink, 2009: 6-7)⁴.

It is clear from this section's discussion that, due to disparities in political, economic and cultural capital, not only do Internet access divides remain but some individuals and groups are gaining much more than others from Web 2.0 participation. As Stern (2010:29) concludes from a survey of digital divide research:

"differences in access and know-how combine in many and varied ways to create plural forms of inequality; but together they signify a loss of opportunity for the 'have nots'... On the other hand, those with access and expertise enjoy what we might call 'digital capital' or the benefits that access to the proficiency in Internet technologies affords them".

Some individuals are now taking much greater advantage of Web 2.0 participation than others, and also having much more influence over the actual shaping of particular Web 2.0 discourse (Cammaerts, 2008: 366-367; Hindman, 2008). However, much more significant in terms of the production and dissemination of content, and the structuring of discourses, than any particular individuals, are massive corporate media producers. This leads me to the question of the corporate colonization of Web 2.0 and how this is affecting digital divides.

Corporate Colonization of Web 2.0 and Associated Digital Divides

The Internet, as it presently stands, allows for public communication relatively free of state and corporate control, in contrast to many other technologically mediated forms of communication. It is a global decentralized, two-way medium that is not owned by any *one* corporation or government. In fact, the fundamental software protocols that enable Internet communication are embedded within the public domain and based on end-to-end principles (that is, they are "dumb", they do not interfere with the data that they carry between users). However, other "layers" of the Internet – content, software, and bandwidth – are largely controlled by major media and telecommunications corporations (see Dahlberg, 2004). Not everyone can own a platform, an Internet Service Provider, a major media provider, or a conduit provider. Significant capital is needed. Thus there is an ownership divide between Internet corporations (and in some cases states) and the rest, which leads to a control divide. This control divide is subsequently leading to a range of other divides. I will explore these divides here, particularly focusing on Web 2.0, and thus on the "top" content "layer" of the Internet.

Major (digital) media corporations (for example, News Corp, Yahoo, and Google) have now taken over the vast majority of "successful" Web 2.0 ventures and are restructuring their

4 The multiplication of languages online adds to worries of some commentators about the fragmentation of online interaction into particular interest communities, a problem pointed out by Sunstein (2007) and others, and what might be referred to in the context of this paper as a fragmentation divide. However, there is no space to explore this further. See Dahlberg (2007) for a discussion of the debate around online fragmentation and digital democracy.

use for profit. News Corporation, for example, bought out MySpace (for US\$580 million in July 2005), as well as Photobucket and other services. Google purchased YouTube (for \$1.65 billion in November 2005), as well as the dominant blog platform Blogger. These add to Google's social networking service Orkut, launched in 2004. Google also purchased Doubleclick.com (for \$3.1 billion in 2008), an Internet company notorious for developing products that track users online activities. Doubleclick is enabling Google to more effectively monetize all Google searches and Web 2.0 use. America Online (AOL) acquired Bebo in early 2008 as centre piece in its "global expansion strategy", and complemented this by spending over one billion US dollars on online advertising acquisitions (AOL has recently sold Bebo to Criterion Capital Partners). Yahoo acquired Flickr, to be integrated with its other online social networking properties, including Geocities and Yahoo!360° (the latter has been closed down, except for in Vietnamese)⁵. Cisco Systems has purchased a number of small social networking initiatives, aiming to integrate them for more business oriented networking. Microsoft has taken a stake in Facebook, to complement some of its other fledgling Web 2.0 services, including a Chinese Flickr type platform and its MSN portal that includes some interactive services. ITV bought Friends Reunited, then resold it to Brightsolid Limited. Friendster was acquired in December 2009 by MOL Global, one of Asia's biggest Internet companies. And the list goes on. There is now very few significant Web 2.0 or other online sites which are not owned and controlled by major corporations. Wikipedia, with its not-for-profit cooperative knowledge production, stands out as an exception. And yet, Wikipedia's content is now being extensively used by commercial "mirror" sites to direct traffic to their advertising dominated pages via search engine results (Langlois & Elmer, 2009).

This ownership divide translates into a control divide. What prosumers can actually do on corporate Web 2.0 sites, including what they can do with their own content, is increasingly circumscribed by site owners through centralized systems, which are marginalizing decentralized peer-to-peer networking that offers more autonomous communication (Kleiner & Wyrick, 2007). Centralized corporate control is seen subtly in the coding and licensing of popular social networking sites like Facebook, where the "terms of use" agreements allow companies to control site design, advertising, data collection, and to define what users can and cannot do. In many cases, control extends to licences over user created content⁶.

5 Geocities began in 1994, and as such offers an example of why Web 2.0 might not be as new as the rhetoric might make out. Geocities basically hosted websites. It gave users personal publishing tools and supported "neighbourhoods" and "cities" within its Web platform, virtual communities that users chose to associate themselves with. Geocities was like a pre-Myspace Myspace. However, Geocities also exemplifies the control that corporate owners have over Web platforms. Yahoo not only placed advertising on all pages, after purchasing Geocities in 1999, but also made a commercial decision on October 26 2009 to close the platform down, thus closing some 38 million sites and years of user-generated data – users were given some warning and so could save some of their data before the platform was closed (Schechmeister, 2009). Clearly, by 2009 Yahoo was not happy with the revenue stream. Geocities Japan remains operating, still owned by Yahoo.

6 See Hodgkinson (2008) for an outline of the control of user content that Facebook enforces. Even in the case of YouTube, which is seen by many commentators as relatively open, the "terms of use" agreement mean that "by submitting Content to YouTube, you hereby grant YouTube a worldwide, non-exclusive, royalty-free, sublicenseable and transferable license to use, reproduce, distribute, prepare derivative works of, display, and perform the Content in connection with the Service and YouTube's (and its successors' and affiliates') business, including without limitation for promoting and redistributing part or all of the Service (and derivative works thereof) in any media formats and through any media channels. . . . The above licenses granted by you in user comments you submit are perpetual and irrevocable" (<http://www.youtube.com/static?gl=US&template=terms> last accessed November 10, 2010)

This centralization of control is most explicit where digital media corporations comply with nation state censorship laws, as has been explicitly seen in the case of Google and Skype bowing to Chinese censorship demands (Human Rights Watch, 2006).

Corporate Web 2.0 platforms are interested in control so as to monetize user participation: Web 2.0 is being structured for the maximization of revenues, which is largely being achieved through advertising. This control and structuring is leading to a number of other Web 2.0 divides, including three that I will now briefly explore: an attention divide, an exploitation divide, and a surveillance divide.

First, we can talk about an attention or visibility divide, with corporate media products and associated discourse dominating online attention in order to sell it to advertisers. There is no space to go into any detail here of the range of strategies used to attract and keep attention⁷. However, it is clear that while ordinary individuals may be able to download their views online, and many millions do, having their views *noticed* is another matter. Only a few individual bloggers (and vloggers) ever get noticed enough to claim to be mass broadcast. It is large media, communications, and software corporations that (still) gain significant "attention", attracting huge numbers of users to their sites via (on- and off-line) marketing, design features, service offerings, slick applications, user recommendation and networking systems, manipulation of search engine rankings, and so on. User concentration is increasing by the day, and even significant Web 2.0 sites from a couple of years ago are finding their user participation being rapidly eroded, indicated by market valuation. For example, Bebo was bought by AOL in March 2008 for \$850 million but was sold just over two years later for less than 10 million, while Friends Reunited was bought by ITV in 2005 for £175 million and sold in March 2009 for £25 million. There are now just a handful of corporate platforms, in addition to the highly popular non-commercial Wikipedia (which consistently ranks in the top 10 sites visited online), that provide the basis for most Web 2.0 participation (Facebook, YouTube, Blogger, and Twitter currently dominate participation, with MySpace still not too far behind)⁸. As Hindman (2008) argues, from the accounts of media organizations and their audience shares, levels of online concentration for top online sites are now similar to those of the top ten or twenty offline newspapers, magazines, and broadcasters for the top ten or twenty Websites.

Moreover, to enhance attention, all the dominant Web 2.0 services are increasingly drawing upon commercial media content (Clark 2009; Fuchs, 2009a). As Gillespie (2010: 353) writes in relation to YouTube,

"From early on, YouTube has aggressively sought strategic partnerships with professional media companies, to include commercial media content alongside its user generated submissions. Although commercial media are still a minority of YouTube's total content, they dominate the lists of most popular and most viewed".

7 The idea of the online economy operating as an attention economy has been well established (Davenport & Beck, 2001; Goldhaber, 1997; Hargittai, 2004). In "Web 1.0", maximum attention is achieved through control of access, media content, and applications – by operating as an ISP, portal, platform, media site, search engine, or paying to be optimized in search results (Dahlberg, 2005). The main thing that changes with Web 2.0 is simply that user generated content has become much more central.

8 See Alexa.com for Web traffic rankings.

Web 2.0 enthusiasts point, however, to the massive amount of user generated content being produced on these corporate platforms, which is attracting attention aside from (and possibly more than) mass media content and advertising. This is true, and yet, if we examine this content production, we find that a lot of the creativity involves the re-hashing and linking of corporate media products and advertising. For example, while YouTube provides channels for alternative content, the majority of the most popular videos directly reproduce, or slightly alter, mass media content, or mimic the styles and formats of such, and as a result promote the voices of the rich, powerful, and famous⁹. Even Weblogs, which are often seen as epitomizing online freedom of participation, largely reproduce and redistribute commercial content, and are hosted on corporate owned blogging platforms such as Blogger.com and Blogspot.com (Cammaerts, 2008; Sysomos Inc, 2010). Moreover, there are now many corporate blogs, extensions of corporate marketing and public relations strategies, and there are also nominally independent "floggers", bloggers who are paid by corporate to (secretly) promote companies and products (Cammaerts, 2008: 362-3).

Hence, Web 2.0 "visibility" is very uneven. What we are seeing is that, while many marginal voices are able to publish and network, dominant voices remain dominant. More specifically, attention is being drawn more and more to commercially produced content and advertising. The net effect is that status quo power and inequalities are reinforced. This trend is being extended by other digital divides developing outside of corporate ownership and control.

One significant difference between "Web 1.0" and "Web 2.0" corporate domination of attention is that online user generated content (UGC) is being exploited by corporate Web 2.0 platforms, constituting an exploiter/exploited divide. Commercial sites are not only attempting to attract users to their sites so as to sell attention to advertisers, but are now harvesting user profiles and friendship networks for targeted advertising, and they are also harvesting creative labour (the UGC) to attract further attention for advertising, and in turn to realize increased stock market values (Fuchs, 2009a; Kleiner & Wyrick, 2007; Dahlberg, 2010; Lowenthal, 2007; Scholz, 2007; Wark & Patelis, 2007). Even Wikipedia's non-commercial user generated content, as noted earlier, is susceptible to (secondary) commodification via other commercial "mirror" sites selling attention to advertisers. Wikipedia's content in some cases is used simply to direct users via search results to pages full of advertising, the Wikipedia content disappearing in the process (Langlois & Elmer, 2009). However, Web 2.0 enthusiasts argue that there is a symbiotic relationship between (corporate) owners and users – users being "paid" for their work and data via the services they receive from site owners. Users are seen, by the likes of Rheingold (2009), as "freely" and happily choosing to accept certain levels of expropriation, control, surveillance (see below) and marketing, in exchange for certain services. Rheingold, and other cyber-libertarians, miss the fact that many users are already constituted as liberal-individualist consumers. Certainly, this leads to philosophical questions about the nature of freedom, questions that there is no space to consider here. What can be concluded however is the need for more research into an exploiter/exploited divide that is not spoken of in digital divide literature¹⁰.

9 YouTube displays a listing of its "most viewed" videos.

10 This exploitation is now being explicitly advocated by a newly emerged industry of Web 2.0 business consultants and

One recent exploitation phenomena that is being enhanced through Web 2.0 and calls for urgent research is "crowdsourcing". This is where a company calls for users to collaboratively participate in solving particular problems. In contrast to open source, peer-to-peer projects (like Wikipedia) – production that is cooperative activity initiated and voluntarily undertaken by individuals and groups acting in the interests of a public good – crowdsourcing involves businesses leveraging Web based mass collaboration for financial gain, labour being compensated either monetarily, with prizes, or with recognition¹¹. A related but seemingly more exploitative phenomena is the virtual outsourcing, through global digital communications media, of micro-information tasks (for instance, transcription and image-tagging). Tasks often take only a few minutes, but payments are normally just a few cents per task. Willing workforces can be found amongst the global poor, including in refugee camps and third world slums (Giles, 2009). Crowdflower.com calls it labour on demand, and claims to be able to provide an instant workforce of 800,000 workers that can complete "massive volumes of simple jobs quickly, with none of the lead time and overhead associated with traditional hiring and outsourcing" (quoted from crowdflower.com)¹². Similarly, Tختهagle.com claims that "through partnerships with over 220 mobile phone operators" in "over 80 countries worldwide" it is able to "harness the capacity of 2 billion people in over 80 countries to accomplish work with unprecedented speed, scale and quality" while "avoiding the traditional cost of staffing" (quoted from Website, see also Marwaha, 2009). Such digital outsourcing is celebrated as providing employment opportunities globally. However, critics see it as producing new digital assembly lines involving not only the top down expropriation of the labour and time of some of the world's most desperately poor and unemployed people, but also the reduction of the legal responsibility of capital given outsourcing beyond the jurisdiction of nationally regulated labour laws.

Corporate Web 2.0 ownership and control is also leading to, or extending, a surveillance divide, a divide between those who are watching and those being watched. This is the other side of the attention/visibility divide. Those with Web 2.0 control can determine when they wish to gain attention (be watched) and when they wish to do the watching. Corporate data mining and surveillance, like the attention/visibility divide, is enabled by the centralization of Web 2.0 communication and motivated by the drive for advertising. Not only do Web 2.0 corporations require users to provide private information with registration, but many spaces construct user profiles by monitoring and aggregating the digital traces of Web 2.0 activities, including Web based searches and purchases (Fuchs, 2009b; Zimmer, 2008). On many "terms of service" agreements the fine print allows this harvesting, and the subsequent sale, of personal data. Massive amounts of data are being collected on millions of individuals, and then aggregated to (re-)construct user identities, mostly to enable ever more invasive forms of targeted marketing: user generated profiles have become the major commodity of Web 2.0 (Beer & Burrows, 2007). The stored infor-

writers advising on how to more effectively extract profits from digital media practices (see for example, Li & Bernoff, 2008; Shuen, 2008; Tapscott & Williams, 2007; and the O'Reilly conferences).

11 A list of crowdsourcing projects can be found at http://en.wikipedia.org/wiki/List_of_crowdsourcing_projects [last accessed November 1, 2010].

12 Crowdflower utilizes Amazon's "mechanical turk", amongst other technologies. See, <https://www.mturk.com/mturk/welcome> [last accessed November 5, 2010].

mation may also become part of state surveillance, as seen in the case of Yahoo! handing over personal user data to Chinese law enforcement officials that led to the arrest and conviction of at least four "Internet dissidents" (Human Rights Watch, 2006). On a more micro-scale, Web 2.0 social networking has also been the basis for surveillance by employers of potential and existing employees (Cammaerts, 2008: 364).

Conclusions and Possibilities

Global political economy shows the systemic bases of digital inequality will continue, and large sections of the world's population will never gain Internet access in any meaningful sense, even via remote means. Moreover, it shows that those who do gain access are marked by significant distinctions in how they are able to deploy Web 2.0, and the Internet in general, to enhance their life chances. Furthermore, the analysis here points to Web 2.0 divides developing through corporate colonization, divides largely overlooked in both Web 2.0 rhetoric and in digital divide research. I have discussed divides in Web 2.0 ownership and control, and subsequently of three resulting divides: attention, exploitation, and surveillance. All these divides point towards the strengthening of divides in power over the shaping of social meanings and practice, that is, to discursive divides.

As a result, "Web 2.0" participation is currently advancing dominant social-cultural voices, particularly consumer capitalist discourse. But such dominance is obscured by a celebration of Web 2.0 participation, with its technologically determinist and liberal-individualist promise of inclusion of all: everyone can "do it" equally through Web 2.0. As such, uncritical celebrations of Web 2.0 participation operate ideologically in support of the corporate colonization of digital communications, neo-liberal consumer capitalism, and, consequently, the young, mobile middle classes of the globe, who have the social, cultural, and economic capital to effectively participate.

Moreover, critical political economy alerts us to the fact that we are not dealing with subjects making rational choices independent of particular socio-cultural positions. The liberal-individualist user is in many cases very much constituted within consumer capitalism, as a subject who "chooses" to reproduce and consume particular cultural contents, including themselves as a commodity, and who accepts corporate (targeted) advertising, surveillance, and identity profiling.

So, under these conditions, how can we think about overcoming digital divides? To answer this, particularly with respect to Web 2.0, we must consider not only the broader socio-economic context, but also the socio-economic status of the Web. It is the latter that I want to focus on here. Clearly reversing digital power/discourse divides is not a technical but socio-political issue. Yet the socio-economic and political-economic include, and are embedded in, the technological – technology always embodies different socio-economic relations. For instance, a privately owned commercial "user-driven" Web platform, as we have seen, is designed and structured in such a way as to maximize advertising, data mining, and surveillance, as well as supporting commercial content and exacerbating the power/discourse divides explored above. In contrast, we can think of "autonomist" Web production, distribution and consumption, based on non-commercial, open source and copy-left peer-to-peer systems and communities (e.g. Wikipedia, work collaboration application Crabgrass, micro-blogging site identi.ca, video platform Kaltura, and open source

social networking software Appleseed). Such autonomist digital networking, when not recuperated, subverts capitalist commodification and cultural domination, and supports equalitarian communication (see, for instance, Dyer-Witheford 2006; and Stacey, 2008). As Kleiner and Wyrick (2007) write:

"any real hope for a genuine, community enriching, next generation of Internet-based services is not rooted in creating privately owned, centralised resources, but rather in creating cooperative, P2P and commons-based systems, owned by everybody and nobody. Although small and obscure by today's standards, with it's focus on peer-to-peer applications such as Usenet and email, the early Internet was very much a common, shared resource... . Virtually all of the most used Internet resources could be replaced by P2P alternatives. Google could be replaced by a P2P search system, where every browser and every webserver were active nodes in the search process; Flickr and YouTube could also be replaced by PeerCast and eDonkey type applications, which allow users to use their own computers and Internet connections to collaboratively share their pictures and videos. However, developing Internet resources requires the application of wealth, and so long as the source of this wealth is finance capital, the great peer-to-peer potential of the Internet will remain unrealised".

The last sentence is sobering. Despite rapid technological change, and the exception of Wikipedia, a broad based movement towards non-corporate systems is unlikely to take place in the current global political-economic situation. Digital activism, despite the good work of the likes of the APC and The WiderNet project, on the whole is relatively weak, and the active autonomist-Marxist multitudes that Hardt and Negri (2004) speak of do not seem to be arising out of the DIY "creative-producers" of Web 2.0. Instead, Web 2.0 users are on the whole reinforcing status quo consumer-capitalism, while in many ways dependent on the physical labour of the digitally marginalized and largely invisible global poor.

There have also been more mainstream (liberal) proposals for non-commercial Internet platform developments that might help bridge digital power/discourse divides. One interesting proposal has come from Ofcom's CEO Ed Richards (2007)¹³. His proposal is for public service broadcasting for the Internet. Indeed, a highly respected global "brand" like the BBC is able to gain significant attention online, and offers a way to stem the digital divides in visibility, surveillance, and fragmentation. A proposal for a similar space, although explicitly focused on democratic consultation, has been advanced by Coleman and Blumler (2009), what they refer to as a "civic commons 2.0". However, without political will such proposals will go nowhere, and in the current neo-liberal climate, (surprisingly) strengthened by the "credit crises", it seems to be strongly against public media, particularly online. The UK is indicative here – Ofcom's powers have been slashed under the new Conservative Government, while the BBC's online presence is to be halved by 2012 (Sweney & Busfield, 2010).

Given these limits, it may seem increasingly important to explore how commercially-oriented corporate Web 2.0 platforms may be (and are being) effectively appropriated for contesting and building alternative democratic communities. However, it must be understood that

13 Ofcom is the independent regulator and competition authority for the UK communications industries.

any activity on proprietary sites will be data mined and exploited for advertising – in other words, even protest activity against Web 2.0 divides will become entangled in such divides.

What must be taken from such limits is the essentially political nature of Web 2.0/Internet and the resulting divides, and thus the need for organizing political contestation of the current social systems that support it. What is needed, drawing inspiration from the work of Laclau and Mouffe, is the adoption of a radically democratic framework, where radical takes on two meanings: first, the commitment to the expansion of liberty and equality to even more sections of society, and second, the fundamentally political nature of any system, so that fighting for democracy is a never-ending project (Laclau, 2005; Laclau & Mouffe, 2001; Mouffe, 2005). Radical in the second sense not only means that power and associated exclusion can never be finally eliminated, but also that there is always the potential for challenges to domination from counter-power and counter-discourse, challenges that can alter the constellation of power, including the relations of production and consumption, towards greater democracy/inclusion. An appropriate radical democratic strategy in relation to digital media is to encourage this challenge and re-articulation. We must reject both the technological determinist rhetoric of Web 2.0 as well as pessimistic fatalism in the face of systemic exclusions and corporate colonization. Rather, we need to explore how counter-hegemonic discourse and activism that contest domination and open space for excluded voices may be enhanced. Such research is already being undertaken in relation to digital media (for example, Kahn & Kellner, 2005, 2007), but not specifically with regards to digital divides. So, in conclusion, I want to simply suggest that what is needed now is critical research into how counter-hegemonic activism may (more) effectively challenge, if never fully overcoming, the power/discourse divisions that are at the heart of current digital divides.

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