The Valorization of Surveillance: Towards a Political Economy of Facebook

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Much excitement surrounds Facebook, the social networking site based on user-generated content that has attracted 64 million active users since its inception in 2004. This paper begins to outline a political economy of Facebook in an attempt to draw attention to the underlying economic relations that structure the website, and the way in which the site fits into larger patterns of contemporary capitalist development. Although Web 2.0 has presented a shift away from "old" top-down media models, there remains continuity through change: Facebook continues familiar models of extensive commodification, with surveillance playing a key role in this process. The emerging reliance on general intellect and free labour for the purpose of capital accumulation does represent a move away from a more passive conception of the audience commodity, yet it demonstrates the continuous march of capitalism into cyberspace under post-Fordist conditions.

Depending on whom you ask, Facebook is either a revolution in social networking and the future of e-capitalism, or a place where excitable youth post too much information about themselves, risking exposure to stalkers or surveillance by employers, parents, and the CIA.[1] A political economy analysis of the social networking site reveals more complex dynamics at play than those expressed in the business press or in mainstream media's moral fright; dynamics that reflect broader trends in the development of the digital economy.

Facebook is organized around linked personal profiles based on geographic, educational, or corporate networks. Member profiles can reveal a range of personal information, including favourite books, films, and music; e-mail and street addresses; phone numbers; education and employment histories; relationship status (including a link to the profile of the person with whom one is involved); political views; and religion. Once logged in, members spend time—according to Facebook, on average, 20 minutes a day—linking to friends' profiles, uploading and "tagging" (or labeling) friends in photos, creating and joining groups, posting events, website links, and videos, sending messages, and writing public notes for

each other. The site can be understood as an online communication platform that combines features of e-mail, instant messaging, photo-sharing, and blogging programs, as well as a way to monitor one's friends' online social activity.

Since May 2007, members have been able to download and interact with Facebook "applications," programs and accessories developed by outside companies that now have access to Facebook's operating platform and large networked membership. Some applications, such as Scrabulous, involve interaction with other members, while others demonstrate the synergistic potential of Facebook. Take, for example, bookseller Amazon.com's "Book Reviews" application, with which members can post recommendations on their profiles, along with a "Buy at Amazon" button that links to Amazon's check-out page.

Since Facebook's launch in 2004, 64 million active users have signed on to the site, including seven million Canadians, and it has become the sixth-most trafficked site in the United States (Facebook.com). Facebook claims to add 250,000 new members per day (Facebook.com).[2] These numbers are significant, and have contributed to the high valuation assigned to the company, which is estimated by the business press to be worth somewhere between $100 million and $15 billion (all figures in US dollars) (McGirt 2007; Richards 2008).

Following sales of MySpace and YouTube in 2005 and 2006—participant-based networking and content sharing sites, which sold for $580 million and $1.6 billion to News Corp. and Google respectively—estimating Facebook's value became a favourite pastime of business and technology reporters. Excited guesses were accompanied by enthusiastic farewells to the dominance of mass media business models and euphoric proclamations about the potential of interactive websites based on user-generated content to "seamlessly" integrate life and entertainment and provide consumers with more "choice" than they know what to do with. To quote one breathless passage:

> … the long epoch of top-down culture—when publishers, producers and DJs could dictate the tastes of a generation—is fading faster than anyone predicted. The more vibrant world is bottom-up, powered by the people. Make a video, put it online; download a song, remix it, put it back up; hack a computer game, share it with friends (Kushner 2006).

Mark Zuckerberg, founder of Facebook (whose age, 23, is noted in almost every article written about him), uses the word "revolutionary" to describe the site (Kessler 2007; Liedtke 2007). Within this discourse, Facebook positions itself as leader of interactive, participant-based online media, or Web 2.0, the descriptor for websites based on user-generated content that create value from the sharing of information between participants (Hoegg, Martignoni, Meckel and Stanoevska-Slabeva 2006, 1; O'Rielly 2005).

This revolutionary trope is familiar. It follows a discourse that has historically, and uncritically, described technological developments in terms of novelty and human progress. It is usual for new technologies to be hailed as signaling a fundamental change in the way we live and communicate, and as having the ability

to efficiently solve problems that, up until the technology's arrival, had not yet been identified as problems (Douglas and Guback 1984).

Douglas and Guback's critique of the way in which the word revolutionary has been deployed tempers the hype around Facebook. In order for something to be truly revolutionary, they argue, it must bring about "a fundamental change in the structure of the political-economic-social order, and might well involve an upheaval in the arrangement of classes" (Douglas and Guback 1984, 233). While they acknowledge that technologies can modify the ways in which people relate to one another, it is critical to assess the larger context in which these technologies operate. Generally, they have served to work for capital, reorganizing production and distribution in order to increase wealth and extend control over the labour force (Douglas and Guback 1984, 234). While they refer specifically to machine technology, their argument can be applied to new developments in communication technologies, including sites such as Facebook, which, as this article will demonstrate, has a tendency toward capital accumulation and penetrative commodification rather than a revolutionary re-distribution of wealth and control. As Douglas and Guback write, "New technology offers to dominant sectors further opportunities to consolidate their power, to rationalize their modes of operation, and to valorize capital in more efficient ways. We are getting more of the same, but in larger doses" (Douglas and Guback 1984, 235).

It is important to acknowledge, however, the ways in which Web 2.0 has altered the terrain of media business, notably by adjusting consumers' roles in the production process. Business models based on a notion of the consumer as producer have allowed Web 2.0 applications to capitalize on time spent participating in communicative activity and information sharing (Terranova, 2004). In mass media models, the role of consumers has been just that, to consume, or to watch and read the product. Web 2.0 consumers, however, become producers who fulfill a critical role: without the producer-consumer—or the "prosumer" (Lister et al. 2003, 33)—the sites would not exist.

By uploading photos, posting links, and inputting detailed information about social and cultural tastes, producer-consumers provide content that is used to generate traffic, which is then leveraged into advertising sales. By providing a constant stream of content about the online activities and thoughts of people in one's social networks, Facebook taps into members' productivity through the act of surveillance. In this model, rather than employing workers to create content, Web 2.0 companies or large media firms that own them profit from the unpaid labour time that producer-consumers spend working on their online identities and keeping track of friends (Coté and Pybus 2007). While these sites can offer participants entertainment and a way to socialize, the social relations present on a site like Facebook can obscure economic relations that reflect larger patterns of capitalist development in the digital age.[3]

In an effort to draw attention to these dynamics, this paper makes two interrelated arguments about the ongoing, extensive commodification in which Facebook is engaged.[4] Extensive commodification refers to the way in which market forces shape and re-shape life, entering spaces previously untouched, or mildly touched, by capitalist social relations (Mosco 1996, 153). Facebook facilitates this

process through the valorization of surveillance. Not only is surveillance the method by which Facebook aggregates user information for third-party use and specifically targets demographics for marketing purposes, but surveillance is the main strategy by which the company retains members and keeps them returning to the site. This leads to the second argument of this paper: it is the unpaid labour of producer-consumers that facilitates this surveillance. Like other Web 2.0 businesses, Facebook is engaged in the commodification of what can be understood as free labour, or what has been called immaterial labour. What distinguishes this particular social network is the way in which surveillance is fundamental to this process. Although Facebook and other Web 2.0 ventures have implemented strategies that break with those of "old" media, these sites can be situated within more general capitalist processes that follow familiar patterns of asymmetrical power relations between workers and owners, commodification, and the harnessing of audience power.

Working Online: Free Labour

In his theory of audience labour, Smythe (2001) argued that the mass media accumulates capital by selling audiences to advertisers to produce audience power. The audience "works" by learning to desire, generating demand for and consuming mass-marketed goods and services. While Smythe located the audience broadly within the media production process, the work of his audience came after content was produced. The television program, for example, is produced and then broadcast, during which time the audience's work would begin. In contrast, Web 2.0 models depend on the audience producing the content, thus requiring an approach that can account for the labour involved in the production of Web 2.0 content, which can be understood as information, social networks, relationships, and affect.

Terranova problematizes what has become a prevalent form of work in the media and cultural industries, and what has a particularly important role online: that which she calls free labour. Flowing from feminist challenges to the narrow definition of labour as strictly wage labour or employment, Terranova defines free labour as "excessive activity" not typically viewed as work, performed on the internet that creates value for capital (Terranova 2004, 73). Writing before the popularity of social networking sites, she cites monitoring chat rooms as an example of free labour, but her definition can be extended to the work of filling out a Facebook profile, uploading video, commenting on photographs, linking to friends, using Facebook applications, and sharing cultural tastes—labour that does not produce material goods nor is defined by terms of a wage-labour relationship, but is a source of value for Web 2.0 companies. The business models of Web 2.0 ventures depend on the performance of free labour; without it there would be no content and therefore no profit.

The offloading of work by companies onto consumers has a long trajectory that has intensified under post-Fordist conditions of lean production, flexible workforces, and technological development in the interest of increased efficiency and profit (Huws 2003, 27). Huws traces the rise of what she calls unpaid consumption

work, which was historically performed by paid workers but has been shifted to become the responsibility of consumers. This includes self-service at gas stations, grocery checkouts, and banks, for example. As Huws writes, "… the interests of forcing up productivity and shedding as many unprofitable tasks as possible in the outside economy are thrusting back on the consumer other tasks that add to the burden of unpaid labour" (Huws 2003, 69). Web 2.0 can thus be considered as a continuation of the tendency of capital to offload labour costs onto consumers.

To further understand the labour involved in Web 2.0 production, particularly the way in which the division between producer and consumer has been blurred online, Coté and Pybus employ the term immaterial labour to describe "the social and cultural component of labour," from which value has been extracted (Coté and Pybus 2007, 89). Immaterial labour is defined as that which "produces the informational and cultural content of the commodity" (Lazzarato 1996, 133). It has also been described as labour that produces affect, or "a feeling of ease, well being, satisfaction, excitement or passion" (Hardt and Negri 2000, 108), or that which shapes tastes and opinion (Lazzarato 1996, 133). This type of labour, argue Hardt and Negri, creates "relationships and ultimately life itself," and its products are "social and common" (Hardt and Negri 2004, 109). Though the extent to which immaterial labour is a dominant force in contemporary capitalism (and if, in fact, it is a useful category at all) has been contested, it is a useful way of understanding the work involved in social networking sites: members add value to commodities via the production of a cultural or affective component of the commodity, which are online social relations.

Extending from these definitions, Coté and Pybus have termed the work involved in generating value for Web 2.0 applications "immaterial labour 2.0," arguing that social networking sites such as MySpace are a source of dynamic, creative power; places where subjectivities are produced and where surplus value is created:

> … there has been a conflation of production and consumption, an elision of author and audience—especially in the new virtual ICT networks that literally comprise an increasing part of our everyday lives; and that therein, our communication, our cultural practices are not only constitutive of social relations but are also a form of labour and increasingly integral to capital relations. (Coté and Pybus 2007, 89)

They label this "creative power," but the dynamics of economic power at play should not be understated. This fusing of production and consumption, or the increasing prevalence of free labour, sustains the emerging Web 2.0 landscape. It is a critical element of the digital economy (Terranova 2004, 90, 91), and must be situated in the broader political economic context of flexible, lean production of neoliberal capitalism, which increasingly aims to lower the cost of labour and capture value outside of direct productive processes (Terranova 2004, 75).

This outsourcing of the work of media production to the producer-consumer has been termed "crowdsourcing," a cost-cutting practice that Deuze astutely notes has coincided with rising layoffs in media industries (Dueze 2007). The utilization of

free labour on Facebook is, at times, blatant, such as in the site's deal with Comcast's video uploading site, Ziddio.com, in which user-generated video content was converted into a program called *Facebook Diaries*. The show promoted Facebook while generating content for both Facebook and Ziddio, content the companies did not have to pay workers to produce (Johnston 2007). This example starkly demonstrates the commodification of members' immaterial labour, or the way in which use value is transformed into exchange value (Mosco 1996, 140).

Considered this way, argue Coté and Pybus, the commodified audience has shifted from Smythe's conception of the audience as "discrete, measurable quanta in the chain of production, circulation, consumption, to a dynamic, productive composition of bodies as aggregates networked in ICTs" (Coté and Pybus 2007, 97). Facebook's existence depends on this aggregate of networked bodies. Web 2.0 applications are built on an "architecture of participation," their foundations depend on the creation of massive databases of user information; each new participant adding to the database and thus adding value to the site (O'Reilly 2005).

On Facebook, almost all member activity can be conceived of as immaterial labour that benefits the company. A major task upon which Facebook is based is "adding" friends, which is the act of linking to other people's profiles and forms the basic design of the site. The work of adding friends is also Facebook's main growth strategy. The site has not advertised itself, with the exception of wide and consistent mainstream media coverage. Facebook recruited its millions of members virally: with a convenient click of the mouse, one can send an e-mail to an entire address book, "inviting" contacts to join. Facebook effectively utilizes the "network effects from user contributions" as a growth strategy while presenting the site simply as a useful "social utility that connects you with the people around you" (O'Rielly 2005; Facebook.com).

Understanding Facebook's reliance on free or immaterial labour theoretically situates the site within the broader development of capitalism's ongoing attempts to harness general intellect to bring it under the logic of accumulation.

The Commodification of Information: Harnessing Collective Knowledge

Despite the large price tags affixed to them, most Web 2.0 ventures (and, particularly, the media companies that purchase them) are still in the process of determining the most effective way to monetize their services (Hoegg et al. 2006, 10). If money talks, however, the venture capitalists who have sunk millions of dollars into Facebook have loudly declared that they expect large returns on their investments.

Facebook generates revenue predominantly from advertising that, thanks to personal information provided in members' profiles, is precisely targeted to selective groups. This potential has great appeal for marketers: in 2006, approximately $280 million was spent advertising on social networking sites; by 2010 it may reach $1.86 billion (Calder 2006). However, Zuckerberg (2007) claims that Facebook is set apart from other social networking sites by what he calls the "social

graph." He uses the term to explain the structure of the flow of information on Facebook, which happens through connections between people. The links between friends' profiles have created a massive social network with myriad connections, or lines of communication. As Zuckerberg argues, sharing information with friends through face-to-face communication or through a telephone call is inefficient, as it requires paying attention to one another simultaneously. On Facebook, however, a member can read a friend's profile and receive new information at any time. To share a photo album from a party with all of her friends, for example, a member just has to upload it once, and everyone in her network can view her photographs. As Zuckerberg (2007) states, "we're building a massive network of real connections between people through which information can flow more efficiently than it ever has in the past." Zuckerberg argues that this adds "value" to people's relationships, but it has massive potential for advertisers eager to leverage their brands with minimal effort to a captive audience keen to share information about books, music, and products through social networks.

Facebook pitches this approach to potential advertisers as a way of enabling "organic" and "social" promotions (Facebook.com 2008). At one point, advertising was limited to banner ads and flyers that were subtly integrated into the site's pared-down aesthetic. Flyers, which could be purchased for a minimum of $50 and were posted in specific networks, were used to advertise university-based events and services, while profiles could be created by any member or business to promote events or products and services. This approach was an economical way to advertise independent bands and publications, grassroots groups and organizations, or local cultural events, and was the beginning of a highly-effective form of viral marketing for large corporations. If, for example, a computer company creates a group or profile and a member adds them as a friend or joins the group a message is posted on that member's profile for their networks and friends to see, effectively enabling members to do the work of promotion for the companies, and demonstrating another way in which free labour is put to work. This ability to integrate advertising in a non-intrusive, context-specific way is a marker of Web 2.0. Facebook executives have declared their intent to "steer members toward advertiser-sponsored communities" and to provide advertisers with information to "develop their marketing programs… [such as] breakdowns of what other brands, books or movies users are passionate about" (Morrissey 2006, 9). While this can be expected from a company strategizing to maximize its profitability, such statements deflate some of the revolutionary gusto from discourses surrounding Facebook. They complicate arguments that social networking sites are merely spaces for youth to "hang out" while engaging in identity production (boyd 2006), and re-position social networking sites as economic actors that enable or constrain the parameters of members' agency.

The addition of the controversial "Beacon" function in November 2007 signaled a dramatic intensification of Facebook's valorization of surveillance. Forty-four commercial websites signed onto Beacon, which tracks the purchases of Facebook members on certain sites (including Blockbuster.com, NYTimes.com, and TripAdvisor.com) and broadcasts messages about those purchases to their networks of friends. Facebook's press release announcing Beacon gives the example of pur-

chasing movie tickets on a Beacon-enabled site as mutually beneficial for companies and for Facebook members.

> Fandango… is using Beacon so when Facebook users purchase a movie ticket on Fandango.com, they can share their movie plans with their friends on Facebook. Consumers gain a new way to tell their friends about their movie tastes, while Fandango is able to gain greater social distribution on Facebook (Facebook 2007a).

The release goes on to state that "Beacon is a core element of the Facebook Ads system for connecting businesses with users and targeting advertising to the audiences they want" (Facebook 2007a). But to thousands of Facebook users, Beacon was an intrusive form of advertising that took online surveillance and targeted marketing too far. Days after Beacon was implemented, thousands of Facebook members signed a petition on the site created by online activist group MoveOn.org, asking Facebook to let them opt out of the program. A month after implementing Beacon, Facebook apologized and allowed members to opt in, or to turn Beacon off completely. This episode, including the way in which members protested, the way the protest was acknowledged by Facebook, and the way it was covered in the mainstream media, was reminiscent of the introduction of one of Facebook's staple features for surveillance and information sharing.

In 2006, Facebook added what was then a controversial feature called News Feed, which provides a running list of updates on friends' activities when members log into the site. For example, statements such as "Bob is now in a relationship with Kate," or "Sam added tennis to her interests" appear in the list, catalogued with the precise time at which the update occurred. Not only is the News Feed a means of constant surveillance of one's friends, but it provides members with incentive to log on to the site more frequently, and Facebook with an innovative and non-intrusive way to incorporate advertising into the site. With News Feed, text and graphic ads can be placed in members' feeds, appearing to be updates from friends (Morissey 2006). This strategic form of advertising was developed as a response to online users' disdain for disruptive web-based advertising and is a powerful form of advertising because of its ability to become unobtrusively integrated.

The introduction of News Feed generated negative feedback from Facebook members, who called the feature "too stalkeresque" and launched a group within Facebook itself, titled "Students Against Facebook News Feed (Official Petition to Facebook)," which attracted more than 700,000 members and was covered widely in major news media. Facebook refused to remove the service, but did make adjustments to allow members to limit what information is posted in the News Feed (Romano 2006).

The example of the reaction to News Feed (and, to some degree, Beacon) points to the powerful manner in which Facebook accommodates resistance within its very program, while at the same time maintaining control over determining outcomes. Rather than blocking dissent, Facebook transforms resistance into productivity. It provides the tools for members to speak out against the site itself, and then responds to this dissent through the creation of new policies or amendments to cur-

rent policies. The site incorporates users' knowledge into its development, which retains members (perhaps instilling them with a sense of ownership in the site, or at least a sense of the importance of one's voice) and affirms the critical importance of an active membership. It demonstrates what Coté and Pybus (2007, 100) call the "structural ambivalence" of social networking sites, and the way in which Web 2.0 business models, following post-Fordist desires, are flexible; created to adapt and react to not only to consumer actions, but also to producers' reactions.

Advertising revenue is based on what can be considered to contain the real value for social networking sites such as Facebook: the potential of information. As O'Reilly notes, "database management is a core competency of Web 2.0 companies, so much so that we have sometimes referred to these applications as 'infoware' rather than merely software" (O'Reilly 2005). This aspect of Web 2.0 is defined by Hoegg et al. as "… mutually maximizing collective intelligence and added value for each participant by formalized and dynamic information sharing and creation" (Hoegg et al. 2006, 13). Collective intelligence, understood as general intellect, has become an important source of value creation in the digital age.

General intellect, a concept from Marx, can be understood as "the general social knowledge or collective intelligence of a society at a given historical period" (Hardt and Virno 1996, 262). As Terranova writes (2004, 88), general intellect created from pooled "knowledge labour" is "inherently *collective*, it is always the result of a collective and social production of knowledge" (emphasis in original). Increasingly, collective social and cultural knowledge is put to work in online spaces where people gather to communicate.

Zuckerberg himself often speaks of the power of collective knowledge and aggregated information: "By taking the understanding that all the individuals have and pooling that knowledge together, you get a better set of knowledge," he has said (Kessler 2007). In fact, Zuckerberg's excitement over the power of collective knowledge seemed, at times, to trump his concern over bottom-line motivation to increase the site's numbers: "One billion page views a day is cool… but really what I care about is giving people access to connect and the information they want as efficiently as possible" (Kessler 2007). Although this comment should be read in the context of Zuckerberg's position as a business executive promoting his company in the news media, it reveals Zuckerberg's view of Facebook as a publisher of information, again diverging from the more limited perspective of social networking sites as solely social spaces.

Zuckerberg's vision for the News Feed provides insight into the value data holds for Facebook:

> In the next iterations, you're going to see real stories being produced. 'These people went to this party and they did this the next day and then here's the discussion that was taking place off of this article in *The Wall Street Journal*. And these two people went to this party and they broke up the next day' …you can start weaving together real events into stories. As these start to approach being stories, we turn into a massive publisher. Twenty to 30 snippets of information or stories a day, that's like 300 million

> stories a day. It gets to a point where we are publishing more in a day than most other publications have in the history of their whole existence (Kessler, 2007).

It is perhaps at this point in Facebook's productive process that we can conceive of a form of exploitation. As a publisher, Facebook does not pay a wage for the labour that produces content, and while it "does not assert any ownership" over members' content, it demands a range of rights to that content, no matter how personal. As Facebook's Terms of Service state:

> By posting User Content to any part of the Site, you automatically grant, and you represent and warrant that you have the right to grant, to the Company an irrevocable, perpetual, non-exclusive, transferable, fully paid, worldwide license (with the right to sublicense) to use, copy, publicly perform, publicly display, reformat, translate, excerpt (in whole or in part) and distribute such User Content for any purpose, commercial, advertising, or otherwise, on or in connection with the Site or the promotion thereof, to prepare derivative works of, or incorporate into other works, such User Content, and to grant and authorize sublicenses of the foregoing (Facebook 2007c).

The site's policy can be viewed as part of a larger move toward the increasing commodification of information through the extending grip of corporate interests around intellectual property and media content in general. Media companies are placing increasing restrictions on intellectual property, extending IP as a method of "protecting" the right to profit maximization (Mosco 1996; Boyle 2002). This has affected producers of content, such as freelance writers, who are faced with increasingly restrictive contracts that can demand "all rights, in perpetuity, throughout the universe" (Professional Writers Association of Canada 2006), as well as participants of social networking sites, whose "data," while not necessarily transformed into private property, is loaned to private companies without compensation, for the accumulation of capital. In the so-called information age—a time in which access to information carries with it great political, economic and social weight and rights are equated with market power—asymmetrical power relations are being established between those who produce content and those who profit from it. Although it is difficult to reconcile a strict Marxist definition of exploitation with the exchange that occurs on Facebook, exploitation in this case can be more broadly conceived as "the expropriation of the common" (Hardt and Negri 2004, 150), which is to say, knowledge produced collectively or collabouratively becomes private property, which obscures the social dimension of wealth production (Lazzarato 2004, 198).

Much has been made in the media of Facebook's privacy policy, with concerns predominantly centered on the accessibility of user information to stalkers (Gowan 2007), or the ability of employers and teachers to read negative comments made by employees and students (Flavelle 2007). Facebook does allow members to adjust profile settings to limit the amount of information that can be viewed by strangers

and friends on the site, and the solutions presented to address these concerns encourage people to turn on and adjust privacy settings on their profiles. This approach places the onus on individuals to seek out and activate their privacy settings, which does not address larger issues of privacy and surveillance, nor does it acknowledge the fact that most people are unaware of website privacy settings and policies in the first place (Chung and Grimes 2005, 543).

Critically, very few discussions about privacy have focused on Facebook's policies with regards to selling information to third parties. (This may change, as Facebook has introduced new advertising functions that make explicit its desire to use precise, targeted information to increase ad revenue.) The site's lengthy privacy policy states that information is collected not only from members inputting information into their profiles, but also as members interact with the site. Even after information is removed from a profile, it "may remain viewable in cached and archived pages or if other Users have copied or stored… User Content." The site also collects information about its members from "other sources, such as newspapers, blogs, instant messaging services, Facebook Platform developers and other users of Facebook," and, even if a member restricts the availability of their information to their closest, real-world friends, basic identifying information (name, networks, and, unless hidden by a member, a profile photo) "will be available in search results across the Facebook network and those limited pieces of information may be made available to third party search engines" (Facebook 2007b).

Despite privacy settings, Facebook information has been accessed by third parties. As an experiment, Jones and Soltren (2005, 24) wrote a computer script to harvest data from Facebook, concluding that users may be able to limit what people on the site can see about them, but not what third parties are able to obtain with relative ease. As well, advertisers are able to set cookies on the site, which Facebook acknowledges in its Privacy Policy.

While Jones and Soltren (2005, 20) identified demographic information as the most relevant to advertisers, they acknowledge that this information could be cross-referenced with other databases to link users' interests and location to specific, identifying information such as phone and social security numbers. In fact, a document produced jointly by Facebook and Ann Cavoukian, Information and Privacy Commissioner of Ontario, and directed primarily at the site's young users, warns that social networking sites are tenuous and evolving: "This means that, at any point in time and potentially without any notice to you, information from your profile and logs of your online activities may be used and disclosed in unexpected ways that can affect your privacy" (Cavoukian 3). Thus, despite its detailed privacy policy, Facebook itself seems unsure of how members' data will be used.

Most people do not read academic and policy literature on social networking and privacy issues, and there is no guarantee that members will thoroughly read–or read at all–a terms of service agreement or privacy policy (Jones and Soltren 2005, 23). Even if members can interpret the legal jargon cluttering privacy policies of interactive websites, many people do not fully understand the legal implications of these documents. Most assume the mere inclusion of a privacy policy means that a site will not share information with other companies or websites (Turow 2003,

cited in Chung and Grimes 2005, 533).[5] As Jones and Soltren have proven, however, it may be possible to glean data on people's habits, activities, and tastes.

In 2000, Canada passed the Personal Information Protection and Electronic Documents Act (PIPEDA), which established national rules for "private-sector collection, use and disclosure of personal information." PIPEDA requires companies to be accountable for information in its possession. A company has to identify what the information is being used for and to maintain transparency about its policies (Chung and Grimes 2005 534). This policy, however, does not account for the digital collection of information in aggregate form. Rather, it merely states that companies have to inform people of the fact that they are collecting information (Chung and Grimes 2005 531, 534). Information collected through data-mining and aggregating can be used in a different context from that under which it was provided:

> Although these sites describe much of the information collected as "non-personally identifiable," data mining software operates on the basis of open-ended queries, abstracting individuated information into aggregate forms. Open-ended queries are used because data mining functions on the basis of "discovery," where pattern-matching and other algorithms seek out relationships in data that were not necessarily anticipated prior to data manipulation (Chung and Grimes 2005, 538).

As Chung and Grimes argue (2005, 538, 540), websites that collect data from users do not permit users to consent to how data is "abstracted from the digital traces of their activities," and people cannot anticipate how their information will be used. In the context of the US-led "war on terror," which has been used to justify telephone surveillance in the US in the name of national security, this raises serious questions about how information provided on social networking sites is or may be used by the state. Facebook's privacy policy notes that information will be shared with government agencies if legally required and, in 2006, *New Scientist* magazine reported that the Pentagon's National Security Agency is funding research into harvesting personal information posted on social networking sites in order to "build extensive, all-embracing personal profiles of individuals" (Marks 2006).[6] Although state access to social networks is primarily conjecture at this point, social networking sites have the potential to become implicated in state security, adding another critical dimension to a political economic analysis.

The Ambiguities of Web 2.0 Work and Its Rewards

If members are not paid a wage for the immaterial labour performed on Facebook, what do they receive in exchange? In Smythe's formulation, audiences received television programming in exchange for their labour. The exchange involved in Web 2.0 is slightly more complex. By investing time, energy and creativity in Facebook, participants receive information, maintain friendships, and generate a feeling

of belonging or fulfillment (Hoegg et al. 2006, 10). Most empirical studies of Facebook demonstrate that people sign up to keep in touch with friends (Jones and Soltren 2005; Ekos Research Associates 2007). Coté and Pybus propose that participants are motivated by the ability to create a large social network, "a feedback loop that serves as a means of peer valorization for one's online subjectivity" (Coté and Pybus 2007, 96). People willingly participate for entertainment value and enjoyment, demonstrating that desire is invested in production as well as consumption (Terranova 2004), and underscoring the ambiguous nature of the work performed online for Web 2.0. Free labour is not necessarily exploited labour, even though elements of asymmetrical power relations are present (Terranova 2004, 74, 91).

This tension can be accounted for by an understanding that capital reacts to a dynamic from below. The labour performed on sites like Facebook is not "produced by capitalism in any direct, cause-and-effect fashion… simply as an answer to the economic needs of capital" (Terranova 2004, 79). Rather, Web 2.0 as a business strategy can be understood as capital reacting to and attempting to exploit the way in which people seek non-commodified relationships online. There was and remains no guarantee of how the site will be used, and Facebook has adapted its functions and evolved its features as users act and react, as evident in the negotiations over Beacon and the News Feed.

While there may be an element of agency present as members navigate Facebook, social networking sites created from the Web 2.0 business model should not be misunderstood as open, "democratic" spaces in which people can act as they please. While there is room within the website to construct an online identity, interact with people in various ways, and generate a sense of empowerment or fulfillment, the structures (in this case, site design, functionality, privacy settings) are set according to the economic imperative of the company, and participation is constrained or enabled by the economic goals of the site. Indeed, interviews with young female participants of Facebook reveal that members themselves recognize the limitations in Facebook's design for creating alternative images of young women and to engage in activism. As one young woman stated, "Facebook is not a good way to get a message across, that is not what it is made for" (Ekos Research Associates 2007).

In Terranova's framework, free or immaterial labour can be seen as existing "within a field which is always and already capitalism" (Terranova 2004, 80). Rather than sites such as Facebook dictating or determining people's actions or desires, they can be understood as channeling and structuring online activity to suit the needs of business models. This is in line with the advancement of capitalism in the era of post-Fordist production practices, as work in what has been called the knowledge economy moves outside of the factory and the office and becomes increasingly dependent on general intellect and productive capacity outside of direct productive processes (Terranova 2004, 86; Dyer-Witheford 1999).

This mobility of production and the resulting blur between work and leisure time has been theorized by Coté and Pybus as Marx's notion of real subsumption, which they explain as "the absorption of capitalist logic and the dictates of surplus value through more and more of everyday life" (Coté and Pybus 2007, 98). Others have defined this tendency as the shift to the "social factory," whereby work—

situated within post-Fordist production and capital's communication technology-enabled "informational restructuring"—extends out of the factory and into society at large, where affect, intellect, and knowledge are put to work in the form of social labour power for the purpose of capital accumulation (Dyer-Witheford 1999, 79).

Facebook, a space where both leisure time is spent and labour is performed, is an example of how, in the social factory, general social relations become moments of production. While Facebook and its Web 2.0 counterparts may represent a break from mass media in some of the functions of its operation, a reconstitution of power relations has not occurred. Rather, we have seen the extension of processes of commodification; capitalist social relations and market forces extending into multiple aspects of social life.

Conclusion

As Terranova (2004, 75) argues, rather than being a space for escape or mere entertainment, the internet and the websites that shape it must be viewed as being "deeply connected to the development of late postindustrial societies as a whole." An examination of Facebook confirms her position: the deepening reliance on general intellect and free or immaterial labour for the purpose of capital accumulation does represent a move away from the more passive audience commodity, yet it also demonstrates the continuous march of capitalism into cyberspace under post-Fordist conditions. However, it is important to acknowledge that there is nothing inherently capitalist or non-capitalist about social networking sites (Coté and Pybus 2007), and that these sites can be created for profit, or for fun, to solve a problem, to organize people, or to share information. It is critical to remember that social knowledge and relationships, creativity, and human agency are the productive forces driving Facebook, which must, in order to extract profit, be channeled and contained. This means there is vast potential for social networking sites that have not yet been fully realized outside of a commerce-driven model.

An example of the ways in which social networking can be useful for grassroots mobilization emerged in December 2007, in the weeks leading up to the Canadian government's expected introduction of copyright reform that would bring Canada's copyright laws in line with the United States' Digital Millennium Copyright Act. Legal scholar Michael Geist created a group on Facebook to draw attention to the issue and to share information. In two weeks, 25,000 people joined the group and participated by posting video and links, having discussions, and sharing information. One group member led a real-life protest, visiting the Minister of Industry, Jim Prentice, to voice the group's concerns. While Geist recognizes other influences, he acknowledges the Facebook group's role in helping to postpone the proposed reform (Geist 2007).

While this is an example of the potential of social networking for grassroots activism, it also demonstrates the power of general intellect and what is at stake if sites like Facebook are able to channel this productive potential toward the demands of profit. Geist (2007) notes that it was the "crowdsourcing of knowledge," or sharing or information, that was politically effective, which underscores the im-

portance of collective social knowledge and emphasizes what is at risk of being constrained. Indeed, as this paper has argued, it is this general intellect and the desire to share knowledge, communicate, and foster relationships that Facebook has tapped into and exploits.

The strategies for capitalist development adopted by Web 2.0 applications such as Facebook are adaptable and flexible. The ways in which the tools and dynamics present in Web 2.0 applications can be re-purposed for a range of possible actions, including resistance to commodification and exploitation, is an important area of future research as we begin to assess the possibilities and limitations of social networking sites.

Notes

1. For Facebook's alleged connections to the CIA and the United States Department of Defense, see "Big Brothers, Big Facebook: Your Orwellian Community," available at http://www.commongroundcommonsense.org/forums/index.php?showtopic=34949 and the web tutorial based on the article, available at http://www.albumoftheday.com.
2. This information is based on Facebook's own estimation, which can be found in its "Press Room," available at http://www.facebook.com/press/info.php?statistics. These numbers are accurate as of February 11, 2008.
3. For making this point explicit, I am indebted to Mark Coté, who made this argument about MySpace.com at a talk delivered at York University on January 12, 2007.
4. The research for this paper was conducted through an analysis of mainstream media coverage of Facebook, a survey of corporate documents, and academic literature. The research is also based on five months of regular use of Facebook, from January to May 2007, and sporadic use of the site throughout late 2007. Due to the newness of Facebook and social networking websites as an area of academic inquiry, particularly the limited academic work from a critical political economy approach, a large portion of research for this paper draws upon mainstream media and industry sources. This points to the necessity of research on the political economy of Web 2.0.
5. This unawareness of the implications of sharing personal information may account for the fact that, as Zuckerberg has claimed, one-third of Facebook users post their mobile phone numbers in their profiles (Kessler 2007).
6. As Marks writes, "No plan to mine social networks via the semantic web has been announced by the NSA, but its interest in the technology is evident in a funding footnote to a research paper delivered at the W3C's WWW2006 conference in Edinburgh, UK... That paper… reveals how data from online social networks and other databases can be combined to uncover facts about people… the work was part-funded by an organisation called ARDA… Advanced Research Development Activity… Chief among ARDA's aims is to make sense of the massive amounts of data the NSA collects—some of its sources grow by around 4 million gigabytes a month. The ever-growing online social networks

are part of the flood of internet information that could be mined…." (Marks 2006).

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