

# Journal of Communication Inquiry

<http://jci.sagepub.com>

---

## **Open Sourcing Our Way to an Online Commons: Contesting Corporate Impermeability in the New Media Ecology**

Kate Milberry and Steve Anderson

*Journal of Communication Inquiry* 2009; 33; 393 originally published online Jul 30, 2009;

DOI: 10.1177/0196859909340349

The online version of this article can be found at:  
<http://jci.sagepub.com/cgi/content/abstract/33/4/393>

---

Published by:



<http://www.sagepublications.com>

On behalf of:

Cultural and Critical Studies Division of the Association for Education in Journalism and Mass  
Commu

**Additional services and information for *Journal of Communication Inquiry* can be found at:**

**Email Alerts:** <http://jci.sagepub.com/cgi/alerts>

**Subscriptions:** <http://jci.sagepub.com/subscriptions>

**Reprints:** <http://www.sagepub.com/journalsReprints.nav>

**Permissions:** <http://www.sagepub.com/journalsPermissions.nav>

**Citations** <http://jci.sagepub.com/cgi/content/refs/33/4/393>

# Open Sourcing Our Way to an Online Commons

## Contesting Corporate Impermeability in the New Media Ecology

Kate Milberry

Steve Anderson

*Simon Fraser University, Vancouver, British Columbia, Canada*

Understanding the social dynamics shaping the internet is vital as media power takes on new dimensions in the digital realm. The internet is increasingly necessary for participation in social life yet corporations continue to shape the online architecture to suit their own narrow commercial interests. In their drive to enclose the internet, online media companies create synergistic membranes with prescribed circuits that constrain user freedoms. Taken together, these synergistic membranes form a new layer of the internet – the Google layer, which constrains and commodifies users' range of motion within a narrow, privatized slice of the world wide web. This jeopardizes the creation of a commons-based communications system with a public service orientation, something that is essential to participatory and democratic dialogue. The open architecture of the internet, characterized and supported by free and open source software (FOSS), defends the digital commons against cyber-enclosure. Social practices and values that distinguish FOSS comprise a liberatory praxis as well as an alternative vision of social organization offline that prefigures a more democratic media system, and broadly construed, a more democratic society.

**Keywords:** *Information society; Code; Computer-mediated-communication; Corporate colonization of cyberspace; Critical communication studies*

Understanding the social dynamics shaping the Internet is increasingly vital, as media power takes on new dimensions in the shift toward an “always on” digital mediascape. This shift has brought about questions concerning not only what media people will consume but also the digital environment they will consume it in. People, in increasing ubiquity, will have their own personal space on the Web where they can consume media, publish their own media, connect with friends and family, and use media tools for other ends. However, as access to the Internet becomes evermore necessary for participation in civic and social life, corporations continue to shape the online architecture to suit their own narrow commercial interests.

These exigent circumstances escalate the importance of recognizing and analyzing how new media conglomerates structure online navigation in ways that reinforce

and expand their dominance in cyberspace. Furthermore, we must comprehend how this structuring affects our terrestrial relationships and social forms. To understand where we are, we must look at where we have been, and so we begin with a history of enclosure within capitalism, tracing its migration to cyberspace. We then consider how old strategies of media concentration resurface on the Internet as new synergies of enclosure. The notion of the *synergistic membrane* illuminates the deepening and widening of cyber-enclosure as media companies aggressively compete to better exploit online participants. In their drive to enclose the Internet, online media companies develop synergistic membranes with prescribed circuits that lead less and less to the global Web outside their online properties. These selectively permeable spaces facilitate traffic flow among online corporate holdings but are nearly impenetrable to competitors, analogous to the way semipermeable membranes in biology only allow passage of certain particles.

We turn again to history for inspiration in resisting cyber-enclosure, detailing the rise of the Free Software Movement, the praxis of open knowledge production, and the contribution these make to an open, democratic digital commons. A commons-based communications system with a public service orientation is crucial if we are to maintain and foster a participatory, collective, and democratic dialogue capable of nurturing radical civilizational change. Corporate-state encroachment contradicts the Internet's technical and cultural tendencies, threatening to displace its innovative and democratic potentialities. Opposing the concentration of online media ownership manifest in the phenomenon of the synergistic membrane is the historically open architecture of the Internet, characterized by the free and open source software (FOSS) that once dominated cyberspace. FOSS actualizes an emancipatory immaterial labor and represents both a method of knowledge production and a mode of social organization. In short, FOSS challenges underlying assumptions of capitalism, namely that human productivity and creativity can be reified, reduced to mere surplus value. Furthermore, social practices and values that distinguish FOSS development present alternative visions of organizing society offline. On this account, the subversive labor relationships contained within FOSS are prefigurative, comprising a liberatory praxis that offers a roadmap to a more democratic media system and, broadly construed, a more democratic society.

## The Cyberian Frontier and the Tragedy of Enclosure

A turf war in cyberspace is currently being waged, with competing goals and interests battling for supremacy. As corporate interests continue to settle the cyberian frontier, the Internet emerges as the locus of a new struggle. Like the Internet itself, this struggle is multilayered. Conflict between private and public interests emerge at the "content" layer of the Internet, composed of applications such as the World Wide

Web, and also at the Internet's underlying infrastructure, the "logical" layer comprising the data transport and transmission protocols (Lemley & Lessig, 2001). At the content layer, commercial interests are poised to dominate the Web, pushing democratic and public uses to the margins of cyberspace; furthermore, corporate influence threatens to further enclose and commodify access to the Internet (Meikle, 2002). The insidious combination of capitalist ownership at the infrastructural layer and corporate control at the content layer portends an impoverished future for the Internet: instead of a virtual commons, cyberspace will increasingly resemble private property, hemmed in and protected by state and market forces.

The content layer of the Internet is more often referred to as cyberspace. It is made up of online tools (software, Web applications), spaces (social networking sites, portals), and services (news delivery, information services). It was not always such a contested terrain: the cyberspace of the early Internet had a clear commons ethos, dominated by open-source software and open standards. The concept of the "commons" is frequently invoked in discussions of the Internet, but rarely is it adequately defined. Indeed, the classic 15th-century example of the British commons—open farmland shared and managed by the surrounding community—has enjoyed a revival as an analogy for the corporate enclosure of cyberspace (Kidd, 2002; Lessig, 2002). The most basic definition refers to a resource held in common wherein no one holds exclusive property rights. Benkler (2006), for example, describes the commons as an alternative institutional space, where people can act without market constraints. Where Lessig (2001) speaks of an "innovation commons," of which the Internet is both a product and producer, Aufderheide (2002) describes an "information commons" enabled by open source, open access, fair use, and a neutral network.

Hardin's (1968) enduring proclamation of the "tragedy of the commons" refutes any positive interpretation, insisting on the ruin into which all commonly held resources must fall. According to Hardin, it is rational for humans to exploit common resources to their individual benefit, though the cost of depleting a finite resource be borne by the entire community, of which they are a part. This theory is widely cited by policy makers and free-market economists, but others have provided empirical evidence that challenges the basic assumptions of the tragedy of the commons. In Ostrom's (1990) study of commons regimes, she found that commoners devise a variety of formal and informal rules and norms to sanction actions that are against the common interest of the community. Whereas Hardin posits enclosure of the commons through private property as the only viable means of protecting finite resources, Bollier (2002) states that the "social infrastructure" of the commons defends against abuse. "[T]rust, reciprocity, a history of shared commitment and a robust community can overcome many of the alleged failures of the commons" (p. 6). Lessig (2002) agrees that communities can figure out how to adequately manage shared resources, reminding that the tragedy of the commons is not a law of nature.

Although the commons is often invoked as a vague notion of collective ownership and public-benefit spaces, tools, technologies, and institutions, this can be formulated more precisely. A commons regime is operated toward community-defined goals, cooperatively managed, collectively owned by its members, and places high value on social equality and social production. The basic characteristics of a commons regime are cooperation, decentralization, communal assets, and a public service ethic. Hardin failed to realize that in a commons regime, grazing patterns and other activities that affect the community are decided democratically, not individually (Shiva, 2005). The tragedy of the commons is therefore a misnomer: if an individual overexploits a common resource based on self-interest, that is privatization, that is enclosure, and that is quite the opposite of a commons regime. The tragedy of the commons is the tragedy of enclosure.

### The Hacker Ethic: Preserving a Commons Ethos Online

The characteristics of a commons regime also imbue the hacker ethic, which underpins free and open source software (FOSS) development. FOSS is not only the foundation of its own social movement—the Free Software Movement—but can also be viewed as both a mode of production and means for addressing and ameliorating social ills. The term *hacker* is frequently invoked pejoratively, describing a criminal who breaks into computers to wreak havoc on unsuspecting users. In the programming world, the word historically carries a positive connotation. Stallman (2002), one of the original hackers, defines hacking broadly, as including “a wide range of activities, from writing software, to practical jokes, to exploring the roofs and tunnels of the MIT campus” (p. 1). A hacker is more correctly identified as a brilliant programmer who comes up with clever or elegant solutions to software design problems; a *cracker* is one who breaks computer security. Wark (2004) expands the definition to encompass a hacker class:

In art, in science, in philosophy and culture, in any production of knowledge where data can be gathered, where information can be extracted from it, and where in that information new possibilities for the world are produced, there are hackers. (p. 1)

Specifically, the hacker ethic refers to a body of concepts, beliefs, and mores held by the original MIT hackers. According to a cultural practice later codified by Levy (1985), the hacker ethic promotes decentralization of authority and the idea that computers can be used for good—to create art and beauty and to change the world for the better. Its founding premise is the slogan for the Free Software Movement: “All information should be free” (p. 40). Free software, as the means by which the hacker ethic is spread, “is based in the social advantage of co-operation and the ethical advantage of respecting the user’s freedom. It is explicitly a step toward a

post-scarcity world” (Wark, 2004, p. 70). The essence of free software is liberty, not price; it “is a matter of the users’ freedom to run, copy, distribute, study, change and improve the software” (Free Software Foundation, n.d.). Himanen (2001) suggests that hacking has more in common with craftsmanship than with a highly technical hobby. Thus, we can see how the commons ethos that suffuses the Internet’s architecture and the hacker ethic underlying FOSS are mutually constitutive of the open, accessible Internet many users have come to expect.

### **Consolidating Corporate Power Online: The Google Layer of the Internet**

The early commons ethos and the continued relative openness of the Internet can in part be attributed to the individuals and institutions involved in the initial constitution of the Internet: government agencies, educational institutions, community groups, and volunteer labor (Dyer-Witheford, 2001). Over time, commercial interests began taking control of cyberspace away from participants. Although average Web users remain active in cyberspace, the Internet’s architecture is much removed from their grasp. The new interactive media ecology is increasingly dominated by “online participatory media,” those online spaces, tools, and Web sites where people interact with one another and play an active role in “collecting, reporting, analyzing and disseminating news and information” (Bowman & Willis, 2003, p. 9). As people migrate away from traditional media, such as print, radio, TV, toward the Internet, the influence of online participatory media continues to expand (Schiller, 2007).

While citizens continue to experiment with innovative and democratic uses of online spaces and tools, major Web companies are also finding new and evermore invasive ways to sell our attention to advertisers and marketers. The companies that are most successful in this drive for participant labor use their extracted profits to buy up more Web properties and turn them into part of their commodification machinery, shoring up their presence online and consolidating their influence in cyberspace. Major online property holders such as Google and Facebook now have the power, and increasingly the incentive, to streamline their media holdings toward the efficient delivery of online participants to marketers and advertisers while narrowing the user experience to a singular corporate slice of cyberspace. This leads to a reduction in the “margin of maneuver” of noncommercial users. “Margin of maneuver,” according to Feenberg (2002), is the degree of freedom won by the dominated in technical systems that enables them to adapt the system to their needs, redefining and modifying its technical forms and social purposes (Feenberg, 2002, p. 84). Corporate encroachment on the Internet, however, pushes democratic and public uses to the margins of cyberspace and narrows users’ range of motion.

## Case 1: Facebook

Facebook is the most trafficked social media Web site in the world, with more than 200 million active users (Facebook, 2009). It enables users to easily share content with their “networks,” keep track of each other’s activities, and communicate and interact in a variety of ways. One of the novel and now widely copied features of Facebook is the network “news feed,” a constantly updated list of everything a user’s “friends” have done on the Facebook Web site. If a user adds a picture, posts a comment, or shares a video, it will appear on all of their friends’ news feeds. Another innovative element of Facebook is its open platform that allows outside developers to add “applications”—Web tools catering to any number of interests, including video feeds, games, music, favorite jokes, and Bible verses plus thousands more. Although these services are pioneering, they also mark a new commercial incursion into social life.

The Facebook news feeds are not unlike an ongoing conversation with friends. However, the feature’s appeal fades with the realization that Facebook injects customized advertisements into the steady stream of personal communication. This is the commodification of an arena not yet colonized by capitalism: personal interaction. David Harvey (2004) calls this social-economic phenomena “accumulation by dispossession”—the accruing of capital or power that comes at the expense of people or alternative social systems—in this case, autonomous, self-determined Web users and the open Internet. Where an open, socially directed mode of communication was once a definitive feature of the Internet, today corporate interests have hijacked the interactive media ecology of cyberspace to dispossess participants of fully autonomous interactions. More and more, commercial messages interrupt users’ personal communications, and online navigation is circumscribed to fit commercial imperatives. Add to this is the fact that all the data that flows through Facebook applications, profiles, and services are monitored, mined, and often sold to advertisers, and a picture of tightly integrated, mutually reinforcing cyber-enclosure begins to emerge.

## Case 2: Google

The most successful online media company by most standards is Google, whose success is largely attributed to it providing services that attract large user markets as well as developing the most effective advertising system to date. The ability to produce consumable (by advertisers and marketers) online participants through the integration of popular online tools, effective participant surveillance, and a sophisticated targeted advertising system has made Google an industry leader. *Vise and Malseed (2005)* describe the “Google economy” as self-reinforcing:

The more computer users who clicked on Google ads, the more money Web site owners would make. The more money they made, the more other sites would be willing and eager to add Google search and other technology to their offerings. The bigger the network grew, the harder it would be for anyone to challenge it. (p. 129)

Since this dynamic system has produced the most profits, it perpetuates itself and the accompanying social relationships. Google's increase in revenue in 2007 and early 2008, more than doubling its rival Yahoo!, is largely attributed to Google's success in cornering the online advertising industry while Yahoo! followed the misguided strategy of producing online media content (Mills, 2007). Google's investment in its advertising and marketing apparatus now allows it to derive increased revenue flows due to its enhanced ability to monetize clickstreams. By having an unparalleled ability to reinvest in the means of production (of online eyeballs and ad clicks) and thus creating an even more efficient and powerful system of delivering user attention to advertisers, Google is able to maintain an edge over the competition.

Google's OpenSocial, a platform for building Web tools that can be used by affiliated Web sites, provides yet another means of cyber-enclosure. The system is open in that Google provides developers with access to the source code. The catch is that it seems likely that Google and its corporate partners will have access to all the data that flow through these applications. This system, if successful, would effectively create a Google layer of the Internet, where tools are created by decentralized agents and organizations, but the architecture—and most important—user data would be primarily under the control of Google and its partners. The participatory (social networking) Web sites that join this platform will provide Web developers with participant “profile information (user data), friends information (social graph), activities (things that happen, news feed type stuff)” (Arrington, 2007, p. 1). To get companies to buy into this model, Google will share user data, similar to the way their advertising system shares commissions with “affiliate” Web sites that display Google ads.

Whereas traditional media are by and large the gatekeepers of audience attention for TV, radio, and print, the new dominant online media more effectively direct commodified Internet travelers toward highly targeted advertisers. In the shift to Internet use over traditional media, a new level of participatory interaction has been born, but the commodification of audiences has, for the most part, only become more entrenched. The surveillance and data collection schemes unleashed by Google and Facebook are the norm with the emergent new media giants, sorting users not into particular demographic categories but into the category of “You.” This new level of commercial incursion into personal communication commodifies users and converts user-generated content into fodder for marketers and advertisers, illustrating how control rests with the owners rather than the participants. This is something rather simple that was well understood with traditional media but seems to have been forgotten with digital media because it is “participatory.”

This underscores the fact that the design of the architecture of proprietary social media and networking platforms is not in the hands of the users, though they may freely access and use these tools. Rather, a profit-oriented infrastructure unconcerned with facilitating user autonomy or freedom operates to shape and constrain users' actions within unique cyber-enclosures. Disturbingly, this highlights how



corporate Web giants like Facebook, Google, and Microsoft are attempting to create a new layer on the Web. This layer is like HTML, the computer language that allows the creation and navigation of content on the Internet; however, unlike the Web architecture crafted by HTML, the corporate layer is largely controlled by the dominant Internet companies that constrain participation via their terms of use, funnel traffic to their proprietary nodes, and more easily mine users' personal data. The "integrated commercialism" of corporate-owned participatory media will, to some degree, shape users' subjectivity: if commercial appeals are integrated into even our personal communications, it seems likely to affect us in new and deeper ways. It also raises the question "how might we resist commercial forces or create alternatives if our (online) personal space and communications are infiltrated and largely shaped by the corporate interests of the new media gatekeepers?"

### **New Synergies, Old Media Concentration**

Aufderheide (2002) and Blevins (2004) problematize the phenomenon of online "walled gardens" and high levels of online media ownership concentration early on in the development of the Internet. Aufderheide warns of the "content environments that lure consumers and discourage linking outside the environment" (2002, p. 518). Similarly, Blevins (2004) traces the history of this trend, highlighting a 1997 decision by America Online to "deter users from leaving the AOL network" (p. 260). As cyber-enclosure deepens and widens, we will find media companies more aggressively competing to better exploit online participants and limit their movements in cyberspace. New media conglomerates are developing a novel kind of synergy, with prescribed circuits that less and less lead to the Web outside properties owned by the parent company or its partners. This is even more powerful than the synergy created by traditional media where one company owns and derives revenue from vertically and horizontally integrated media properties.<sup>1</sup> With this older synergy, corporations have tremendous power to reach audiences with promotional directives, while also gathering multiple streams of revenue by repurposing cultural commodities. For example, Viacom can produce a film and derive revenue through its movie theaters; future revenues and cross-promotions come from its other holdings like Blockbuster Video, CBS television, and Paramount amusement parks, to name just a few of the company's assets that can be leveraged. Instead of gaining revenue through products and services related to cultural commodities, online media conglomerates primarily take revenue streams in the form of advertising.

Unlike their traditional media counterparts, online media companies (although increasingly integrated with traditional media) may not control the access to the medium directly, as that would be the job of Internet service providers (ISPs). However, they do control powerful "transmission nodes." Online media owners are not the gatekeepers to the medium, but they do have significant control over the flow

of users. Google, News Corporation, and other holders of major Web properties do not comprise a limited selection of channels, as cyberspace is essentially endless, but most Internet traffic flows as if they do. The brand loyalty they generate, and the significant start-up costs needed to develop anything on par with the sophisticated constellation of services they offer, creates a very high barrier to entry. The only recent start-up portals that have been successful have concerned themselves with niche services such as the blog search engine Technorati, or have found new ways to commodify online participants, such as Facebook.

### **Synergistic Membranes**

High levels of user concentration, combined with ongoing vertical integration of online media into traditional media companies counter the widely held vision of the Internet as a vast, uncharted, and chaotic space (Meattle, 2007). Online media conglomerates have slowly developed enormous online portals with integrated circuits of online traffic transmission, and vast constellations of Web nodes. These media companies increasingly try to keep online participants within their own circuits and have begun to systematically block competing services. They further push traffic “toward preferred nodes of a company’s or group of companies’ proprietary network, be it print, broadcast, or online news provider, entertainment site, or retailer” (Compton & Comor, 2007, p. 32). Enclosing terrestrial land allowed landlords in the Middle Ages to increase their level of control over the means of production. Similarly, cyber-enclosure has taken the form of “walled gardens”—closed or exclusive online spaces and services that enable corporations to better control users’ movements and monopolize their attention.

Keeping online participants locked into one company’s network of online properties not only allows the company to continually capture online user attention but also allows new media companies to better profile and thus add value to online participants as commodities—meaning they can derive additional revenues from selling user information to marketers and advertisers. Every stop along the integrated proprietary circuit provides an opportunity to sell user attention to advertisers while also building personal dossiers of users, which will also be sliced, packaged, and sold. By providing selectively permeable spaces—permeable to owned properties (as well as incoming traffic) but nearly unassailable to certain competitors—these media conglomerates are creating “synergistic membranes.” With channels to competing online properties increasingly blocked or discriminated against, and company network nodes tightly bonded, major online media corporations are creating semipermeable membranes around company assets. From the users’ perspective, it is easy to get into these membranes but harder to find a way out.

Online participants have become reliant on transmission points provided by online media spaces and services, for example, Google’s search engine. When these

transmission points block, degrade, or discriminate against outside online space, it creates a de facto membrane between the participant and the global cyberspace. Thus, similar to the way that semipermeable membranes in biology only allow passage for certain particles, these synergistic membranes effectively regulate traffic so that few participants escape the conglomerate's compound of online properties. There are three basic means of creating and enhancing synergistic membranes: node development, node promotion, and rival exclusion.

### **Node Development**

Mergers, acquisitions, joint ventures, and property development are the most traditional and likely the most benign means of creating synergies. Adding a new online property enhances the network and circuits by adding an extra node, thereby increasing the flow of traffic in the network, following Reed's law that the utility and value of a social network can scale exponentially with network size (Reed, 1999). The addition of new spaces, services, and tools extends the network and reduces the need for participants to leave a media conglomerate's complex of properties. Yahoo! is a great example of an online media company that has substantial and diverse media holdings. Yahoo! has bought popular participatory media tools like Delicious, a social bookmarking service, and Flickr, a photo sharing application, while also developing its own social networking space, Yahoo! 360. Adding these properties enables Yahoo! to provide all the major media needs for online participants while creating an integrated network of media nodes that feed traffic to each other, rather than to competitors. Facebook takes a different approach to node development by continuing to develop its own Facebook branded services, partnering with other organizations when it is mutually beneficial. Rather than purchasing companies, Facebook allows other companies and developers to build on top of its platform, thus creating its own layer of the Internet. In this sense, Facebook operates like a private version of HTML, a free software project that allowed anyone to openly contribute to its code.

### **Node Promotions**

Node promotion is another key component of synergistic membranes. Node promotion is the practice of using existing properties to promote other properties in a media conglomerate's network. For example, Google now promotes YouTube videos in its Google Video search. In the past, Google's video search function only searched Google videos, but shortly after buying YouTube it started including YouTube videos, thereby increasing traffic to its new node. Google then advertises iGoogle—a personalized homepage service—through a graphic displayed on the YouTube Web site. Considering these two Web sites are easily in the top tier of most

popular sites on the Internet, there is substantial traffic at issue with these node promotions. However, the node promotion does not end here; iGoogle provides seamless integration to Gmail, Google's e-mail service, which in turn promotes Picasa, Google's online photo service, creating a vibrant network of tightly integrated commercial nodes. Each time an online participant is encouraged to click through to a promotional node, it decreases the vibrancy of the "outside" Internet. Each node promotion represents a structural discrimination against free and open online navigation, as well as competing services. As each node in a corporate network becomes more popular, it animates the entire network, creating an exclusive traffic circulation system that circumvents self-determined travel online.

### **Rival Exclusion**

The third element of synergistic membranes is rival exclusion—the blocking or degrading of access to competitor services, spaces, or tools. In early 2007, MySpace banned all of the rival company Photobucket's videos and other material on MySpace, claiming a violation of MySpace's no-outside-advertising policy (Menn & Semuels, 2007). Blocking a popular service was a problematic policy, so MySpace later bought Photobucket and lifted the ban. Photobucket went from being a breaking point in MySpace's circuits to a valuable transmission node. MySpace also banned reference to videos from another video site called Revver, indicating its intolerance of competitors as MySpace offers its own online video services. Another example of rival exclusion can be seen in the decision by Google in 2007 to stop posting links to rival map applications provided by Yahoo!, and MapQuest. Now, when participants search for a place using Google's map search engine, they are only shown Google maps (Schofield, 2007).

As outlined above, online media conglomerates are developing extensive constellations of online properties, promoting network nodes, excluding rival services, and creating enclosed synergistic membranes in the process. Developing a better understanding of the forces that are creating synergistic membranes, as well as possible alternatives, remain crucial tasks for media and information society scholars. These fortified zones of the Internet are an expression of the social relationships between participants and the owners of online spaces, services, and tools. The success and expansion of online media corporations lies in the deepening commodification of participants' online activity. Media corporations are competing among themselves to increase productivity, in part through more insidious levels of online surveillance and traffic control. The drive to expand the realm of user commodification to new levels of time and space is indicative of online media companies' push to increase advertising and marketing productivity. New mechanisms are being hastily developed in efforts to commoditize Web users' attention and make it available at any place and time—in fact at the places and time defined by advertisers and marketers.

## Opposing Cyber-Enclosure: Free and Open Source Software

How can the Internet withstand the forces of enclosure and preserve its historically open architecture and culture from such a sophisticated corporate offensive? How can online participants defend and enhance a communication commons to nurture democratic dialogue and, in turn, social transformation? The free and open source software movement has emerged at the fore of this struggle, evincing a mode of knowledge production and method of organization that prefigure progressive change in our terrestrial relationships and offline social forms. As a mode of production, FOSS is dependent on immaterial, commons-based labor, engendering subversive labor relationships that comprise a liberatory praxis. As a method of social organization based on values such as cooperation, community, decentralization, trust, and mutual aid, FOSS is prefigurative, implying a future beyond capitalism. FOSS developers create innovative technologies that translate values of equality, democracy, and freedom into technical terms. Through their software development, these programmers become de facto social change agents, altering the way participants engage with and on the Internet.

FOSS stands against closed knowledge production and monopolies of knowledge characteristic of the shift to informational capitalism, dependent as it is on the scarcity and exclusivity of information. According to Innis (1964), knowledge monopolies develop in conjunction with closed communication. New media conglomerates are intent on fostering closed communication via their development and control of synergistic membranes in cyberspace: the accruing of traffic and information to online walled gardens results in monopolies of knowledge. These monopolies of knowledge, with their attendant dominative social relationships, threaten the existence of a communication commons online, where information is freely created, accessed, and disseminated. If media conglomerates control the main portals to the Internet and direct the ebb and flow of participants in a limited (corporate) version of cyberspace, the chances for counterhegemonic ideas and action online fade from view.

### Information Wants to Be Free

Closed knowledge production characterizes a significant part of the history of cultural creation under modern Western capitalism, undergirded by copyright and intellectual property regimes that increasingly encourage commodification over innovation. On the contrary, the knowledge production fostered by the open architecture and ethos of Internet releases information from the constraints of capitalism, such as the profit requirement, competition, and rival exclusion. According to the hacker ethic, information is not a commodity to be bought and sold like any other good in a market economy, but a public good, collaboratively produced and freely circulated based on need and interest. This self-conscious practice has historical

and theoretical roots in the technical development of the computer and computer networking. The free exchange of information has characterized the computing community almost since its inception (Ceruzzi, 1998). Hackers—mostly students working on ARPANET protocols in MIT’s Artificial Intelligence laboratory—shared source code in the same collaborative spirit, bolstered by the belief that information should be free (Stallman, 1999). Theoretically, the origins of open knowledge production lie in the hacker culture begun in the 1960s and formalized in 1984 when Richard Stallman founded the Free Software Movement. This transformed the cultural practice of sharing source code based on the hacker ethic into an official challenge to copyright laws, thus confronting the assumption that information can be privatized.

The Free Software Movement’s copyright challenge resulted in the General Public License, which afforded various protections for a programmer’s source code but prevented it from becoming proprietary, that is, closed. (Note, however, these protections do not preclude exchange on the market.) As a method of generating knowledge, free and open source software development is distinguished by two main features. The first is universal access to the code. The second is the collaborative approach to work. The open source model resonated with other knowledge producers and quickly spread beyond the bounds of geekdom to academics, artists, and scientists. Creative Commons—one major outcome of the growing open source movement—moved the copyright debate to another level. Declaring only “some rights reserved,” Creative Commons uses private rights to create public goods: “Like the free software and open-source movements, our ends are cooperative and community-minded, but our means are voluntary and libertarian” (Creative Commons, n.d.). It offers a spectrum of legally binding licenses, suitable for whatever creative work can be published online, with the goal of expanding the range of creative and academic work available for others to legally use, remix, and share.

### **Code Will Set You Free**

The forces of enclosure on the Internet imperil the culture and practice of sharing online, as the phenomenon of the synergistic membrane makes all too clear. In this light, the contestatory potential of free and open source software should not be underestimated. The role of FOSS in deepening democracy, both within the media system and society at large, is twofold. First, as a method of knowledge production, FOSS opens an avenue for the democratic rationalization of the Internet (Feenberg, 1999, 2002). Not only are values and practices such as collaboration, cooperation, voluntarism, decentralization, sharing, and trust actualized in the production of open source software but also are they literally designed into the technology. These values and practices are then translated through their use, defending the historically open nature of the Internet and reconstructing it on terms antithetical to

the dominative social relationships fostered by capitalism. In building an open structural framework in which users and information flow freely, FOSS helps defend and reclaim cyberspace as a communication commons. As a mode of social organization, FOSS is prefigurative, providing an alternative vision for ordering social life offline. The FOSS values and practices listed above inform the labor process of software development and in turn animate new modes of behavior online. This increases the potential for such practice to bleed into the terrestrial world, instantiating a method for democratic and liberatory practice offline.

To consider such outcomes, one must conceive of the Internet as a socially constructed technology, one that remains—for the moment—malleable, having yet to reach technical closure. User intervention in the technical design of the Internet and creative appropriation of existing new media technologies are clear examples of the democratic rationalization of the Internet (Feenberg, 1999). If software configures the use of the Internet, it necessarily directs its momentum as technological system (Hughes, 1987). The implications of FOSS for reconstructing the Internet as a communication commons thus loom large. If the Internet is a social construction, the central concern is how—and by whom—the code that regulates cyberspace will be built.

For Lessig (2006), code is law; it works invisibly and ideologically to enable and disable freedoms in cyberspace that have been taken for granted until now. Source code regulates cyberspace the way the legal code regulates society but whereas real world legal code is relatively static and slow to change, the code of cyberspace remains, for the moment, in flux. It is possible to influence the code, thus opening the Internet to interests and values that transgress the horizon of capitalism, such as those represented by the hacker ethic and FOSS. As a social and technical mashup, the Internet layers hardware and software with human communication in an ever-changing, amorphous social complex that has so far partially resisted rationalization by the market and the state. But, as we have seen, through the concentration of new media holdings and the development of synergistic membranes, corporations have begun to regulate behavior in cyberspace in ways that restrict participants' freedoms while maximizing profit, surveillance, and control.

### **Subversive Labor Relationships as Liberatory Praxis**

The significance of FOSS to the (re)construction and maintenance of a commons ethos in cyberspace is evident. Access to the source code offers a line of structural defense in the fight for the open Web and the revival of a communication commons. The production of FOSS is based on labor relationships that contradict those typical of the labor process in advanced capitalist societies; indeed, “in exploiting the failures of the capitalist system [FOSS development] has demonstrated a prototype for struggle that is generic” (Soderberg, 2008, p. 27). Hardt and Negri (2000) highlight

the informatization of the economy and the reorganization of society into globalized networks as key elements in the shift to a tertiary-based economy. Fuelled by the continual circulation of information, informational capitalism is dependent on immaterial labor—work that, although productive, results in no material good. Immaterial labor is affective labor, which produces social networks and communities. The radical potential of affective labor lies in its foundation in cooperation, which Hardt and Negri describe as the basis for “a kind of spontaneous and elementary communism” (p. 294). Although this is overstated, it illustrates how the instrumental action of economic production joins with the communicative action of the lifeworld to imagine an emancipatory conception of the network society.

The immaterial labor of FOSS production is similarly affective. It is infused with the hacker ethic and reflects passion for an activity that is “intrinsically interesting, inspiring and joyous” (Himanen, 2001, p. 6). A fundamental tenet of the hacker ethic—“information wants to be free”—contests the assumption that thoughts and ideas can be. Indeed, the peculiar qualities of information—that it is nonrivalrous and nondepletable—confound its definition as property, albeit intellectual property. According to Soderberg (2008), the FOSS development model testifies “to the inadequacy of capitalist relations in organizing labour in the information sector” (p. 27). The FOSS labor process produces labor relationships that are highly subversive, providing a working example of an alternative mode of social organization.

In the FOSS labor process, source code is developed publicly, via the Internet, by whomever wishes to contribute to the project, following what Raymond (2000) terms the *bazaar model*. This process is self-organized, autonomous, decentralized, nonhierarchical, and voluntaristic; hence, it is antithetical to the labor process under capitalism. Yet this process has attracted the attention of millions of software developers<sup>2</sup> and generated a diverse array of open source software projects that enable experimentation with different forms of common-based subjectivities (Dyer-Witheford, 1999). The GNU/Linux operating system is one of the largest, most successful FOSS projects. Creating and selling GNU/Linux distributions has become a multimillion dollar business, and industry and governments around the world continue to migrate to this platform (Linux Online, n.d.). Another notable example is the Web browser Firefox, which had been downloaded more than 500 million times at the time of this writing (Shankland, 2008, para. 1). With a minuscule marketing budget, Firefox has grown to become Microsoft’s number one competitor in this area, surpassing even the very savvy Apple Corporation. Another online commons project, the nonprofit, open source, citizen-produced Wikipedia, is one of the 15 most visited Web sites in the world (Wikimedia Foundation, 2007).<sup>3</sup>

The labor relationships engendered FOSS production depend on sharing, cooperation, mutual aid, and trust—social practices which are by and large absent from the dehumanizing labor process under capitalism (Braverman, 1974). Together they form a subversive and liberatory praxis for offline engagement. The labor relationships and labor process of FOSS mirror and reinforce the essential qualities of a



commons regime, discussed earlier. Indeed, FOSS has emerged as one of the strongest allies of the digital commons, a defender of the Internet as an open, accessible medium with implications for democracy online and offline.

### Policy in Defense of FOSS

Although FOSS itself remains a vital line of defense against cyber-enclosure, it could certainly use some public policy allies. Should the major dominant online media corporations successfully layer the Web with an impenetrable blanket of proprietary commercial applications, FOSS would have little recourse other than to exist as an enclave awaiting emancipation at some later date. Public interest policy advocates can help defend the open Internet through a variety of avenues, including revitalizing antitrust laws and enforcement protocols, reimagining media cross-ownership regulations with an eye toward different categories of online media and applications, and online privacy regulations. Another possible policy trajectory that could be used to protect online participation and FOSS from commercial incursions is applying common carrier or Net neutrality rules to major online portals. Common carrier regulations were initially applied to the railway, mandating that the operator/owner of the rails could not discriminate against cargo based on its destination or owner, thus creating a level playing field. The common carrier rules were later applied to telegraph and telephone networks (although not consistently), and they have now been expanded into the core principle that preserves the free and open Internet, known as Net neutrality. Net neutrality rules stipulate that ISPs are not allowed to speed up or slow down Web content/traffic based on its source, ownership, or destination. Net neutrality protects users' ability to direct their own online activities; a network's job, then, is to move data in a nondiscriminatory manner, based on user-determined needs. This rule maintains a certain element of *commonality* to the Internet but is threatened by major ISPs, which are hoping to increase their profit margins by becoming Internet gatekeepers, charging different rates for network use.

In 2006, AT&T agreed to adhere to network neutrality provisions as part of its US\$85 billion merger with BellSouth. The agreement provides a verifiable definition of Net neutrality that public interest groups can use to maintain Net neutrality in other contexts and to achieve further policy gains (Scott, 2006, para. 1). One such future policy gain could be applying Net neutrality to dominant online service providers. Rules could be drawn up using that apply common carrier principles to online service providers who reach a certain level of market penetration. For example, because of its dominance of the search engine market, online Net neutrality regulation could be used to prevent Google from unfairly privileging its own online services over others, and also prevent it from discriminating among services accessed through its portal. A neutral network combined with public interest advocacy in the policy areas mentioned above could stave off the commercial Internet

long enough to allow FOSS applications to expand. Policy in defense of FOSS is only briefly outlined here, but it remains an important avenue for future research.

## Conclusion

The original architecture and ethos of the Internet exhibited characteristics of a commons regime, due in no small part to the hacker ethic that informed computer networking from its earliest days. Today, however, corporate encroachment in cyberspace is shifting the balance of power in the new media ecology, which portends a new set of social relationships based on commercial exploitation. In particular, large media corporations exert their influence in the virtual sphere by building digital enclosures that restrict freedom of choice and movement by online participants. This is done with increasing frequency and proficiency by synergistic membranes, which agglomerate to form a corporate layer of the Internet. The control of dominant Web spaces, tools, and services is held by a small number of powerful media companies who network their online spaces and tools into semipermeable membranes that constrain online navigation. Online media corporations are pushing for control and exclusion as a means to exploit and reorient online users, as consumers. As citizens further move from being traditional media audience members to online media participants, online user attention will increase in economic value. If left unchecked, its apparatus of production will intensify, further deepening and widening the commodification of communication.

Standing against the corporate restructuring of cyberspace is free and open source software (FOSS). The role of FOSS in maintaining and expanding the communication commons is critical: as we have seen, FOSS creates commons-based spaces that directly challenge many of the control mechanisms deployed by new media corporations. FOSS relies on a mode of production that generates subversive labor relationships, contesting the capitalist labor process and engendering a liberatory praxis for radical civilizational change offline. Because the Internet is an unfinished technology, the chance for intervention into its design persists. To resist the enclosure of the digital commons, online participants must be prepared to act consciously and collectively. We must consider ourselves as citizens rather than consumers. As citizens, we have both rights and obligations: the right to communicate and move freely online and also the obligation to defend the democratic potentialities of the Internet. This calls for a mobilization of cyber-citizens and the launching of a meaningful insurrection that will revive the digital communication commons.

## Notes

1. For a detailed outline of vertical and horizontal integration, see Robert McChesney (1999), and David Croteau and William Hoynes (2001).

2. A 2004 survey found that there were 1.1 million developers working on open source projects in North America alone (Wheeler, 2007).

3. Other popular open source projects include the following: PHP, the Web's most popular server-side scripting language; Perl, the most popular Internet programming language; Sendmail, the program that routes more than 80% of all e-mail worldwide; and Bind, the program that is the basis for the domain name system (Thomas, 2004).

## References

- Arrington, M. (2007). Details revealed: Google OpenSocial to launch Thursday. *Tech Crunch*. Retrieved December 15, 2007, from <http://www.techcrunch.com/2007/10/30/details-revealed-google-opensocial-to-be-common-apis-for-building-social-apps/>
- Aufderheide, P. (2002). Competition and Commons: The Public Interest In and After the AOL-Time Warner Merger. *Journal of Broadcasting & Electronic Media*, 46, 515-531.
- Benkler, Y. (2006). *The wealth of networks: How social production transforms markets and freedom*. New Haven, CT: Yale University Press.
- Blevins, L. J. (2004). Battle of the online brands: Disney loses Internet portal war. *Television and Media*, 247, 247-272.
- Bollier, D. (2002, Summer). Reclaiming the commons: Why we need to protect our public resources from private encroachment. *Boston Review*, 27(3-4). Retrieved June 8, 2009, from <http://www.bostonreview.net/BR27.3/bollier.html>
- Bowman, S., & Willis, C. (2003). *We media: How audiences are shaping the future of news and information*. Reston, VA: The Media Center and American Press Institute. Retrieved January 16, 2007, from [http://www.hypergene.net/wemedia/download/we\\_media.pdf](http://www.hypergene.net/wemedia/download/we_media.pdf)
- Braverman, H. (1974). *Labor and monopoly capital*. New York: Monthly Review Press.
- Ceruzzi, P. E. (1998). Inventing personal computing. In D. MacKenzie & J. Wajcman (Eds.), *Social shaping of technology* (pp. 64-86). Buckingham, UK and Philadelphia: Open University Press.
- Compton, J., & Comor, E. (2007, April 2). The integrated news spectacle, Live 8, and the annihilation of time. *Canadian Journal of Communication*, 32, 29-53.
- Creative Commons. (n.d.). *About*. Retrieved October 31, 2008, from <http://creativecommons.org/about/>
- Croteau, D., & Hoynes, W. (2001). *The business of media: Corporate media and the public interest*. London: Pine Forge Press.
- Dyer-Witheford, N. (1999). *Cyber-Marx: Cycles and circuits of struggle in high-technology capitalism*. Urbana: University of Illinois Press.
- Dyer-Witheford, N. (2001). E-capital and the many-headed hydra. In E. Greg (Ed.), *Critical perspectives on the Internet*. Lanham, MD: Rowman & Littlefield.
- Facebook. (2009). *Latest statistics*. Retrieved October 30, 2008, from <http://www.facebook.com/press/info.php?statistics>
- Feenberg, A. (1999). *Questioning technology*. London: Routledge.
- Feenberg, A. (2002). *Transforming technology: A critical theory revisited*. Oxford, UK: Oxford University Press.
- Free Software Foundation. (n.d.). *The free software definition*. Retrieved October 30, 2008, from <http://www.fsf.org/licensing/essays/free-sw.html>
- Hardin, G. (1968). The tragedy of the commons. *Science*, 162, 1243-1248.
- Hardt, M., & Negri, A. (2000). Postmodernization, or the informatization of production. In *Empire* (p. 187). Cambridge, MA: Harvard University Press.
- Harvey, D. (2004). The "New Imperialism": Accumulation by dispossession. In L. Panitch & C. Leys (Eds.), *Socialist register*. New York: Monthly Review Press.

- Himanen, P. (2001). *The hacker ethic*. New York: Random House.
- Hughes, T. P. (1987). The evolution of large technological systems. In W. E. Bijker, T. P. Hughes, & T. Pinch (Eds.), *The social construction of technological systems*. Cambridge, MA: MIT Press.
- Innis, H. A. (1964). *The bias of communication*. Toronto, Ontario, Canada: University of Toronto Press.
- Kidd, D. (2002). Indymedia.org: The development of the communications commons. *Democratic Communiqué*, 18, 65-86.
- Lemley, M. A., & Lessig, L. (2001). The end of end-to-end: Preserving the architecture of the Internet in the broadband era. *UCLA Law Review*, 48, 925. Retrieved June 8, 2009, from [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=259491](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=259491)
- Lessig, L. (2001, November/December). The Internet under siege. *Foreign Policy*. Retrieved April 30, 2009, from <http://www.lessig.org/content/columns/foreignpolicy1.pdf>
- Lessig, L. (2002). *The future of ideas: The fate of the commons in a connected world*. New York: Vintage Books.
- Lessig, L. (2006). *Code 2.0*. New York: Basic Books.
- Levy, S. (1985). *Hackers: Heroes of the computer revolution*. Garden City, NY: Anchor Press/Doubleday.
- Linux Online. (n.d.). *Linux distributions*. Retrieved October 30, 2008, from <http://www.linux.org/dist/index.html>
- McChesney, R. (1999). *Rich media, poor democracy*. Chicago: University of Illinois Press.
- Meattle, J. (2007). The 20 most popular Websites. *SeekingAlpha*. Retrieved April 2, 2007, from <http://internet.seekingalpha.com/article/25309>
- Meikle, G. (2002). *Future active: Media activism and the Internet*. New York: Routledge.
- Menn, J., & Semuels, A. (2007). MySpace bans Photobucket videos and slide shows. *Los Angeles Times*. Retrieved April 12, 2007, from <http://www.latimes.com/business/printedition/la-fi-myspace12apr12,1,7988799.story?coll=la-headlines-pe-business&ctrack=1&cset=true>
- Mills, E. (2007). Target real-time ads reach downloaded content. *CNET*. Retrieved April 2, 2007, from [http://www.news.com/Targeted-real-time-ads-reach-downloaded-content/2100-1024\\_3-6172301.html](http://www.news.com/Targeted-real-time-ads-reach-downloaded-content/2100-1024_3-6172301.html)
- Ostrom, E. (1990). *Govern the Commons: The evolution of intuitions for collective Action*. Cambridge, UK: Cambridge University Press.
- Raymond, E. S. (2000). *The cathedral and the bazaar*. Retrieved October 31, 2008, from <http://www.catb.org/~esr/writings/cathedral-bazaar/cathedral-bazaar/index.html>
- Reed, D. P. (1999). That sneaky exponential—Beyond Metcalfe's law to the power of community building. *Context Magazine*. Retrieved October 31, 2008, from <http://www.contextmag.com/archives/199903/digitalstrategyreedslaw.asp>
- Schiller, D. (2007). *How to think about information*. Chicago: University of Illinois Press.
- Schofield, J. (2007). Google takes another small step down the evil road. *Guardian Unlimited*. Retrieved June 8, 2009, from <http://www.guardian.co.uk/technology/blog/2007/jan/17/googletakesan>
- Scott, B. (2006). A victory we can hang our hats on. *Save The Internet*. Retrieved November 20, 2007, from <http://www.savetheinternet.com/blog/2006/12/29/a-victory-we-can-hang-our-hats-on/>
- Shankland, S. (2008). Firefox crosses 500 million download mark. *CNET*. Retrieved February 25, 2008, from [http://www.news.com/8301-13580\\_3-9876676-39.html](http://www.news.com/8301-13580_3-9876676-39.html)
- Shiva, V. (2005). *Earth democracy*. Cambridge, MA: South End Press.
- Soderberg, J. (2008). *Hacking capitalism*. New York and London: Routledge.
- Stallman, R. (1999). *Free software, free society*. Boston: GNU Press.
- Stallman, R. (2002). *On hacking*. Retrieved April 30, 2009, from <http://www.stallman.org/articles/on-hacking.html>
- Thomas, J. R. (2004, March 11). *Intellectual property, computer software and the open source movement* (CRS Report for Congress, Report No. RL32268). Washington, DC: United States Congressional Research Service.

- Vise, D., & Malseed, M. (2005). *The Google story*. New York: Random House.
- Wark, M. (2004). *A hacker manifesto*. Cambridge, MA: Harvard University Press.
- Wheeler, D. A. (2007). *Why open sources software/free software (OSS/FS, FLOSS, or FOSS)? Look at the numbers!* Retrieved February 27, 2008, from [http://www.dwheeler.com/oss\\_fs\\_why.html](http://www.dwheeler.com/oss_fs_why.html)
- Wikimedia Foundation. (2007). *Home*. Retrieved July 20, 2007, from <http://wikimediafoundation.org/wiki/Home>

**Kate Milberry** is a doctoral candidate and instructor in the School of Communication. Her research examines the democratization of technology as a tool and technique for progressive social change. Her current work focuses on the relationship between social movements and the Internet, in particular, how tech activists use and develop free software to achieve broader goals of democracy, social and economic justice, equality, and environmental sustainability. Kate has an MA in communication and social justice from University of Windsor. Her research blog is [www.geeksandglobaljustice.com](http://www.geeksandglobaljustice.com).

**Steve Anderson** is the current national coordinator of the Campaign for Democratic Media and cofounder of the SaveOurNet.ca coalition. Steve is an active writer, video producer, and social media consultant and has worked for The Real News, FreePress, The Center For Media and Democracy, and Free Speech TV. Steve's writing has appeared in numerous local and national print and online publications such as TheTye, The Toronto Star, Epoch Times, Adbusters, Canadian Dimension, Rabble.ca, Common Ground, Vue Weekly, and Social Policy Magazine. Steve is a contributing author to *Censored 2008: The Top 25 Censored Stories*, and *Battleground: The Media*. Steve also writes a monthly syndicated column called "Media Links." Steve has his masters in communications from Simon Fraser University.

---

For reprints and permission queries, please visit SAGE's Web site at <http://www.sagepub.com/journalsPermissions.nav>