

## **“A Workers’ Inquiry 2.0”: An Ethnographic Method for the Study of Prodsusage in Social Media Contexts**

Brian A. Brown\*, Anabel Quan-Haase\*\*

\*Western University, London, Canada, [bbrown26@uwo.ca](mailto:bbrown26@uwo.ca)

\*\*Western University, London, Canada, [aquan@uwo.ca](mailto:aquan@uwo.ca), <http://SocioDigital.info>

**Abstract:** *In this paper, we propose a new ethnographic method for the study of prodsusage (Bruns 2008) in social media contexts. The proposed method is based on three lines of thought: Marx’s method of ‘A Workers’ Inquiry’, the autonomists’ method of co-research, and recent critical theory of Web 2.0. To show the applicability and usefulness of the proposed method, we first compare it to other Marxist inspired methodological approaches and then we describe a case study to illustrate the method’s diversity and its potential for providing new insights into the processes of prodsusage and the commodification of audiences as described in previous work by Smythe (1977), Bruns (2008), Cohen (2008), and Fuchs (2011). The case study consists of a critical examination of the mode of prodsusage as it takes place in Flickr, one of the largest photo-sharing communities on the Internet.*

**Keywords:** *Internet; Critical Theory; Immaterial Labour; Flickr; Social Media; Web 2.0; Digital Ethnography; Prodsusage; Research Methods*

**Acknowledgement:** *The present study has benefitted from support given to Anabel Quan-Haase by the Academic Development Fund and Social Science Alumni Research Award, Western University and to Brian A. Brown by the Provincial Government of Ontario through two Ontario Graduate Scholarships 2009-2010 and 2010-2011. We thank Ahmad Kamal and two anonymous reviewers for their comments and suggestions.*

### **1. Web 2.0 and Critical Theory**

**User-generated content (UGC)** and Web 2.0 sites and services have unleashed a torrent of creativity, ingenuity, and generosity on the part of their participants, who daily post, comment, and update content on sites such as Facebook, Twitter, and Flickr. On Web 2.0 environments a shift has occurred in how individuals communicate with one another through the sharing of thoughts, ideas, likes, and dislikes. The rising popularity of Web 2.0 sites and services is at the centre of this shift and also shows no signs of abating. Data from 2010 indicates that email is being substituted – at least in Canada – for Web 2.0 services (Moretti 2010). In the 13–17 and 18–24 age groups, a total of 77% and 82%, respectively, are now using Facebook more than email. In these digital environments, ‘users’ become active participants, producing massive amounts of content free of the wage relation. What makes the study of unwaged immaterial labour, or what Bruns (2008) refers to as prodsusage, interesting is that ‘users,’ a complete misnomer, are willing to produce content at no cost to the owners of these domains at the same time as these sites generate massive profits.

Bruns (2008) coined prodsusage in an attempt to differentiate between the industrial mode of production and the mode of ‘production’ responsible for the creation of digital content in Web 2.0 environments. According to Bruns (2008), the mode of prodsusage is “built on iterative, evolutionary development models in which often very large communities of participants make a number of usually very small, incremental changes to the established knowledge base, thereby enabling a gradual improvement in quality which – under the right conditions – an nonetheless outpace the speed of production development in the conventional, industrial model” (1). Various terms have been proposed to describe the nature and dynamics of this new form of work. Building on contributions made by Lazzarato (1996) in his coining of the term ‘immaterial labour’ and Hardt and Negri’s amplification of the concept in *Empire* (2000), Terranova offers the concept of “free labour” (2004) as a term meant to describe all of the unwaged immaterial labour undertaken by Internet ‘users.’ Immaterial labour 2.0 (Coté and Pybus 2007), and informational labour (Fuchs 2011) have also been introduced as new concepts to describe these changes. What these concepts emphasize is that the absence of the wage relation does not negate the productive capacities of Web 2.0 ‘users’ nor does it preclude the presence of an exploitative relation. Expanding on the groundbreaking work of Smythe (1977), critical theorists Cohen (2008) and Fuchs (2009, 2011) argue that Web 2.0 sites and services are highly exploitative in that they profit from the

work of 'users' and do not offer a wage in return for this labour. In fact, the above authors rightly stress that the absence of a wage actually intensifies these exploitative relations.

Part of the complexity of this situation and relationship is that we have yet to adequately grasp how the 'users' of Web 2.0 sites and services perceive their place in this socio-economic system. The study of the mode of produsage and of the unwaged immaterial labour taking place therein, then, requires an appropriate set of methods through which workers' perceptions and opinions might be uncovered. Such a method can serve as the starting point to increase producer awareness of how their contributions are part of a new relationship between owners and workers unique to social media environments, yet still based on the exploitation of labour prevalent in the industrial era. Current methodologies, however, do not do justice to the complex relations that exist between Web 2.0 producers, the sense of community engendered by the mode of produsage, and the exploitative relations between these communities and the owners of the sites. Moreover, a new complexity emerges in the study of produsage through the intimate links that obtain between producers and the artefacts they produce. Thus, this paper suggests that with each modification to the mode of production, there arises a need to develop new methodologies adapted to the particularities of these changed circumstances. The mode of produsage characteristic of Web 2.0 signals the need for such alterations. In turn and below, we detail the adaptations required to one research method of particular importance to critical communications scholars working within the Marxist tradition.

We propose a new ethnographic method called "A Workers' Inquiry 2.0" for the study of the mode of produsage taking place in social media contexts. The proposed method is based on Marx's 'A Workers' Inquiry', the thinking and methods of Italian autonomists, and recent critical theory of Web 2.0. To show the applicability and usefulness of the proposed method, in Section 2 of this paper we compare it to Marx's method of "A Workers' Inquiry". Section 3 demonstrates the alterations made by autonomists to Marx's original method and discusses the links between this method and participatory action research (PAR). In Section 4, we explain the theoretical lineage that underlies the mode of produsage and address some of the criticisms of one of its central tenets. In Section 5, we analyse how the proposed method of "A Workers' Inquiry 2.0" adapts Marx's and the autonomists' method to the Web 2.0 environment. This section consists of a case study and a critical examination of the mode of produsage as it occurs on Flickr, one of the largest photo-sharing communities on the Internet. In Section 6, we suggest that the mode of produsage – and the central place of the producer within it – necessitates a re-consideration of the value – economic, personal, and social – of the product or artefact created through labour. Central to this section is a discussion of the close and often personal link between producers and the artefacts, or content, they contribute to these sites. Section 7 compares the proposed method with other approaches and outlines its strengths and weaknesses. Finally, in Section 8, we conclude with a discussion of the value of employing the tenets outlined in a 'A Workers' Inquiry 2.0' to concerns regarding the mode of produsage, cyber capitalism, and the processes of monetizing producer-generated content.

## 2. Marx's "A Workers' Inquiry"

In 1880, Karl Marx published a list of one hundred and one questions in *La Revue Socialiste*. *La Revue Socialiste* was a publication that served the industrial proletariat of France in the late nineteenth century. Known as "A Workers' Inquiry", (1938/1880) the questions were divided into four untitled subsections that dealt with different facets of the labouring context in that era. The questions Marx asked to the workers were designed to assess the level of exploitation within the industrial factories of France and to make workers conscious of their own exploitation. In this way, 'A Workers' Inquiry' was an attempt to obtain a holistic picture of the social, technical, and political dynamics occurring in the workplace (Wright 2002), so as to

make the worker aware of his own predicament in capitalist society, to cut through the fog of illusions and habitual responses and fictions which prevent the worker from understanding his social world, and by thus making the worker conscious of his predicament giving him a chance to solve it (Burnham, Shachtman, and Spector 1938, 1).

By making the worker aware of his predicament, Marx's questions were inherently political, drafted to rouse the anger of labourers, help the workers to realize the extent of their exploitation, and, as this realization grew, ultimately motivate them to take action.

The editors of *The New International*, which republished Marx's 'A Workers' Inquiry,' argue that "[w]ith the changes in industrial production during the past half-century, certain of these questions in their given form have become archaic. But no one would find difficulty in modifying them in such a manner as to bring them up to date" (Burnham, Shachtman, and Spector 1938, 1). What the editors of *The New International* were signalling is not that the key tenets of the methodology were archaic, out-dated, or flawed, but rather that as the struggles between capital and labour change the form and content of our modes of production, our methods of study must change along with them. Hence, if our methodologies are to keep pace with the evident changes in the labour process, then they too must be adapted and updated so as to take into account these changed circumstances. In the mid-1950s, Italian autonomists did just that and it is to the modifications they made to Marx's 'A Workers' Inquiry' that we now shift our focus.

### 3. Autonomist Co-Research & Participatory Action Research

Beginning in the 1950s, Italian autonomist Marxists<sup>1</sup> had similar desires to that of Marx's, but found themselves in distinctively different historical circumstances. While the mode and relations of production had changed significantly (see: Bologna 1980; Wright 2002; Negri 1989), the need to speak with and consult workers so as to gain insight into the technical and political circumstances of the workplace remained a central concern for autonomists. Adapting their methods of gathering information regarding the level of exploitation in the factories of Italy and the consciousness of the workers toiling therein was therefore necessary. Taking a much more direct approach than Marx, autonomists infiltrated the industrial factories – sometimes even got jobs therein—and conducted their research alongside the workers and from within the factory itself.

To adapt the existing methods to the new circumstances, autonomist Marxists developed co-research (Negri 2008, 162-163)<sup>2</sup>. Like "A Workers' Inquiry", the aim of co-research is to gather information about the conditions of workers through surveys, observations, and interviews, to create awareness in the workers themselves regarding their exploitation, and, by doing so, giving them the opportunity to do something about it. One of the key advantages of co-research is that it begins on the shop floor and is premised on the political organization and radicalization of the workers' consciousness. By infiltrating the factories, speaking with workers directly, asking them questions through interviews, having them complete surveys, getting their impressions of their working conditions, observing worker behaviour first-hand, and, finally, trying to identify within it strategies or tactics that could be leveraged in the service of liberating the workers from the exploitation exacted upon them, autonomists were following in the tradition established by Marx's "A Workers' Inquiry", but modified that tradition to suit the unique attributes of their time and place.

Antonio Negri, one of the leading figures of autonomist Marxism, offers a succinct summation of the practice of co-research. His is one of the clearest treatments regarding the procedural aspects of the methodology and has the advantage of drawing parallels between co-research and Marx's "A Workers' Inquiry", while at the same time acknowledging the differences between them:

In terms of practice, 'co-research' simply meant using the method of inquiry as a means of identifying the workers' levels of consciousness and awareness among workers of the processes in which they, as productive subjects, were engaged. So one would go into a factory, make contact with the workers, and, together, with them, conduct an inquiry into their conditions of work; here co-research obviously involves building a description of the

<sup>1</sup> Autonomist Marxism is a branch of Marxist philosophy that emphasizes the priority, creativity, and initiative of labour in its relation to capital. While capital relies on labour as the source of profit, labour has the skill and knowledge to organize its productive activities free of the capitalist relation. It is, then, potentially autonomous. Nowhere is the potential autonomy of labour more evident than on the self-organized, self-managed, and self-directed networks of Web 2.0 sites and services.

<sup>2</sup> For overviews of co-research, its contemporary uses, and the attempts to organize struggles against exploitation from a variety of perspectives see: Malo de Molina 2004a, 2004b; Situaciones Colectivo 2003; Precarias a la Derive 2004; Brophy 2006.

productive cycle and identifying each worker's function within that cycle; but at the same time it also involves assessing the levels of exploitation which each of them undergoes. It also involves assessing the workers' capacity for reaction – in other words, their awareness of their exploitation in the system of machinery and in relation to the structure of command. Thus, as the research moves forward, co-research builds possibilities for struggle in the factory (Negro 2008,162-163).

One of the central parallels between Marx's "A Workers' Inquiry" and co-research is the concentration on the factory as the central site of study. Both methods focus on conducting research with individuals who work within the physical infrastructure of a factory in the hopes of making the conditions of their exploitation overt and, ultimately, leading toward changing these conditions. Marx contacted the workers via a publication distributed to the factories. By contrast, co-researchers went directly to the sites of production and infiltrated the factory in order to obtain information regarding the level of exploitation and the preparedness of the workers to struggle against it. Because large numbers of workers were concentrated in geographically specific locations – working en masse at regular and predictable hours, and on jobs that could be observed or described first hand – the factory was the obvious place to start any inquiry into labour relations.

Co-research as practiced by autonomists closely resembles what has come to be known as participatory action research (PAR) or action research. Both methodologies emphasize the active role of the researcher and the individuals, groups, and communities that participate in the co-creation of actionable knowledge. One of the central differences, however, between the two is that co-research maintains its focus on the factory, while action research expands the scope of research locales into communities, schools, and clinics (Fals-Borda and Rahman 1991; Barnsley and Ellis 1992). Similar to co-research, in action research, individuals in the community or institution under investigation are actively involved in establishing the goals and directions of the research, but are also involved throughout the entire research process – including the presentation of the findings and the implications of these for the community or group. Action research is often contrasted with other research approaches, where research participants are not engaged in all phases of the study and members of organizations and communities are viewed as passive (Whyte et al. 1990). Another similarity between co-research and action research is that they both try to develop programs-based research findings acquired through direct interactions and conversations with individuals, groups, and institutions (Barnsley and Ellis 1992). Similar to co-research, the objectives of action research "go beyond the creation of knowledge. The literature emphasizes that PAR includes an educative function which raises the consciousness of its participants and a plan for action to improve the quality of their lives" (Cassano and Dunlop 2005). Both co-research and action research are methods that recognize the importance of applying unique approaches to unique contexts so as to gain new insight and formulate relevant conclusions and actionable strategies (Whyte 1990). It is the problems presented by the contemporary labouring context that force us to once again change our strategies. "A Workers' Inquiry 2.0" draws inspiration from the above methodological lineages, but is focused on a unique productive locale. We discuss next how changes to the nature of labour itself and the locales where labour takes place impact where and how an inquiry into the social and political dynamics of a relatively new labouring context might occur. These changes are conceptualized under the heading of immaterial labour and the mode of produsage.

#### **4. Immaterial Labour, the Mode of Produsage, and the Role of the Producer**

Similar to, yet fundamentally different from, the owners of industrial factories, the owners of Web 2.0 sites and services also depend on legions of workers to produce the outputs that get turned into profit for them and their shareholders. There exist, however, significant differences between these two exploitative relationships. The differences are best explained by recourse to a better understanding of the concept of *immaterial labour* (Lazzarato 1996) and what Bruns (2008) calls the *mode of produsage*. In what follows, then, we discuss the concept of immaterial labour, its critiques, and its relation to the mode of produsage. This theoretical lineage informs the proposed methodology of "A Workers' Inquiry 2.0" by placing an emphasis on the nature of the artefacts produced/prodused, the close and personal

interrelationship between workers and these artefacts, and the conspicuous absence of the wage relation within the mode of produsage.

#### 4.1. Immaterial Labour

Immaterial labour is a concept coined by Maurizio Lazzarato (1996) in an attempt to describe the changes in the nature of labour that were taking place at the end of the twentieth and beginning of the twenty-first century. For him, immaterial labour is split into two different kinds of labour related to, but distinct from, industrial production. Lazzarato identifies as the defining characteristics of his concept on the one hand, the labour that produces the informational content of a commodity and on the other, the labour that produces the cultural content of the commodity. These two types of labour result in no physical or tangible end product, but rather create the language, symbols, images, and ideas that adhere to commodities (Lazzarato 1996). For instance, producing the informational content of a commodity refers to the activities that are needed to explain the functioning, purpose, and/or legalities of a particular product. The Terms of Service (TOS) for one of the popular social networking sites (SNSs)<sup>3</sup>, or one of the dense and multilingual instruction booklets that accompany any digital gadget sold on the market, are good examples of the labour required to produce the informational content of a commodity. The labour required to produce the cultural content of a commodity is described by Lazzarato as “the kinds of activities involved in defining and fixing cultural and artistic standards, fashions, tastes, consumer norms, and, more strategically, public opinion” (Lazzarato 1996, 133). This work is done primarily by advertising agencies, public relations firms, institutions of the mass media, and all of the photographers, copy and film editors, technicians, engineers, etc. that support this kind of cultural production. In *Empire* (2000), Hardt and Negri expand upon Lazzarato’s initial formulation of the theory of immaterial labour by adding “a third type of immaterial labour [that] involves the production and manipulation of affect and requires (virtual or actual) human contact, labour in the bodily mode” (Hardt and Negri 2000, 293). This form of immaterial labour is characteristic of those persons working in the service industries where producing a sense of satisfaction, a feeling of well-being, contentment, or frustration are the primary outcomes of one’s labour.

Despite the importance of the concept in its description of a relatively new mode of production, from the beginning, the theory of immaterial labour has been wrought by controversy and debate. The major point of contention regarding the concept of immaterial labour revolves around the qualifier “immaterial”. These criticisms mainly address two shortcomings of the theory as put forth by Lazzarato and amended by Hardt and Negri. The first is that the labour that produces the informational, cultural, and affective content of a commodity still requires the application of material body and mind to the tasks at hand. Immaterial labour, then, necessarily contains within it a material essence and this materiality requires more attention than the above authors have devoted to it. The second major criticism has to do with Hardt and Negri’s (2004) characterization of immaterial labour as hegemonic in the contemporary era. That is, according to Hardt and Negri immaterial labour “has become *hegemonic in qualitative terms* [in that it] has imposed a tendency on other forms of labour and society itself. Immaterial labour, in other words, is today in the same position that industrial labour was 150 years ago” (Hardt and Negri 2004, 109; emphasis in the original).

In the above explanation, Hardt and Negri attempt to qualify their use of immaterial labour by defending it against the critiques that claim it all too quickly elides the persistence of material forms of industrial production, especially those pushed to areas of the ‘global south.’ In response to these criticisms, the authors argue that

This does not mean that there is no more industrial working class whose calloused hands toil with machines or that there are no more agricultural workers who till the soil. It does not even mean that the numbers of such workers has decreased globally. What it means, rather, is that the qualities and characteristics of immaterial production are tending to transform the other forms of labour and indeed society as a whole (Hardt and Negri 2004, 65).

<sup>3</sup> The extent of the work needed to create the informational content of an immaterial commodity is exemplified by Facebook’s privacy rules, which have been critiqued because of their length being comparable to that of the United States Constitution. Navigating the complexity of these rules and regulations is not made easier by Facebook’s “Help Center”, which is meant to assist members, in that it has more than 45,000 ‘explanatory’ words (Privacy Commissioner of Canada 2009).

While these debates rage on, there is no doubt that Lazzarato and Hardt and Negri have identified a number of core characteristics representative of a relatively new labouring context that is having an increasing impact on the working lives of many individuals.<sup>4</sup> While admittedly problematic, the concept of immaterial labour does go a long way in explicating some of the more consequential changes to have taken place in the nature and form of labour for large numbers of workers around the world. These changes should not be considered in isolation, but need to be thought of in their relationship to the industrial mode of production (Castells and Hall 1994). This necessitates that we further explore and continue to question the meaning of the concept and examine more carefully how it is related not only to industrialized labour, but also to its unwaged variant known succinctly as *produsage*.

#### 4.2. The Mode of Produsage, The Producer and The Wage Relation

Drawing inspiration from the work of Toffler (1981) and his concept of the prosumer, Bruns grasps the unique position of the misnomic 'user' and the work that s/he does on Web 2.0 sites and services via his hybrid concepts of the Prod-User and Prod-Usage. According to Bruns (2008),

Producers engage not in a traditional form of content production, but are instead involved in *produsage* – the collaborative and continuous building and extending of existing content in pursuit of further improvement. Participants in such activities are not producers in a conventional, industrial sense, as that term implies a distinction between producers and consumers which no longer exists; the artefacts of their work are not products existing as discrete, complete packages ...; and their activities are not a form of production because they proceed based on a set of preconditions and principles that are markedly at odds with the conventional industrial model (Bruns 2008, 21).

By leveraging the "techno-social affordances" (Bruns 2008, 19) of distributed networks, the mode of produsage and the producers responsible for the evident efficiencies made possible by these affordances, do not require, nor want, a boss to scientifically manage their labour (Taylor 1915), organize their activities from above, or hand down orders from on high. This capricious and fickle labour force shows up to 'work' when they want, they concentrate their energies on what they want, work with whom they want, and can walk away from these tasks at any time they see fit. Through these terminological innovations, Bruns emphasizes the producer's active and creative role in the creation and generation of digital *artefacts*. 'Artefact' is the term used by Bruns to describe the dynamic and iterative nature of digital creations in the contemporary era. This term better emphasizes the ephemeral and inherently dynamic qualities of digital creations than does 'end-product.' Bruns' concepts of producer, produsage, and the artefact are adopted herein because they emphasize the active and creative nature of the work done by content generators on Web 2.0 sites and services. This kind of work is fundamentally different than that done by industrial labourers, but, as is detailed below, there is a common feature that weaves them together.

The owners and shareholders of industrial manufacturing facilities exploit their workers by offering them a disproportionately low wage in exchange for their labour power and time. By paying a wage lower than the amount of capital it generates, the capitalist enterprise extracts a profit from the labour force. It is these profits and, reciprocally, the exploitative relationship that underlies them, which are the lifeblood of capitalist enterprises. Profitable Web 2.0 sites and services operate via recourse to a similar logic. They too are heavily reliant on a workforce to produce the artefacts (including content and site development) that draw a mass audience to the site and, in turn, make a profit. However, these individuals are not offered a wage in return for their labour power and time. This business model depends on selling advertising space to advertisers that are purchasing the ability to ply their wares to a consistent and quantifiable number of eyeballs. Via the concept of the audience commodity, Smythe (1977) filled in the so-called Blind Spot of Western Marxism by arguing that the

---

<sup>4</sup> Recent reports in the media on working conditions at electronics manufacturing facilities in Asia and Latin America highlight the close interplay between immaterial and material labour (Duhigg and Barboza 2012) as well as the political potentials that continue to exist within these industrialized domains.

straightforward “answer to the question – What is the commodity form of mass-produced, advertiser-supported communications under monopoly capitalism? – is audiences and readerships” (2). While this business model has undergone significant changes in the past few years, according to Fuchs (2011) and Cohen (2008), its core characteristics are easily identifiable in the Web 2.0 era. Moreover, the exploitative relationship between owners and workers typical of the industrial mode of production is intensified within the immaterial mode of produsage as a result of the absence of the wage relation. However, what makes this relationship more complex is the quasi-voluntary nature of the engagement in the exploitative relation. On the face of it, participating on social networks is a voluntary act that one enters into without being compelled by force. When the unique attributes of the contemporary communicative environment are taken into consideration, however, characterizing participation as voluntary becomes less convincing. Social networking sites and services have centralized the means of online communication to the extent that not participating in them runs the risk of missing important information and potentially feeling disconnected from certain social groups (Raynes-Goldie 2010). Individuals are compelled, then, to participate on these sites and services at the risk of decreasing their social capital (Ellison, Steinfield, and Lampe 2007), thus making the voluntary nature of them an illusion.

According to Fuchs and Cohen, when compared to the industrial mode of production, the mode of produsage should be considered hyper-exploitative because it does not even offer its legions of workers a wage in exchange for their labour power and time. The exploitation of this workforce is made palpable when the surplus value generated by producers is considered. In 2005, Rupert Murdoch’s News Corp purchased then popular MySpace for \$580 million (Brook 2005). Six years later and in response to a rapid decrease in membership, News Corp sold MySpace at a considerable loss for \$35 million (Stelter 2011) – a telling indicator of the value generated by the Web 2.0 audience commodity. In the spring of 2011, LinkedIn, a professional social networking site, went public and netted its owners and investors a combined \$8.8 billion (Levy and Spears 2011). Twitter, a micro-blogging service, is estimated to be worth roughly \$7.7 billion by secondary markets (Reuters 2011). And finally, Facebook’s rumoured initial public offering (IPO) in the spring of 2012 is reportedly valued at nearly \$100 billion (Bilton and Rusli 2012; Cellan-Jones 2012). Clearly, the Web 2.0 ‘audience commodity’ is in high demand. The above valuations are based on the vast stores of information produced by producers regarding their tastes, likes, predilections, habits, hobbies, and interests stored within these sites and services. All of this personal information results in a highly refined audience commodity. In turn, these sites sell this commodity to advertisers seeking a better return on their investment by micro-marketing their products or services to niches of eyes, ears, and minds that have shown previous interest in the products or services on offer. The pivotal role of the producer in this relationship is emphasized by Fuchs (2011) when he asks us to consider “what would happen if [producers] would stop using platforms like YouTube, MySpace, and Facebook: the number of [prod-]users would drop, advertisers would stop investments because no objects for their advertising messages and therefore no potential customers for their products could be found, the profits of the new media corporations would drop, and they would go bankrupt” (Fuchs 2011, 298). Additionally, expanding the scope of this analysis to the World Wide Web (WWW) by focusing on Google and the commodities produced by Google ‘users,’ Fuchs (2012) argues “Google exploits Google users and WWW content producers because their work that serves Google’s capital accumulation is fully unpaid” (Fuchs 2012, 44). Thus, when producers begin generating content and, by doing so, generating value for the site, “in terms of Marxian class theory, this means that they also produce surplus value and are exploited by capital as for Marx productive labour is labour generating surplus” (Fuchs 2009, 30; see also: Cohen 2008; Kleiner and Wyrick 2007). Based on the work of Smythe and according to political economists of Web 2.0 and social media, the relationship between Web 2.0 owner and producer is, therefore, hyper-exploitative because it does not even offer the “user” a wage in exchange for their pivotally important work.

There is nascent evidence that this hyper-exploitative relationship is causing producers to organize struggles against it. The frequent uproars occurring on social networking sites regarding the violation of one’s privacy have time and again resulted in controversy, but these controversies are more often than not understood as having to do with the violation of one’s privacy on social networks that are essentially public. The near-exclusive focus on the violation of one’s privacy as the cause of these uproars is a mischaracterization and a mistake. A better understanding of these instances of producer uproar is provided by Brown

(forthcoming) when he argues that privacy and social networks are conceptually oxymoronic in that adherence to the principles of the former would render pointless the primary purposes of the latter. Therefore, the frequent occurrences of produser uproar regarding the violation of one's privacy on networks that are eminently social are better understood as instances of struggle against the exploitation of the highly personal artefacts produced by and through the mode of produsage. Undergirding this characterization of these uproars are a long lineage of struggles fought by other unwaged, yet highly productive, groups of individuals such as female domestic labourers (Dalla Costa and James 1973; Huws 2003) and students (Wright 2002; Touraine 1971).

As Bruns (2008) notes above, the social and political dynamics of the mode of produsage are fundamentally different than the industrial factories that Marx and the autonomists concerned themselves with. Moreover, they are also different from the social and political dynamics of domestic labour as well as that of student labour. While exploitation remains an important and salient feature of the mode of production/produsage, the relationships between owner and worker and between workers themselves are fundamentally different in the Web 2.0 era than they were in the industrial era. These differences require that we once again modify our methodologies so as to better understand the unique social and political dynamics of the mode of produsage. While Marx's and the autonomists' goal of creating awareness and also rousing the ire of workers so as to enable them to put a stop to the exploitative circumstances they found themselves in remains a goal of "A Workers' Inquiry 2.0", the context within which this research takes place as well as the context from which the researcher conducts his/her research have changed substantially. The idiosyncrasies of the mode of produsage characteristic of sites like Flickr force us to approach the procedural elements of "A Workers' Inquiry 2.0" with caution and care. These idiosyncrasies must be considered when attempting to undertake a research project inspired by Marx's and the autonomists' methodological lineage. What follows, then, is our attempt to rethink these methods in light of the unique nature of Web 2.0.

In order to do so, three distinctive characteristics specific to the mode of produsage and its relationship to contemporary academic research need to be taken into consideration. The first characteristic of produsage that needs to be addressed in its relation to "A Workers' Inquiry" and co-research is the lack of a distinct, physical, and consistent location from which to recruit potential research subjects. The second characteristic addresses the challenges of subjecting an informal, casual, and leisurely domain such as any number of Web 2.0 sites and services to the formalities and rigid protocols required of academic research on human subjects. Reconciling the highly formal procedural requirements of ethical research boards at universities with the highly informal communicative norms and cultural practices characteristic of Web 2.0 sites and services necessitates a unique approach. The means and method by which these incongruities were successfully negotiated are addressed below in prong one of "A Workers' Inquiry 2.0". The third characteristic, addressed below in prong two of "A Workers' Inquiry 2.0", has to do with the nature of the artefacts produced through the mode of produsage. The pivotal role occupied by the produser in the design, functionality, and evolution of these artefacts necessitates further methodological adaptation. It is to the details of these adaptations that we now focus our attention.

## **5. A Workers' Inquiry 2.0: Prong One – Factory Flickr**

We discuss in this section the key tenets of 'A Workers' Inquiry 2.0' and show its applicability to the study of the mode of produsage taking place in social media contexts. We examine the unique challenges of Web 2.0 inquiry and employ a case study and a critical examination of the mode of produsage as it occurs on Flickr to illustrate how the proposed method functions in the field.

### **5.1. Location of Contact with Research Participants**

The first characteristic of produsage that needs to be addressed in its relation to "A Workers' Inquiry" and co-research is the lack of a distinct, physical, and consistent location and time from which to recruit potential research subjects. Similar to Marx's and the autonomists' goal of gaining insight into how power relationships circulate throughout the industrial mode of production, in the Web 2.0 era, the need to get a sense of the social and political power relationships that underlie the mode of produsage remains undiminished. However, with no central and consistent geographic location acting as a primary meeting place from which to



conduct the research, communicating and engaging with producers in a similar fashion to Marx and the autonomists is more complex than simply turning up at the factory gates. The openness, highly social, and communicative qualities of Web 2.0 sites and services, though, make the lack of a consistent physical location to contact research participants less of a problem than it appears to be.

The Internet Protocol (IP) address of these sites (i.e., [www.flickr.com](http://www.flickr.com)) resembles the street address of the factories where Marx and the autonomists contacted workers. The IP address is the virtual, yet centralized, meeting place where the producers responsible for building and maintaining these sites and services assemble. While workers in the industrial era had predefined and predictable work hours, Web 2.0 sites and services consist of a fluid and loosely-connected network of producers. In the example of Flickr, it is within this space that the work of coding the software via Flickr's open application programming interface (API), sharing photographs, participating in groups, chatting with friends, and commenting on others' images takes place. Vital to the virtual infrastructure of Factory Flickr are communicative channels that not only encourage, but also make natural the inclination to share one's thoughts, ideas, and opinions with other community members. Via internal messaging systems, such as FlickrMail or discussion forums, members chat about whatever it is they deem to be important, thought provoking, or exciting at that particular moment in time.

Communication amongst Flickr members, then, is the social bedrock of the website. Predictably, the topics, focus, and concentration of the publicly accessible forums are as diverse as the interests and aptitudes of their members. Ranging from mundane discussions regarding photographic technique to well considered thoughts on the social, cultural, and political impact of digital photography, one thing is certain, for a website dedicated to sharing photographs, Flickr is replete with chatter and banter. "Finding" *some* Flickr members and getting them to talk about photographs, photography, and the various aspects or dimensions of them is not a problem. Finding all of them, however, is a challenge and it is to this challenge that portions of Section 7 of this paper are focused. Conducting this kind of inquiry as an academic investigation, all the while adhering to the ethical protocols, standards, and formalities of this type of research is also challenging and a different matter entirely.

In sum, this first attribute of "A Workers' Inquiry 2.0" emulates one of the primary methodological features of the research conducted by Marx and the autonomists. Speaking to and with those responsible for producing the ever-evolving artefacts on Flickr is an irreplaceable element in trying to assess and to dissect the social and political dynamics of Factory Flickr. The opinions, thoughts, impressions, ideas, and feelings of these individuals remain a pivotal ingredient in trying to understand the social and political dynamics of these domains at the same time as trying to grasp the subjective dimensions of the producers working within them. The idiosyncrasies of the mode of produsage combined with the ethical requirements of non-medical research on human subjects, however, require a level of planning, strategizing, and understanding that Marx and the autonomists were never forced to consider.

## 5.2. Codes of Research Ethics and Social Norms of Web 2.0 Sites

The second central characteristic has to do with modifying one's methodology so that it remains congruent with the idiosyncrasies of the environment from which research participants are recruited. We suggest the following four steps as a good strategy for recruitment: 1) engage the community in discussion about the topic of interest; 2) approach a select group of participants for more in-depth data collection; 3) obtain informed consent for the interviews, and 4) determine the time and media over which the interview will take place. The goal of this recruitment process is to be inclusive so as to recruit as many respondents as possible, all the while leveraging the communicative advantages of Web 2.0 sites to its benefit. It should be noted that the method described below was developed for Flickr in particular but can be easily adapted to other Web 2.0 domains where produsage occurs as well.

One of the foremost challenges encountered when conducting research on human subjects online is the successful recruitment and retention of research subjects. This is an especially tricky process when Web 2.0 environments are the spaces upon and within which the research is conducted. Web 2.0 sites and services each have their own unique patterns of normalized behaviour that have developed over time and which characterize the quotidian behaviours of their membership. To obtain a better understanding of Flickr's unwritten norms

and standards was, in fact, the primary purpose of the research project to which this method applies<sup>5</sup>.

Similar to Marx's method, "A Workers' Inquiry 2.0" asks producers a list of questions in the hope of gaining insight into their thoughts, feelings, and consciousness regarding their place in the mode of produsage. At the same time and once again similar to Marx's method, this methodology aims to increase the awareness of producers regarding their own exploitation. As well, much like the process of co-research where researchers would enter the industrial factory, sometimes get a job there, and conduct their research alongside the workers labouring therein, "A Workers' Inquiry 2.0" also encourages the researcher to become a member of the Web 2.0 site within which the research is taking place. This is advantageous because previous involvement in these domains increases familiarity with the unwritten behavioural norms that characterize them, greatly aiding in recruitment of research participants<sup>6</sup>. However, this element of the methodology raises another important ethical consideration that has to be managed with care. As a result of being both a community member and a researcher at the same time, the scholar/community member must negotiate these roles judiciously. The reason being that, if handled awkwardly, the trust of other community members in the scholar might be broken and along with it their willingness to further participate in the research.

Each and every step in designing the methodology and executing the research, therefore, needs to respect the idiosyncratic norms of the particular space if it is to be successful. The initial point of contact is, in this way, ultimately important. If one's initial message and approach is ill fitting, too blunt, or awkward in any way, the thousands upon thousands of potential research participants that populate Web 2.0 sites and services very quickly falls to none. For this particular design, the first step was to recruit research participants from three different groups on Flickr by posting a provocative question to their group discussion forums. The three groups used as sources for the recruitment of research participants were: Flickr Central, Flickr API, and Utata. All three of the chosen groups are designated as "Public – Anyone can join". Importantly, the vast majority of the groups on Flickr are created, administered, organized, and managed by members. They have their own self-authored guidelines that explain what the group is about, what it focuses on, and what one can expect if one were to join it. These guidelines were important elements in selecting the groups as potential sources of research participants because they describe the purpose of the group and by doing so allow the researcher a glimpse, albeit an obstructed one, into the norms of the group in question.

In the subject line of the initial message, a very simple, straightforward, yet suggestive question was asked: "Is Flickr Work?" In the body of the accompanying message, the purposes of the project, the researcher's identity, his institutional affiliation, and the broader contexts of the question were detailed. The provocative nature of the question, as well as the ensuing description, elicited a large number of responses from the members of two of the three chosen groups.<sup>7</sup> The group that did not respond very well to the initial message is telling of the importance of crafting this initial message so that it adheres to the norms of the group. This is one of the weaknesses of the present methodology and will be addressed more substantively in Section 7 of this article.

The other two groups were better suited to the contemplative nature of the original question and responded to it well. Flickr Central and Utata are both public groups within Flickr that address a plethora of topics, ideas, issues, and elements regarding digital photography and photo-sharing. Their members responded quickly, enthusiastically, and comprehensively to the research question. As with all discussion threads, however, there is a point in time when the conversation runs its course and members move on to different threads so as to think through different ideas and issues. This is the moment when the second step of recruiting research participants should take place. From our experience within these virtual

<sup>5</sup> The research project for which the 'A Workers' Inquiry 2.0' was originally developed was designed to answer the following question: If, as Hardt and Negri claim (2004, 66), waged immaterial labour is biopolitical, then what are the biopolitics of unwaged immaterial labour or produsage? Following the example set by Marx and the autonomists, the best way to evaluate the biopolitics of this environment is to try and understand the relationships of power that influence the ways in which individuals act and react within it.

<sup>6</sup> In this particular instance, the lead author of this article had been a member of Flickr for five years before initiation of the research project.

<sup>7</sup> In the FlickrCentral group there was a total of forty-four unique respondents and one-hundred-and-one messages. In Flickr API there was a total of three respondents and three total messages and in Utata there were thirty-five individual respondents and forty-four total messages.

and ever-shifting environments, it is important not to delay sending follow-up requests for interviews because doing so adversely impacts the readiness of potential research subjects to participate further in the project.

Like many social networks, Flickr has an internal email/messaging system called FlickrMail that allows members to contact each other via a more private form of communication than the group chat forums<sup>8</sup>. Very soon after the threaded discussion ran its course, a private message was sent via FlickrMail to all those persons that responded to the thread. In this private email, they were asked if they were willing to have a more in-depth conversation regarding whether or not the time they spent on Flickr can or should be considered a form of labour and if they ever felt it to be exploitative.

The third step consists of obtaining informed consent, which can be cumbersome in the context of Web 2.0. Importantly, and somewhat frustratingly, FlickrMail does not allow one to attach files or documents to messages sent to other members making the procedural requirements of ethical research more involved and complicated than they would have been otherwise. The delivery and return of a Letter of Informed Consent that details the purposes of the research, the obligations of the researcher, and the rights of the research subject is an important element to any ethical research. It is also, however, an obstacle that disrupts the casual, informal, and natural flow of communication on Web 2.0 sites and services in such a way that threatens the continuing participation of research participants. This is especially the case when the delivery and receipt of such a document is pushed beyond the immediate site of research. The inherently informal, casual, and relaxed norms and mores of Web 2.0 discussion forums – where punctuation, grammar, and sentence structure are often ignored – stand in opposition to the formal and often temporally taxing nature of ethical protocols. There exists a tension between these formal documents and the casual and informal communicative norms associated with Flickr and other Web 2.0 sites and services. It is this tension that threatens the success of conducting research of the sort proposed by “A Workers’ Inquiry 2.0”.

After a Flickr member agreed to participate in the research project, a second message was sent via FlickrMail asking them for an email address where a Letter of Informed Consent might be delivered. When, and if, this email address was received the Letter of Informed Consent was attached to a message and sent to the given address. This step is particularly sensitive because participants are asked to provide contact information outside of Flickr. Considering that participants may use pseudonyms, aliases, or other nicknames to protect their identity (Raynes-Goldie 2010), it is important to consider that participants may drop out of the study at this point. Upon its return, a third message was drafted and a convenient time and medium over which to conduct semi-structured, open-ended interviews was scheduled.<sup>9</sup>

Conducting the interviews, then, is the fourth and final step in the first prong of “A Workers’ Inquiry 2.0”. Following the suggestion of the editors of *The New Internationalist* which republished Marx’s “A Workers’ Inquiry” in 1938, these open-ended, semi-structured interviews were inspired by Marx’s technique, questions, and goals, yet were adjusted and modified so as to reflect the idiosyncrasies of the mode of produsage characteristic of Flickr and Web 2.0. Interviews varied in length, lasting on average less than an hour and addressed a host of issues all involving the ways in which the Flickr member thought and felt about the time, effort, and energy they expended on the site, their consciousness regarding the exploitation of their labour time and power, and, similar to Marx and the autonomists, their preparedness to do something about that exploitation.<sup>10</sup> As the above steps have detailed, the first prong of ‘A Workers’ Inquiry 2.0’ emulates the methods used by Marx and the autonomists but modifies and adapts their procedures so as to bring them into the contemporary era. Focusing exclusively on the experiences, impressions, and affects of producers, however, fails to acknowledge one of the most important pieces of information that reflects the members’ subjectivity and consciousness. It is to this, or, rather, these artefacts that we now turn our attentions.

<sup>8</sup> When one signs up for a Flickr account, one is automatically given a FlickrMail account as well.

<sup>9</sup> In an attempt to accommodate as many research subjects as possible, it is advisable that each interviewee be given the option of conducting the interview via the media of their choice. In this case telephone, Voice-Over-Internet-Protocol, instant messaging, or email were all used by the researcher to communicate with research subjects.

<sup>10</sup> The results of this research project are too involved to adequately address in the available space and are oblique to the central purposes of this paper. They are, however, dealt with briefly in what follows and in much more detail separately and elsewhere (Brown 2012).

## 6. A Workers' Inquiry 2.0: Prong Two – A New Object of Study

Similar to other Web 2.0 sites and services that leverage the unwaged labour of members, nearly all of the labour required to produce Flickr is self-managed, self-organized, self-motivated, and, because of this, fundamentally different from the mode of industrial production that Marx and the autonomists were researching. From the perspective of business consultants, Tapscott and Williams appreciate the monumental changes that the mode of produsage responsible for Flickr evinces. They comment,

Flickr provides the basic technology platform and free hosting for photos ... *Users do everything else*. For example, users add all of the content (the photos and captions). They create their own self-organizing classification system for the site ... They even build most of the applications that members use to access, upload, manipulate, and share their content (Tapscott and Williams 2006, 38; emphasis added).

Echoing the undercurrent of amazement identifiable in Tapscott and Williams' assessment of the mode of produsage, Caterina Fake, co-founder and former owner of Flickr, argues,

the thing that really makes Flickr Flickr is that *the users invent what Flickr is*. ... [L]ike us, outside developers could build new features and give Flickr new capabilities. In fact, we used the same API as the outside developers, meaning that they had all the same capabilities we had. We hoped that people would build things that we didn't have the time or resources to build – like an uploader for Linux or plug-ins for desktop management software and blogging services – and they did. But we also hoped that they would build things that we hadn't thought of – and they definitely did that too (Tapscott and Williams 2006, xi; emphasis added).

And finally, from the perspective of a Yahoo! executive involved in the purchase of Flickr in 2005 for an estimated US\$30 million (Schonfeld, 2005), Bradley Horowitz gushes, "With less than 10 people on the payroll, they had millions of users generating content, millions of users organizing that content for them, tens of thousands of users distributing that across the Internet, and thousands of people not on the payroll actually building this thing, ... That's a neat trick" (Levy 2006). A neat trick indeed, but one predicated on the exploitation of an unwaged workforce that spans the globe. According to Fuchs, "this situation is one of infinite over-exploitation ... [or] an extreme form of exploitation" (Fuchs 2011, 298). It is for this very reason that Flickr's producers were consulted via the methodological foundations provided by Marx and the autonomists. The pivotal place occupied by the producer in the mode of produsage, however, also forces us to reconsider an element that Marx and the autonomists had no reason to contemplate with their investigations of the industrial mode of production.

By "Harnessing the Collective Intelligence" of its membership and by "Treating Users as Co-Developers" (O'Reilly 2005), the owners and administrators of Flickr were more than willing to relinquish their control over the process of developing their photo-sharing utility and let their members do the majority of the heavy lifting required to test, debug, develop new applications, code software, and, of course, upload photographs. As the quotes above suggest, the labour of producers was (and continues to be) instrumental in the construction and creation of the website. Rather than trying to predict what their members wanted out of the website and devoting scarce temporal and financial resources to untested ends, the owners of Flickr released the source code to the developer community and by doing so enlisted them to hack and code Flickr into existence. They also granted their members a great deal of autonomy and latitude to build and grow the site in whatever way they saw fit. Additionally, the owners of Flickr actively encouraged their producers to communicate with them via discussion forums and, in paying close attention to what their members were saying, many of the suggestions made by producers were incorporated into the design and functionality of Flickr by its paid staff. According to one of Flickr's paid software developers, Eric Costello divulges that "User feedback ... drove a lot of the decisions about features. We had user forums very early on and people told us what they wanted. ... We do look at numbers, but really we just keep our ears open. We listen to what people say to us on our forums" (Garrett and Costello 2005, 11-24). Hence, Flickr developed in the way it did not because of a corporate hierarchy dictating to wage labourers what was going to be built and

scientifically managing the exact manner in which they were going to build it. Rather, by reversing the direction of this command and control structure, the owners and administrators of the site took a very hands-off approach and allowed producers to build Flickr in their own image.

In short, then, Flickr is a reflection of the subjective wants, needs, desires, and labour of its membership more than it is that of its owners and administrators. While Marx and the autonomists considered the end products produced by industrial labourers as important ingredients in the overall mode of production, they never thought of them as a source of insight or knowledge regarding the social and political dynamics of the workplace or as a reflection of the subjective consciousnesses of those that produced them. For Marx or the autonomists, the end products, whether coal, cars, or typewriters, held no interpretive or hermeneutic value regarding the subjectivities of workers. As Flickr's developmental history indicates, however, the irreplaceable position, contribution, and place of the producers' subjectivity in the design, functionality, and content stored on the website, indicates that continuing inattention to the artefacts of produsage is a mistake. Ignoring these artefacts omits from consideration valuable information regarding the social and political dynamics of the mode of produsage and the subjective dispositions of those producers responsible for building Flickr.

We must, therefore, consider these ever-developing artefacts as important indices of the social and political dynamics of the workplace and of the workers' subjectivity, predispositions, inclinations, and consciousness. Marx and the autonomists rightfully ignored this dimension of the end products of industrial labour in their studies. Because the scientific management of an industrial workforce alienates and divorces the workers' head from the products of his/her hands, the links between the subjectivity of the worker and the end product were non-existent. Under these conditions, there was no justifiable reason for Marx or the autonomists to examine these end products with any hope of gaining further insight into the subjectivities of those persons following orders and doing the work of assembling them. The labour of generating the raw content for Flickr – of capturing, uploading, indexing, and annotating the billions of images found therein, of coding new applications and software, and of providing a constant stream of input, feedback, and direction – grants Flickr's membership much more agency in the overall structure and feeling of the website.

In sum, the history of the development of Flickr, much like many Web 2.0 sites and services, was not driven, directed, or scientifically managed in an hierarchical, top-down fashion by the owners or managers of the website. Rather, as the one-time owner of Flickr acknowledged above, the members and producers of Flickr – their whimsical wants, idiosyncratic desires, playful hacks and remixes, their enthusiasm, but most of all their self-managed, self-organized, and autonomous labour – made Flickr what Flickr is. This photo-sharing social network is and would be nothing without the direction, guidance, and unwaged labour of its membership. Unlike the tedious, monotonous, and highly repetitive industrial production process where workers have no control over what gets built, when it gets built, how it is built, what these products are meant to do, and whose needs they satisfy, the mode of produsage responsible for producing Flickr is diametrically different. It is this difference that confers upon the produced artefacts a particularly important hermeneutic value.

One way of approaching this new object of study would be to examine the structure, dynamics, and motivational instruments used by particular groups within Flickr that have been successful in eliciting enthusiastic participation. Utata, for instance, one of the groups on Flickr used as a source of research participants for this project, is an excellent example. With a few simple guidelines and a request that members be polite, the self-organized and self-motivated unwaged administrators of the group have managed to produce a vibrant and committed community built around the sharing of photographs, thoughts, and ideas. Utata has over twenty thousand members and more than three hundred and seventy-five thousand images uploaded to its group photo-stream. They organize weekly "photo-projects" built around thematically inspired topics combined with particular photographic techniques. Every Thursday, members go on a virtual "photo-walk" with each other. They capture images of the places, faces, and spaces they happen to be, see, or visit that day and upload their favourites to that week's dedicated photostream. There is a group discussion forum where ideas, problems, thoughts, and photographs are discussed politely and in detail. If the conversation gets heated, as it sometimes does, there are offerings of virtual cake to one's interlocutor(s) as a gesture of good will and support. In short, Utata is a fascinating group that has managed to harness the creative activities of its membership to inspired ends.

Another artefactual corner of the Flickr-verse that merits attention in this regard is an area called The Commons. The Commons began as a joint endeavour between the U.S. Library of Congress (LOC) and Flickr in 2008. The LOC approached Flickr and asked if there was a way to share their archival photographic collection with Flickr's membership and by doing so 'harness their collective intelligence' by asking them to add information to the photographs on display. The aim of this project was to augment and increase the profile of the LOC's collection at the same time as increasing the available information regarding this same collection. They did so by bringing their photographic archive to one of the largest groups of individuals interested in photography on the Internet and by simply asking for their assistance. According to the LOC, this project "resulted in many positive yet unplanned outcomes" (Springer et al. 2008, 2).

One of the benefits of using Flickr is that it has an inbuilt tagging system that allows producers to add descriptive tags to the photographs shared by others. It is "important to note that for the purposes of this pilot, [the LOC] took a very 'hands off' approach to the tags, other than to check for blatantly inappropriate content. (...) There were exceptionally few tags that fell below a level of civil discourse appropriate to such an online forum—a true credit to the Flickr community" (Springer et al. 2008, 18).

The LOC's participation in The Commons was a massive success for both Flickr and the library. They conclude their internal report on the Flickr project by stating that "the overwhelmingly positive response to the digitized historical photographs in the Library's Flickr account suggests that participation in The Commons should continue" (Springer et al. 2008, 33). The success of this project as well as other aspects of Factory Flickr shed much needed light into the social and political dynamics of the space. Once again, unlike the automobiles rolling off the assembly line in the industrial era, the artefacts of produsage allow for a better-informed appreciation of the kinds of subjectivities being produced and re-produced via the mode of produsage.

The full results of the research project for which this method was designed are too involved to be dealt with in the available space. Briefly, however, the social and political dynamics of the Flickr-verse are such that, for the most part, those individuals responsible for Flickr's creation and evolution do not consider the time, effort, and energy they expend on the website as a form of labour, nor do they feel exploited by the owners of Flickr. As this article suggests, however, the relationship between the owners and members of Flickr is eminently exploitative. Via mechanisms and systems that tap into Flickr's "altruistic substratum" (Springer et al. 2008, 15), the owners of these sites and services enlist a legion of producers to do the work of expanding the boundaries of the Flickr-verse by creating the social connections and relationships required to continue its growth. This paradox is one of the primary reasons that research focused on raising the consciousness of producers regarding their own exploitation is important to undertake and accomplish on Web 2.0 sites and services.

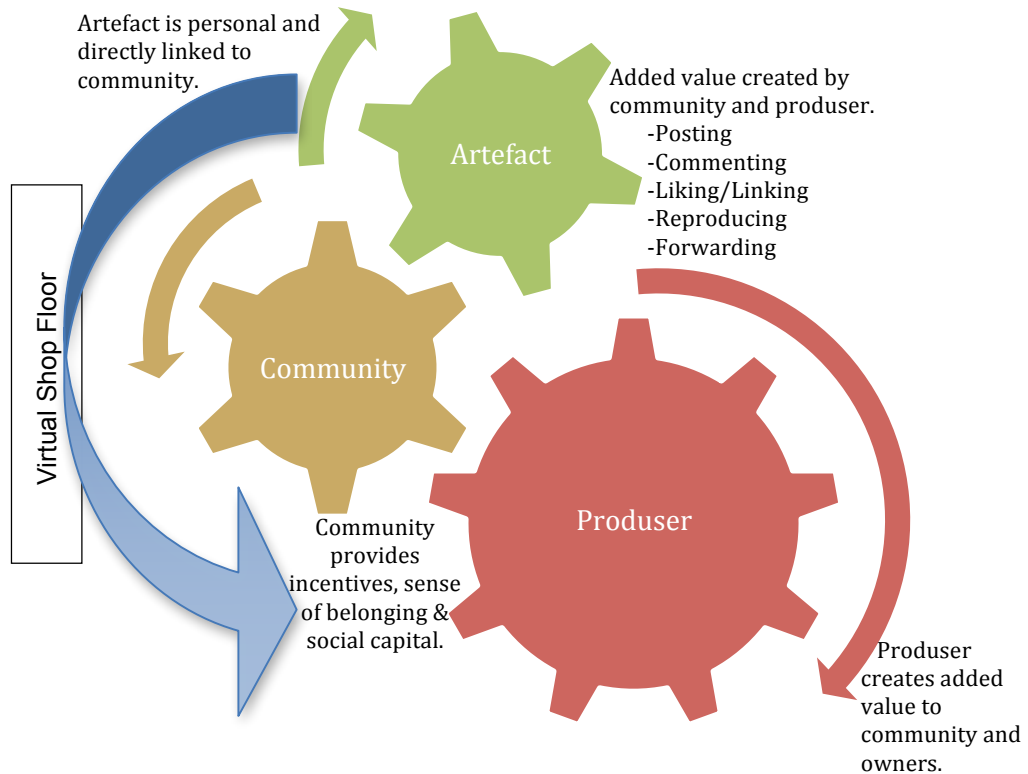


Figure 1: Unique characteristics of the mode of produsage influencing research methods

We need to know much more about the virtual gears and cogs of the mode of produsage responsible for these kinds of produser generated artefacts, their inner-workings, and their social dynamics if we are to understand how this organization of labouring bodies and minds differs from its predecessors and the political potentials that these differences make possible. We need, in other words, to continue to engage in serious academic study of how they work, why they work, and where they might be replicated. The above method offers one such approach.

Figure 1 shows three key dimensions that lie at the centre of our methodological framework: 1) the artefact, 2) the community of producers, and 3) the produser her/himself. While Marx and the autonomists took into consideration the worker him/herself, they had no reason to consider the end products (or artefacts) of industrial labour as important elements that contribute to a better understanding of worker subjectivity. As Figure 1 indicates, however, in the Web 2.0 era and regarding the mode of produsage, the artefact is an influential and consequential instrument that contributes significantly to the overall dynamics of the mode of produsage. In light of this, 'A Workers' Inquiry 2.0' adopts a two-pronged approach that, much like Marx and the autonomists, begins on the virtual 'shop floor' by speaking with the exploited workers responsible for the produsage of Web 2.0 sites and services, but goes one step further and beyond by also considering the community in which these workers operate, and the artefacts of their labour as hermeneutically significant objects of study that have important details to communicate regarding the social and political dynamics that imbue the means and relations of produsage.

## 7. Strengths and Weaknesses of "A Workers' Inquiry 2.0"

It is important to not only consider "A Workers' Inquiry 2.0" in the context of the Marxist tradition and methodology, but also to understand its relevance vis-à-vis other methodologies employed in the social sciences. In this section, we discern the strengths and weaknesses of the new method by comparing it with other data collection and analysis techniques available to scholars. Moreover, we show how 'A Workers' Inquiry 2.0' builds on ethnography as practiced by anthropologists, with its emphasis on lived experience and emergence in the

field. We also show where 'A Workers' Inquiry 2.0' departs from Marx's 'A Workers' Inquiry' and uniquely addresses concerns that arise within Web 2.0 and produsage.

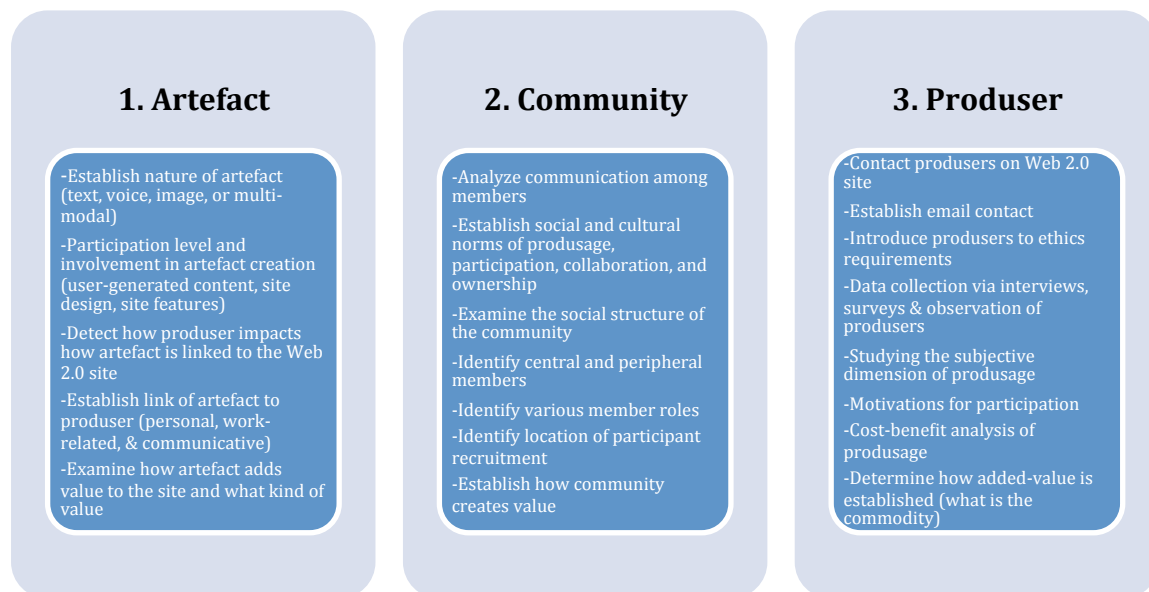


Figure 2: Framework for Examining 'A Workers Inquiry 2.0'

**The Field:** The experiences accumulated in the field are central to any ethnography. While ethnography usually consists of living in other cultures or immersing oneself in different social environments, in this case it consists of becoming part of an online community (Kendall 2002). A part of this consists of understanding social meanings and participating in what Brewer describes as "ordinary activities" (Brewer 2000, 10).

**Multiple Sources:** "A Workers' Inquiry 2.0" relies on multiple sources of information, to a large extent resembling qualitative methodologies employed in the social sciences. It not only collects data from those involved in the mode of produsage through discussions on the forum/groups, interviews, and surveys, but it attempts to go beyond these standard means of gathering information about a phenomenon. Figure 2 shows how a critical engagement with the nature of the artefact and its link to the community and the producer are a central source of data.

**Triangulation:** Similar to qualitative research, triangulation becomes an integral part of the analysis. Triangulation in qualitative analysis refers to the study of data from sources in relation to one another. That is, data from one source is compared and contrasted with data from other sources to obtain a more rich and holistic picture of the individuals involved and their social relations. Triangulation also becomes important in light of the nature of online communities, where trolling and identity play are an inherent part of these communities.

**Artefacts as Data:** What really sets "A Workers' Inquiry 2.0" apart from other data collection techniques is a focus on the artefacts produced by producers within Web 2.0 environments. These artefacts represent a rich source of data in "A Workers' Inquiry 2.0" as they directly speak to the complex relations that exist between producers, the rest of the community, and the norms and mores that characterize the site.

**Worker Awareness:** This is the primary goal of "A Workers' Inquiry 2.0" as it attempts to start a discussion around the uniquely exploitative relation that exists between producers and those who own Web 2.0 sites and services. The juxtaposition here is between the benefits and costs associated with participation in these social media environments. On the one hand, there is no doubt that social media creates gains for those involved, including the pleasure of adding UGC, as well as being uniquely positioned to engage and contribute to a community (see figures 1 and 2). In a study of uses and gratifications of Facebook, survey respondents indicated that their key gratifications were to pass time on the site (for example for entertainment, for relaxation, and to escape) (Papacharissi and Mendelson 2011; Quan-Haase and Young 2010), for social surveillance and social searching (for example to learn about friends and family without their knowledge) (Joinson 2008; Zhang et al. 2011), and for maintaining social ties (i.e., connecting with friends and family) (Dunne, Lawlor and Rowley



2010; Raacke and Bonds-Raacke 2008). On the other hand, producers are not compensated for their time, effort, and overall added-value to the site. Indeed, producers in many cases have no control over how the site manages content, as the example of Facebook and its constantly changing Terms of Service has clearly demonstrated. Similar to Marx and the autonomists, by making producers aware that their labour is the source of the accumulated wealth of these websites, the present method seeks to raise the consciousnesses of these producers regarding their own exploitation and their abilities to do something about it. As Figure 2 shows a detailed analysis of costs and benefits is also an integral part of understanding produsage in Web 2.0 environments.

**Action and Social Change:** One of the cornerstones of Marx's "A Workers' Inquiry" and the autonomists' method of co-research was the idea that the methodology should lead not only to workers' increased awareness of their exploitative labour conditions, but ultimately also to take action. As quoted above, the goal of the intervention was to "make the worker aware of his own predicament in capitalist society (...) and by thus making the worker conscious of his predicament giving him a chance to solve it" (Burnham, Shachtman and Spector 1938, 1). Even though "A Workers' Inquiry 2.0" ultimately has the same goals, it becomes quickly apparent that this is not a straightforward task. What complicates this endeavour is the quasi-voluntary nature of the engagement in the exploitative relation. While the industrial mode of production offered workers little choice regarding where they laboured, in Web 2.0 environments, participation in the mode of produsage is compelled not by the risks associated with a lack of income, but by the risk of social seclusion and communicative isolation. While easily transportable to other (often new) Web 2.0 sites and services, in the contemporary communicative context, producers are concentrated in a very small number of sites and rely on these sites for their communication needs. This is where the method requires further elaboration as it develops and is utilized to study the quasi-voluntary mode of produsage within social media environments.

**Central Strength and Weakness:** In light of the above, it is possible to identify a central strength and weakness of "A Workers' Inquiry 2.0". The central strength of "A Workers' Inquiry 2.0" is that rather than stopping at the identification of an exploitative relationship between the owners of Web 2.0 sites and services and the producers of them, it follows the example set by Marx and the autonomists by going directly to the workers themselves and trying to better understand their thoughts regarding their own exploitation. It enables an examination of the social and political dynamics of the mode of produsage from "below" or from the perspective of the workers. However, "A Workers' Inquiry 2.0" goes beyond this revelatory function in its attempt to better understand the political potentials of produsage and the alternatives it posits regarding the autonomous labouring capacities of coordinated groups. While the valuations of Web 2.0 sites and services clearly indicate the presence of an exploitative relation, the existence of such a relationship, as well as the producers opinions regarding the time and effort they expend on the site, should not overshadow the possibilities and potentials created by the mode of produsage. This method, then, enables an examination and appreciation of an organization of labouring bodies and minds that come together to work collaboratively, cooperatively, and autonomously, free of the wage relation. The original goal of Marx's and the autonomists' method was to provide workers with the intellectual and emotional tools required to struggle against their own exploitation. While produsage remains highly exploitative, Flickr producers do not experience it as such. Making clear this exploitative relation, then, is vital. However, the self-organized, self-managed, and autonomous nature of the mode of produsage points to ways of living and working together beyond capital. It is by no means a perfect blueprint. It does, however, provide valuable information regarding some of the constituent elements of a mode of production/produsage that may play an important role in moving beyond the exploitative capitalist relation.

The central weakness of this iteration of "A Workers' Inquiry 2.0" is the relatively limited number of producers consulted as research participants in proportion to the overall Flickr membership. With over fifty-one million members intermittently populating Factory Flickr, it is all but impossible to get in contact with each of them. This leaves particular areas of the Flickr-verse under-explored or completely unexplored. As the sparse reaction of the Flickr API group to the research question indicated, the voluntary nature of produsage and the specific focus of particular groups within Flickr, creates new challenges for researchers undertaking this kind of research. These challenges are directly related to accessing and recruiting Flickr members to participate in a research project oblique to their primary purpose of being on the

site. Our experience with attempting to recruit participants from the Flickr API group is indicative of these new challenges.

The Flickr API Group is a place for unwaged hackers and programmers working with Flickr's code to share their experiences. While the API group is designated as 'public' and open to anyone, the focus of the group and the vast majority of the discussion threads found therein are overwhelmingly directed towards technical programming issues and their solutions. The question posed to them by this research project, then, has nothing to do directly with these core activities and was simply ignored by the majority of the group's membership. This is evidence of the potential problem alluded to above. Even if a researcher approaches his/her potential research participants on Web 2.0 sites and services with an informed understanding of the particular norms that circulate throughout the domain, the members of particular groups may not respond to the message, ignore the call for participation, and as a result the research project will stall before it is allowed to begin.

The amount of time, effort, energy, and work devoted to hacking the API is substantial. For this reason, a larger number of members from this group would have been interesting producers to speak with regarding whether or not they considered their activities a form of labour and if they ever felt exploited by this process. Obtaining this perspective would have been of particular relevance as these producers are engaged in creating highly specialized knowledge for Flickr, are responsible in part for how Flickr operates, and have one of the largest stakes in how Flickr makes use of their artefacts. While two research participants were in fact recruited from this group, the response to the original question was meagre compared to the response from Flickr Central and Utata. We believe this is due to the fact that the Flickr API discussion group is primarily a space for hackers/coders to discuss the intricacies, challenges, and opportunities of hacking the API. It is however not clear why this group, who is most involved with the development of the Flickr backbone, would be the most hesitant to engage in reflective practices about their labour. This remains a concern that needs to be addressed by subsequent iterations of the proposed methodology.

The difficulty of accessing producers working within important corners of Factory Flickr is another reason why the artefacts of produsage are particularly important elements to consider when assessing the overall social and political dynamics of the mode of produsage. They do not replace the input provided by producers, but they do assist in shedding some much-needed light into the obscure corners of Factory Flickr that might otherwise escape detailed scrutiny. While the weakness identified above merits recognition, it should not overshadow the information and data gleaned by the other members who did participate in the project.

## 8. Conclusions

The goal of Marx's and the autonomists' methods was to seek out workers, speak with them, evaluate the social and political dynamics of the workplace, gauge the workers level of exploitation, their cognizance of this exploitation, and, by doing so, provide them with the intellectual and emotional tools to do something about it. This remains the goal of "A Workers' Inquiry 2.0". In prong one of the research design detailed above, we describe one procedure for adapting Marx's and the autonomists' methods to the Web 2.0 era and the mode of produsage. In addition to the elemental step of seeking out producers and speaking with them, we must, however, also examine the artefacts produced by them in an attempt to better understand the intricacies and nuances of the social and political dynamics that animate the mode of produsage. This vital function was described in prong two of "A Workers' Inquiry 2.0" by arguing that the artefacts of produsage are valuable pieces of data because of their being conceived, directed, and produced by producers themselves and not by the owners or administrators of these sites and services.

These artefacts and the mode of produsage responsible for their creation are evidence of what self-organized and self-managed individuals can accomplish autonomously, in cooperation and collaboration with others, free of the wage relation, and when left to their own devices. They tell us things about how we might relate to one another when the naked self-interest characteristic of monetary gain is pushed into the background. Whereas industrial production fragments the worker and the workforce into so many scientifically managed, fractured, and frustrated shards (Braverman 1998; Lukács 1967), the mode of produsage allows a place for all these contributions in and to the whole. By holding these artefacts and accomplishments up to the light and learning as much as we can from them – examining their successes, failures, set-backs, and achievements – we provide producers not only with proof

of their exploitation, but, more importantly, with imperfect evidence of the nascent feasibility of an organization of labouring bodies and minds uninspired and unmotivated by the dictates of capitalist command and control. As a result, the artefacts are both a critique of the present and evidence of what may be possible in the future. In its own small way, then, Flickr provides the intellectual and emotional tools required to begin thinking about what it might mean to live and labour in a world beyond capital.

## References

- Barnsley, Jan, and Diana Ellis. 1992. *Research for Change: Participatory Action Research for Community Groups*. Vancouver, British Columbia: Women's Research Centre.
- Bilton, Nick, and Evelyn Rusli. 2012. From Founders to Decorators, Facebook Riches. Accessed March 15, 2012. [http://www.nytimes.com/2012/02/02/technology/for-founders-to-decorators-facebook-riches.html?\\_r=1&src=meandref=technology](http://www.nytimes.com/2012/02/02/technology/for-founders-to-decorators-facebook-riches.html?_r=1&src=meandref=technology)
- Bologna, Sergio. 1980. The Tribe of Moles. *Semiotext(e)* 3 (3): 36-61.
- Braverman, Harry. 1998. *Labor and Monopoly Capital: The Degradation of Work in the Twentieth Century*. New York: Monthly Review Press.
- Brewer, John D. 2000. *Ethnography*. Philadelphia: Open University Press.
- Brook, Stephen. 2005. *Sale of Website to News Corp Branded a 'Giveaway'*. Accessed March 20, 2012: <http://www.guardian.co.uk/technology/2005/sep/01/media.business1>
- Brophy, Enda. 2006. System Error: Precarity and Collective Organizing at Microsoft. *Canadian Journal of Communication* 31 (3): 619-638.
- Brown, Brian A. Forthcoming. Primitive Digital Accumulation: Privacy, Social Networks & Biopolitical Exploitation. *Rethinking Marxism*.
- Brown, Brian A. 2012. *Will Work For Free: The Biopolitics of Unwaged Immaterial Labour*. The University of Western Ontario, Faculty of Information and Media Studies. Unpublished Doctoral Dissertation.
- Bruns, Axel. 2008. *Blogs, Wikipedia, Second Life, and Beyond: From Production to Prodisage*. New York: Peter Lang.
- Burnham, James, Max Shachtman, Max, and Maurice Spector. 1938. *Introduction to Marx's "A Workers' Inquiry"*. Accessed March 15, 2012. <http://www.marxists.org/history/etol/newspape/ni/vol04/no12/marx.htm>
- Cassano, Rosemary, and Judith Dunlop. 2005. Participatory Action Research with South Asian Immigrant Women: A Canadian Example. *Critical Social Work* 6 (1).
- Castells, Manuel and Peter Hall 1994. *Technopoles of the World: The Making of Twenty-First-Century Industrial Complexes*. London: Routledge.
- Cellan-Jones, Rory. 2012. Facebook's IPO - It's Up To You. Accessed March 15, 2012. <http://www.bbc.co.uk/news/technology-16835116>
- Cohen, Nicole. 2008. The Valorization of Surveillance: Towards a Political Economy of Facebook. *Democratic Communication: Journal for the Union of Democratic Communications* 22 (1): 5-22.
- Coté, Mark, and Jennifer Pybus. 2007. Learning to Immaterial Labor 2.0: MySpace and Social Networks. *ephemera: theory and politics in organization* 7 (1): 88-106.
- Dalla Costa, Mariarosa and Selma James. 1973. *The Power of Women and the Subversion of Community*. Bristol, England: Falling Wall Press.
- Duhigg, Charles and Barboza, David. 2012, January 25. In China, Human Costs are Built into an iPad. Accessed March 15, 2012: <http://www.nytimes.com/2012/01/26/business/economy-apples-ipad-and-the-human-costs-for-workers-in-china.html?pagewanted=all>
- Dunne, Aine, Lawlor, Margaret-Anne., and Rowley, Jennifer. 2010. Young People's Use of Online Social Networking Sites - A Uses and Gratifications Perspective. *Journal of Research in Interactive Marketing* 4 (1): 46-58.
- Ellison, Nicole B., Charles Steinfield, and Cliff Lampe. 2007. The Benefits of Facebook "Friends": Social Capital and College Students' Use of Online Social Network Sites. *Journal of Computer-Mediated Communication* 12 (4): article 1. Retrieved from <http://jcmc.indiana.edu/vol12/issue4/ellison.html>
- Fake, Caterina. 2006. Foreword. In *Flickr Hacks: Tips and Tools for Sharing Photos Online*. Sebastopol, CA: O'Reilly Media.
- Fals-Borda, Orlando and Muhammad Anisur Rahman, eds. 1991. *Action And Knowledge: Breaking the Monopoly with Participatory Action Research*. New York: The Apex Press.
- Fuchs, Christian. 2009. Social Networking Sites and the Surveillance Society. A Critical Case Study of the Usage of studiVZ, Facebook, and MySpace by Students in Salzburg in the Context of Electronic Surveillance. Salzburg/Vienna: Research Group UTI.
- Fuchs, Christian. 2011. Web 2.0, Prosumption, and Surveillance. *Surveillance and Society* 8 (3): 288-309.
- Fuchs, Christian. 2012. Google Capitalism. *tripleC: cognition, communication, co-operation* 10 (1): 42-48.
- Garrett, Jesse James, and Eric Costello. 2005. An Interview With Flickr's Eric Costello. Accessed March 15, 2012. <http://www.adaptivepath.com/ideas/essays/archives/000519.php>
- Hardt, Michael, and Antonio Negri. 2000. *Empire*. Cambridge, Mass.: Harvard University Press.
- Hardt, Michael, and Antonio Negri. 2004. *Multitude: War and democracy in the age of Empire*. New York: Penguin Press.
- Huws, Ursula. 2003. *The Making of a Cybertariat: virtual work in a real world*. London: Merlin.
- Joinson, Adam. 2008. 'Looking at', 'Looking up' or 'Keeping up with' People? Motives and Uses of Facebook. In *Proceedings of CHI'08*, 1027-1036.
- Kendall, Lori. 2002. *Hanging out in the Virtual Pub: Masculinities and Relationships Online*. Berkeley, CA: University of California Press.

- Kleiner, Dimytri and Brian Wyrick. 2007. InfoEnclosure 2.0. Accessed March 15, 2012 from *Mute: Culture and Politics After the Net*: <http://www.metamute.org/en/InfoEnclosure-2.0>
- Lazzarato, Maurizio. 1996. Immaterial Labor. In *Radical Thought in Italy: A Potential Politics*, edited by Paolo Virno and Michael Hardt, 133-147. Minneapolis, Minnesota: University of Minnesota Press.
- Levy, Ari, and Spears, Lee. 2011. LinkedIn Retains Most Gains Second Day After Surging in Initial Offering. Accessed March 15, 2012. <http://www.bloomberg.com/news/2011-05-18/linkedin-raises-352-8-million-in-ipo-as-shares-priced-at-top-end-of-range.html>
- Levy, Steven. 2006. The New Wisdom of the Web. Accessed March 15, 2012 from Newsweek: <http://www.newsweek.com/id/45976>
- Lukács, Georg. 1967. *History and Class Consciousness*. London: Merlin Press.
- Malo de Molina, Marta. 2004a. *Common Notions, Part 1: Workers-Inquiry, Co-Research, Consciousness Raising*. Accessed February 23, 2012: <http://eipcp.net/transversal/0406/malo/en>
- Malo de Molina, Marta. 2004b. *Common Notions, Part 2: Institutional Analysis, Participatory Action-Research, Militant Research*. Accessed February 23, 2012: <http://eipcp.net/transversal/0707/malo/en>
- Marx, Karl. 1938/1880. *A Workers' Inquiry*. Accessed March 15, 2012 from Marxists.org: <http://www.marxists.org/history/etol/newspape/ni/vol04/no12/marx.htm>
- Moretti, Stefania. 2010, November 2. Facebook using Canada as testing ground. London Free Press. Accessed March 15, 2012: <http://www.lfpress.com/money/2010/11/02/15923106.html#/money/2010/11/02/pf-15923101.html>
- Negri, Antonio. 1989. *The Politics of Subversion: A Manifesto for the Twenty-First Century*. Oxford, Great Britain: Polity Press.
- Negri, Antonio. 2008. *Reflections on Empire*. Cambridge, U.K.: Polity Press.
- O'Reilly, Tim. 2005. *What is Web 2.0? Design Patterns and Business Models for the Next Generation of Software*. Accessed March 15, 2012. <http://oreilly.com/web2/archive/what-is-web-20.html>
- Papacharissi, Zizi, and Andrew Mendelson. 2011. Toward a New(er) Sociability: Uses, Gratifications, and Social Capital on Facebook. In *Media Perspectives for the 21st Century*, edited by Stylianos Papathanassopoulos, 212-230. New York: Routledge: 212-230.
- Precarias a la deriva. 2004. *Adrift through the Circuits of Feminized Precarious Work*. Accessed March 15, 2012: <http://eipcp.net/transversal/0704/precarias1/en>
- Privacy Commissioner of Canada. 2009. Facebook Agrees to Address Privacy Commissioner's Concerns. Retrieved from [http://www.priv.gc.ca/media/nr-c/2009/nr-c\\_090827\\_e.cfm](http://www.priv.gc.ca/media/nr-c/2009/nr-c_090827_e.cfm)
- Quan-Haase, Anabel, Alison and Young. 2010. Uses and Gratifications of Social Media: A Comparison of Facebook and Instant Messaging. *Bulletin of Science, Technology and Society* 30 (5): 350-361.
- Raacke, John and Jennifer Bonds-Raack. 2008. MySpace and Facebook: Applying the Uses and Gratifications Theory to Exploring Friend-Networking Sites. *CyberPsychology and Behaviour* 11 (3): 169-174.
- Raynes-Goldie, Kate 2010. Aliases, Creeping, and Wall Cleaning: Understanding Privacy in the Age of Facebook. *First Monday*, 15 (1), January. Accessed March 15, 2012: <http://firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/article/viewArticle/2775>
- Reuters. 2011. *Twitter Share Auction Suggests \$7.7 Billion Valuation*. Accessed March 15, 2012. <http://www.reuters.com/article/2011/03/04/us-twitter-idUSTRE7221JL20110304>
- Schonfeld, Erick. 2005. *The Flickrization of Yahoo!* Accessed March 20, 2012: [http://money.cnn.com/magazines/business2/business2\\_archive/2005/12/01/8364623/](http://money.cnn.com/magazines/business2/business2_archive/2005/12/01/8364623/)
- Situaciones Colectivo. 2005. Something More on Research Militancy: Footnotes on procedures and (in)decisions. *Ephemeris* 5 (4): 602-614.
- Smythe, Dallas. 1977. Communications: Blindspot of Western Marxism. *Canadian Journal of Political and Social Theory* 1 (3): 1-28.
- Springer, Michelle, Beth Dulabahn, Phil Michel, Barbara Natason, David Reser, David Woodward, and Helena Zinkham. 2008. *For the Common Good: The Library of Congress Flickr Pilot Project*. The Library of Congress. United States Government.
- Stelter, Brian. 2011. *News Corporation Sells MySpace for \$35 Million*. Accessed March 20, 2012: <http://mediadecoder.blogs.nytimes.com/2011/06/29/news-corp-sells-myspace-to-specific-media-for-35-million/>
- Tapscott, Dan and Anthony Williams. 2006. *Wikinomics: How Mass Collaboration Changes Everything*. New York: Portfolio.
- Taylor, Frederick Winslow. 1915. *The Principles of Scientific Management*. New York: Harper and Brothers.
- Terranova, Tiziana. 2004. *Network Culture: Politics for the Information Age*. London: Pluto Press.
- Toffler, Alvin. 1981. *The Third Wave*. New York: Bantam Books.
- Touraine, Alain. 1971. *The May Movement, Revolt and Reform: May 1968-The Student Rebellion and Workers' Strikes-the Birth of a Social Movement*. New York: Random House.
- Whyte, William F. 1990. Introduction. In *Participatory Action Research*, edited by William F. Whyte, 7-15. Newbury Park, CA: Sage.
- Whyte, William F., Davydd Greenwood, and Peter Lazes, Peter. 1990. Participatory Action Research: Through Practice to Science in Social Research. In *Participatory Action Research*, edited by William F. Whyte, 19-55. Newbury Park, California: Sage.
- Wright, Steven. 2002. *Storming Heaven: Class Composition and Struggle in Italian Autonomist Marxism*. Sterling, Virginia: Pluto Press.
- Zhang, Yin, Leo Shing-Tung Tang, and Louis Leung, Louis. 2011. Gratifications, Collective Self-Esteem, Online Emotional Openness, and Trait like Communication Apprehension as Predictors of Facebook Uses. *Cyberpsychology, Behavior, and Social Networking* 14 (12): 733-739.

## About the Authors

Brian A. Brown

is a PhD candidate at Western University in the Faculty of Information and Media Studies. His research is focused on the biopolitics of social media, autonomist theory, and visual culture studies.

*Anabel Quan-Haase*

is Associate Professor of Sociology and Information and Media Studies at Western University. Her interests lie in social media, social networks, social capital, inequality, and serendipity.