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Antonio Ceraso

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The dissertation of Antonio Ceraso was reviewed and approved* by the following:

Richard Doyle
Professor of English
Dissertation Advisor
Chair of Committee

Jeffrey T. Nealon
Professor of English

Ryan Stark
Assistant Professor of English

Stephen Browne
Professor of Communication Arts and Sciences

Robert R. Edwards
Edwin Earle Sparks Professor of English and Comparative Literature
Department of English Graduate Director

*Signatures are on file in the Graduate School

ABSTRACT

This dissertation examines and evaluates the way a discourse of networked peer production has affected composition pedagogy. The opening chapter examines what I call the "intellectual property discourse" as it appears in both a broader cultural context and within composition studies itself. I argue that composition studies imports an activist stance related to copyright, a stance which, I suggest, obscures the forms of power that circulate in peer production environments. These forms of power are better understood through an examination of the concept of crowds. Chapter 2 thus works through the history and concepts of crowds that developed in modernity in order to show why crowds have become the key *topos* for action in networked space. By tracing a history of categories used to describe crowds, I argue that crowds have taken on a new discursive value because the features traditionally associated with them have begun to create economic value through networks. Chapter 3 continues this investigation of crowds as productive units, focusing on the rhetorical positioning of free and open source software as a novel form of labor. Drawing on Michel Foucault's concept of the diagram, the chapter attempts to read free and open source software rhetoric not merely as an oppositional force in copyright arguments, but as a form of labor and power that increasingly spreads throughout economic practice. Chapter 4 will turn back from the free and open source method of software production to an instantiation of similar forces in the new writing technologies, and particularly in wikis. This chapter argues that both wikis and social networking technologies produce not only a public transparency, but rather a distinct form of temporality. Because wikis both produce and work on pure *potentials* for encounters, they can be read as an element of what Marxist critic Paolo Virno calls a "universal opportunism," or what is described in the chapter—drawing on the rhetorical concept of *kairos*—as "kairotic ecologies." I close by suggesting that attention to such ecologies provides a distinct framework for understanding the training that occurs in networked writing classrooms when they deploy peer production technologies.

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CHAPTER 1: THE INTELLECTUAL PROPERTY ERA IN COMPOSITION STUDIES

The principles embedded in the pedagogies of composition classrooms are likely at the heart of most college graduates' perceptions of copyright and intellectual property. - John Logie, *Peers, Pirates & Persuasion: The Rhetoric of the Peer-to-Peer Debates*

Hence a historical problem arises, namely that of discovering why the West has insisted for so long on seeing the power it exercises as juridical and negative rather than as technical and positive. –Michel Foucault, "Truth and Power"

The social and political transformations resulting from networked computing have played a significant role in rhetoric and composition studies since network technologies were widely introduced into writing instruction classrooms in the early 1990's (Hawisher et. al. 208-211, Faigley 199). Since the mid-1990's, the field of composition studies—especially as it engaged computers and writing—has also sought to address one of the most pressing political issues of network culture, the problem of copyright and intellectual property in a digital context. What I will call the *intellectual property era in composition* began to take shape during that time, largely in response to an expanded legal definition of copyright that began to affect activities on university campuses and in classrooms. The discourse of intellectual property in composition differs from broader discussions happening within legal and scientific contexts because it traces its premises to composition's established field of objects, such as theories of social epistemic rhetoric; collaborative writing; histories of authorship, citation, and plagiarism; and the pedagogical practices developed through them. These issues provided a frame of reference for researchers and practitioners as they attempted to develop theories and

practices for writing with networked computers and composing in electronic environments. While composition studies' engagement with intellectual property issues reflects the specific concerns and intellectual traditions of the field, researchers and practitioners also draw on and identify with a more general *activist* intellectual property discourse that opposes the expansion of copyright laws at the global, national, and local level. I begin this dissertation by assessing the value and consequences of this intellectual property discourse for rhetoric and composition studies.

To clear the ground for an assessment, it is necessary to examine the discourse of intellectual property and peer production as it is currently constituted, both in a general cultural frame and in rhetoric and composition scholarship more specifically. Peer production refers to works produced collaboratively outside the traditional productive spaces of industrial work, such as the firm, special-purpose organization, or factory. When peer production is commons-based, it draws its materials from and returns them to a public domain, thus operating seemingly outside traditional property structures. When peer production operates in networked information environments, moreover, it allows the massive participation of volunteers, scaling up the collaborative process, yet somehow maintaining coherence without explicit external direction or planned coordination. Networked peer production has managed to develop products that rival traditionally produced commodity competitors in quality, among them, most famously, Wikipedia, and free and open source software (F/OSS) such as the GNU/Linux operating system and the Apache server. Given its capacity to scale up collaborative processes and widely distribute knowledge, commons-based peer production in a networked ecology thus

seems like a novel form of labor; participants develop high-quality goods and services absent traditional managerial directives, formal organizational structures, or even monetary compensation. As legal theorist Yochai Benkler notes, such processes indicate that "the networked environment makes possible a new modality of organizing production: radically decentralized, collaborative, and nonproprietary; based on sharing resources and outputs among widely distributed, loosely connected individuals who cooperate with each other without relying on either market signals or managerial commands" (Benkler 60). If peer production draws from and works in a public *information* space, however, it runs afoul of global economic forces that draw value precisely from information. Peer production and the mode of information thus develop hand in hand while developing an internal conflict. Even as peer production has expanded in pace with internet access, states and traditional organizations, concerned about the economic effects of sharing practices on markets that increasingly rely on proprietary information goods, have instituted rigid expansions of intellectual property laws and enforcement. If intellectual property becomes a scene of intense political conflict during the closing years of the twentieth century, it is because the extension of intellectual property laws thought necessary to protect both value and incentive come into conflict with the notion that collaborative groups draw their raw materials from a common set of resources. Discourses of commons-based peer production thus seem inextricably linked to debates over intellectual property law, encroachment on the public domain, and restrictions on the sharing or use of formerly common information resources enabled by ubiquitous networked computing.

This opening chapter will first take up the intellectual property discourse as it appears in this broader cultural context in an attempt to establish. Next, I will examine the emergence of an intellectual property discourse within composition studies itself, first turning to its forerunners, then examining the explicit discourse as it developed since the mid-1990's. I hope to demonstrate a number of parallels between these discourses, as well as a set of historical transformations within composition studies itself. Specifically, the intellectual property discourse in composition parallels that found in the broader cultural works in an activist mode. This discourse of peer production can be divided roughly into two categories: works that focus on legal and policy restrictions to information sharing, and works that focus on the dynamics of peer groups themselves. Works in the first category take as their object an impending or threatening "enclosure," or forms of legal and administrative restraint that impede information sharing and peer production groups. Such works range from the avalanche of arguments that explore, situate, or inveigh against the expansion of copyright and patent restrictions, to the equally voluminous work on plagiarism in networked ecologies. Those in the second category tend to either celebrate the positive democratic opportunities presented by self-organized peer groups, or examine their internal structures independent of wider cultural forces; works in this group range from popular Web 2.0 business texts such as Don Tapscott and Anthony D. Williams *Wikinomics: How Mass Collaboration Changes Everything* to the growing body of academic studies in management and organizational theory, economics, sociology, and even popular physics that examine motivation, governance, and coordination in peer production groups.

The first group, in other words, provides an extrinsic view of networked peer production as it encounters other social, legal, and political forces, while the second provides an intrinsic view of peer production processes themselves. The effect of these discursive positions is a binary division between "enclosure" and "openness," where the first constitutes the extrinsic, repressive threat of established power, while the second constructs *opportunities* in an intrinsic, power-free zone of self-organization. When peer production processes are placed in the context of broader social and cultural forces, they are either under attack from the outside, transforming culture in the service of a common good, or isolated in their interesting but idiosyncratic arrangements. The structure and force of these discourses, I'll suggest, limits analysis of the intrinsic operations of power within peer production itself. In composition studies as in internet discourses more generally, peer production presents itself as a resistant force *vis-a-vis* the specifically *repressive force* of the intellectual property regime and its restrictions on sharing, proprietary seizing of cultural production, and tradition of solitary authorship. But what techniques and discourses of power operate *within* peer production groups? What technical and positive resources operate in and through peer production?

This question, though in modified forms, is beginning to make itself heard in the field as more than a decade of copyright activism grinds to an uneasy stasis, the caricature of the marauding copyright owners and their retrograde print-era market models on the one hand, and upright promoters of a free and democratic public domain on the other. I quote Logie's work at the outset because his analysis of the peer-to-peer debates already opens up this question. Logie argues, for example, that a confrontational

model "as the metaphoric frame for the debate obscures the degree to which peer-to-peer exchanges complement and extend pre-computer modes of distributing and exchanging information" (120). The point could be profitably extended to intellectual property discourse more generally: because the discourse enacts an confrontational activist stance, it may obscure, in Logie's terms, the complex processes of peer production by establishing an oppositional framework. What, then, is obscured? In this dissertation, I take up this question by avoiding the repressive and negative aspects of the intellectual property regime while at the same time forestalling the valorization generally attending peer production and information sharing processes themselves. Neither the suspicious engagement with the juridical forms of power nor the celebration of the supposed resistance formed by a "hacker ethic" adequately address the changes occurring in production—including writing instruction—largely because both positions draw an image of resistance that tends to view power as primarily repressive. The practical results, where writing instruction takes up networked peer production, are twofold. The first result is the ironic situation of a classroom space even *more* saturated by the forces of the very intellectual property regime that the activist discourses would putatively seek to oppose. The second result is that writing classrooms become a space of *training* in peer production, for the novel form of labor that is peer production, which is to say, a space of subjection to forms of power that are anything but clear in their effects.

Balance, Tilt, and Systems Far From Equilibrium

The property right that is copyright has become unbalanced, tilted toward an extreme. The opportunity to create and transform becomes weakened in a world in which creation requires permission and creativity must be checked with a lawyer. –Lawrence Lessig, *Free Culture: the Nature and Future of Creativity*

The emergence of ubiquitous networked computing has given rise to robust debates about the kinds of laws that should regulate the circulation of information, and, with that, about the nature of creativity and invention. While the term is itself at the heart of the conflicts, I will use the term intellectual property to indicate the "information goods" as the object of these debates; it designates symbolic productions that can be *encoded,* and therefore replicated as code. The paradigmatic example would be, of course, the song, which has led to numerous lawsuits and other legal fights. The song can be encoded in any number of ways, from musical notation, to player-piano rolls, to wax records and eight-tracks, to digital MP3's. Once the song can be encoded, it can be transferred over distances and reproduced; as Mark Poster has argued, the method of encoding, or what he calls the "mode of information," will affect the ways and speed with which the song can be disseminated (Poster 8). If the encoded song can be replicated, its status as a *rare* commodity—from which its creator or owner can draw value—may begin to erode. Encoding and replication of the song has thus produced questions of compensation, incentive, and control. The problem of networked information economies is not that inventions can be encoded (the spread of player piano rolls produced contentious copyright suits in the early 20th century). Rather, everything—from DNA, to software, to music, films, and writing—can be encoded digitally, and therefore replicated at high volumes, speed, and fidelity. How much control should an "inventor" be able to

exercise over such replication and circulation? What level of "protection" should be accorded to the inventor? What level and form of access should be accorded to the public? These questions, of course, lead to more fundamental problems for theorizing innovation. What is the role of the individual, the group, or the society in creation? What previous works do inventors rely on to create, and how should access to those works be organized? Does rarity or ready availability of material spur or limit innovation? The answers to these questions are various, extremely complex, and contentious (one can see, for instance, how the terminology of "intellectual property"—by positioning creations *as* property—gives away the game at the outset). It is not my purpose here to replay their history or current legal contours, which have been taken up in far more detail elsewhere (Litman 2001, Vaidhyanathan 2001). Rather, I'd like to establish the trope that seems to drive these debates in a legal/policy context, the expression of *balance* and *tilt*.

The theme of balance and tilt is nearly ubiquitous in contemporary intellectual property discourse, and especially in a group of works that have opposed the expansion of legal protections/restrictions that favor copyright holders at the expense of the public domain, what I call here activist discourses. The trope almost always appears as it does in the epigraph for this section: "the property right that is copyright has become unbalanced, tilted toward an extreme." The thematics of balance returns the contemporary problems of copyright to what is thought to be the intention for the inclusion of copyright statutes in the US. Constitution: the need to *balance* the rights of inventors to be rewarded for their creativity with the rights of the public to benefit from and use invention for further innovation. As Jessica Litman has it, copyright law "begins with the principle that neither

the creator of a new work of authorship nor the general public ought to be able to appropriate all the benefits that flow from a new, original work of authorship" (15). Those benefits, in other words, must be balanced between the competing parties. As Lessig has it, this balance is quickly being lost in the current digital copyright environment, as the "creators" (now taken to include more general "owners" of the intellectual property rights, and especially the "content industries") tip the scales toward their own interests, and the "general public" is increasingly faced with restrictions on access to information. For Lessig and others, such disturbances in the balance of rights must be met with a restorative form of restraint:

> These massive shifts in the effective power of copyright regulation, tied to increased concentration of the content industry and resting in the hands of technology that will increasingly enable control over the use of culture, should drive us to consider whether another adjustment is called for. Not an adjustment that increases copyright's power. Not an adjustment that increases its term. Rather, an adjustment to restore the balance that has traditionally defined copyright's regulation—a weakening of that regulation, to strengthen creativity. (Lessig 168)

The theme of balance is not restricted to Lessig's work. In *Copyrights and Copywrongs: The Rise of Intellectual Property and How it Threatens Creativity*, Siva Vaidhyanathan lists as one of the "four surrenders" to the "content industries" implicit in the passage of the Digital Millennium Copyright Act "the surrender of balance to control," asserting that there is "no balance if the copyright owner has all the power" (159). Pamela Samuelson, another influential legal theorist engaged in the intellectual property debates, rests most of her cases on the precarious balance now being disturbed by "strong protectionist forces" (Samuelson 1997a 17). In "The Never-Ending Struggle

for Balance," Samuelson establishes the familiar balance between individual incentive for "authors and other innovators," on the one hand, and "the public interest in competition and follow-on innovation," on the other (Samuelson 1997b 18). In "How to Achieve (Some) Balance in Anti-Circumvention Laws," Samuelson calls the attempt to balance "competing interests" the "most significant and consistent theme running throughout the entire legislative history of the anti-circumvention and anti-trafficking provisions of the DMCA" (Samuelson 2008 23), while noting that the attempt to "achieve a ... balance of interests" failed (Ibid 21).

In Yochai Benkler's *The Wealth of Networks: How Social Production Transforms Markets and Freedom*, the concept of balance is deployed similarly, and linked to a "security consciousness in the United States [that] has led to some efforts to tip the balance in favor of closed proprietary systems, apparently because these are more secure, or at least amenable to government control" (396). The result of these developments, through which Benkler is able to extend the property question of traditional copyright into a the realm of political participation, is to "tilt the field in favor of enclosure" (396). Through this slight modification, Benkler's work supplies the complete system of current peer production discourse as it links legal arguments about balancing competing interests to more general notions of liberal democracy. No doubt, the problem of democracy and freedom is already implicit in very notion of a public domain, and runs throughout the works of Lessig, Vaidhyanathan, Samuelson, and Litman. Benkler's work simply formalizes and develops the location of social or peer production through a liberal political/economic framework. The problem of *balance*, then, is not merely a question of

adjudicating competing economic and social interests, but of enriching the democratic potential of the society.

Benkler identifies four primary benefits inherent in the emergence of a "networked information economy" (8). First, the development of social and peer production enhances autonomy, giving "individuals a significantly greater role in authoring their own lives" by both multiplying their possibilities and providing a diversity of choices against which to act. Second, peer production enhances the public sphere by shifting it from a mass media, uni-directional dissemination of pre-packaged information to a multi-directional and interactive discussion, a digital agora. This is, of course, not a new idea, but Benkler's innovation is to transform the notion of an enhanced *political* sphere into a notion of a novel sphere of *economic* production, thereby identifying the two. At the same time that expansive copyright regulations clamp down on what is considered economic harm (say, DVD piracy), they necessarily clamp down on the networks that enrich political participation. Peer production thus also produces "justice and human development" as an economic/political effect, spheres that are increasingly difficult to tell apart in Benkler's narrative. The "new ways of producing information" offer "modest but meaningful opportunities for improving human development everywhere" (14). Finally, peer production networks produce both critical culture and "a new folk culture—a practice that has been largely suppressed in the industrial era of cultural production" (15). The title of Benkler's study, obviously a proposed update to Smith's *The Wealth of Nations*, thus attaches increased political

freedom to the development of what Benkler sees as a new economic sector. Network

technologies enable a variety of economic activity that results in more equitable society:

> It is the feasibility of producing information, knowledge, and culture through social,
> rather than market and proprietary relations—through cooperative peer production and
> coordinate individual action—that creates the opportunities for greater autonomous
> action, more critical culture, a more discursively engaged and better informed republic,
> and perhaps more equitable global community (92).

The notion of balance and tilt, then, goes to the heart of a broader political struggle in liberal democracies, even while these political struggles are flattened on to an economic domain. I am not so much interested here in disputing this account as I am in investigating the relationships and forms of power it adduces. In Figure 1, a table that appears in Benkler's study, we can perhaps see these relationships starting to take shape. Benkler divides the "Institutional Ecology" of contemporary network economies into relations of enclosure and openness, placing forces that seek to cut off connections and restrict access to information under the title of enclosure, and forces that ensure tend to ensure self-organization under the title of openness:

	Enclosure	Openness
Physical		
Transport	Broadband treated by FCC as information service DMCA ISP liability Municipal broadband barred by states	Open wireless networks Municipal broadband initiatives
Physical Devices	CBDTA: regulatory requirements to implement "trusted systems"; private efforts toward the same goal Operator-controlled mobile phones	Standardization Fiercely competitive market in commodity components
Logical		
Transmission Protocols	Privatized DNS/ICANN	TCP/IP IETF p2p networks
Logical Software	DMCA anticircumvention; Proprietary OS; Web browser Software patents	Free software W3C p2p software widely used social acceptability of widespread hacking of copy protections
Content	Copyright expansion "Right to read" No *de minimis* digital sampling "Fair use" narrowed: effect on potential market "commercial" broadly defined Criminalization Term extension Contractual enclosure: UCITA Trademark dilution Database protection Linking and trespass to chattels International "harmonization" and trade enforcement of maximal exclusive rights regime	Increasing sharing practices and adoption of sharing licensing practices Musicians distribute music freely Creative Commons; other open publication models Widespread social disdain for copyright International jurisdictional arbitrage Early signs of global access movement combining developing nations with free information ecology advocates, both market and non-market, raising a challenge to the enclosure movement

Figure 1: Yochai Benkler's "Overview of the Institutional Ecology" Table (Benkler 395)

The "enclosure" side takes a negative weight within the argument about enhanced

autonomy, a vibrant public sphere, an increasingly critical and diverse culture, and global

justice, all of which could be identified with the "openness" side of the diagram. One

need not fall back on the relative merits of the "enclosure" side to question this

arrangement. One can investigate the forms of power implicit in the organization of the

Creative Commons, for instance, without falling back into narrowed notions of "fair use"

or restrictive copyright laws. But where would such a position locate itself in Benkler's

table? Might we not posit a third column, an openness *prime*, in which the forms of

"openness" are themselves in conflict, or variously taken up by techniques and practices

that constitute power arrangements?[1] While accepting the seriousness, in practical terms,

of the struggle between enclosure and openness, might it not also be worthwhile to ask

after the forms of control that circulate *within the openness side* itself?

If one consistency interrupts the solidifying opposition, it might be the role of

numbers within this discourse. When Lessig considers the qualitative difference that

distinguishes the Internet from previous sharing technologies, he states what has become

a fairly obvious quantitative observation: the Internet "allows these creations to be shared

with an extraordinary number of people, practically instantaneously" (41). It is, of course,

a dogma of the Internet that it reaches massive numbers of people, but the role of *quantity*

in the discourse provides both a warrant for the critique of enclosure and a conceptual

field for the theory of social invention. This feature of the argument operates through

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[1] One resonant, if lesser known example, is Benkler's positioning of TCP/IP and the IETF (Internet Engineering Task Force) on the openness side, with the parallel "Privatized DNS/ICANN" on the enclosure side. The IETF, which is a taskforce of the Internet Architecture Board, had already won the fight to determine standards for Internet architecture in the early 1990's, when its decentralized organizational form defeated the proposed Open Standards Initiative put forth by the more well-established standardization body, the International Standards Organization (ISO). As historian Andrew Russell tells it, "OSI's political and formal process did not endear the TCP/IP Internet community—who were accustomed to a decentralized division of labor throughout the standards process—to the ISO Reference Model" (Russell 53). The IETF is certainly more open, transparent, and decentralized than ICANN (the Internet Corporation for Assigned Names and Numbers). At the same time, as Alexander Galloway has argued, the protocol produced by the IETF includes the "generative contradiction" that it must be "partially reactionary" in order to be politically progressive (Galloway 142). Whether Galloway's arguments about the IETF have merit (a point which will be taken up in more detail in Chapter 3), they certainly find no place in Benkler's table of oppositions.

numerical statement. On the "copycat comics" of the Japanese manga market, Lessig

notes "more than 33,000 'circles' of creators from across Japan produce these bits of

Walt Disney creativity," while "450,000 Japanese come together twice a year, in the

largest public gathering in the country, to exchange and sell them" (26). In the process of

claiming that "the writing of ideas, arguments, and criticism improves democracy" (and

we can see the way Lessig and Benkler's arguments constitute a movement in this sense),

Lessig states the now dated figures: "Today there are probably a couple of million blogs

where such writing happens. When there are ten million, there will be something

extraordinary to report" (45). This law of large numbers in the process of creation

suggests deeper problems for the law of intellectual property. It is always at risk of being

swamped by pure non-compliance: "As with every war of prohibition, it is targeted

against the behavior of a very large number of citizens. According to the *New York

Times*, 43 million Americans downloaded music in May 2002" (199). Lessig's invocation

of the 43 million downloaders, who, he later notes, "use tools to combine the content in

ways unauthorized by copyright holders" (202), recalls the paradigm case of the

numerical trope, the fast spread of Napster as it entered a network ecology:

> The result was spontaneous combustion. Launched in July 1999, Napster amassed over
> 10 million users within nine months. After eighteen months, there were close to 80
> million registered users of the system. Courts quickly shut Napster down, but other
> services emerged to take its place. (Kazaa is currently the most popular p2p service. It
> boasts over 100 million members.) [...] With a p2p system, you can share your favorite
> song with your best friend—or your 20,000 best friends. [...] A study by Ipsos-Insight in
> September 2002 estimated that 60 million Americans had downloaded music—28 percent
> of Americans older than 12 (Lessig 67).

Lessig's fascination with large numbers is not merely a statistical or empirical point: it goes to an ontological constitution of creativity that drives the discourse. Put another way, the *crowds* inhabiting Lessig's arguments serve a function that exceeds mere contradiction of the law. The point is made more explicitly in Benkler:

> For the gains in autonomy, democracy, justice, and a critical culture that are described in Part II to materialize, the practices of nonmarket information production, individually free creation, and cooperative peer production must become more than fringe practices. They must become part of life for substantial portions of the networked population. The battle over the institutional ecology of the digitally networked environment is waged precisely over how many individual users will continue to participate in making the networked information environment, and how much of the population of consumers will continue to sit on the couch and passively receive the finished goods of industrial information producers(385).

Benkler's distinction between individual users who participate and a population of passive consumers can be read to introduce a particular dynamism into the law of large numbers. What forces, then, enliven and organize this dynamic group? Benkler's diagram would seem to construct what I'd call, after Foucault but certainly twisting the term somewhat, a repressive hypothesis of the Internet. Foucault develops the idea of the repressive hypothesis in response to the notion that sexuality was *censored* in Victorian thought and practice. While Foucault accedes to the idea that a whole "restrictive economy" and "policing of statements" related to sexuality emerged in the eighteenth and nineteenth century, he suggests that the form of power also produced a "multiplication of discourses concerning sex in the field of power: an institutional incitement to speak of it, and to do so more and more" (Foucault 1978 18). Within a broader understanding of

power, I'd suggest, both the trope of balance/tilt and the enclosure/openness pairing tend

to valorize openness as force acting *against* an external (censoring) power. From peer-to-

peer networks to free and open source software to the development of Creative Commons

licenses, we're meant to witness the emergence of a set of discourses and practices

ranged *against* a proprietary power seeking to restrict them. This is at least a curious

arrangement where the former are celebrated as a new economic/ democratic force in

tones increasingly less measured than Benkler's paeans to the public sphere.

This set of relations will be taken up in more detail in the following chapters.

Here, however, it is suffices to say that the discourse of intellectual property plays out

rhetorical relations that rest a legal discourse of balance above crowd dynamics that

appear to be far from equilibrium, and even necessarily so. To put it another way, the

legal arguments for balance between competing interests themselves deploy a theory of

invention that assumes disequilibrium at its creative base. More importantly, this

disequilibrium then constitutes a power-free zone, or a zone valorized as politically

positive. Such rhetorical valorization would be, moreover, simply a matter of curious

cultural analysis from the perspective of writing instruction were not the discursive

arrangements exemplified by Lessig, Litman, Vaidhyanathan, Samuelson, and Benkler

not in the process of being explicitly imported into composition theory and practice. In

the next sections, I will examine the development and positions of the intellectual

property discourse in composition, as it draws on and works out the implications for

writing instruction of the kinds of relationships and (implicit) theory of power discussed

in the broader legal/cultural discourse.

The Prehistory of the Intellectual Property Discourse in Composition Studies

In 1943, a now long-forgotten article appeared in *College English*, seeking, as so many articles do today, a better way to handle student plagiarism. Harry W. Hasting's motivation for writing "Homer's Wink" was a series of advertisements for ghost written term papers then circulating in the New York newspapers. "*We* write it," read the ads, "*You* sign it" (Hastings 149). The problem of ghost written papers was severe enough for Hastings to launch into a reflection on "cheating" that is also (and again, the theme is familiar to today's writing instructors) a reflection on creativity or invention. "What, after all," Hastings asks, "is originality?" In the style of the times, perhaps, Hastings is quick to assert that every writer, naturally, swims in a culture of ideas from which it may be difficult to separate the borrowings from the individual talent, but he finally settles on *some* originality, however mystical or ineffable may be its source. There is copying, paraphrasing, translating, summarizing, outlining, and reporting—all concrete practices—but "beyond these lies the mysterious province in which the student…does not consciously depend upon other's work" (151). The writer, rather "spins the spider web…and not even the spider knows just how it is done" (151). There is certainly something jarring for contemporary composition in this Romantic assessment; the last 60 years of pedagogical theory in writing consists of a concerted effort to both understand the spider and show how that web is spun, in concrete, if not empirical, terms.

What's striking about Hastings' assessment, however, is not its seeming distance from contemporary composition, but its surface similarities. Hastings notes that

plagiarism stems from general cultural attitudes, the "confusion in the minds of the general public" (150). Such confusion is often abetted by the fact that people generally shrug at all manner of ghost written works, from the politician's speech to the athlete's memoir, or, as Hastings puts it, the "prizefighter whose magazine articles are produced by an acknowledged ghost" (150). Hastings develops a set of fine distinctions between different kinds of textual use in composition, seeking to separate the bad from the accidental plagiarist. (Unlike similar moves today, Hastings is seeking to more easily identify the bad plagiarist rather than absolve the accidental plagiarist!). Hastings, like many contemporary commentators, likens the activity of detecting plagiarism to police work, while remarking on its general distastefulness. Any of these statements could pass for commonplaces in contemporary composition discourse. Finally, Hastings introduces the notion of copyright into his discussion of student plagiarism: "the consideration of neither copyright nor of artistic originality is likely to bring the teacher much closer to answering the practical question of what to do about copied themes and ghost-written reports" (151). Given the developments in both intellectual property law and composition's engagement with intellectual property issues, especially through networked computing, the discussion of copyright might seem perfectly natural, yet another commonplace in a discourse of student plagiarism that maintains some coherence over time. In the fifty or so years between the publication of Hastings' article and the mid-1990's emergence of the intellectual property era in composition studies, however, no article appearing in either *College English* or *College Composition and*

Communication even mentions the *word* copyright in connection with student writing, much less submits the legal precept to any sustained analysis.

The problems of student plagiarism—while certainly participating in a discourse of authorship—had not yet intersected with a legal discourse of copyright. Literary authorship, of course, had struggled with the problem of copyright since its inception, and these battles and struggles only intensified as print technologies made copying of literary works cheaper and easier. But the student writer maintained only a tenuous claim to the sort of "originality" produced by the literary author. In the framework of a current traditional rhetoric that focused its efforts mainly on formal correctness, the idea of the student as *literary* author, or a position within the ambit of copyright laws, simply did not apply.

For example, we might consider the development of the controlled materials movement in composition. Controlled materials names a pedagogy for teaching the research paper. It was in use at the University of Oregon as early as 1946, and found its way to Harvard's English A classrooms by 1950 (Bartel 213, Weeks 33). If Hastings' article was an isolated response to what was perceived as rampant plagiarism, the controlled materials movement was much more widespread. By the mid-1960's, it had produced a wealth of articles proclaiming its effectiveness, with a rush of notes and workshops on method appearing in 1959 and 1960. The movement also produced a niche textbook industry that exploded through the 1950's. Prentice Hall published the first controlled materials textbook in 1949. "Historical Narrative—*John Brown at Harpers Ferry,*" a collection of primary source materials, was designed explicitly for controlled

materials pedagogy that the students of the nuclear age would presumably use to discuss the relative merits of the abolitionist movement. The 1950 Harvard classes used a text called *What Happened at Salem?*, this time a collection of source materials on the Salem Witch Trials. According to the notes from a 1961 CCCC workshop, by that year there were 75 such controlled materials texts in publication, and a full third of all US colleges and universities reported using controlled materials texts and pedagogies in their courses ("Use and Abuse" 180).

The controlled materials movement had a fairly simple premise: student plagiarism was rampant, and students could not write adequate research papers, a kind of writing that was increasingly being sought in other disciplines. To address both these problems, a teacher could assign a research paper on a specific topic (say, the Salem Witch Trials), *and* provide all the source material that students would use to create their research paper. In this sense, the research materials were "controlled" by the writing instructor. The instructor could come up with a topic based on his or her own expertise, and assemble materials for the students (as appears to have been the case at Oregon), or instructors could rely on the flood of textbooks delivering primary source materials. The use of the controlled materials method provided a number of advantages over the free-inquiry research assignment, according to a note appearing in the February 1959 issue of *CCC*. First, students would spend less time learning to navigate the library resources and more time in the "development of an intellectual discipline," which would require them to "digest, organize, and express in readable form ideas and facts gained from [their] reading" (Weeks 34). Students would develop expertise in the materials that would allow

them to cognitively organize it independent of any one source, while teachers could

"discuss in the classroom the *subject matter* of the students' research" (Weeks 34). (The

seeming novelty of such content-based discussions already indicates the formal quality of

writing instruction at the time, to be sure). Next, the uniformity of the materials would

allow a "common standard," while also assisting in the creation of exercises and other

class materials. Importantly, and this point runs throughout the controlled materials

literature, the pedagogy is not meant merely to *control* plagiarism, but rather to control it

by teaching the *purpose* and form of documentation:

> Documentation was never intended to serve as a lie detector; if students are dishonest
> they must be detected by other means. When the instructor has his hands on the material
> from which the students fashioned their papers he can promptly detect plagiarism because
> the best way to know if a person is lying is to know the truth. But the point to be
> emphasized is not that that this method makes it easier to catch plagiarists, but that it
> makes students realize that the acknowledgement of sources is not a scheme for catching
> the dishonest but a running commentary with the reader (Weeks 34).

Weeks' defense here says as much about the way the controlled materials

movement sought to position itself as it does about its practices. Preventing plagiarism

seemed to be the key motivation for the controlled materials movement, and was often

the point that made the case for the method most strongly. But the controlled materials

movement always provided additional pedagogical advantages for the methodology,

often even burying the plagiarism benefit.

Although preventing plagiarism and teaching formal means of citation were

clearly top goals of the controlled materials movement, it was, by the late 1960's, already

facing some backlash from what would become contemporary, student-centered

composition. Specifically, controlled materials had to avoid a charge of mechanistic simplicity. In 1959, Weeks closes his list of benefits by noting that students will be motivated to learn more about the instructor-selected topic through their exposure to the controlled materials. But the controlled materials methodology would fail just as composition pedagogy began to discover and encourage the students' *intrinsic* motivation to write on a topic—often personal—of their own choosing. In contemporary composition theory, the controlled materials movement would thus seem artificial at the level of student *motives*; where students are merely assigned a topic, their *personal investment* in writing about it is thought to be largely feigned, or at least incomplete. An emerging pedagogy that located students' interests in their personal (and increasingly political) commitments would make the controlled materials movement obsolete almost as fast as it developed. By 1969, George R. Bramer's "Freedom and Control in the Research Paper" was already forced to account for this argument. He prefers and argues forcefully for the controlled materials course, but admits that there are "limitations which have prompted some professors to call [controlled material] casebooks 'non-books'" and that "some students should have more freedom of inquiry, in at least some areas of study, than is afforded by controlled materials" (Bramer 355).

If burgeoning expressivist pedagogies crowded out the very premise of the assigned topic and controlled research materials, the development of the process movement and social epistemic rhetoric assured that the movement's pedagogical practices would go the way of the hula hoop. In addition to what would come to be thought of as a thoroughly disconnected relationship between writing and intrinsic

motivation, controlled materials also begins to appear artificial from the perspective of

the actual research process. By limiting in advance the role of the research act, controlled

materials pedagogies reduce the importance of research as a practice, and part of the

practice of the writing process. It is not that controlled materials advocates didn't

anticipate or address this criticism. They insisted that controlling the research materials

focused students on the *act* of rhetorical invention, rather than the physical drudgery of

sifting through card catalogues. But the process of discovery through free research had

been integrated into the definition of rhetorical invention; in this context, even the

appeals to invention through the encounter with a closed set of materials began to ring

hollow. Moreover, the theoretical apparatus was thought to propose a completely

decontextualized and arhetorical practice (notwithstanding the highly coded politics of

reading and writing about John Brown and the Salem Witch Trials in the early 1950's).

At best, the pedagogy produced a formal expertise in a single genre; the research paper

would subsequently see the same sharp price drop as the five-paragraph theme as modern

composition increasingly moved away from formalism and toward situated discourses in

the classroom. It is likely for this reason that the contemporary discourse on plagiarism

almost completely forgets the controlled materials movement, despite the fact that it was

a major theoretical school with widespread application in classrooms across the country.

Rebecca Moore Howard's *Standing in the Shadow of Giants: Plagiarists, Authors,*

Collaborators, for example, provides an exhaustive history of plagiarism and its role in

composition pedagogy, but excludes the controlled materials movement completely.

The controlled materials movement, once a thriving textbook industry and popular pedagogy in a third of US classrooms, is almost completely forgotten because, I'd suggest, it positioned both student writers and the interconnectedness of texts in such a way that violates the contemporary trajectories of composition. Who is the subject of the controlled materials movement classroom? It is the student developing a set of internal processes in a closed environment; the accent is on the intellectual competencies of the individual, and these are thought to bear only a formal relationship to the "materials." The bracketing of the texts would further suggest that discourse can be segmented from its various and unpredictable contexts and uses. Expressivist pedagogies sought the voice of the student confronting a world, while social perspective pedagogies insisted on the social character of language, and thereby sought connections across students and texts. The controlled materials movement not only provided neither, but actively set up partitions to prevent both. In this sense, the controlled materials pedagogy may be one of the key practices that modern composition pedagogy defined itself against as it emerged and developed from the 1960's onward. But the segmenting effected by controlled materials had at least one additional consequence: the student engaging in the isolated activity of the controlled materials classroom bears almost no resemblance to the author in the world of commerce. The student in the controlled materials classroom, then, is neither subject nor even distantly related to copyright law.

The early copyright discourse in composition would have to wait until the late-1980's, when collaborative pedagogies and social perspectives in rhetoric really began to shift theories and practices of writing. The first stirrings of an intellectual property

discourse gathering around copyright appear, as would be expected, in studies that sought

to expand the social and pedagogical definitions of writing, but these studies were as

telling for what they didn't say. Karen Burke LeFevre's *Invention as a Social Act* (1987),

for example, might be considered one of the first systematic treatments of collaborative

invention in composition theory. Arguing that "Platonic and internal dialogic views have

predominated in the teaching of composition since the nineteenth century," Lefevre

sought to shift the field's attention to collaborative perspectives on invention: "One might

think of invention in some cases as moving from the writer's dialogue with an

internalized other to a collaborative process of inventing with peers in an organization, all

the while influenced by the collective force of the organization's goals and the culture's

prohibitions and expectations" (92-94). Despite Lefevre's consideration throughout the

text of "culture's prohibitions and expectations," *Invention as a Social Act* does not

mention copyright at all, even though the book closes with a set of "practical

implications" for teachers and curriculum developers as they build collaborative writing

into composition programs.

A second formative study for composition's contemporary engagement with

collaborative writing is Anne Ruggles Gere's *Writing Groups: History, Theory, and

Implications*. Unlike LeFevre, Gere does engage copyright specifically. *Writing Groups*

is especially interested in building a theory of collaborative learning that would ground

the then expanding classroom practice. Gere is particularly concerned with a theory of

authorship that assumes the isolation of the writer from the social collective, or the

alienation of the writing once it begins to circulate: "Theories of collaborative

learning...build upon an opposition to alienation and to the highly individualistic view inherent in traditional concepts of authorship and emphasize the communal aspects of intellectual life" (75). While this view seems almost standard by now—a testament to its increasing value within discourses of production—it was still conflicted enough then for Gere to declare that "individuals feel *empowered* because they discover new capacities in themselves to collaborate" (64). (Twenty years hence, the very thought of such an arrangement carries with it the chilling, when not self-parodic, discourse of worker "empowerment" through post-Fordist team-building exercises.) What role does intellectual property play in this opposition? For Gere, both "aesthetic and legal-economic theories" support a "theory of authorship that emerged in the eighteenth century," and it is this theory that continued to shape the view of the student writer in composition classes as a "solo-performer" (62).

Two features should be noticed about Gere's engagement with copyright. First, Gere provided a historical/theoretical account of the way copyright laws *changed* alongside notions of individual authorship. Relying on Martha Woodmansee's now classic study of the twin histories of copyright and authorship, Gere noted that copyright law was not originally tied to the individual author, but to the publishing industry. It was only later, with the Statute of Anne in 1710, that the law placed "the individual author at the center of protection" (59). The function of copyright within Gere's argument, therefore, primarily illustrates the historical development of an ideology of authorship and originality. While copyright law continues to enforce this ideology, Gere's engagement with the law remains at a historical remove. Copyright laws function in

exactly the same way in another key text that developed collaborative pedagogies in composition, Andrea Lundsford and Lisa Ede's 1990 *Singular Texts/Plural Authors: Perspectives on Collaborative Writing*; the book also provides a history of copyright laws to demonstrate that "the assumptions about the relationship between authors and texts that now seem self-evident, and even commonsensical, simply did not exist" (82). The second feature, then, is that the student in the writing class is affected by copyright law only as an ideal that shapes practices. Neither the students' own writing, nor their collaborative efforts, are discussed as subject to intellectual property laws in a direct way.

If copyright seemed completely disconnected from plagiarism and even, as a practical matter, from collaborative writing as recently as the late 1980's, it was not even on the horizon where it would be most expected, in the growing field of computers and composition. In *Evolving Perspectives on Computers and Composition Studies: Questions for the 1990's* (1991), editors Gail Hawisher and Cynthia Selfe asked experts from across the field to stake out a number of issues that would affect the fledgling discipline in the coming decade. Each essay is designed to address a pressing issue, and close with a set of questions for researchers and teachers. Stuart Moulthrop's contribution, "The Politics of Hypertext" is telling in this regard. Moulthrop surveyed the scene of emerging hypertext writing, hitting on all the problems it would face in the context of the print-based academic department. He tied hypertext, of course, to questions of authorship, with the mandatory citation of Foucault; suggested that print was a closed form, while hypertext was open; and even ranged into the economic sphere, noting that the "bound volume is a commodity, produced and distributed (we are always reminded)

on the slimmest of profit margins or at a scandalous loss [...] but we are not encouraged

to connect the economics of publishing with questions of openness in academic

discourse" (Moulthrop 265). Despite veering into the heart of the intellectual property

battles on this problem of economics and openness, however, not one of Moulthrop's

questions for research or teaching even suggest a coming engagement with intellectual

property. In fact, the closest *Evolving Perspectives* would get to the problem of

intellectual property as it exists today appears in Janis Foreman's list of questions that

close her essay, "Computers and Collaborative Writing." When considering the use of

groupware, Forman asks what kind "of etiquette for using groupware emerges on writing

teams" (78). Given the veritable explosion of concern over proper conduct for

collaborating online, the question seems almost innocuous.

　　　In three areas that would most suggest connection between composition studies

(and, more importantly, student writers) and intellectual property law, no real cross-

fertilization occurred until the mid-1990's. Plagiarism remained largely in the sphere of

classroom misconduct, failing to reach a threshold that would expose it, even as a general

connection, to the politics and economics of copyright. Social perspectives on writing

surely recognized the problem of authorship and its attendant connection to copyright,

but these were restricted to a historico-theoretical reflection on the author function in

general, and came nowhere near the composition student, toiling away at either the

collaborative or single-authored project under the cultural threat of the solitary author as

an *idea*. Computers and composition, even where it had begun to expand into groupware

and hypertext, and even where it recognized the radical implications of each for a theory

of writing, still didn't appear to see the looming threat of legal action on the horizon, at least as it would apply to the networked student. One could say, of course, that the conflicts over copyright had not yet extended the hand of the content industries directly into the classroom, and that more widespread use of networked computing would be required before the reality of copyright would call for composition studies' response. That may be true. One of the most important legal decisions affecting course materials, the Basic Books v. Kinko's case, was not decided until 1991. But the time between the passage of the amended Copyright Act of 1976 and the real emergence of intellectual property discourse in composition was not exactly short on copyright conflicts. Raging legal struggles had already entered the practices and discourses of software, genes, video, hip hop samples, and any number of other cultural and economic domains. In the late 1980's, it would seem, Public Enemy had a better grasp on the emerging information space than publics theory. I'd suggest then that it wasn't merely the relative restraint of the content industries that made the contemporary intellectual property regime invisible to composition studies; it was, rather, that a form of power acting to connect the visibilities of cultural production with student production, and articulate both within the developing discourse of social and peer production, had not yet solidified. Student writing, to put it more plainly, was not *visible* as infringement.

These Responsibilities Include...

These responsibilities include, in the first place, making our voices heard in the public policy arena through political action regarding intellectual property law and, in a larger sense, understanding as fully as possible what it means to write and read in a new information economy. –Andrea A. Lunsford and Susan West, "Intellectual Property and Composition Studies"

So ends Andrea A. Lunsford and Susan West's *College Composition and Communication* article of October 1996, an article billed as a "wake-up call teachers of writing have generally been slow to hear," a wake-up call that announces intellectual property as a pressing issue for the field of writing instruction (384). In response to the expansion of intellectual property into even the composition classroom, Lunsford and West call for both activism and deeper intellectual engagement with the forms of writing in the changing network ecology. The activist character of intellectual property discourse is most clearly demonstrated by the establishment of the Intellectual Property Caucus of the Conference on College Composition and Communication (CCCC-IP) in 1994. Preceding Lunsford and West's alarm by two years (both Lunsford and West were instrumental in its founding), the group's mission involves addressing "legislative and academic topics [such] as copyright and fair use, multi-media and the public domain, university IP policies, faculty work-for-hire, authorship and plagiarism, distance education;" its bibliographical resources for writing teachers and administrators includes an extensive section on "advocacy" (CCCC-IP). Lunsford and West's article seeks to translate the advocacy then emerging institutionally into a scholarly form.

By the mid-1990's, scholars of rhetoric and composition, through their engagement with collaborative pedagogies, theories of social epistemic rhetoric, and

symbolic production more generally, had already been practicing and theorizing *non-networked* peer production for more than two decades. As such, the field was well positioned to take up these discourses as networked technologies became widely available. While somewhat later to the sampling sport than hip hop artists, cancer researchers, and software programmers, composition studies could be considered an early adopter of intellectual property activism. Given subsequent legislative and legal events, among them the incredibly shrinking field of educational fair use and the concomitant expanded definition and criminalization of copyright infringement under the Digital Millennium Copyright Act (DMCA), or the aggressive targeting of college students for Recording Industry Association of America (RIAA) infringement lawsuits, such advocacy was certainly both prescient and responsible. If the establishment of the CCCC-IP Caucus and Lunsford and West's contention that "compositionists have a compelling interest in how laws governing ownership of language should be adjusted (if at all) to accommodate both new technologies and postmodern challenges to established ideas about 'authorship'" (Lunsford and West 383-384) served as a wake-up call, it was certainly effective. It remains worth asking, however, if the activist discourse as it is currently constituted really fits with a robust intellectual engagement. It remains worth asking, in other words, what this activist discourse *costs* composition studies as it grapples with the complexities of networked writing.

In the arena of student plagiarism, the field has seen increasing connections between copyright as a legal doctrine and plagiarism as a form of academic misconduct, even as scholars emphasize that the two relate to separate practices and issues. To be

sure, since the mid-1990's the landscape of plagiarism has changed significantly, with numerous studies arguing for broader definitions of legitimate use (Moore Howard 1999, Price 2002). The 1999 publication of Lise Buranen and Alice M. Roy's *Perspectives on Plagiarism and Intellectual Property in a Postmodern World* took notions that had already been forming in the journals and connected them explicitly to intellectual property law. One need only look to the organization of Buranen and Roy's collection to notice the extended reach of the intellectual property discourse in composition during the 1990's: theoretical and historical studies on intellectual property and plagiarism are followed by applications in writing centers, program administration, and classrooms. Intellectual property, and its attendant problems of defining and refining plagiarism, has invested the field of composition in every location of its activity. The contributors are not unreflective about this extension. For example, James Thomas Zebroski, adopting a Vygotskian sociohistoricist approach, remarks on the significance of the collection "coming out at precisely this historical moment of capitalism's development, at the very time when there is a shift in relations and forces of production from an industrial to an information economy" (Zebroski 32). If such a shift of relations and forces was a cause— speculative or otherwise—the effect was clear: student writing, and students themselves, had become subject to intellectual property. Finally, classrooms saw the emergence of online plagiarism prevention in the form of TurnitIn.com and similar engines. Where the controlled materials movement sought to prevent plagiarism by clamping down on the external resources available to a student, these engines operate through a different form of action altogether, controlling by database, so to speak, the circulation of student

writing itself. Where the controlled materials teacher controlled a database of sources, TurnitIn.com controls a database of student writing: the student writing itself has become the object through which control functions. Ironically enough, students can then protest that their own intellectual property is being infringed upon by the plagiarism companies, which, while an amusing reversal, only demonstrates more forcefully the status of the student as subject to copyright law.

While the discourse of intellectual property finds a particularly intense field of application in plagiarism, originality, and citation practices, it is not limited to these domains of inquiry. Given the significant role of technological change in the emergence of intellectual property problems, the discourse of intellectual property is most intense where one would expect it to be: in discussions of electronic or computer-mediated composition practices. In 1998, *Computers and Composition* dedicated a special issue to the subject of intellectual property. Guest editors Laura Gurak and Johndan Johnson-Eilola extended the agenda set forth earlier by Lunsford and West, arguing that "despite the rise of computers in our discipline and the resulting rise in intellectual property issues, few of us truly understand copyright, fair use, or the implications that new technologies and new legislation will have on future legal decisions in our classrooms, our Universities, and the world at large" (121). Presumably, when the series of pedagogical and compositional practices enabled by the emergence of digital technology is at stake, it is crucial that composition theorists and practitioners understand the legal discourses and decisions that shape the ground. The special issue takes just such an approach, with contributors examining the thorny problems of fair use and textual

appropriation for electronic composing, and most contributors taking an activist stance against the extension of the intellectual property regime as it encroaches on the (digital) public domain. John Logie's contribution, "Champing at the Bit: Computers, Copyright, and the Composition Classroom" is particularly resonant example of the way the intellectual property discourse in composition works. Logie offers a remarkably learned review of Constitutional issues related to intellectual property, along with transformations in case law; he follows this review with a discussion of recent regulatory developments, with the alphabet soup of organizations and agencies prominently on display, noting, finally, that composition scholars must locate points to "inform the development of future policies" when "our sense of what is right" diverges too severely from "developing global definitions of what is legal" (211). The *Computers and Composition* special issue was certainly well-timed, appearing in the same year that the Digital Millennium Copyright Act was signed into law. The DMCA has, of course, only intensified the field of struggle (and multiplied the legal rulings) over intellectual property, thereby producing a corresponding intensification in composition studies' engagement with these issues. If the articulation of intellectual property and plagiarism subject the student's writing to the vagaries of the copyright regime, the increasing use of online forums and especially multimodal composing (the remix, the mash-up) transform the instructor into an expert in intellectual property law.

At the public level, the level of political activism strictly speaking, the intellectual property discourse in composition looks very much like the broader discourse I examined earlier in this chapter. It deploys, for example, the same tropes of balance and tilt, which

imply the same incursion on public domain, presumably against a doctrine of rights established in Constitutional law. Lunsford and West, for instance, "believe that a gradual tilting of America's intellectual property policies in the direction of information proprietors (not necessarily individual writers or creators…) and away from that of public users has led to the slippery slope we now cling to..." (387) The Constitutional statute on copyright, needless to say, "envisions an ideal reciprocity between inducements for creators in the form of limited rights and, on the other hand, the public interest in an expanded body of knowledge; this is *a balance* that has always been and will always be elusive" (388). The then fairly recent Kinko's decision, which transformed the way instructors could use copy services to create course packets constitutes the tilting of this elusive balance: "This tilt away from the public good and, supposedly, toward a system that would honor creation as the inspired act of an autonomous genius becomes even more troubling when we ask who gains if the public commons loses" (389). One need hardly mention, in this context, the valorization of the public good and the public commons over and against the information proprietors, much less the rather comical figure of the autonomous genius.

These discourses, when brought together with broader economic, social, and cultural forces, serve to turn the composition class into a copyright space. By this I mean that the practices, texts, and persons become available for insertion into the intellectual property regime in a way that they were not before. It could, of course, be argued that the expansion of intellectual property rights throughout the 1990's would have accomplished such a colonization anyway, or that the transformation in intellectual property

arrangements are an institutional effect that must be met with institutional action. That may be, but theoretical discourse serves as a legitimizing conduit for the extension from within. We might ask what positions a student can assume within the space made available by the discourse. Is the student an infringer? An ethical user of technologies? Sometimes one, and sometimes the other? Is the student indifferent, or indefinitely subject to a variety of controls? The same set of questions could be asked about the instructor, and the administration, and even department staff. Are secretaries being asked to scan material for distribution in violation of copyright? What vulnerabilities or complicity might that imply? How does the instructor use the course management system? What of the student's text? How does it circulate and participate in intertextual space? All these minor practices, once seemingly innocuous in their pre-network form, are suddenly thrust into a struggle over—what? authorship? intertextuality? Or is it something else altogether? Might the very practice of assuming such variant subjectivities, all more or less unavailable to students and instructors and administrators and staff as recently as two decades ago, serve its own function within digital economies/ecologies? If the activist discourse promotes fair use and judicial restraint at the public level, the discourse that traffics in such concepts establishes relays for new forms of control. Such relays are most clearly illustrated in the role composition itself invents for the discourse: as a purveyor of a digital ethics.

If Lunsford and West's article illustrates an early text in the discourse, Danielle Nicole DeVoss and James Porter's "Why Napster Matters to Writing: Filesharing as a New Ethic of Digital Delivery," published in *Computers and Composition* in 2006,

demonstrates how the approach to copyright has evolved. Drawing on Vaidhyanathan's

work, DeVoss and Porter make the standard pronouncement that copyright is "essentially

characterized by a balance: between (a) creating a system of incentive by rewarding the

author's labor and (b) encouraging benefits to society from the flow of information that

can stimulate new ideas, invention, and creations" (DeVoss and Porter 185). After decade

of action in the copyright battles, the tone here is even more aggressive, likening the

content industries to "railroad barons of the Old West," who "need government help to

seize control of the digital territory" (191). It is not surprising, then, that "Why Napster

Matters" should contain the following table, which parallels Benkler's more technically

oriented division with a more explicitly political orientation, in Figure 2.

	Presumption in favor of...	
	Copyright control and Constraint COPYRIGHT	Open access and distribution COPYLEFT
View of property and ownership of information	Information is private property. The incentive for production requires strict ownership and control. Without guarantees of ownership and control, there is little or no motivation for production	Information is a shared resource. New works and inventions can only be created if there is wide access to ideas in a robust public domain. A robust public domain not only serves the public interest, but it serves economic interests as well, creating demand for new products and services
View of public access to information	Information is potentially dangerous (e.g., to the safety of the state and its citizens) if it falls into the wrong hands. Better to withhold information from the public than to allow information to leak into the wrong hands. Trust elected representatives and technical experts to know what is best.	Information is required for knowledge and awareness; it is essential to the functioning of a democracy and the effective functioning of the state. Citizens need full access to information in order to decide what must be done. Citizens need information to oversee and influence decisions of elected representatives.
View of what the World Wide Web should be	Shopping mall, advertising billboard, Internet television; public can view and then buy, but range of interaction is controlled. Negative, critical, or potentially dangerous information is discouraged or suppressed.	Library, community forum, public commons; information is widely accessible to the public. Web is forum for discussion, disagreement, critique, parody, alternative views.
View of authority (who should decide)	Experts; elected representatives; copyright owners; media conglomerates	Informed citizenry
Representative figures and groups	Jack Valenti, MPAA President; Recording Industry Association of America	Larry Lessig; Pamela Samuelson (IP lawyers); Creative Commons; Electronic Frontier Foundation

Figure 2: DeVoss and Porter's "Presumption in Favor of…" Table (DeVoss and Porter)

The rhetoric of balance produces, in effect, a set of valorized relationships that continue to reproduce a repressive or restrictive apparatus on one side, and a fully

valorized "public domain" on the other, the closed and the open, the controlled and the free. That DeVoss and Porter can so easily map these sets of relationships on to the otherwise troubled categories of "experts" and "citizens" (!), only speaks to how smoothly the discourses of politics and economics mesh on this point. This relationship is heightened in DeVoss and Porter's discussion of "Economics 101 for digital publishing," where the "technological capacity" for copying, pasting, uploading a distributing files makes "you as an the individual a threat to the publishing industry and also to the recording industry and the music industry—those traditional media conglomerates whose economic interests depend on their ability to slow and control access to information and entertainment" (195). If the economics of the writer is affected by the new digital economy, so too is the understanding of plagiarism transformed by the valorization of file-sharing. What is the student to take from a "positive ethic that promotes collaboration, sharing, and Fair Use?" But what kind of producer of value does such a student become?

For DeVoss and Porter, this is the important question, though it is nearly covered over by the effusiveness for the public interest, free access to information, the community forum, and the informed citizen. While, that is, DeVoss and Porter's discourse remains within the ambit of seeing merely a restrictive power on the side of the content industries, its venture into ethics forces it to encounter the forms of practice that circulate within the free culture of information sharing. They state, for example, that "piracy does have its own limits, rules, ethics—and those are the conventions that we need to understand within the realm of digital writing" (193). This is a useful determination, since it suggests

that *some form of* power circulates as much through the "openness" side of the equation

as it does through the "enclosure" side. What they see emerging, then, are sets of

practices that may even operate through or beyond the "frame" established by the

oppositional idea of balance, something they call an "economics of rhetoric" (DeVoss

and Porter 202). If we return to the subject of the controlled materials pedagogy, we see

the vast transformation in the student's classroom place. For the controlled materials

movement, market economics is almost explicitly removed from classroom practice. In

DeVoss and Porter economics is explicitly removed from a pure market operation. It is

extended to the question of "value" more generally: "the kind of economics we are

referring to has to do with value broadly defined: motivation, desire, participation" (202).

The ethic of delivery promoted by DeVoss and Porter asks after intrinsic motivation (why

do students write at all?), while also sinking the student into the total network of

relations, or everything they can reach through *delivery* of their electronic productions.

The student arrives at an economic self through precisely this double exposure.

The intellectual property era in composition, then, produces a number of effects.

First, it creates the composition classroom as a space that now responds to copyright

control. Students, texts, instructors, practices, all become subject to intellectual property

regimes circulating in the broader culture. Second, and at the same time, it adopts a

dualistic view of power that focuses on the restrictions imposed by copyright controls. I

should say here that I don't consider either of these results *bad*. The intellectual property

regime would likely have extended its range to the classroom anyway, and it is probably

useful that as it does so, composition studies develops a discursive response to the

challenges it presents, even if this discursive response works in part to continue and ramify the controls. Moreover, these controls are quite real, so considering the restrictive side of power and developing professional activism that seeks to protect teachers and students both remain not only useful, but necessary. My main concern, rather, is that both these results tend to obscure the forces that construct *openness* as such: what actually happens within the file-sharing space? What forces of power and control are internal to "free culture?" DeVoss and Porter begin to move rhetoric and composition toward these questions by asking us to understand the file-sharing ethic students bring into the classroom with them. Just as important, however, is the ethic they find there.

When James Berlin surveyed the scene of composition in the mid-1980's, he saw a discipline that—despite its theoretical positions—continued to engage in a kind of training. The practices of current traditional rhetoric, even where it had fallen into disrepute as a theoretical exercise, indicated to Berlin that such formalism retained some economic value; it continued to *train* students as workers for an industrial economy. What then of the social perspectives on writing? As we saw, these were thought, even in the 1980's, and perhaps even today, as a sort of resistant form against the isolation and alienation of the solitary author, which is to say, the solitary worker, disconnected from anything but a (labor) process. If collaborative writing, at least in some sense, operated as a mode of resistance against a form of work that would segment and individualize, one can hardly position it as a response to the forms of labor today; where the team "empowers" as surely as the writing group, we might pause before we fall into the dualisms of Benkler, DeVoss, and Porter. In a second table labeled "Differing political

views on filesharing," DeVoss and Porter provide yet another dualism. On the "Copyright Control and Constraint" side of the table, they list the statement of the Register of Copyrights before the Senate Judiciary Committee: "Using peer-to-peer networks to copy or distribute copyrighted works without permission is infringement and copyright owners have every right to invoke the power of the courts to combat such activity" (204). Against this view of constraint, they list the statement of Steven Griffith, a "CEO of Internet startup MusicCity Networks:" "We've got 32 million people standing behind us. Instead of sticks and rocks, we've got CD burners and PCs" (Ibid). The invocation of the revolutionary mob gone virtual here parallels the use of numbers in Lessig and Benkler's work, but also suggests—as in those works—the possibility of a point of entrance within the discourse of balance. What if the form of training for today's composition students is not so much the training of the individual writer, but the training involved in merging with and enduring productive crowd dynamics? What if the technologies, both in the form of networks and computers, and in the form of the practices that train people in written and social conventions, are not so much technologies of the self, or an ethic, but technologies of the crowd, an *ethos*? What if the 32 million, armed with burners and PCs, were not facing down "the power of the courts," but constituting and responding to an intrinsic or immanent power?

<p style="text-align:center">*   *   *</p>

Crowd technologies, then, names two forms that will be the object of study for this dissertation. First, I will examine a set of technologies that are designed to rely on the action of the *many*. Like the file-sharing networks examined by DeVoss and Porter, these technologies remain virtual in the classical sense; they require a population to enliven them and make them actually function. Networked peer production, in this sense, is mutually reliant on these crowd technologies. In the second sense, crowd technologies refers to the practices, techniques, conventions, and arrangements that allow networked peer production to come together and operate. Because networked peer production emerges in an information space, such practices, techniques, conventions, and arrangements tend to be largely rhetorical, which is to say, they rely on various functions of language, broadly construed to include words, images, and code. Why, however, should we view peer production networks as *crowds*? What does the terminology of *crowds* include that can't be extracted from the notion of peers, or publics? Chapter 2 will turn to this question, working through the history and concepts of crowds that developed in modernity in order to show why crowds have become the key *topos* for describing the agglomerations we see emerging in networked space. I will be interested particularly in the categories that have attached themselves to crowds as they've changed since modernity. If crowds have taken on a new value, it may because the features traditionally associated with them have begun to create value through networks. As the numerical troping so common in peer production discourse suggests, *crowds* have become productive.

Chapter 3 continues this investigation of crowds as productive units by turning to

the problem of labor, already suggested above as a form of training. In a 2006 *American*

Quarterly article, Andrew Ross provides a useful corrective to both the euphoria and the

hand-wringing over the emergence and subsequent "enclosure" of the digital information

commons. With a skeptical eye towards the intellectual property battles, Ross argues that

such struggles have elided the effects that a networked information economy has on

labor. Because such battles tend to be "legally-minded," and thus "revolve exclusively

around the interests of claimants: creators, copyright holders, or the general public of

users and consumers," they focus on corporations seeking monopolistic *control* of

information products, on the one hand, and a vague class of consumers seeking public

access to information products, on the other (743). Many commentators have, of course,

cast doubt on the very categories of "users and consumers" that Ross deploys here,

arguing that the distinction between consumption and production is precisely what

collapses in a networked information economy (Poster 39-59). But that collapse could be

read to make Ross' point: if what is at stake in intellectual property battles is the global

restructuring of production and consumption, why are the consequences for work *qua*

labor so often banished in intellectual property discourse in favor of rather vague

promises of consumer-driven locations for remixing, innovation, or participatory design?

Furthermore, where labor does seem central (if decentralized) and organized (if

through novel socio-technical architectures), it is presumably limited to a privileged class

of technical workers. Since free and open source software communities have been the

darling of numerous copyright activists, and their primary model of communal and novel

labor organization in networked information economies, they come in for a predictable

drubbing in Ross' account. Free and open source software communities might call into

question Romantic or industrial assumptions of singular authorship and individual

ownership (and the intellectual property regime built on those assumptions), but for Ross

they operate as if narrowly held technical expertise will mitigate any degradation of

work. The "labor-consciousness" found in free and open source software communities is

thus like "the guild labor mentality of yore that sought security in the protection of craft

knowledge" (Ross 747). In the intellectual property drama, then, the main players seem to

be copyright and patent holding firms, and innovation-minded firms and individuals;

intellectual property attorneys, legislators, and tradition-minded judges; hip hop deejays,

anime comics remixers, and GNU-Linux programmers; the RIAA and MPAA, various

publishing concerns, and Bill Gates; and—of course—students, with their peer-to-peer

networks, their file-sharing practices, their multimodal compositions, and their various

legal troubles. Notably absent from this list of dramatis personae, Ross suggests, are the

"mass of workers" at both traditional and newly transformed sites of production, who

disappear "below the line" of the public debate. In short, the legal form of the intellectual

property debates hides something, and what it hides is labor. While I am sympathetic to

Ross' position, I think a closer look at the way free and open source software production

functions as a *generalizable* diagram for contemporary production makes Ross claim of a

small technical class at least suspect. This chapter, then, attempts to read free and open

source software rhetoric not merely as the production of a privileged if precarious "guild

mentality," but rather as a form of power that increasingly spreads throughout economic

practice. If DeVoss and Porter invite us to examine an economics of rhetoric, Chapter 3 seeks to take up this invitation in the case of particular sort of crowd economic practice.

Chapter 4 will turn back from the free and open source method of software production to an instantiation of similar forces in the new writing technologies, and particularly in wikis. Wikis have been thought to open up writing to a new level of transparency, and have thus been associated with a positive publicity. In this chapter, building on the concept of work developed in Chapter 3, I will suggest that both wikis and social networking technologies more generally produce not only a public transparency, but rather a distinct form of temporality. If the question developed in Chapters 2 and 3 is "How do wasteful expenditures come to produce value through crowd technologies," Chapter 4 seeks to cash out this question through the examination of a particular technological configuration. This question, though in modified terms, has started to produce discussion in composition studies itself. When online technologies such as MUD's, MOO's and web forums first began, writing instructors noticed a whole world of discourse that had previously been unavailable to them. Examination of such discourse often asked after questions of identity. How was race, class, and gender being played out online? What happened when the often cruel or funny social bonds of the classroom suddenly became visible to both teachers and students? What networks made available was an underlife, in Goffman's sense, of the classroom. But how does underlife become *productive*? Albert Rouzie, for example, suggests that students' "play" at something he calls "serio-ludic discourse" emerges in online forums, and that such activities can help students "seriously (re)form subject positions" (Rouzie 257). Here I

take another direction, suggesting that wikis, forums, and blogs both produce and work on pure *potentials* for encounters, which is to say, on probabilities. They can thus be read as an element of what Marxist critic Paolo Virno calls a "universal opportunism," but what I call here, perhaps more affirmatively, "kairotic ecologies." Chapter 4, then, is a definition and exploration of kairotic ecologies and the way writers can work in them.

Above all, this study seeks to take seriously John Logie's declaration that "[t]he principles embedded in the pedagogies of composition classrooms are likely at the heart of most college graduates' perceptions of copyright and intellectual property." I believe, and I suspect Logie might agree, that the forces and discourses arrayed around the question of intellectual property are exhausted, or at least conceal as much as they reveal. In this sense, this dissertation seeks to swerve around them, not seeking balance, but the crowds far from equilibrium, not seeking free (as in freedom) software, but open source as a strange mass labor, not seeking the transparency or (re)formed subjectivities of wikis, but their provocative totalities. In the end, however, the question remains that which Logie seeks to answer: what kind of training are we doing in composition classrooms? How does it relate to historical transformations in labor? How are we asking students to write themselves into crowds, economies, and ecologies?

CHAPTER 2: 09 F9 AND DIGITALIZATION OF THE CROWD EVENT

Thomas Kuhn's "paradigm shifts" in the evolution of scientific thought have also been touted rather vaguely as an analogue of phase transitions. But we shall see that phase transitions are not merely a convenient allegory for abrupt shifts in modes of behavior or thought. They really do seem to happen in society, and the physical theory developed to understand them is to some extent directly transferable to descriptions of social behavior.
- Philip Ball, *Critical Mass: How One Thing Leads to Another*

Politics is the art of preventing the senses from getting involved in that which concerns them.
Paul Valery[2]

On April 30, 2007 a fairly innocuous link appeared on the social news website Digg.com. The link took users to a blog post that analyzed the recent cracking of an HD-DVD encryption code. Advising readers to "Spread this Number," the post provided the cracked encryption key, which would allow technically savvy users to view DVD films on unauthorized devices, but could also enable copying. The number to spread was 09 F9 11 02 9D 74 E3 5B D8 41 56 C5 63 56 88 C0, now famous in its abbreviated form, 09 F9. The post soon made it to Digg's vaunted front page, meaning that Digg's users, numbering 16 million a month at the time, had rated it an interesting story. In short order, however, Digg's owners removed the post, concerned that merely linking to the blog entry—and the encryption key—would expose the company to legal liability under anti-circumvention provisions of the Digital Millennium Copyright Act of 1998 (DMCA). What happened next was one of the more remarkable social protests in the history of the Internet.

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[2] Quoted in Maffesoli, Michel. *The Time of the Tribes*.

The link, now titled "Spread this Number. Again," was reposted by another blogger, and it too soon made the site's front page. Digg again removed it, and began banning users who posted the 09 F9 code. But the genie was out of the bottle. Once Digg's ownership announced that they would remove *any citation* of the 09 F9 code, users began posting it in large numbers, and recommending, called "digging up," any link containing it. Digg's novel feature—and its supposed strength as an information engine— is its bottom-up content system: what appears on the site is almost completely determined by its users, who both post links they find interesting and determine the ranking of others' posted links by digging them up or down. In this sense, both content and evaluation of the content occurs immanently; Digg's users are both generator and filter. For this reason, Digg's owners quickly lost control of their site. "Spread this Number. Again" received over 15,000 digs in an hour. Digg's front page, viewed by millions, was soon covered by the formerly secret encryption code. The protest, moreover, spread far beyond Digg, with the code itself posted on countless blogs and message boards, sometimes alone, sometimes cited as part of a sentence, and sometimes worked up into a creative display. Google searches at the time turned up almost a million pages citing the number (Waters). Short of shutting down the entire site, Digg's owners could not prevent the postings. They briefly took the site down, but soon relented. On May 1, just a day after the code began its rapid proliferation on Digg, one of the site's co-founders posted the following announcement:

> After seeing hundreds of stories and reading thousands of comments, you've made it
> clear. You'd rather see Digg go down fighting than bow down to a bigger company. We
> hear you, and effective immediately we won't delete stories or comments containing the

code and will deal with whatever the consequences might be. If we lose, then what the hell, at least we died trying (Rose).

With his declaration, what could be seen as a social movement agitating against increased restrictions on "intellectual property"—and specifically against what participants see as draconian provisions of the DMCA—scored a major victory. And it did not fail to register with observers; the Digg protest was covered widely in the technology press and the mainstream media, with stories appearing in techie mainstays ZDNet and Slashdot, but also in *Forbes*, the *Los Angeles Times*, BBC News, and *The New York Times*, among many others. *Forbes* was one many outlets to called the event a "DRM Revolt," referring to the broader category of digital rights management (Greenberg). The *Los Angeles Times*, which gave the matter front page treatment, opens its article on the events with the following: "building a business on mob rule is dangerous;" the writers go on to call the 09 F9 event a "user rebellion," noting that "the ban set off the masses" (Menn and Pham A-1). The *International Herald Tribune* called their story simply "A lesson in mob rule on the web" (Stone). *PC World* chided the "cyber-rioters" for putting Digg in legal jeopardy. The language of riot, revolt, and mob action dominated the coverage, even at the staid *New York Times*, which also opted for front page treatment. In a tip to tropes of irrational contagion that have marked the discussion of crowds since the 19th century, the *Times* titled its article on the 09 F9 event "In Web Uproar, Antipiracy Code Spreads Wildly," and declared wryly of Digg that "at 9 p.m. West Coast time, the company surrendered to mob sentiment" (Stone *New York Times*).

I begin with the story of the 09 F9 event because it encapsulates a number of themes that will be taken up and explored in this chapter. First, 09 F9 would seem to display the extent to which copyright claims and intellectual property restrictions have expanded in networked information ecologies. Viewed through the lens of the activist intellectual property discourse described in the first chapter, the 09 F9 event is an exemplary case of political protest in the face of these expansions. The owners of Digg were, in fact, correct in their assessment of possible liability under the DMCA. Specifically, the anti-circumvention provision of the act makes it a crime to "manufacture, import, offer to the public, provide, or otherwise traffic in any technology, product, service, device, component, or part thereof" that would circumvent copyright protections (Digital Millennium Copyright Act 17 USC 1201 1998). The provision became particularly important after a lawsuit filed by DVD Copy Control Association and the MPAA over DVD copy-protection in what has become known as the DeCSS case. Both trial and appellate judges found that anybody publicizing or even *linking to* codes that would allow users to descramble DVD encryption was in violation of the DMCA's anti-circumvention provisions (OpenLaw/Open DVD). In effect, merely publishing the random string of letters and numbers—as I do above—could very literally be considered a federal offense, since in doing so I am "offering to the public" specific means to circumvent copyright protections. The threat of death by lawsuit for Digg was, in other words, not merely hypothetical. AACS, the industry consortium that developed the 09 F9 code to copy-protect HD-DVDs, had sent a cease and desist letter to Google less than two weeks before the key appeared on Digg, demanding that all references to

the encryption key be removed. Google complied (Mann). The 09 F9 case thus illustrates in miniature the broader problems of information control in network economies, and the political response that would seem to be produced by the activist discourse.

However, the 09 F9 case also points up the strangeness of this political response to these legal and policy changes. Rather than the slow moving coalitions of traditional political action, Digg and AACS faced a large-scale, rapidly acting, decentralized, and loosely connected protest movement. Certainly, a broader movement working against the expansion of intellectual property laws has numerous sites of fairly traditional organization, such as the Electronic Frontier Foundation or the Software Freedom Law Center. But the 09 F9 protest appears much more spontaneous. In this sense, it is symptomatic of what legal scholar Jessica Litman calls "consumers' widespread noncompliance" with copyright laws (194), the law of large numbers gone haywire. What's more remarkable is the degree to which such noncompliance experiences a phase transition from relatively isolated and passive consumption into an active, large-scale, and seemingly self-organized aggregate. In this sense, it's not surprising that observers would characterize the protest as the riotous work of a *crowd* or a *mob*: both terms have been the rhetorical standard in modernity for describing the sudden and mysterious emergence of groups that operate with contempt for law. In the epigraph to this chapter, I cite physicist Philip Ball's contention that the concept of a phase transition can be applied to social action—not merely as an allegory or analogy, but as a physical description of action in society. To be sure, such claims are rather easily applied to physical crowds, and much of *Critical Mass* is taken up with descriptions of such crowd activities. But

rhetoricians trained in Kenneth Burke's distinction between motion and action become legitimately nervous when such seeming "behaviorist metaphysics" is reintroduced into the analysis of social—and especially *symbolic*—action, thereby "reducing action to sheer motion" (Burke 10). Where even the actions of physically co-located crowds might produce such concern, how much more so would the Digg crowd, which seems to be operating solely in the realm of symbolic or rhetorical action. One might assent that physical studies can be made of traffic patterns, but online protests?

However ideologically smooth the transposition of physically co-located crowd events into networked information ecologies may be for the writers and readers of the *New York Times*, some historical reflection reveals its strangeness. In the introduction to *Crowds*, the massive edited collection and culmination of the broad interdisciplinary Stanford Crowds Project, the editors lay out the following working premises:

> 1. The era of popular sovereignty, industrialization, and urbanization saw the rise of a constellation of new forms of mass assembly and collective social action that reached their apogee in the first half of the 20th century.

> 2. These forms began to attenuate gradually in the second half of the century, particularly in the wake of the protest movements of the 1960's and 1970's, as a result of the proliferation of and ever-increasing prevalence of virtual or media-based forms of "assembly" over physical assemblies in post-industrial societies, as well as to long-term trends promoting economic decentralization, suburban sprawl, increased mobility, and political disengagement.

> 3. This shift, rather than abolishing the equation between crowds and modernity, has reshaped it, channeling experiences of crowding in post-industrial society into certain limited domains of civic and electoral ritual, entertainment, and leisure, while assigning to large-scale mass political actions a fallback function restricted to times of exception (war, acute social conflicts, and the like) (Schnapp and Tiews x-xi).

This historical narrative of crowd forms is intuitive enough, and links into other narratives of technological and political development. We all have an image of dangerous, Bowler-hatted crowds milling about European capitals, while conjuring up an image of the blogosphere and Digg community as *a crowd* requires significantly more imaginative (and technical) effort. What remains both obvious and glaring in Schnapp and Tiews account is the scare-quoting of "assembly" for "virtual or media-based forms." And yet the Digg "crowd" does seem to display the features of physically co-located crowds in its operations. It is ritualized? Is it *merely* virtual? Or does the 09 F9 event teach us something important about action, motion, and crowding in network space? The second theme, then, takes up this problem: what are these virtual forms of assembly and how do they operate? If they do not quite fit either the historical model of crowd forms in modernity or the historical narrative that sees these forms as ritualized or domesticated through both culture and technology, how are we to make sense of them? What does the troping of crowds in networked information ecologies tell us about capacities for collective action (and motion!) in contemporary network societies?

As an initial thought, I would suggest that the Digg "mob" reveals at least one central paradox that troubles the usual distinctions of action and motion, at least as they apply to crowd forms: although the virtual crowd might be viewed as destructive insofar as it deliberately violates the DMCA, this destructiveness takes the form of *creation*. The 2001 DeCSS lawsuit, upon which Digg's owners certainly based their decision to ban the 09 F9 code, centered around the question of whether encryption codes could be "expressive." Judges deciding the case at both the trial and appeal levels sided with the

copyright holders, finding that encryption keys were not expressive, but merely functional: copying them was then no different from copying a car key for the purpose of stealing the car (Openlaw/OpenDVD). Activists, on the other hand, quickly noted the difference between a physical and information object, arguing that because the codes *could be used expressively*, prohibiting their publication was a violation of the First Amendment. And, in fact, this is the "argument" we see playing itself out in the 09 F9 case. The rhetorical strategy of activists became to "express" the code in as many contexts as possible, demonstrating its fundamental citationality, as Derrida might say: it is of the essence of language to be repeated, and thus to be torn from any particular context of use (Derrida 18). And so 09 F9 appeared in multiple poems, in indirect discourse, in hip hop lyrics, in dozens of creative Photoshops and on t-shirts, buttons, and stickers, and in a guitar-strumming love song, the only lyrics to which were 09 F9 11 02 9D 74 E3 5B D8 41 56 C5 63 56 88 C0. One of the "rioters" used the hexadecimal color designations of the key to create a "free speech flag." Would five striped colors arranged into a flag constitute an anti-circumvention device under the DMCA? If the nineteenth and twentieth century physical crowds are generally thought of as physical wholes that dissolve their constituent parts (which is to say, individuals), the Digg crowd, by contrast, operates through the constant, and even hyper, production of rhetorical variations.

Because Digg is nothing but the distributed contributions of its users, by posting and ranking more and more links on the site, the protesters were engaged in an act of peer production that created Digg anew even as they were protesting it. If the Digg crowd constitutes a novel set of protesters, then, it also constitutes a novel set of *workers*. The

anxiety actuated by the "wildly spreading" Digg protest in the press, in this sense, might

be explained by its viral character, not merely in the usual sense of rapid contagion

applied to "viral videos" and the like, but in the mode through which it "attacked" its host

through mutation and proliferation rather than refusal or exclusion. The difference, to put

it another way, between Digg as a full blown riot and Digg as a smoothly operating site

of distributed peer production seems very slight indeed, a minor change of state, an

intensification of particular forms of rhetorical production. It is as if auto workers, rather

than going on strike, conducted a labor protest by building *more cars*, but strange and

various cars of their own design. It is certainly tempting to focus on what might be called

the pathological Digg in the throes of an oddly oppositional production, but it is also

important, I'll suggest, to understand the "normal" Digg, or peer production as a

particular form of labor. The last chapter argues that the intellectual property discourse

may obscure particular forms of power operating within peer production. But the analysis

has yet to answer what has been obscured.

One provisional answer to the question, I'll argue, can be found in trope of the

productive *crowd* – in both human and non-human forms—as it operates in peer

production and intellectual property discourse. To be sure, the crowd tropes are neither

hidden nor rare in these discourses, as the 09 F9 case makes plain. Quite the opposite:

they swarm over its surfaces. When *Atlantic Monthly* dubs Wikipedia a "hive mind"

(Poe), collective intelligence is just as easily labeled swarm intelligence, popular network

theorist Howard Rheingold praises the new technologically-enabled "smart mobs," free

market booster James Suroweicki explains the economic wisdom of crowds, and web-

enabled exchanges replace outsourcing with crowdsourcing, the trope of the crowd is itself clearly erupting, growing, connecting, and proliferating across multiple deployments of this discourse. More importantly, unlike the modern figure of the riot that appears the 09 F9 coverage, the trope in each of these cases is refigured from a negative political operator, as it functioned in much of modernity, to a positive social and techno-scientific concept.

While the crowd getting wise (which is to say, *productive*) is a dazzling inversion from its irrational and destructive positioning in modernity, what remains constant is the crowd's exteriority to power. Where intellectual property discourse embraces the positive political, social, and economic effects of so-called smart mobs, it does so by opposing them to forces that seek to limit their effectiveness, through legal, policy, or technological means. The trope of the crowd is thus radically transformed through its acquisition of some rhetorical smarts (which is to say, symbolic action), at the same time that it retains a kind of mechanistic motion as a characteristic. This transformation may better point to the way power operates *within* networked crowds, to their immanent dynamics, than would the typical reading of the 09 F9 crowd as a political protest.

The purpose of this analysis is thus not to point up an aporia or insufficiency in the current discourse on intellectual property and peer production. Nor am I particularly interested in critiquing peer production from the perspective of traditional concepts of authority and authorship, a move now common in popular works from Andrew Keen's *The Cult of the Amateur: How the Internet is Killing our Culture* to Stephen Colbert's quasi-platonic, if hilarious, critiques of Wikipedia. Rather, I will seek to take peer

production discourse and its transformation of crowd tropes on its own terms, following

the rhetorical articulations as they construct an image of power and, thus, both implicitly

and explicitly, resistance. The ultimate goal of the study resides here: to provide users

and developers of peer production technologies a more expansive view of the way these

practices function as relays for power. To the extent that both students and teachers of

rhetoric and composition increasingly act within and experiment with digital peer

production environments, the problem of how power operates within and through such

environments becomes crucial for developing responsible pedagogies. In this sense, John

Logie is quite right that composition classrooms are "never merely about written work,"

but serve as important sites that produce "perceptions of copyright and intellectual

property" (131). Composition classrooms are also important sites for the *production of

subjectivities and relations* amenable to peer production, and thus for the forms of power

that come with it. What might be most interesting about networked peer production is not

that peers manage to produce in the absence of managerial directives, formal

organizations, or traditional market forces, but rather that the processes through which

they do so produce particular kinds of peers. How do the changing discourses and

physical/virtual forms of crowds function within such relationship?

Modern Crowd Theory and Rhetorical Thought

If you make a list of all the derogatory terms with which the common crowd is branded by Callicles and Socrates, it is hard to see which of them despises it most. Is it because assemblies are polluted by women, children, and slaves that they deserve this scorn? Is it because they are made up of people who work with their hands? Or is it because they switch opinions like babies and want to be spoiled and overfed like irresponsible children? All of that, to be sure, but their worst quality, for our two protagonists, is even more elementary: the great constitutive defect of the people is that there are simply *too many* of them. –Bruno Latour, *Pandora's Hope: Essays on the Reality of Science Studies*

When Bruno Latour stages the conflict of science studies, he turns to the debate

on which rhetorical thought can be said, still, to hinge: does rhetoric proceed by force, a

sort of irrational magic or mysticism that "persuades" independent of any representative

content, or does it proceed by truth, the calm "mathematical demonstration...that forces

one to assent no matter what" (Latour 230)? The question, of course, is older than Plato's

Gorgias; it invokes a whole development of classical persuasive practices as they

encountered formalization in thought. Struggling against the sad replay of this question

during the so-called science wars of the early 1990's, by then degraded into the

somewhat farcical positions of social constructivism and scientific accuracy, Latour

remains far more interested in what the protagonists—called Might and Truth—have in

common than he does in what separates them. Both Callicles and Socrates, argues Latour,

are engaged in a "second fight" against the people of Athens; they are "allied buddies,

who *agree on everything* and differ only about the fastest way to silence the crowd"

(234). The choice served up by the *Gorgias* is not rhetoric and philosophy, or force and

signification, but what Latour calls "the war of two against all," the two positions of the

truth and the skilled speaker, both of which seek to "dominate the mob," but both of

which operate, as Latour has it, under the fear of mob rule (235). As the responses to the

09 F9 event make clear, this discourse, and particularly its panic in the face of "mob sentiment," remains with us today, even as it transforms itself according to the Stanford Crowd Project's assessment. One need not buy into the democratic implications of Latour's argument to follow out the way a fear of mob rule is related to rhetoric more generally. If the crowd—as a threatening buzz of the *many*—has always been an offstage presence of rhetorical thought, even and especially where the rhetorical audience plays a leading role, then the massive discourse that took up the problem of the crowd in the late nineteenth century might be thought of as an alternative rhetorical theory in modernity, and one whose emergence coincides, perhaps not accidentally, with the waning of rhetoric as a cornerstone in classical education.

A full accounting of the crowd discourses of modernity is beyond the scope of this project, and extremely complex in any case. When Mary Esteve notes in the *Aesthetics and Politics of the Crowd in American Literature* that the crowd is the "iconic topos of urban modernity," she is surely correct, though she undersells the complexity of the discourse as it developed, especially in European thought (8). The emergence of crowd theory is connected to the politics of the Enlightenment and the revolutionary events that attended it. The image of the crowd as spontaneous, pathological, and anarchic owes a great deal of its force to the historical work of Gibbon and Carlyle, and especially Taine's work on the French revolution (McClelland 110-154). These historical discourses were reinforced in literary works that took up revolutionary themes as they grappled with the waves of instability wracking 19th century Europe, usually in the form of crowd events. As Stefan Jonsson has demonstrated in another essay from the Stanford

study, the irrational criminality of crowds received considerable attention from Balzac, Hugo, and Flaubert, but that criminality tended to be implicated in the general problem of constituting a people as "unified political subject" (Jonsson 69). The crowd thus served a discursive function, and brought itself to visibility because of the problems it presented within consolidating states. In *Crowds, Psychology, and Politics 1871-1899*, Japp van Ginneken notes that while "mob events undoubtedly played a major role in all great upheavals" between the French Revolution and the development of the great crowd theories of the late 19th century, "it cannot be said that they really became more frequent or dramatic" (231-232):

> It was not so much that their nature had changed as their meaning. This change was related to the economic, technical, social, and political revolution that had taken place. Mob events had become major challenges to the newly established capitalist-industrial and bourgeois-democratic order (232).

The challenge was met with numerous techniques of control, a subject I will return to shortly, but also with the scientific discourses of criminology and psychology, and the emerging field of sociology. At mid-century, the crowd as a discursive object could still provide a series of interesting and entertaining curios, such as those offered by Charles MacKay on topics ranging from stock market manias to ephemeral urban slang in his *Extraordinary Popular Delusions and the Madness of Crowds*. By the end of the century, the stakes had become much more serious, as philosophers and criminologists debated the relationship between evolution and society, the psychology of the individual, the force of suggestibility, and the character of the modern state on the basis of crowd events and their analysis. Scipio Sighele and Gabriel Tarde, for example, could engage in a long running debate on whether criminal behavior was inborn or learned based largely

on their ideas about what they called criminal crowds. Questions of leadership and the legitimacy of the nation state similarly fell back on the analysis of crowds. If the mass of the population had, in modernity, started to assert itself as a subject of history, how had it done so, and how could it be controlled? This question required the development of a whole set of theories that sought to explain the crowd and its processes. While disagreements were frequent, and crowd thinkers changed their positions over time, several key traits of the discourse attained a kind of constancy that remain recognizable and operative today.

First, crowds constituted a loss of individuality; they became organisms with their own characteristics. All the characteristics of individual thought were thus lost when an individual became part of a crowd, chief among them rationality. Gustav Le Bon, who largely popularized the more careful academic studies of other crowd theorists, developed what he called the "law of the mental unity of crowds" in *The Crowd: A Study of the Popular Mind* (28). In order to attain such unity, the psychological make-up of the individual—all that makes individuals different from one another—had to recede, to be replaced by a common unconscious that was always there, but generally repressed. The result is a psychological entity that operates primarily through a series of primal (because more elementary and common) emotional responses. Le Bon's theory of crowds is, in this sense, not unlike Sighele's, who posited, in the evolutionist tradition of Spencer and Lombroso, an atavistic element in the crowd, pre-rational and barbarous (McClelland 162). Once the crowd as an organism was thus constructed, Le Bon could attach to crowds the three characteristics most readily associated with them in the discourse: their

sheer numbers made the individual feel protected and invincible; they were susceptible to contagion, which is to say, any "sentiment and act" traverses the crowd, transforming individuals in its wake; and, finally, they were highly suggestible (hypnotism was, of course, of high interest to all late nineteenth century thinkers of social phenomena) (Le Bon 30-31). The last two elements point up the *rhetorical* nature of Le Bon's study. Not merely a theoretical exercise, Le Bon's work can be read nearly as a set of instructions for conducting politics in modernity. As a patrician and elitist hostile to, when not outwardly terrified by, the crowd events of his contemporary France, Le Bon sought— whatever his theoretical commitments and disputes with other crowd theorists—to develop a series of tactics for dealing with crowds rhetorically. The central section of *The Crowd* reads like a rhetorical handbook, technical advice for leaders of crowd, and for those who seek merely to avoid their more destructive social tendencies.

The second and related trait is the key to Le Bon's rhetorical thesis: crowds were irrational and "not to be influenced by reason" (112). By this he means that strict logical deduction and induction play no role in crowd thought; it can only be reasoned with through rough analogies, a kind of associative reasoning that links "dissimilar things possessing merely an apparent connection" (66). Le Bon notes that the orator who can "evoke such images" is always more successful, whatever "astonishment" critics evince when they try to unlock the effectiveness of these rhetorical performances. He goes on to develop a theory of words and images that support an associational logic, as well as a theory of repetition and affirmation by now well familiar to all advertising executives. While his disdain for the crowd is palpable, Le Bon's text is designed for practical action

when he notes that "notwithstanding all its progress, philosophy has been unable as yet to offer the masses any ideal that can charm them; but, as they must have their illusions at all costs, they turn instinctively, as the insect seeks the light, to the rhetoricians who accord them what they want" (110). Le Bon is a theoretical Socrates, but a practical Callicles. As crowd theory develops, this problem of rhetoric will become a problem of public opinion.

Finally, and this may be the key plank of the discourse of crowds that collapses in network crowd discourse, the crowds of modernity are incapable of *creation* or invention. The point is a contentious one for crowd theory. Sighele, for example, and especially in his later work, argued that crowds—taken more broadly as collectivities—did invent. He comes to what J.S. McClelland calls a "surprising conclusion for a crowd theorist that the inventions and discoveries of great men are not really individual at all," but rather the clarification of "truths residing in ordinary consciousness" (171). Gabriel Tarde, whose *Laws of Imitation* forwarded a thesis far more sociologically and philosophically complex than Le Bon's views on contagion, would nonetheless refuse to accord a power of invention to crowds. We can see the attempt to mediate these positions in Freud's *Group Psychology and the Analysis of the Ego*, his most thoroughgoing engagement with crowd theory, and particularly the work of Le Bon. Freud takes both positions at once, but leans slightly towards Sighele's position:

> As regards intellectual work it remains a fact, indeed, that great decisions and solutions of problems are only possible to an individual working in solitude. But even the group mind is capable of genius in intellectual creation, as is shown above all by language itself, as well as by folk-song, folk-lore, and the like. It remains an open question, moreover, how much the individual thinker or writer owes to the stimulation of the group in which he

lives, or whether he does more to perfect a mental work in which the others have a simultaneous share (25).

The question of crowd invention was, in a sense, always the underbelly of a theory of authorship as it developed in modernity. While this relationship is replicated in similar terms by the tropes of balance, tilt, and numbers in today's intellectual property drama, it is not simply the case that a theory of authorship developed that stabilized invention from the seventeenth century onward. Rather, authorship had to encounter a particular form of the crowd in order to continue to stabilize itself. The three major traits of crowds—their absorbing of individuality, their irrationality or sentiment, and their difficulty with invention—become the elements of the discourse that connect with and prop up a theory of authorship. That the problem is already for Freud and Sighele an open question demonstrates its fragility, a fragility that will become more apparent when encountered in its contemporary, network form.

If the crowd theory of the late-nineteenth and early twentieth century can be said to adopt a trajectory, it would be towards separating the crowd and an emerging entity called the public. The emergence of the public, in Tarde and increasingly in twentieth century thought, might be considered the partial solution to the crowd problem, or a way of placing it on more democratic rhetorical footing. Certainly, the public comes in for a similar thrashing, and the early writing on publics—through Tarde and others— resembles and draws its force from the crowd theory that both enlivened it and preceded it. Edward Allsworth Ross' 1908 textbook *Social Psychology*, dedicated to the "genius of Gabriel Tarde," begins with the crowd and the mob mind, while declaring, *contra* Le Bon's declaration that society was entering the era of crowds, that "the true crowd is,

however, in a declining role. Universal contact by means of print ushers in 'the rule of public opinion,' which is a totally different thing from 'government by the mob'" (64-65). While elements of crowd action are preserved in the public, Allsworth can also offer a series of "prophylactics" to the harmful imitation effects that most closely tie publics to crowds, not the least being higher education. This is a discursive possibility completely unavailable to Le Bon, who can only hope to keep the crowd at harmless diversions through the persuasive tactics outlined in *The Crowd*. Whereas the crowd constitutes a temporary agglomeration, marked by physical co-presence, loss of individuality, oral and visual forms of mysterious, though certainly illogical if not irrational, persuasion, the public (and the same point appears in Tarde and Park) constitutes an enduring collective, perhaps dispersed over distances and maintaining individuality and differences even when consensus emerges. It is, moreover, a distinctly literate public, attaching itself to sequential (print) writing and (therefore) propositional logic in a way that Le Bon's mob seemingly cannot.

In his introduction to Park's *The Crowd and the Public*, Henry Elsner marks the distinction Park developed in his 1903 dissertation:

> ...the crowd suppresses the differences among its members and uncritically, emotionally, unanimously fixes its attention upon some object; the public is the polar opposite in its recognition of individual differences in value and interest, in its engaging in rational discussion and debate, and in arriving at a consensus which does not impose unanimity on its members. (*xvi*)

Park would go on to co-author one of the most influential textbooks in American sociology, *An Introduction to the Science of Society*. His key distinction between crowds and publics would be gradually refined into a theory of collective behavior and 'circular

reaction" that would become entrenched at the University of Chicago under Park's

student Herbert Blumer (McPhail 8-9). The notion of the critical public and uncritical

crowd is certainly a familiar story. It is echoed in contemporary debates about publics,

and can still be said to form an entrenched system of political and social thought. The

crowd's decline, already announced at the turn of the twentieth century, has turned out to

be a long one, perhaps still not at an end.

　If we return to Schnapp and Tiews rough description of crowd transformations in

the twentieth century, it becomes clear that the changes in form and discursive

positioning can be indexed to some common periodizations. First, the heyday of physical

crowds during the late-nineteenth and early twentieth century and their gradual

containment in virtual forms locates the transformation along a modern-postmodern

divide. Indeed, Schnapp's own contribution to the *Crowds* collection, "Mob Porn,"

demonstrates the effects of modern crowd theory on the politics of crowd visualization,

and particularly the role of crowd aesthetics in fascist photography. The essay closes,

however, with "Warhol's ironization" of modernist crowd photography, *The Crowd*, a

repetitive montage of traditional crowd photographs with the seams between identical

images both visible and exaggerated (Schnapp 44). Such ironic self-referentiality marks,

for Schnapp, the passing of the physically co-located crowd as a political *problem*;

Warhol—in good postmodern fashion

> anticipated the coming of an era in which Le Bon's volatile chemistry would cease to
> work, an era in which, in national settings where modernization has run its full course,
> the model of politics based on the physical massing of bodies in public places or the
> performance of symbolic marches in real time and space would be superseded by a

politics of gestures that relies on virtual, indirect, and asynchronous forms of presence, organization, and participation (44).

Second, Schnapp's reading points to a more general periodization of modernity, implicit in the notion of "popular sovereignty" as a form of political and social organization. The modern state, however it may celebrate or fetishize the crowd image, requires much finer gradations and determinations of value between the crowd and the public than would monarchical models. Liberal democracies in particular must develop rhetorics of orderly deliberation, but these are then packaged with the ever-present negative image of the demagogue swaying the irrational mob into a mystical frenzy. Everywhere a model of democracy emerges, from fourth century BCE Athens to nineteenth century Europe, the twin figures of the people and the mob haunt its processes. Finally, Schnapp and Tiews analysis explicitly links crowd transformations to a third periodization: the shift from industrial to post-industrial societies, or, alternatively, from Taylorist and Fordist production models to post-Fordist work processes. If production takes the form of the assembly line and correct training proceeds in a Taylorist manner, which emphasizes the increased efficiency of the individual worker, then the mass of co-located workers would clearly present itself as a social and political danger. Read through this lens, it is no surprise that a discourse about crowds would erupt alongside the development of industrial capital, nor would the waning of crowds as a structural problem be particularly surprising in networked information economies.

While these ways of periodizing will play a part in this study, they each tell us more about historical crowds than they do about contemporary crowd formations and

discourses. They tell us more, that is, about the fading of the modern crowd according the Schnapp and Tiews narrative than they do about a new discourse of crowds in networked ecologies. If the public supplanted the crowd as a way of normalizing it, why does a discourse that once again takes the crowd as its *iconic topos* re-emerge—this time not in urban modernity but in network space at the turn of the twenty-first century? If the concept of the public already provides an analysis of collective action with counterpoint to the destructive irrationality of crowds, why do contemporary discourses of technology seem to insist on transforming crowd tropes to present and position the rational and creative potentials of peer production? One answer, and a fourth periodization, can be found in the shift between the form of power Michel Foucault analyzes in what he calls disciplinary societies, and the form that supplants it in what Gilles Deleuze calls control societies. Crowds, in this view, present a problem for disciplinary societies, an abnormality that the discourses of discipline have trouble formalizing; in control societies, crowds re-emerge as a productive rather than pathological force. The next section will track these changes.

The Vague, Swarming Mass: Crowds, Discipline, and Control

Despite his voluminous work on 19th century psychology and criminology, Michel Foucault has little to say about the discourses of crowd criminality or crowd psychology. Gustav Le Bon's work is completely excluded from Foucault's corpus. Scipio Sighele and Gabriel Tarde, despite being among the foremost criminologists of their time, merit no mention. It is certainly true that Foucault's genealogical studies

generally focus on a period earlier than the late 19th century, but the absence of crowd

discourse from Foucault's work need not be read merely as a methodological

consideration. It remains curious that Foucault would ignore one of the most vibrant

discursive productions on crime and psychology in the nineteenth century. But to turn

this omission slightly, Foucault's project can be said focus precisely on the fate of crowds

in modernity, and the way shifting arrangements of power affect their form and the

formation of discourses that address them. The emergence of nineteenth century crowd

theory indicates the problematization of crowds as such. In this sense, I'd shift somewhat

from van Ginneken's statement that crowd events had not so much changed their nature

as their meaning in the hundred years between the Revolution and the apogee of crowd

psychology. It was not their *meaning* that had changed, but their location within a grid of

intelligibility. In the nineteenth century, the crowd, no less than the deviant and the

criminal, and for the same reasons, can be said to have been rendered into discourse.

Crowd events, as a result, were perceived in a new light, and subject to new programs.

Moreover, the discourse of the crowd theorists, apparently of so little interest to Foucault,

is different from the management of populations that Foucault will call biopolitics. For

Foucault, biopolitics, or the whole set of technologies, practices, and discourses that align

themselves around and affect the forces of a population, is a genuinely new emergence

with modernity, one of its features that constitute the rupture from sovereign or

monarchical states. Biopolitical control of the population is the flip side of a form of

power that attaches itself to the individual, the collective end of pastoral power as an

administrative arm, an "entirely different type of relation between...power, discourse, and

the quotidian" (Foucault 2003 287). The crowd, on the other hand, especially where it appears as radical disorder, looks almost like a throwback to the operations, leniencies, blind spots, or indifferences of sovereign power.

The point is made most clearly in *Discipline and Punish*, a book awash with crowds and popular disturbances. The emerging disciplinary machinery, the techniques, practices, visibilities, and discourses of the power Foucault analyzes, functioned "on the principle of elementary location and *partitioning*" (Foucault 1995 143 emphasis in original). What was to be controlled and modified by the spatial strategies of location and partitioning? What was to be organized? Foucault provides the program of disciplinary space: "Avoid distribution in groups; break up collective dispositions; analyse confused, massive, or transient pluralities. One must eliminate the effects of imprecise distributions, the uncontrolled disappearance of individuals, their diffuse circulation, their unusable and dangerous coagulation; it was a tactic of anti-desertion, anti-vagabondage, anti-concentration" (143). The disciplinary techniques and discourses that emerged in modernity were, Foucault suggests, a response to the problems constituted by crowd phenomena in the societies of sovereignty. Psychology seeks to reclaim the mad from their mass exclusion. The techniques of the plague city, with its careful demarcations, the "great review of the living and the dead," are focused on the problem of a contagion that traverses a mass of bodies. Whereas the leper of sovereign societies was "left to his doom in a mass among which it was useless to differentiate," the disciplinary response to contagion "called for multiple separations, individualizing distributions, an organization in depth of surveillance and control, an intensification and ramification of power" (198).

Is it any surprise that *contagion* and imitation become key social problematics, or that Le

Bon can claim that "ideas, sentiments, emotions and beliefs possess in crowds a

contagious power as intense as that of microbes" (Le Bon 126)?

The techniques deployed in the context of administering the public health were

also taken up in the practices of the police and the prison, of course, but Foucault's

language for describing the shift points to kind of crowd phenomena disciplinary power

sought to avoid:

> The establishment of delinquency that constitutes something like an enclosed illegality
> has in fact a number of advantages. To begin with, it is possible to supervise it (by
> locating individuals, infiltrating the group, organizing mutual informing): for *the vague,*
> *swarming mass* of a population practicing occasional illegality, which is always likely to
> spread, or again for those loose bands of vagabonds, recruiting as they move from place
> to place [...] which sometimes reach such proportions—as we saw at the end of the
> eighteenth century—as to form formidable forces for looting and rioting, is substituted a
> relatively small and enclosed group of individuals on whom constant surveillance may be
> kept (278, emphasis mine).

If Foucault doesn't address the rich discourse of crowd theory in the nineteenth

century, he certainly allows us to place it. The threat of vagabondage described here

includes all the elements that most concerned criminologists like Sighele, or social

thinkers like Le Bon. The vagabond crowd is mobile, its constituent individuals vague, its

activities occasional and seemingly spontaneous and anarchic, and it sometimes increased

its size rapidly with no apparent logic to its processes. But Foucault is clear: this

spontaneous formation of the crowd was precisely the object that the disciplinary

apparatus worked on at both poles of its activity. In its partitioning function, discipline

segmented the crowd into cellular units. At the level of the population, biopolitics

surveyed and assessed statistical aggregates. What neither operation could grasp was the spontaneous crowd events themselves. The riot, the sudden crowd that operated through contagion, that erupted here and there, should have been capable of proliferating only in an ecology where power opened up sizeable space within its jurisdiction, or acted discontinuously. If such crowds were occasional and spontaneous, it is because the form of power in which they coalesced only occasionally concerned itself with them. With the emergence of disciplinary techniques, the "crowd, a compact mass, a locus of multiple exchanges, individualities merging together, a collective effect, is abolished and replaced by a collection of separated individualities" (Foucault 201). Or it should have been.

On the one hand, then, the threatening aspect of the crowd, and the obsession of nineteenth century crowd theory with the "law of mental unity" appears as an encounter not only with pathology, but with a disciplinary technology that has broken down. If they appeared to the crowd theorists as atavistic, an evolutionary regression unsettling the modern order, it was because the crowds that erupted *were* in one sense anachronistic, a throwback to a sovereign power that produced unruly aggregates at its margins, or encouraged them as a function of its power (the spectacle of the scaffold assumes the crowd as an element). On the other hand, the discourse that seized them, the shape they began to assume as a statistical aggregate, their location within practices of administration, of government and the police, their role in the staging of disorder all undergo a mutation within disciplinary societies. Crowds take on the mystical form of confusion contra the operations that would order them through partitioning. The problem of crowd theory, however, is that it remains particularly vague about the way crowds

operate. The crowd's lifespan—a question that will become more important in twentieth century crowd thought—is too short, and its emergence too sudden, to admit the form of study that would raise crowd psychology to the level of a science. Crowd events presented a problem for the discourses of disciplinary societies: they were too small and temporally isolated to assume a place within the discourse concerned with populations, too large and spatially connected to provide anything but a negative contrast within the discourse of individuation. It is perhaps for this reason that Foucault refuses to engage crowd theory directly: the discourse, at the end of the nineteenth century, remained as unsettlingly amorphous as its object. The crowd still appears as the "vague, swarming mass," and a "mass among which it was useless to differentiate."

Where disciplinary societies encounter a particular problem in crowds, control societies embrace crowds as a productive force. In his short essay, "Postscript on Control Societies," Gilles Deleuze draws a number of contrasts between the disciplinary societies of modernity and the control societies that supplant them. First, where disciplinary societies, as we've seen, were concerned with partitioning and confinement, control societies seek to introduce continuous connections. The tactics and practices that sought to segment masses and locate individuals (in institutions, for instance) now segment individuals and spread them among a series of continuous institutions. In such a society, you'd expect to see not the school as closed site, but distance learning, part time education, and continuing education; instead of the hospital, home health care; instead of the prison, techniques of probation and house arrest; instead of the soldier, the reservist; instead of the worker, the temp, the contract worker, the famous "prosumer" of Internet

lore (is there any more radical a leak between institutional roles than that which melds the producer and consumer?). As Deleuze puts it, in "disciplinary societies you were always starting all over again (as you went from school to barracks, from barracks to factory), while in control societies you never finish anything—business, training, and military service being coexistent metastable states of single modulation, a sort of universal transmutation" (179).

Second, disciplinary societies viewed the individual as the "font" of energy, so to speak, while in control societies, what Deleuze calls "dividuals" enter into preexisting flows of energy. This is clearly the correlate to the institutional analysis. If you are not "starting all over again" each time in discrete institutions, it is because the flows of energy have already breached the old partitions, producing continuous practices that you adjust and respond to: not partition, but a "single modulation." He notes that "[d]isciplinary man produced energy in discrete amounts, while control man undulates, moving among a continuous range of different orbits" (180). Consider the ROTC student taking a class while also working on an internship. When she graduates, she'll be a reservist with a job, but will also be required to take continuing education classes in her field for certifications and promotions.

Deleuze most comical aphorism for this state of affairs concerns sports: "*Surfing has everywhere taken over from all the old sports*" (180). This is a strange statement indeed, and worth a slower reading. What does Deleuze mean when he says that surfing has taken over the other sports? Surfing requires the "player" to enter into concrete situation that constitutes an *already existing energy system* (the tides); it is environmental

or ecological: the surfer doesn't and cannot "begin" the action on a blank energy field, but responds to already existing and variable flows. Skiing operates similarly, as would mountain biking and the "extreme sports" more generally. In this sense, these sports produce not so much an autonomous subject in a modern sense as a nebulous subject-object relationship, something like a middle voice, to put it grammatically, a "player" always acting-on/being-acted-upon, the way a surfer is never quite in control or merely determined by the "field." Consider, by contrast, the way baseball—perhaps the quintessential sport of modernity—works. Nothing happens until an individual acts: everything is still, with only an abstract set of rules to enter into. Moreover, each player has a specific and rule-based role within the potential field of energy. Based on such rules and roles, a game plan can be sketched out in advance; the manager can examine a hitter's spread chart for fly balls, and adjust the position of the outfielders based on a statistical aggregate of probability. Shifts of direction and energy only occur when *another* individual with a clearly defined role acts. These are the disciplinary characteristics of the "old sports." The "level playing field" is the field devoid of its own energy, direction, or momentum. It is "level" precisely so that only the subject can begin or redirect the action. There's no middle voice in baseball.

While control societies may appear to break down the barriers of disciplinary confinement, Deleuze is adamant that control cannot be "compared" with disciplinary societies in this way. It's easy enough to view the activities of the control societies as a new birth of "freedom" if your only model is the disciplinary society, but this is a conceptual and historical mistake. Control societies must be considered in their own

terms. That doesn't mean that everything that appears as "freedom" is really oppression. Rather, it means that everything must be examined anew, not relative to a power that divides, partitions, and organizes, but inside a power that connects, diffuses, and modulates or selects. We might notice, for example, that the "writer" in what composition scholars call "current traditional rhetoric" looks much more like a baseball player than a surfer. The "writer" contributing to an online collaborative project, on the other hand, looks very much like a surfer, if we consider something like *Wikipedia* to be a continuous flow of energy that one merely hooks into in a responsive manner. One could say the same about remixing, and other current objects of writing instruction. To draw the analogy, however, we should be careful to consider that the latter might be not merely a mode of resistance to disciplinary power (which produces the solitary writer seeking to master rule-based textual forms), but rather a form of power all its own. Ecology is not salvation.

It is also easy, of course, to focus merely on the elements of control that constitute a sort of anti-freedom. If an image of the physically co-located crowd circulates today, for instance, it might be that of the contemporary "anti-globalization" protest, the police lined up in their riot gear, and the tear gas flying. Or control could be read as simply the intensification of surveillance. Deleuze notes as much, imagining the individual with an always-on passcard that allows or disallows entrance to various locations, perhaps even changing by time of day. The signature, or that which would fix and locate the individual, no longer matters; rather, the "digital language of control is made up of codes indicating whether access to some information should be allowed or denied" (180). Taken on such

terms, control societies would be read as a return to repressive tactics, forms of power that prevent or constrain particular actions. We can already see in such descriptions the outline of the expanded copyright regime, and especially its focus on anti-circumvention devices. It simply *blocks* classes of behaviors rather than seeking to train individuals in correct conduct. There is, no doubt, a great deal of practical value in investigating these forms of control. The riot police are quite real, as are restrictions on fair use. As Roberto Esposito correctly notes in his work on biopolitics, "the domain of law is gaining terrain both domestically and internationally" (13). Far from an easing of restrictions or repressive engines, the waning of disciplinary societies often looks like a return to crueler forms of sovereignty. The warehousing of prisoners in overcrowded dormitories is *not* a disciplinary technique; if anything, it resembles the exclusion of the mass that the thinkers of disciplinarity took as a problematic object. The presidency of an unaccountable executive branch slips the disciplinary bureaucracy to reassert a sovereign privilege, with *lettres de cachet* displaced by the only slightly less dubious "in camera ex parte" assurances that some suspect is considered one of the bad guys. It is tempting in such circumstances to focus on the restrictive or repressive operations of power.

At the same time, doing so may miss the crucial function of non-restrictive controls, those which do not restrain action but rather establish circuits of connection through which action can occur. Deleuze invites readers to examine precisely those sites that break open the partitioning of the disciplinary machinery. If the disciplinary institutions today assume a single modulation rather than an analogical function, they remain no less productive. While confinement or individuation locate efficiency in the

institution or the person, the metastable states of control practices leverage efficiency from the multiplicity of roles people enter into, and from their connectedness across previously segmented spaces. In this sense, Jeff Howe's *Crowdsourcing: How the Power of the Crowd is Driving the Future of Business*, to be examined in more depth in the next chapter, could be considered a key text in control discourses. Howe's aphoristic thesis? In network society, *diversity trumps ability*.

Schnapp and Tiews, as I've shown, contemplate the changing fortunes of actual crowds as disciplinary structures begin to fade. They see crowds as increasingly virtual (which is to say, public), and increasingly "channeled" into ritual and domesticated political/cultural activities. When indexed to the shift in practices, tactics, and capacities for action between disciplinary and control societies, this narrative can be read as a kind of re-problematizing of crowd forms. In control societies, to put it another way, crowds no longer offer an antithesis to the individuating effects, because individuating effects are no longer a primary mode of power. What resources, then, do they introduce? Do their forms of existence change in ways that Schnapp and Tiews' provisional summary fails to anticipate? If the crowd's form of appearance changes in control societies, what, then, happens to the discourses of crowds? How do these discourses interact with, supplement, or modify other discourses—political, sociological, scientific, technological, pedagogical—within broader discourses of control? The next section will offer an initial schema for contemporary crowd theory, drawing on the work of sociologists Clark McPhail and Michel Maffesoli.

Cybernetic Neo-Tribalisms, or, the Two Faces of the Crowd in Control Societies

  Clark McPhail and Michel Maffesoli's work can be located at extreme poles within the field of sociology: McPhail's approaches to social phenomena could be safely called rationalist/empiricist, and clearly draw on (while at times disputing) the systems theory tradition in sociological research. Maffesoli, by contrast, is openly hostile to rationalist sociology; his work remains far more in the tradition of Simmel, Durkheim, and Weber supplemented by a social theory drawn from poststructuralist Continental philosophy, with the works of Nietzsche, Bergson, and Bataille playing an important role. The works I will examine—McPhail's *The Myth of the Madding Crowd* and Maffesoli's two key works, *The Time of the Tribes: The Decline of Individualism in Mass Society* and *The Shadow of Dionysus: Towards a Sociology of the Orgy*—thus cover a broad swath of contemporary thought on what has come to be called, in increasingly scientific tones, collective behavior. While their approaches may be miles apart, both McPhail's and Maffesoli's work serve as responses to the crowd theories of modernity, McPhail's explicitly and Maffesoli's implicitly. As such, they represent the divergent approaches to crowd phenomena in control societies, approaches that will be played out in the remainder of this study.

  The Myth of the Madding Crowd, a text that caused considerable controversy among researchers of collective behavior upon its publication in 1991, sets out to overturn the tradition of crowd theory that had developed in American sociology since the early twentieth century. While McPhail, in proper scientific fashion, finds considerable fault in most of the crowd research completed in the twentieth century, his

chief target is the "myth" of the crowd or the set of concepts about crowds developed by

Le Bon, Park, and Park's student Herbert Blumer (Blumer would himself serve as a

major influence for Erving Goffman). McPhail calls this set of concepts the

"transformation hypothesis," based on its core notion that individuals are *transformed*

when a crowd event takes hold. Specifically, McPhail disputes as unempirical and

"reactionary" the most basic elements Le Bon's position—that people lose their

individuality in a crowd; that the crowd attains a state of "mental unity;" that this unity

relies on an unconscious common element (and largely, for that reason, universal

emotion); that it therefore becomes susceptible to suggestion; and that suggestions can

traverse a crowd through contagion. Indeed, these are the key tenets of nineteenth century

crowd psychology as set out by Le Bon. The importation of these ideas into American

sociological thought leads to a more systematic description: contagion becomes, through

Park and Blumer, "circular reaction;" Blumer develops distinct steps in the life cycle of a

crowd, such as "milling," and the "emergence of a common object" (McPhail 10-12). Yet

these refinements cannot change the basic transformation hypothesis. When

"transformation theorists argued that it was necessary to eliminate individual

consciousness and rationality for a number of people to act in common or concert," their

arguments were "without logical or empirical foundation" (McPhail 15). McPhail goes on

to critique more empirically-based studies that developed in response to Blumer's work.

He groups these under the title of emergent norm theory, which is primarily linked to the

work of Ralph Turner and Lewis Killian. Rather than relying on an unconscious atavism

or circular reaction, emergent norm theory seeks to identify the triggers in a group

event—such as the "different expressions of diverse motives" that, when responded to in sufficient combinations, lead to an emergent norm, or a collective definition of a situation (McPhail 73-75). While Turner and Killian's work departs significantly from previous models by refusing to consider unusual collective behavior as "pathological or irrational," it serves, for McPhail, as only a partial explanation for some phenomena. It doesn't cover the full range of crowd events.

If the transformation hypothesis and the emergent norm theory remained too closely wed to the crowd *qua* aggregate, subsequent developments in crowd studies would break with this nineteenth century notion. Specifically, as sociology moves further afield from the transformation hypothesis, it develops more complex empirical methodologies that focus not on the *common* qualities of the participants in a crowd, but on their *differences* at a micro-level of analysis. Studies discover, for example, that most people come to crowd events with small groups of friends, neighbors, or family members, and tend to stay with them for the duration of the event. Studies seek to track the "effects of terrain, elevation, light, sound, and density on what members of the crowd can see and hear one another do" (McPhail 121). Studies examine and theorize the practices of "simultaneous eye contact, sequential touch" or techniques of summoning within crowds. While each of these serve as examples of micro-analysis, the larger point is that empirical crowd studies began, especially from the 1970's onward, to dissect the aggregate crowd, to split it into individual, multi-individual, and sub-individual components, to place it in singular spaces, to see it—in short—as a collection of significant differences that reach a level of mutual action through the complex interaction of those differences.

McPhail himself develops a theory of collective behavior that draws on individual components and seeks to explain them through a series of feedback events. He calls it a *sociocybernetic theory of collective action*. Based on both the theory of individual purposive action developed by pragmatist George Herbert Mead and on the control systems theory of William T. Powers, McPhail's theory of collective behavior places the individual either alone or in small groups, buffeted by reference signals in the environment. The members of the crowd either respond independently to these reference signals, or coordinate mutual acts interdependently, adopting "the necessary reference signals in common" (211). Curiously enough, despite his distance from Le Bon, McPhail develops a similar argument about crowd leadership. Whereas Le Bon's claim that crowds need leaders is based on the fragility and variability of the crowd mind, McPhail's claim is purely a matter of quantity. Empirical studies have shown that six members is the upper limit of "interdependent resolution;" at numbers higher than that, coordinated responses to reference signals require what McPhail calls *third parties*, or members of the crowd who "deliberately attempt to manipulate verbal and nonverbal symbol sequences to produce collective action by two or more members of the gathering" (215). Large groups, in other words, need a rhetor to produce signals around which responses and behavior adjustments can solidify. The somewhat strange re-appearance of the leader in this cybernetic theory notwithstanding, the comparison between nineteenth century crowd theory and late twentieth century cybernetic theory of collective behavior points to a remarkable discursive shift in the *common* element that takes hold in crowds. For Le Bon, the common element that allows an idea, sentiment, or feeling to traverse the

crowd is internal to the individual, if primitive. In the sociocybernetic theory, the common element is constructed *in situ* as a series of responses to the environment.

Similar cybernetic models of crowd and swarm action are virtually the norm now in studies of collective behavior. A recent example drawn from a study appearing in the *Proceedings of the National Academy of Science* should demonstrate the extension that methodologies like McPhail's have attained. The researchers sought empirical explanations of collective animal behavior, specifically, the swarming and flocking behavior of starlings. How do starling flocks manage to maintain cohesion, even with rapid directional changes? The answer to the flocking problem has usually been presented as a "nearest neighbor" operation, which is to say, each bird functions according to a specific algorithm that "programs" responses based on the actions of several other birds in the vicinity. The key here is that flock behavior has been thought to rely on *metric* distance: how close birds are to other birds. The current study overturns that long-standing position, arguing instead that flock behavior relies on "topological distance," or the relative position of, and number of birds between, six to seven other birds, regardless of metric distance (within a given range, of course). This explanation—based on a method of empirical observation and 3D modeling—would seem to account for fluctuations in flock density in a way that metric distance would not. McPhail recognizes the difficulty of a crowd theory that bears at least analogical resemblance to the collective behavior of birds, and seeks to forestall accusations of mechanism by invoking Mead's notion of flexibility, or the more complex set of reference signals engendered by language (214). Such humanistic scruples have grown less important as the interspecies

mingling of crowd discourses, so to speak, has proceeded apace. But the defense is not an idle one. In order for crowds to be *creative*, the control systems theory requires that crowd members retain the capability of improvising responses to reference signals. Combining control systems with Mead's work on purposive action allows McPhail to tear down the last plank of a disciplinary discourse on crowd theory.

Control societies thus produce a control systems discourse of crowds, and we are, indeed, as far from the madding crowd of modernity as can be. The cybernetic model of crowds effects a reversal in the point of view of the analyst. In nineteenth century crowd theory, once a crowd event, no matter how poorly defined, was said to take hold, the point of view one could take was of the whole. The cybernetic theory moves the analyst back into the crowd; the point of view is of the crowd member or small group seeking to coordinate signals and responses, sometimes in routine way, sometimes creatively. Once the crowd operates as neither a psychological unity nor a statistical aggregate, but rather as individuals and small groups engaging in response behaviors, a whole economic and ecological system of crowd action can emerge. If crowds are problematized as cybernetic phenomena, moreover, then the economic and ecological processes can begin to take primacy over the strictly political appearance of crowds in modernity. The nearly anodyne description of the "third party" in McPhail's analysis—really, the orator, the demoagogue, the leader-figure, the obsession of modern crowd theory—already points in this direction.

If McPhail and similar theorists of collective behavior respond to the transformation hypothesis by completely overturning it, which is to say, by logical

contestation, Michel Maffesoli takes an altogether different tack. In developing a theory of collective feeling, Maffesoli can be said to accept Le Bon's thesis and rigorously extend it far beyond what Le Bon could have imagined, turning, in effect, Le Bon's political point against itself. By providing an affirmative reading of Le Bon, Maffesoli's crowd theory can be considered the second model of crowd discourse in control societies.

In *The Time of the Tribes,* Maffesoli forwards a historico-ontological argument for society as a whole. In this sense, Maffesoli is not strictly a crowd theorist, and McPhail's requirement for strict definition and delimitation of crowd studies (that is, a rigorous disciplining of collective behavior's range of objects of investigation) does not really apply. Much like Le Bon and the nineteenth century crowd theorists, Maffesoli moves easily between levels of analysis: the carnival, the mafia, and the chance meeting of neighbors all evince similar social phenomena. Drawing on Nietzsche's categories of the Dionysian and the Apollonian, Bergson's concept of *élan vital*, and Bataille's distinction between restricted and general economy, Maffesoli constructs a two-tiered system, with a rational order—what he calls the social—floating tenuously above, but utterly dependent on, an always present "empathetic sociality," the affective connections that, operating beneath the apparent rational social structures, serve to cement collectivities. Crowd events (whether riot or celebration) thus serve synecdochal functions within the larger social analysis. That is, crowds display the fundamental features of any social body that are, for Maffesoli, always and everywhere at work *just beneath the surface*. They are the occasional "irruptions" of affective sociality within the grid of the social. But the merely occasional irruption of crowd events does not, for

Maffesoli, indicate any rarity in work of sociality. Rather, sociality operates even in the most rationalized settings: "from the small productive groups best symbolized by Silicon Valley, up to what we call the 'groupism' operating within Japanese industry, it becomes clear that the communal tendency can go hand-in-hand with advanced technological or economic performance" (Maffesoli 1995 15).

Although both *The Time of the Tribes* and *The Shadow of Dionysus* seek to describe sociality as it operates across human history, both studies begin from the historical premises that, first, a "rational order," has for some time obscured or otherwise repressed the function of collective sociality and that, second, the "rational era" is ebbing in contemporary society, thus leading to more widespread social phenomena that bring the "underground" collective ambience to the surface. The "rational era," moreover, bears all the traits of disciplinary society as its practices are described by Foucault; it is "built on the principle of individuation and of separation, whereas the empathetic period is marked by the lack of differentiation, the 'loss' in a collective subject" (11). The category of the individual which has "served us well for over two centuries" is "completely exhausted" (9). We can already hear the echoes of Le Bon in Maffesoli's historical schema. Rather than oppose the "transformation hypothesis," the loss of the individual in an undifferentiated mass, a collective subject, Maffesoli accepts the thesis of psychological unity, but attempts to press it further. Maffesoli calls this historical state of affairs *neo-tribalism*.

If a kind of unifying force overtakes or overrules the individual in the crowd, as both Le Bon and Maffesoli assert, two problems follow. First, both theorists must

develop a concept for the common element that traverses individual difference. Le Bon, as we've noted, locates this common element in an unconscious atavism, a primitive emotionism. If all individuals experience something like fear at a pre-individual level, then fear can become a common element of psychological unity. Anger, joy, and other emotions serve the same function. The identification of this common element explains, for Le Bon, the irrationality of crowds, and their inability to process logical argumentation. Maffesoli accept this explanation for collective phenomena to a point, but then pushes it in new directions. Like Le Bon, Maffesoli considers the common element to be "primordial" and composed of what he calls passions, affect, or emotional ambience. Pushing Le Bon further, Maffesoli's common element is really ontological rather than psychological. It is not located in an individual unconscious first, like a capacity for fear; rather, persons participate in it through the act of being together. In this sense, the common element that binds communities is a kind of *causa sui*, both cause and effect. It is not a latent state reawakened when a crowd event reaches a particular point of intensity, but a low hum that remains in the background, intensifying and diminishing, but always, so to speak, on, since it is nothing other than the variable effects of being-together. For this reason, Maffesoli sees the unified crowd not as irrational, but as non-rational; it exhibits a logic of being-together, a disorder that both effects a fusion *while* maintaining "contradictory elements." The illogical associationism remarked on by Le Bon is not merely a particular rhetoric suitable to primordial emotion; rather, it is the performance of a logic of connection that produces the group feeling itself. The repetitions that Le Bon (and more than a few critics of contemporary political

advertising) notes with disdain are the refrains that produce the contagion-effect itself, not an external force that simply takes advantage of a psychological tendency toward contagion. What Maffesoli seeks to analyze, like the contemporary thinkers of Spinozan Multitude who will play a role in chapter 3, is the "polydimensionality" of the social communion, the many in the One, but not subordinate to the One. The crowd for Maffesoli, in short, produces *itself* through its own activities. The question for contemporary thought is whether it can produce anything other than itself?

Maffesoli is equivocal on this point. First, he agrees that sociality, as opposed to the social, is not *productive* in an economic sense, but he restricts the meaning of productive to denote the "productivist" projects of both modernity and the "rational order" more generally. Drawing heavily from the Bataille's notion of general economy, Maffesoli equates the rational ordering of individuals in contractual arrangements as a system of efficiency that the "emotional community" tends to either ignore or resist. In a chapter titled "Unproductive Life," Maffesoli notes that "the positive technostructure," which is his shorthand for the rational order, "will hunt down collective 'wastage,' although this is a structural element in all sociality" (Maffesoli 1993 21). The project of *The Shadow of Dionysus* is to trace the inefficiencies of the crowd, in this sense, or to "give an account of popular 'spending'" (18). Sociality either resists or (and this would amount to the same thing) completely ignores an order that would cycle play, sex, and idle talk into the production. Maffesoli even affirms the 19th century dread of crowd violence, noting that "violence remains in some ways a given in the base of communal life and more particularly the communal staging of affects" (Maffesoli 1993 101). A

similar point would apply to political projects of modernity, which always exude for Maffesoli the stench of "concern" for an efficient social structure. If Le Bon sees the political variability of crowds as a sign of their fundamental imbecility, Maffesoli analyzes it as a kind of active indifference. In the same way as "reckless popular spending" would flee the function of the worker as subject/actor, the crowd seeks ways to escape the "activist model built by modernity" (Maffesoli 1996 27). Sociality responds to the economic and political project with wastage, expenditure, apathy, and indifference.

At the same time, Maffesoli suggests that sociality is itself productive of a social environment in which the restricted economy of the productivist order can install itself. The communal environment is created through the circulation of affects, the mixing of bodies, the use of small talk, the crafting of "work of bad taste, kitsch, or folklore" and other seemingly wasteful or useless expenditures, including bonds of secrecy, minor rituals, and even everyday gestures. Sociality creates the infinitely variable means to reproduce itself. It is, in this sense, "inventive" (Maffesoli 1996 77). But in doing so, these communal actions also produce the conditions for efficient production. This would be a simple enough point, and would maintain the firewall between the social and sociality, were not sociality itself increasingly implicated in production, not as a measurable or calculable quantity (that is, a merely co-opted element), but *as sociality*. Put more simply, the crowd begins to work *as a crowd*. How might Maffesoli's system stand up, for instance, to social networking sites as they shape production in contemporary economies? While his studies precede the emergence of Web 2.0

phenomena, or the real explosion of social networking, Maffesoli does offer some hints through his own fascination with network interaction:

> It is not impossible to imagine that, correlatively with technological developments, the growth of urban tribes has encouraged a 'computerized palaver' that assumes the rituals of the ancient agora. We would no longer face the dangers, as was first believed, of the macroscopic computer disconnected from reality, but on the contrary, thanks to the personal computer and cable TV, we are confronted with the infinite diffraction of orality disseminated by degree [...] (Maffesoli 1996 25)

The computerized palaver—the seemingly idle, wasteful talk that proliferates on networks—functions in the discourse as lubricant for sociality, the online equivalent of the tactile relationship through which "interaction is established, crystallization and groups form" in the physical crowd event. The backyard wrestling video on YouTube, the Arrested Development fan site, the endless speculation on 9/11 conspiracies: these may all be viewed outside their "productivist" or political content as particular "wasteful expenditures." They are the reckless public spending that responds to the compulsion to connect, that creates the crowd, and presumably escapes, resists, or ignores the forces that would reduce the network to an orderly and efficient technostructure.

While the model of efficiency that underlies Maffesoli's concept of a rational order might be disturbed by computerized palaver, it's not clear that such models continue to operate. In *A Grammar of the Multitude*, a study that will taken up in more detail in chapter 4, Paolo Virno identifies such idle talk as precisely the kind of social activity that is put to work: "Thirty years ago, in many factories there were signs posted that commanded: 'Silence, men at work!' Whoever was at work kept quiet. One began 'chatting' only upon leaving the factory or the office. The principle breakthrough in post-

Fordism is that it has placed language into the workplace. Today, in certain workshops, one could well put up signs mirroring those of the past, but declaring: 'Men at work here: Talk!'" (Virno). Does Virno mean that language, and particularly idle talk, has become efficient? Or is it, rather, that sociality, or crowd phenomena, provide some other source of value for contemporary economies? (Maffesoli is not unaware of this problem, and spends a great deal of time discussing the way groups deploy techniques of secrecy and silence in order to both maintain cohesion and construct barriers against inclusion in productive economies.) On this point, Maffesoli's discourse may itself remain too disciplinary, too engaged with the disciplinary discourse of separation. If control societies are not as concerned with identity, partition, and separation as Maffesoli depicts, if they abandon the inefficiencies of the "rational order," then the kinds of practices Maffesoli sees emerging as neo-tribalism may be precisely the sorts of visibilities that control societies produce in abundance. As both Virno's description of post-Fordism's chattering factory and the "'groupism' operating within Japanese industry" (which is to say, Toyotism) should suggest, where diversity trumps ability, the demand for silence in the service of efficiency may have itself become too expensive.

*   *   *

The crowd discourses of McPhail and Maffesoli may seem different on their face. First, they differ in approach. Whereas McPhail seeks to falsify Le Bon's thesis, Maffesoli implicitly affirms and intensifies it. They differ in their understanding of scope. McPhail, that is to say, insists on a strict delimitation of collective behavior to physical group interactions, while Maffesoli transits easily between the physical crowd, the virtual

crowd, and the social whole. They differ in their models of the individual. McPhail is at pains to retain individual purposiveness, as it supports the regulation of behaviors in constructing and responding to reference signals, while also providing a defense against charges of mechanism. Maffesoli scuttles the individual as a bankrupt concept of a rationalist order, and develops a notion of continuously modifying roles to support plurality within an immanent *dis*-order. However divergent these approaches may be, they exemplify two key tendencies in contemporary crowd theory.

First, the cybernetic model provides a flexible concept of feedback that allows an equation between crowds and markets. To some extent, crowds and markets have always been linked in the crowd discourses of modernity. Mackay's work begins, famously, with descriptions of the Tulip craze and the South Sea bubble. These analyses, however, tended to see markets *becoming* crowds; they analyzed panic selling, or fads, or other crowd effects that demonstrated fundamental irrationality. Of course, these discourses of panic and exuberance have not disappeared, as even a short look at CNBC coverage after a steep decline (or rally) in the Dow would tell you. Rather, they've been updated and formalized in today's economic thought under the banner of "information cascades." But the concept of feedback allows a different sort of market analysis. Rather than seeing a market overtaken by some crowd mania, the discursive and conceptual work of feedback enables crowds themselves to be analyzed as markets. When a wisdom of crowds emerges in contemporary discourse, the hinge is a model of *feedback* that places a sign-reading actor within an aggregate set of actions, variously coordinating and competing with others, constructing and responding to a complex ecology of reference

signals. The transformation of crowd events into market effects can, in turn, have two results. If accumulated, coordinated, and competitive feedback systems make up the ontology of crowds, then any crowd event, from a small scale protest, or fire panic, to the movement of starlings or the construction of termite nests, can be analyzed in economic terms; it becomes a matter of understanding the way costs are distributed within the reference signals. At the same time, this transformation strips economics of its connection to strictly financial markets: it is behavioral economics for any manner of behavior whatsoever.

Second, the affective circulation model—an affirmative response to the negative crowd discourses of modernity—evinces a transformation in values as institutional spaces open up to difference and position people in multiple roles. Yet its dualisms are, perhaps, too severe. If the crowd today is emerging as a neo-tribalism after a long period of appearing as merely a threat, it points to not merely a waning of the rational order, but a transformation in the way power operates. It may not be useful to simply reconstruct a dialectical relationship between passional and rational productivities. As I will examine more fully in chapter 4, the underlife of the classroom becomes not only visible as "computer palaver" in online space, but useful. One of the key questions that peer production forces us to ask is in what degree wastage, or useless expenditure, can be viewed as a positive economic and social phenomenon. In the discourse of contemporary crowds, the circulation of affects becomes a way to revamp efficiency. How? Once crowds are determined as a set of feedback effects, no "reference signal" can be excluded in advance from the ecology. *More* reference signals—even down to the

most banal "computer palaver"—can set off a chain of productive coordinations,

especially where the range of possible feedback links is extended indefinitely, as it is in a

network ecology. Where diversity trumps ability, and there can never be *just too many* of

them.

In the next chapter, I'll turn to the crowd logic of free and open source

software communities in order to demonstrate this general economic effect in more

detail. To close here, we might consider a thought experiment for the 09 F9 event. The

coverage of the "cyber-riot" becomes almost comically anachronistic in its rendition of

nineteenth century crowd discourses. By situating the crowd event within the limited

legal domain of intellectual property (that is, as a political event), the coverage fell back

into a romanticized understanding of social protest, with the irrational crowd reacting to a

power that is exterior to it. What if, on the other hand, the provisions of the DMCA

become just another reference signal among many in the Internet ecology? To consider it

a reference signal is not, in keeping with McPhail, to strip it of its content. On the

contrary, its content is important precisely because it serves as a blockage to a

multiplication of crowd effects. This status of intellectual property provisions as

blockages was already implicit in the discourse examined in chapter 1. If we view both

the "normal" and "pathological" operations of Digg from the cybernetic/neo-tribal

perspective, it becomes clear that both sides of the Digg crowd not only behave similarly,

but produce cohesive effects. From the point of view of the kinds of (economic and

ecological) subjects and relations required for Digg's smooth (or normal) operation, the

rioting Digg crowd can even be seen as an *improvement*: it reproduces the multiple

reference signals that allow Digg's users to coordinate even more responses; as a very simple economic matter, Digg became extremely "popular" or sticky during the riot. Viewed from Maffesoli's perspective, the Digg event is a synocdoche for forms of sociality that traverse network space constantly. The code itself, a random string of numbers and letters, offers a tidy example of a common element that allows the formation of infinite variations set off by an indefinite set of relations, while the infinite variations signal the wasteful aesthetics that enable the formation of a communal *ethos*: the 09 F9 tribe, complete with its free speech flag, emerging and disappearing in the space of a long weekend. For Maffesoli, the politics of intellectual property would be beside the point; the intellectual property regime is a vestige of a still dominant rational order that seeks to divide and segment the burgeoning communal ethos. Despite the seemingly divergent tendencies, both crowd discourses work together to embrace the riot. It may be time for composition studies to enact similar experiments.

CHAPTER 3: THE INDEFINITE

Working outside of any organizing agency, such as a company or academic institution, the open source community proved that the most intelligent networks were self-organized. Who authored Linux? The crowd.—Jeff Howe, *Crowdsourcing: Why the Power of the Crowd is Driving the Future of Business*

The centrality of language in post-Fordist production and the putting to work of the cognitive properties of the workforce leads to a *crisis of measurability* of single work operations (of the work time necessary to produce goods). "When you can no longer define a performance norm *a priori*," writes Pierre Veltz, "there remains just one possibility: assigning objectives to work units and judging them *a posteriori*. When the analytic effort of elaborating detailed work procedures and transmitting them throughout highly hierarchical organizations becomes too costly, or useless, or impossible—or all three of these things—there remains the possibility of instituting a fabric of hierarchical rules into which will be inserted contractual relationships, to be updated from time to time, between actors."—Christian Marazzi, *Capital and Language: From the New Economy to the War Economy*

In the previous chapter, I tracked three changes in the discourse on crowds that have developed during the twentieth century. First, as Schnapp and Tiews hypothesize, there has been a waning of the spontaneous physical crowd events that so occupied thinkers during the late nineteenth and early twentieth century. These phenomena have been replaced by virtual crowd events mediated by technology, on the one hand, and ritualized or planned crowd events, on the other. Second, the transformation theory of crowds, which assumes that individuals succumb to a unified group mind or experience when they form into a crowd, has been displaced by the cybernetic theory of crowds, which maintains the integrity of individual actors while explaining crowd events as highly complex patterns of coordination and feedback. Indeed, this cybernetic theory of crowds has become so ubiquitous that it serves to explain group phenomena ranging from computerized cellular automata, to traffic patterns and fan activity at sporting events, to

the rapid movement of bird flocks and the synchronized flashing of fireflies. Notable in each such case are the series of stimuli and responses that take on nonlinear characteristics, sometimes forming into larger patterns, and sometimes not, a result that remains indefinite, even in the case of programmed cellular automata. Third, Maffesoli's construction of a passional logic in sociality, or neo-tribalism, transforms nineteenth century notions of irrational contagion into set of affective features by which social groups hold together. LeBon and other nineteenth century observers saw in crowds a base emotionality endangering the rational social order through the vehicle of the primitive subconscious. Maffesoli transforms this view into a basis for social cohesion itself: the linking and delinking of affective bonds that precede and underlie social order, and that return to a primary role in societies as the Enlightenment version of the individual fades in postmodernity.

If the crowd of the nineteenth century was the dangerous street mob always ready to tip into atavistic frenzy, the crowd of today is made up of individuals dispersed through networks, communicating through technologies that allow complex mutual coordination and feedback, and enlivened by multiple temporary affective attachments and intensities. It is these latter crowds that seem to be invoked by the rhetorical use of quantification in peer production discourse. These three factors, in other words, open up the potential for crowds to become immanently productive, without drawing on external forms of organization or direction that were crucial control mechanisms for thinkers like LeBon. They are the baseline factors for peer production. In this chapter, I examine what has become the prototypical case of such productive crowds, free and open source

software (F/OSS) communities. Because these communities have successfully produced high-quality commodities through seemingly miraculous self-organization, they have come to occupy a privileged place in peer production discourse, serving as a model for such processes as they develop in multiple areas of activity outside of programming. As a model, free and open source software communities reveal a set of forces that constitute productive crowds. If chapter 2 sought to identify changes in the discourse of crowds, this chapter examines these forces in order to reveal the new crowds in action.

Free and Open Source Software as Process and Politics

To situate the F/OSS process briefly, free software emerged as a phenomenon and social movement during the 1980's, in response to changes in intellectual property laws and academic-business partnerships. Its main early proponent was Richard M. Stallman, a brilliant programmer at the MIT Artificial Intelligence Lab who detested the increasing controls on software programs resulting from these changes. Stallman tends to narrate— self-consciously, to be sure—such increasing restrictions as local phenomena experienced by his "community" at the MIT AI Lab (Levy, Stallman, Williams). However, they were actually the local effects of legislative and judicial changes, among them the Dole-Bayh Act of 1980 (the University-Small Business Patents Procedures Act), the Patent and Trademark Amendment Act of 1980, and the Economic Tax Recovery Act of 1981, as well as a number of judicial decisions stemming from the 1976 amendments to the Copyright Act. These developments, according to Donna Haraway's own description of events in the field of biology, tended toward what Haraway calls the "enclosure of the

technoscientific commons," a shift in the field of knowledge that parallels the English

Enclosure Acts of the seventeenth century (Haraway 113). More broadly, these shifts can

be situated within what sociologists of science Henry Etzkowitz and Andrew Webster

call the "capitalization of knowledge" (Etzkowitz and Webster 502-503). Where software

code, at least within an academic and hobbyist culture, was viewed as a public domain

common resource that allowed programmers to access, learn about, and improve upon

programming, it was increasingly regarded not as a resource of scientific knowledge, but

as proprietary and restricted information, the creative product from which businesses

drew value. Because free software begins as almost heroic resistance to such general

social transformations, it retains the image of rebellion today.

In 1984, Stallman began the GNU Project (GNU's Not Unix), developing, largely

on his own (and his programming capacity truly *was* heroic), initial components for a

non-proprietary computer operating system. In the March 1985 issue of Dr. Dobbs

Journal, a magazine marketed specifically toward software programmers, Stallman

published the GNU Manifesto, which stood as his statement of purpose for the GNU

Project. The Manifesto announced the project to the programming community while

laying out its political aims: Stallman sought to counter the effects of the changing

intellectual property landscape in software development by building programs that would

be accessible to users, who could then examine the code and modify it if necessary

(Stallman). Stallman's organization, the Free Software Foundation, would manage the

project and advocate against the encroachment of intellectual property laws on software

development. In 1991, a computer science graduate student in Finland named Linus

Torvalds built an operating system kernel that would turn the components and programs

the Free Software Foundation had developed into a full working operating system. Since

he had used a stripped-down educational version of the Unix operating system (called

Minix) to aid in kernel development, he called the resulting operating system Linux.

Rather than proceed with the development on his own, he released the code on the

internet, asking for improvements. The response from programmers was immediate and

successful: a wide base of user-developers emerged who identified and fixed bugs, added

functionality, and built the GNU/Linux operating system into a product that rivaled

commercially produced software, and specifically Microsoft's Windows operating

system (Moody 42-54).

By the late 1990's, Microsoft was worried about the quality and success of the

GNU/Linux systems, which proliferated online and continued to see massive

improvements developed by volunteer programmers. Moreover, the development

principles of F/OSS demonstrated that a community of volunteer programmers would

improve and fix code efficiently without the direction of a firm, the protection of

intellectual property rights, or even compensation. F/OSS seemed to dispute the very

business of software. But the branch of F/OSS associated with Torvalds increasingly saw

Stallman's radicalism of free software as too restrictive, and sought to reposition the

movement as "open source" in order to make it more business-friendly (Moody 260).

This caused a rift between the political aims of the Free Software Foundation (which

Stallman insists refers to "free as in free speech, not as in free beer") and the "open

source" movement, which sought the proliferation of F/OSS development processes both

in the public and within businesses; free as in free beer was seen as a rhetorical blockage

to business partnerships. Stallman, for his part, continues to view free software as a

primarily political/ethical concern that goes to the integrity of a scientific commons, and

therefore to the possibility for free innovation. The open source branch's rhetorical

repositioning, however, was generally successful. While F/OSS communities continue to

present themselves as positioned against proprietary software (and especially the arch-

villain of software as intellectual property, Microsoft), the 2000's have witnessed the

general acceptance of F/OSS development in the software industry. Moreover, the actual

software produced through F/OSS processes have gained more widespread appeal, where

they had been previously restricted to the relatively small groups of experts that Andrew

Ross upbraids for its "craft- guild conciousness." GNU/Linux-based operating systems

have been mainstreamed through organizations such as Ubuntu, and F/OSS programs like

the Firefox browser and Apache server have gained widespread appeal, or even (in the

case of Apache) market dominance.

   After the rift between FSF and the open source branches, the definition of free

and open source software has become an issue of significant dispute among practitioners,

with both free software advocates and open source software advocates seeking to

distinguish their own movements from the other on various points and for various

purposes. These disputes are not really the subject of this study, so I have followed other

analysts who combine the two movements under the general umbrella of free *and* open

source software. The definition, then, will remain at a level general enough to encompass

both camps. F/OSS is defined through two major differences, one technical and one

social, both of which can be read as an escape from mechanisms designed to *restrict*

access to software programming.

In technical terms, F/OSS can be defined as software that is distributed together

with its source code. To understand this point, one must understand the three levels that

make up most software programs: the user interface, the source (or object) code, and the

binary code. The user interface is what you see when you open a software program, such

as a word processor or spreadsheet. It displays the features of the program that users

interact with functionally, like the icon that turns text into italics in a word processor. The

user interface operates like the surface of a program; it's the only element that most users

work with. Because the interface is often made up of metaphors (the briefcase, the

trashcan) and thereby functions like a text, it has been the key site for analyzing the

rhetoric and politics of software (Selfe and Selfe, Mitchell). Underlying the interface is a

set of symbols that are less representational and, perhaps for this reason, less studied in

rhetorical terms: the source code. The source (or object) code names the instructions

written for the computer in a programming language, such as C++, C#, or BASIC. A user

with sufficient understanding of the relevant programming language can examine the

source code in order to better understand the program, or can modify the source code in

order to make the program work differently. Computers, however, don't recognize

written instructions in a programming language. Rather, they perform various actions

based on electrical signals, and those electrical signals can only be transmitted through

binary code, a series of 1's and 0's that open and close various electronic gates. For this

reason, the source code, which is written in human readable and writable language, must

be "translated" into binary code, which can be used by the machine. Most computer languages, therefore, require a "compiler" that serves to translate the human readable and writable source code into binary code, or the written instructions into series of 1's and 0's that can be read by the machine. While very skilled programmers can "read" binary code, the process is prohibitively difficult and time-consuming; to understand and modify a program's interface and function, humans need access to the source code.

The technical problem is simple: most software programs are not distributed with their source code, since the source code can be considered the creative value of the program. If the word processor you open to reach an interface is Microsoft Word, for instance, you will have access only to the interface and the binary code. Because the source code is made up of Microsoft's "original" programming, the company considers it proprietary information, the release of which would reduce the value of the software product by decreasing its relative scarcity, or by allowing variations that would dilute (or surpass!) the quality of the brand. If a knowledgeable programmer could see the source code for Microsoft Word, she could copy its methods and innovations, make her own changes to the program, and release her own version that would then compete with Word on the software market (the changes would have to be total to avoid copyright infringement). Or, she could simply make unlimited (illegal) copies of the program, or change any copy restrictions on the program embedded in the code. The source code in proprietary software programs, then, becomes the object of secrecy and protection; a user of Microsoft Word will literally be restricted from accessing the instructions that run the program. In an analogy often invoked by Stallman, it's like getting a meal without any

access to the recipe (Stallman 2001). F/OSS is thus defined against this practice in proprietary software markets: it distributes the program *with access to the source code* (hence, "open source"). This technical feature allows any user to access not just the interface, but the instructions that shape and direct the interface. As a result, any user (with the requisite technical skills) can review, learn about, modify, or reproduce the program.

Such technical capacity, however, could lead to a social dilemma. If a software program is developed in the public domain, what would prevent a proprietary software producer from taking that source code, integrating it into a proprietary software product, and then protecting it with intellectual property rights, thereby expropriating the common work of a community of producers? How, in other words, do F/OSS programs maintain their openness? The social definition of F/OSS derives from the solution to this problem: F/OSS uses software licenses that require any users of source code to "pass on" the rights of access, modification, and reproduction that they received with the code. The first such license—and still the most famous, though it has gone through numerous iterations—was the GNU General Public License, or GPL, which was developed by Stallman in the mid-1980's. The GPL doesn't abandon the principles of copyright, but rather uses them against organizations and individuals that would expropriate publicly built source code. The GPL concept (often called "copyleft," a term DeVoss and Porter's table of oppositions elevates to a general principle) stipulates that users of any F/OSS source code must make all their source code available to future users, and allow modifications and redistribution of their own code. Users of GPL-licensed code, even a small snippet, thus

agree to pass the *openness* of the code on. In this way, the GPL uses intellectual property

laws and legal mechanisms (in the form of licenses) to install *restrictions on restrictions*;

where standard software licenses restrict access and copying, the GPL restricts the

restrictions on access and copying (Stallman characterized copyleft as "all rights

reversed"). The GPL is just one such license; open source communities have since

developed "open source licenses" which are putatively less strict in terms of their

requirements on code users, while the principle behind the GPL (as developing licenses

that allow freer flows of protected content) has been extended through licenses that move

far beyond software production, such as those developed by the Creative Commons for

all manner of content, from digital images to blog posts and novels. F/OSS software, in

any case, is thus defined *technically* as software that is distributed with accessible source

code, and *socially* as software that includes licensing mechanisms which serve to compel

openness and restrict expropriation of publically produced code. Both the technical and

social character of F/OSS serve to increase the number of people who can view, work on,

and transform the software code.

If copyleft-style licensing constitutes a social innovation, it still doesn't explain

why people would contribute creative effort to a project without compensation. Because

F/OSS is developed by a distributed set of volunteers who do not appear to receive

immediate financial compensation for their work, economists and other observers have

sought to explain the motivation of contributors. Maria Alessandra Rossi has summarized

the varying motivations attributed to F/OSS contributors. A number of theories posit an

extrinsic motivation, defined as "immediate or delayed benefits accruing to the individual

in a mediated form, in general through monetary compensation" (Rossi 17). Users can

learn about systems and programming languages, for example, and thereby improve their

own work performance and market viability. Users also respond to idiosyncratic needs

that the system does not meet. Eric Raymond, whose *The Cathedral and the Bazaar*

served as the primary document introducing open source to millions of people in the late

1990's, identifies the need to add personal functionality to a software program or system

as the key motivation driving F/OSS processes; he calls it "scratching a personal itch"

(Raymond). Analysts have also identified "signaling incentives," or improvement in a

contributor's reputation within the community as a core motivation for contributing.

Intrinsic (or subjective) motivations include enjoyment of the programming problem; gift

giving, or generalized reciprocity; and identification with the community (Rossi 20-21).

Rossi's point in providing the extended list of possible motivations, however, is not to

isolate one. Rather, it becomes clear that heterogeneous motivations complement each

other in a system. The question then is not about identifying the reason that people

contribute to F/OSS projects: they do so for a variety of reasons. So, recent research has

turned to the relationship between these varying motivations, their particular interplay

and ratios. In traditional organizational structures, determining the particular ratio of

motivations and incentives is central to the management of labor. When such motivations

can be reduced, ultimately or otherwise, to a universal equivalent (which is to say, a wage

or salary), the problem generally presents a measurable solution. Where motivations are

more dispersed, combining the usual economic themes of extrinsic motivation with the

more traditionally *private* themes of intrinsic motivations, the ensuing mixture becomes much more complex.

The problem of motivation has also lead to a political conceptualization of F/OSS. The idea that the internet produces a generalized gift economy, for example, leads Richard Barbrook to identify what he calls "really existing anarcho-communism," the legacy of a Sixties counter-culture purportedly embedded in internet social customs (Barbrook). Barbrook is not alone. The self-organizing characteristics of F/OSS cause many observers to reconsider the kinds of political hierarchies and decision-making structures both within F/OSS communities and in internet culture more broadly. Drawing on the work of Todd May and Hakim Bey, for example, Michael Truscello argues that F/OSS systems provide a model of "tactical poststructuralist anarchism" (Truscello 17):

> The bazaar [i.e., open source] model of software development represents a tactical political philosophy through its emphasis on decentralized authority, its spatialization of power dispersed in the networks of the Internet, and its rejection of political intervention through an overtly libertarian endorsement of a free-market philosophy. Perhaps most important, the bazaar model emphasizes its adaptability to transient conditions through extensive parallel debugging; so, unlike formal or strategic political philosophies, the bazaar model encourages tactical interventions over strategic, teleological planning (19).

For Truscello, the forms of power that drive disciplinary and control societies are directly undermined by the development of open source (as a theoretical analogy), precisely because the "hierarchic structure of information exchange" gives way to a "communication of all" (37). F/OSS organization demonstrates this transformation in action, but its specific processes can be extended as a metaphor to an anarchic architecture of the Net as a whole.

In *Decoding Liberation: The Promise of Free and Open Source Software*, Samir

Chopra and Scott D. Dexter extend the claim, drawing on Truscello's work. They see in

the technical and social organization of free software communities an "anarchist ideal"

that gives people the "power to view the machinery of authority" (172). The analogy they

draw is between proprietary software and the state, both of which conceal the workings

of power/code. The arguments put forth against F/OSS by proprietary software

proponents, moreover, directly mirror the arguments that might be deployed by

Hobbesian political philosophy in order to justify the existence of the state; free software

is a "vision of a purely chaotic world in which grotesquely buggy, insecure, unsupported

free software runs rampant, leaving users at the mercy of malicious hackers, decimating

business productivity, and bringing the economy to its knees" (Chopra and Dexter 172).

The analogy is not accidental. Because what Chopra and Dexter call the cyborg world is

bound up in a mode of information that lends structuring power to code, any attempt to

prevent the *transparency* of code constitutes "authoritarian pressure" (173). Conversely,

the transparency inherent in the F/OSS production process serves as an example of non-

authoritarian "chaos," which manages to cohere through complex self-organizing

mechanisms. The very coherence of F/OSS software—the unlikely fact that it actually

works—thus stands as concrete evidence against not only the claims of the software

industry, but the broader political claims of liberal political philosophy. What F/OSS

offers is a working example of a crowd freed from its Hobbesian representation, freed,

that is, from a transcendent and obscure power needed to order a chaotic multiplicity. As

an anarchic, decentralized force, Chopra and Dexter argue, F/OSS serves to undermine

the political theory that grounded the negative portrayal of the crowd in modernity.

F/OSS thus stands at the intersection of multiple (economic) motivations and

productive (politically anarchic) crowds, the two concepts that have come to dominate

discussion of software programming as both a specific process and generalizable model

for networked peer production. These twin ideas, in fact, occupy the central place in

Porter and DeVoss' argument; they ground the reasons that peer-to-peer practices matter

for writing instruction. Where scholars of F/OSS examine economic motivations, Porter

and DeVoss seek an economics of rhetoric that would explain "why people write." Where

political theorists see in F/OSS a paradoxically decentralized structure with the potential

to evade both authoritarian political and monopolistic tendencies of power, the

proponents of peer production draw tables that distinguish freedom and control, placing

F/OSS on the side of freedom. What I would like to suggest here is that free and open

source software communities tell us much more about the way power organizes and

circulates through contemporary network cultures. Rather than viewing F/OSS as an

antithesis to hierarchical organization, I will situate it within the organizational structures

of post-disciplinary labor.

Recognized Forms of Control in F/OSS

I have suggested thus far that the oppositional quality of the intellectual property

discourse renders peer production a "power-free" zone relative to the repressive force of

juridical restrictions. The consistent application of anarchist tropes to such processes only

heightens this effect, so this schema remains accurate in general. However, as F/OSS

development has been studied and generalized, the outline of forces working within these communities have started to emerge. For example, DeVoss and Porter, as was pointed out in chapter 1, already inquired after the specific ethical relations that develop among "pirates" *within* their communities, even while valorizing "copyleft" politics and processes. This should not be particularly surprising. Even the most radical adherents of free software would suggest that some governing structure emerges to organize code and control contributors. In this section, I'll outline several of the forms of control that have already been identified with regard to F/OSS processes: internal hierarchies and ethics, extraction/expropriation, and "protocol."

1) <u>Internal Hierarchy/ Ethics</u>—Most F/OSS projects involve a hierarchical component, especially the closer one moves toward the "core" of the project. Hierarchy might be constituted along the lines of a single developer in charge of a given software project, or a board that confers about project decisions. F/OSS hierarchies tend to differ from traditional organization hierarchies, however, by ceding the power of parceling out work. Rather than receiving specific development tasks, the decentralized developers on the periphery select the work they will undertake, while the core group or manager *decides* whether changes coming in from the periphery will be accepted into the program's code (Vujovic and Ulhoi 196). In this sense, open source communities retain a centralizing function, but that function is designed precisely to leverage and pass judgment on emergent phenomena at the periphery. For example, I might download a spreadsheet program for a small business. If the program does not allow me to perform an

idiosyncratic accounting operation I need locally, I may add that operation to the program

(given the requisite technical skill), and submit my changes to the project managers on

the assumption that users with similar needs may benefit from them. Or, I may simply

report the lack of such an operation to a list, and perhaps someone else with the technical

skill will do the programming. The managers, for their part, could not have identified my

problem with the program in advance, since the operation itself is a function of the

software's local use. The core group of managers will, however, retain the decision-

making power about whether my changes are accepted into the next release version of the

code. This form of control affects not my behavior (my local version of the software

would include the changes regardless of the manager's decision), but the end-product.

Control of the decision-making, rather than the task allocation, is precisely the

hierarchical structure needed when an indefinite relation, or what Marazzi calls a crisis of

measurability, exists between the product and a set of workers. In the disciplinary

organization, managers can and must delegate tasks because each subtask in a total

operation is known in advance, and each worker can thus be designated with an

organizational identity (i.e., "breakpad installer"). When identity within the work process

is dispersed and indefinite (i.e., "someone"), control involves assessing the value of the

contribution *ex post*, or *a posteriori*, not setting out its execution in advance.

F/OSS has also developed, as could be predicted, a wealth of internal customs or

ethics. One example of an internally developed ethics is the implicit prohibition on

"forking" code. Users fork code when, rather than returning modifications to a central

source (the project managers, for instance), they instead release a separate version of the

software, thereby causing the program to "splinter into a number of variants" (Lerner and Tirole 53). Despite the shape of F/OSS licenses, which could be seen as encouraging idiosyncratic versions, Robert L. Glass suggests that forks are uncommon for a very practical reason: they introduce non-standard variants that become difficult to integrate with updates (Glass 88). From a social perspective, it could be added that code forks split not just the software, but the developer base; they dilute the collective intelligence working on a program, effectively weakening the very crowd effects that allow F/OSS to function in the first place. They reduce diversity in any given project. The prohibition on forking, while not retaining the strength of general ethical prohibitions, does prevent the practice from becoming common. As Glass has it, the "notion of the average user feeling free to change the open source product is a highly mixed blessing, and one unlikely to be frequently exercised" (Glass 88). That hierarchy and various prohibitions reassert themselves in F/OSS communities would certainly seem to call into question some of the more strident cases based on pure decentralization, but is not otherwise surprising. The arguments for anarchism do not assume that no structure will emerge in these processes. For my purposes, these features indicate effects of power, but do not adequately sketch the power relations that circulate within these communities.

2) Extraction/Expropriation—The problem of extraction and expropriation of value would seem to be handled by the terms of open source license agreements, which require those using the code to return their improvements to the public domain. As open source processes expand into diverse domains of activity, however, the problem of

particular users expropriating common resources and voluntary labor returns. The key

example of crowdsourcing that begins the Jeff Howe's project is Threadless, a T-shirt

company that asks users to submit and rate designs. The designs with the highest ratings

would be produced and marketed, and the winning submitters would receive some

"reward" for their work (Howe 1-2). Clearly, this is an arrangement that would raise

eyebrows among professional designers: my t-shirt design sold 10,000 units, and all I got

was this lousy t-shirt. Isn't crowdsourcing, and open source more generally, simply a way

to develop a base of free labor through a system of enjoyment and minor prizes?

Sensitive to such concerns about expropriation, which the discourse of the internet

produces in abundance, Howe is thus insistent that the winning t-shirt designer receives

something like fair compensation.

As Tiziana Terranova has suggested, however, the labor relationship cannot be so

easily parsed into a compensation scheme. In an examination of moderators for AOL

online forums who sued the company for wages, Terranova argues that "labor" in such

arrangements is itself defined by the crisis of measurability; it is comprised of a wide

range of activities that serve to keep online communities (and, one might suggest,

crowdsourcing) afloat (Terranova). Some of these are directly identifiable, like a t-shirt,

but others are less tangible. What of the ratings for the t-shirts, for instance? Aren't these

acts that help define and identify the value of the "winning designs"? Or what of the

losing designs? Don't they help constitute the value of the winning design by contrast?

Finally, what of the participation in crowdsourcing activities themselves, say, a forum on

which raters of the t-shirts discuss their favorites and design strategies? If the notion that

diversity trumps ability relies on a law of large numbers, then all the minor acts that serve

as the social glue of crowdsourcing communities, creative and otherwise, add value to

Threadless without being compensated. Such acts—what Maffesoli would call

sociality—are generally a consequence of proximity, or co-location (Maffesoli 1996

133). If an internet forum that promotes crowdsourcing is *nothing but* the rhetorical and

linguistic acts that bring it to life, nothing but the affective contagions and gestures that

enliven it, nothing but the multiplication of reference signals that people respond to, then

sociality *directly* (and rhetorically) constitutes the value of the virtual space, and anything

derived from it. What you have, in this view, is a mass of work completely unrecognized

as work: you can't at once say that the crowd authors a product, then turn around and

identify the individual "winning" contributor.

Finally, a more abstract version of extraction and expropriation has been

developed by Mackenzie Wark in *A Hacker Manifesto*. Wark argues that the mode of

information in post-industrial societies, and particularly after the fall of the Soviet Union,

experiences increasing abstraction, and the development of a new "exploiting class"

(Wark 032). Rather than a struggle between capital and labor as the point of

expropriation, Wark sees a struggle between two new classes, vectorialists and hackers.

Vectorialists can be said to take over for the capitalist class by seizing information itself

as property, whereas the landowner and capitalist classes seized only tangible items (land

and goods). The issue for the hacker class, which faces the vectorialist class as the

workers faced the industrialist, is not compensation, but the capacity to work on and

transform the real through abstraction. Wark, of course, develops the concept of the

hacker class directly out of the software field, generalizing the concept. While the vectorialist and hacker classes add a theoretical dimension to the forms of control that affect F/OSS processes, as a practical matter, the conflict of the vectorialist and hacker would seem to work very much like Benkler or DeVoss and Porter's tables, especially where it involves intellectual property as the primary means for expropriation.

      3) Protocol—Perhaps the most incisive analysis of the forms of power in networks has been developed by Alexander Galloway in *Protocol: How Control Exists After Decentralization* and, together with Eugene Thacker, in *The Exploit: A Theory of Networks*. Galloway develops a concept of control that he labels "protocol," or the protocological, derived from the technical requirements of (emergent) standardization that underlies network architecture (such as TCP/IP, one of the "openness" terms in Benkler's table). Protocol both "facilitates networks and ...governs how things are done" within them (Galloway and Thacker 2007 29). The topology of networks, for Galloway, suggest that individual agents will function differently within them, and that they will develop modes of control and activity that were not possible in the pyramidal hierarchies of traditional organizations and political groupings. Among the characteristics of protocol, Galloway lists the following: they are emerge from complex relationships, they retain flexibility, they are inclusive rather than exclusive (29). Rather than focusing control on "individually empowered human subjects," protocol works on "manifold modes of individuation that arrange and remix both human and nonhuman elements" (30). Put another way, protocol is a form of power that exercises itself through diverse

serial combinations, but seeks to draw these back under a blanket of standardized forms.

Just as TCP/IP *allows* any performance to happen on the internet whatsoever, so long as

transmission protocols are followed, protocol as a form of control "must be anti-

diversity" at a fundamental level; it must "promote standardization in order to enable

openness," and "organize peer groups into bureaucracies...in order to create free

technologies" (Galloway 2004142).

Protocol perhaps comes closest to the set of concerns I am developing here. While

each of these phenomena do, in my view, operate within F/OSS, they all draw heavily

from forms of power more relevant to disciplinary mechanisms. Rather than examine the

reformulated hierarchies of decentralized groups, or the claim that they *really* operate

through residual or hidden standardization and normalization, I'm more interested in

decentralization as such. In the next section, I will attempt to sketch out a form of control

that takes hold of and produces decentralized work processes by focusing on F/OSS as a

diagram of network power.

The Power of Transparency, or, F/OSS as Control Diagram

Visibility is a trap. –Michel Foucault, *Discipline and Punish*

Given enough eyeballs, all bugs are shallow. –Eric Raymond, *The Cathedral and the Bazaar*

F/OSS is usually deployed in composition discourse as a principle of access that

works against unnecessary restrictions and thus opens up technology to democratic

action. DeVoss and Porter's table, for example, uses the features of F/OSS rhetorically to

define the valorized side of filesharing. In an article titled "Educational Models and Open Source: Resisting the Proprietary University," Brenton Faber argues that composition pedagogy can profit from following an open source model. An open source pedagogy, as Faber envisions it, would focus on encountering complex textual problems and inventing approaches to them, and collaboratively working through drafts of previously existing text across sections and semesters. Building on his previous work of community activism and education, Faber sees open source as a form of critical pedagogy, a way of "rebuild[ing] much of the important social infrastructure that has been lost to rationalist systems" (Faber 37). Despite the recognized discourses of control, then, F/OSS is generally positioned within narratives of increasing freedom: it resists the take-over of the public (informational) space by private corporations, while developing mechanisms that turn the State's complicity with privatization, codified in the extension of copyright and patent statutes, against privatization itself. No doubt, there are elements of this narrative that seem obvious, and resonate with a traditional image of resistance as the overcoming of external constraints. As I'll show below, this image has driven much of the positive readings of F/OSS from numerous political and economic directions. I'd like to suggest another reading here, however. When placed along a mutating line of power relations—in this case, sovereign, disciplinary, and control—F/OSS can be seen as not merely resistance to a power that would restrict and control access, but rather as a positive effect of a power that seeks to connect and multiply relationships. F/OSS is diagrammatic of power relations in control societies in the same way that Bentham's Panopticon serves as a diagram, for Foucault, of power relations in disciplinary societies.

The general features of the Panopticon are well known. Bentham, according to Foucault, developed the Panopticon as a model prison, in which prisoners are isolated in cells that surround a central watchtower. The viewing area of the watchtower works in only one direction: the viewer can see each prisoner in his or her isolation, but the prisoners cannot see the viewer. For Truscello, as well as Chopra and Dexter, it is this opaque feature of panoptic power that F/OSS overturns. For Foucault, however, the effect of the panoptic spatial arrangement is not to develop an opacity of power, but to promote the development of an efficient self-consciousness in the prisoner. The machine works on the prisoner's next possible action by producing an uncertain relationship toward surveillance; by creating the possibility of ubiquitous surveillance, the Panopticon forces the prisoners to police their own actions, catches them "in a power situation of which they are themselves the bearers" (201). In chapter 2, I avoided invoking the figure of the Panopticon because it has functioned in computing discourse largely as a synechdoche for generalized digital surveillance, or for the isolation of the user in front of the screen. That is to say, analysts often seek to explain how networks are "panoptic" in a disciplinary mode. More important, for my purposes, is Foucault's understanding of the Panopticon as a "diagram," and Deleuze's further explication of that concept. The emergence of F/OSS suggests that the panoptic diagram that functioned so fluidly across disciplinary institutions gives way to other sorts of diagrams in network societies. In this sense, Chopra and Dexter are quite right when they claim that "the panopticon is inverted," at least partially (172). F/OSS can be read as a diagram of power relations that both reverses and extends the functions of disciplinary power.

What, then, does Foucault mean by a diagram? Foucault calls Bentham's Panopticon a "generalizable model of functioning" and an "ideal form," but it should not be understood as a model or form in the classical sense as something to be copied imperfectly in other locations (205). Rather, it operates for Foucault as a point of extreme saturation and abstraction for sets of relationships that are solidifying across multiple spheres of activity. These multiple spheres of activity don't *copy* the relations implicit in the panoptic apparatus, since they are already ongoing and developing independently while encountering various frictions related to their specific practices. If activities that resemble F/OSS practices develop in, say, furniture design, it is not because furniture designers are simply replicating or imitating software practices. It indicates, instead, that a set of relationships playing themselves out in programming are also playing themselves out in furniture design. As a diagram, the Panopticon develops these relationships "abstracted from any obstacle, resistance or friction;" it is a "political technology that may and must be detached from any specific use" (205). Bentham's Panopticon, then, to the extent that it can be abstracted from any obstacle or local friction, names not a prison, but an incorporeal set of relationships through which something like the panoptic prison (or hospital, or school) operates. While one-way surveillance that works on isolated subjects would seem to be the key abstraction of these power relations, Deleuze suggests that the "abstract formula of Panopticism" is actually the isolation of elements into a set space (as we saw with the practices of partition and confinement in chapter 2), and the "imposition of a form of conduct" (34). For Deleuze as for Foucault, the "abstract machine" of the Panopticon is only one of many ways of ordering a multiplicity of

"unformed and unorganized matters and unfinalized functions" (34). Diagrams, in this sense, are not fixed representations of power, but machines that constantly evolve, "unmaking preceding realities" and developing new modes of organization (35). In sovereign societies, as I've noted in the discussion of crowds, the accumulation of practices worked to "divide the masses rather than isolate in detail" (35). The sovereign figure for a political technology might be glimpsed in the leper colony, the Ship of Fools, the theater, or the public execution, but its abstract machine is the set of relationships that divide a mass without differentiating it in detail. If disciplinary practices are giving way in control societies, we'd expect to see the emergence of novel diagrams, or sites of activity that point us toward abstract machines, highly saturated (which is to say, generalizable) locations for particular practices that emerge from solidifying or hardening incorporeal relations. Identifying such sites of activities involves both tracing trajectories of power and noting their ruptures; that is, identifying such sites requires genealogical analysis

The trajectory Foucault develops in *Discipline and Punish* is one of the increasing efficiency of power, as techniques of specularity established by the diagram of sovereign societies are reversed in modernity, and undifferentiated masses increasingly move into *sites* that operate panoptically. Where such techniques of sovereign power allowed spaces of relative indifference (that is, their exercise was necessarily discontinuous), the sites of the disciplinary apparatus sought to eliminate all leakage, all blind spots, all indifference to behaviors and desires. The synoptic character of sovereign societies, which put on grand theatrical spectacles representing power to be viewed by an undifferentiated mass,

is transformed into the panoptic character of disciplinary societies, which reverses the direction of the gaze in order to distribute operations of power down to the capillary level. In control societies, by contrast, the theater and the panoptic factory are synthesized; both synoptic and panoptic views work together to produce a general *interoptic* configuration: everyone looking at everyone else and at themselves. One site of activity that most clearly demonstrates this set of relations may be the social networking sites, such as MySpace and Facebook, where people are constantly *confessing* in a disciplinary mode (I'm now a fan of Project Runway; I'm now in a relationship; I've posted additional images of my trip to Yucatan), while at the same time *surveilling* all others within their network group. The synoptic character of the social networking site does away with the *centralization* of the surveillance function, while the panoptic character eliminates the spaces of indifference. Needless to say, various panoptic and synoptic functions continue to operate independently, as celebrity culture and the USA PATRIOT Act surely demonstrate. Nor should we consider these to be *merely residual forms* of power; they each continue to play important roles in both the production of subjectivities and the determination of action. What can be noted is that they each operate with significant inefficiencies, as their visibility and the resistance they engender demonstrate. Whereas a (synoptic) celebrity culture that turns all eyes toward the various doings of Britney Spears comes in for frequent critique, and the (panoptic) USA PATRIOT Act produces no shortage of political outrage, the interoptic functioning of social networking technologies or blog culture appears benign or faintly democratic at best, and a mildly trivial distribution of narcissism and voyeurism at worst. Indeed, as I

will show, it is valorized across otherwise conflicting political divides. The point is not to draw out more sinister elements of such engines for the purpose of critique, but rather to diagnose how such sets of relationships serve to differentiate and order a multiplicity.

Sovereign power works on crowds by naming and splitting them wholesale, which is to say, as masses. The inefficiencies it generates in doing so reside in its two results: the undifferentiated character of the mass at the molecular level and the mobility and opportunities for growth of the excised mass. As we saw in Foucault's description of brigandage, the crowds generated by sovereign power encounter a discontinuous force which allows them to both develop and move without exposure to constant feedback. Where such crowds do encounter a force, power works by adjudicating completed actions, because it works by naming, or representing, the already accomplished: the regicide; the leper. The innovation of the disciplinary apparatus, for Foucault, is not merely its capacity to partition a mass at the retail level and install continuous forces. Rather, these techniques result in a power that acts not on a past (nameable) action, but on a potential action. By making the subject "the bearer" of the power relations (in the sense of both carrying and enduring), disciplinarity extends the actual operations of power past the borders of the actualized, not as a represented warning, but as a real function. Put another way, by isolating in detail, discipline works on the next action, not on the accomplished violation. In doing so, it removes the external (actual) threat; it locates the "warning" internally, generating it as an identity. While discipline thus gains massive efficiencies relative to sovereignty, its techniques nevertheless produce new inefficiencies, not least being the static characters of partition and identity. The control

diagram I'm describing here is a response to the inefficiencies of just such disciplinary effects. Where disciplinary power partitions bodies and fixes identities at the retail level, it obstructs both capacities for combinations and mutations deriving from mobility. From the perspective of efficiencies, this would seem to be a zero-sum problem. Either discontinuous power enables mobility and combinations, or continuous power limits mobility by partitioning and fixing identities.

In the abstract, these closed options are merely a conundrum, but these are precisely the problems faced by organizational and management practices as they developed in the late twentieth century. Hierarchical organizations with lines of static functional areas and fixed (organizational) identities are thought to suffer in their ability to cope with rapidly changing external environments. The problem was classically formulated in Paul R. Lawrence and Jay W. Lorsch's 1967 paper "Differentiation and Integration in Complex Organizations," in which the authors posited an inverse relationship between differentiation, or the segmented functional units within an organization, and integration, or their ability to "achieve a unity of efforts" in order to accomplish tasks. What features would allow both differentiation and integration in a rapidly changing task and external environments? What combinations would produce an optimized organizational response? Such questions were further developed through the 1970's and 1980's as a problem of the management—or leadership— of "lateral teams" for the purpose of product development (how does an organization integrate its sales, accounting, and engineering units?) (Galbraith). But the organizational principle implicit in these developments really explodes in the 1990's as firms themselves are restructured

along the lines of cross-functional teams, the often temporary entities that come together

to solve complex problems and innovate, where the silos of the old organizations merely

partitioned and stagnated. The collapsing internal boundaries between functional units

was merely the precursor for the more radical transformation: the explosion of the

interiorized space of the organization into the external environment itself. The major

benefit of the firm, as Ronald Coase famously demonstrated, was the reduction of

transaction costs; its problem was inefficient adaptation within a complex external

environment. The response, increasingly, was to multiply the points of contact, to throw

diversity at complexity.

The problem, in short, relates to the forms of power that might obtain

combinations and mobility while retaining identities and differentiation. In control

structures this problem develops as one of remixing and connecting, or dissolving

partitions and allowing fixed identities to wander or mutate (to participate, in Deleuze's

terms, in a "single modulation"), while warding off undifferentiated massification in the

sovereign sense. As such, these power relations work neither on past actions nor

individual potentials, but on sets of probabilities in the aggregate. We might return, then,

to Deleuze's example of the control society: the password that either allows access or

does not, and may change from hour to hour. Like the car device that shuts down the

engine if a teenage driver exceeds area speed limits, such a password is distinguished

from the disciplinary technique (say, the red light camera) because it is not principally

concerned with whether its bearer develops an internal sense of her own activity and

behaviors. It is not, to put it bluntly, *pedagogical*. At the same time, the "pain" of non-

access only makes sense in a context that promotes maximum connectedness; the

engineer of the traditional firm had no particular need to co-design the marketing

strategy, nor the sales force to examine drawings from parts suppliers. The positive side

of the control diagram seeks methods for producing such probable connections, what the

financial markets might call the meeting with the counterpart, but can only do so by

multiplying chance pairings and determining value *ex post*. Interoptics functions to alert

subjects to the multiple locations of remixing and connection, opening probable sites for

attachment. It is in this sense that the *firm* (and other institutional entities), formerly

subdivided into solid blocks of functions, becomes first liquid through cross-functional

teams, and finally, as it extends its probable connectivity into the external environment,

becomes "essentially dispersive," a gas (Deleuze 181). Mark Poster has argued that

dispersive *subjectivities* are an effect of the contemporary mode of information; I would

add that dispersion is followed by clustering. If the diagrammatic disciplinary apparatus

envisioned a site of confinement, the diagrammatic control apparatus promotes

dispersivity, or scattering, but combines it with complex feedback mechanisms that

makes such subjectivities productive. Dispersion is opportunistic. The following table

proposes to map these transformations through the diagrammatic figure of F/OSS:

	Sovereign	Disciplinary	Control
Site	Theater; Dungeon/Scaffold	Factory; Prison	Social Networking Site
Point of View	Synoptic	Panoptic	Interoptic
Action on a Mass	Name and divide	Isolate in detail	Remix and connect
Power Works on	Completed actions	Potentials	Probabilities
Diagram	Leper Colony	Panopticon	F/OSS

Table 1: Map of Sovereign, Disciplinary, and Control Practices

The technical and social configuration of F/OSS disperses code into complex "external" environments, leveraging the diversity of knowledge and interest in order to build in opportunistic probabilities, and constructing feedback mechanisms that turn dispersion back to production. The generalizable model is positioned against the enclosed subject of knowledge (the in-house programming team; the closed site of production) as a disciplinary inefficiency. Eric Raymond's classic formulation of the open source principle—"given enough eyeballs, all bugs are shallow"—can thus be read as a synthetic intensification of both synoptic and panoptic relationships (Raymond 30). While this slogan serves as a general rallying cry for open source production, Raymond's more technical statement of the aphorism reveals its synthetic quality: "Given a large enough beta-tester and co-developer base, almost every problem will be characterized quickly and the fix obvious to someone" (30). At a semantic level, the notion of a large group of beta-testers and co-developers already indicates the movement beyond the closed environment, as users enter into the production process earlier and earlier. But the key term in Raymond's formulation is the indefinite pronoun *someone*. The open source principle rests precisely on the indefinite character of this someone: the point of the fix cannot be known in advance, so production must multiply its processes as widely as possible in order to increase the probability that *someone* will be located. As Raymond expands on this point, it takes on a familiar appearance. He notes that Linus Torvalds corrected his initial impression that the problem will be "transparent to somebody" by noting that the *someone* who identifies the problem and the *someone* who has the capacity to fix it may be different (30). The logic operates like the search for a

counterpart in the financial markets, with buyer and seller "meeting" only because a space of coordination (the market) has been established to facilitate the indefinite connection. If diversity trumps ability, it is because this relationship of indefiniteness becomes the engine not merely for consumption, but also for production. One never knows in advance how *someone* will productively respond (to the code, or anything else). Such relationships can only function through generalized interoptics, which require one to constantly publicize one's capabilities (which could be anything, the totality of one's capacities and experiences) while also remaining on the look out, so to speak, for opportunities to apply or supplement them. This interlocking imperative of publicity and opportunism, both aimed at indefinite probabilities, constitutes the form of power that circulates in control societies.

That F/OSS serves as a diagram for this set of relationships can be further demonstrated in two ways. First, F/OSS becomes a discursive touchstone for exemplifying the efficacy of new techniques of production, and it does so across ideological divides. From a post-Marxist perspective similar to Chopra and Dexter's, Antonio Negri and Michael Hardt use F/OSS as a working example of a democratic *multitude*, the key political concept that distinguishes political power in postmodernity from the tradition of Hobbes and Locke by positing an *immanent* politics that relies on neither leadership to provide direction nor a unified political body to control internal diversity. Drawing on network peer production, they argue that "economic innovation in networks" provides a "clearer model of the multitude's political decision-making" (Hardt and Negri 339). Since the capacity of a multitude to make decisions absent a transcendent

principle (nation, leader, people) is the crux of the Hardt and Negri's argument, it is

telling that they would turn to open source at precisely this moment:

> We might also understand the political decision-making capacity of the multitude in
> analogy with the collaborative development of computer software and the innovations of
> the open source movement. Traditional, proprietary software makes it impossible for
> users to see the software that shows how the program works. Programmers had thought
> of their programs, as Eric Raymond puts it, as pristine cathedrals created by individual
> geniuses. The open source movement takes the opposite approach. When the source code
> is open so that anyone can see it, more of its bugs are fixed, and better programs are
> produced: the more eyes that see it and the more people allowed contribute to it, the
> better the program becomes. Raymond calls this, in contrast to the cathedral style, the
> bazaar method of software development, since a variety of different programmers with
> different approaches and agendas all contribute collaboratively. […] The important point
> here is that open-source, collaborative programming does not lead to confusion or wasted
> energy. It actually works. One approach to understanding the democracy of the multitude,
> then, is as an open-source society, that is, a society whose source code is revealed so that
> we can all work collaboratively to solve its bugs and create new, better social programs.
> (Hardt and Negri 2004 340).

I'm not interested here with disputing this position, although I'd suggest that

F/OSS works precisely by re-engineering "wasted energy." There are no doubt significant

links between the development of open source programs and a political philosophy of

immanence that circulates in contemporary discourse as a neo-Spinozan configuration of

multitude. Both concepts develop novel ways of dealing with the problem of

differentiation and integration, or a unified political body that maintains itself in its

difference. If the arguably left radical political view of multitude can be so neatly

analogized with the F/OSS process of software development, however, the same sort of

rhetorical positioning appears in the business press, and travels under the same banner of

the (surprisingly) productive crowd. James Surowiecki's *The Wisdom of Crowds*, for

example, locates a similar value in open source programming, deriving such value not

from a leftist reading of Spinoza, but the arguably more conservative economic work of

Friedrich Hayek. The key to F/OSS for Surowiecki is a market-style decentralization,

which Surowiecki compares with the traditional model of the firm (73). The advantage of

decentralized production is that it opens up the field of problems to an indefinite solution.

> Surprising, there seems to be a huge supply of programmers willing to contribute their
> efforts to make the [Linux operating] system better. That guarantees that the field of
> possible solutions will be immense. There's enough variety among programmers, and
> there are enough programmers, that no matter what the bug is, someone is going to come
> up with a fix for it. And there's enough diversity that someone will recognize the bugs
> when they appear (73).

If Hardt and Negri leverage the model to exemplify immanent political decision-making,

Surowiecki takes another course, comparing the open source model to the workings of

the free market, where the counterparty is always theoretically indefinite (a someone).

Unlike the traditional firm, F/OSS finds a way to leverage "wastefulness," but this

mirrors the market's "ability to generate lots of alternatives and then winnow them

down" (74). As a counterpoint to the alternative globalization program promoted by

Hardt and Negri, Surowiecki then uses the success of F/OSS to argue for the benefits of

the Policy Analysis Market, a decision-market open to a public that would take bets on

various defense-related events, buying and selling futures contracts in state-toppling and

terrorist attacks (79-83). Where Hardt and Negri see open source as a model for global

justice movements, Surowiecki imagines its utility for the U.S. intelligence apparatus.

Because this market-based arrangement—which was killed in the U.S. Senate almost

immediately after it came to light—would aggregate decentralized information sources, it would open the (presumably very closed) intelligence services to a wealth of information they would otherwise not receive. As for those profiting from correctly predicting catastrophe, Surowiecki, while admitting "something viscerally ghoulish" about the PAM, notes—in high Hayekian style—that markets always "harness amorality in the service of the collective good" (81). The point here is not merely to register the divergent political and economic orientations that can attach themselves favorably to F/OSS without any seeming difficulty. It's notable, rather, that this nearly diametrical uptake of F/OSS occurs with little resistance at either end. Instead, both rhetorical projects valorize F/OSS as resistance to backward-looking configurations of transcendence and enclosure.

Second, F/OSS becomes an abstract model for production across multiple spheres of activity; detached from the specificity of software, its principles of transparency and access circulate as productive models wherever production goes by way of information. In the 1999 collection promoting the use of open source software techniques, *Open Sources: Voices from the Open Source Revolution*, the editors make a conscious decision to stick to issues of software exclusively, largely because they consider the volume an argument aimed at the software industry, and hope not to cloud the case with collateral issues. By the publication of *Open Sources 2.0: The Continuing Evolution* in 2005, the growth and success of F/OSS development models allowed expansion of the concept into more general areas of activity. The collection includes essays on open source legal research, open source biological research, and open source development of sports equipment (not surprisingly, windsurfing boards, skateboards, and snowboards:

everywhere surfing has replaced the older sports…). In each case, the writer seeks to establish the protocols that would allow the emergence of user-based production and innovation.

The case for an open source biology is further explicated in Janet Hope's *Biobazaar: The Open Source Revolution in Biotechnology*. Like software, biotechnology came under the sway of the intellectual property regime, largely through the same developments in patent and copyright law, combined with transformations in the way scientific research communities hooked into proprietary business interests. If F/OSS development models could break what many researchers and communities see as a stranglehold on software resources and products (that is, code) in the sphere of computer programming, then the model could similarly be put to use in biological research and development, where the resources, if not the product, are conceived as informational (that is, code). So, for example, Hope discusses the 1999 proposal for a General Public License for Plant Germoplasm (GPLPG), a license mirroring the software GPL, this time directed not at the proprietary systems of Microsoft, but Monsanto. The GPLPG, argues Hope, would constitute a "classic copyleft scheme designed to ensure that released material, including improvements, would always remain accessible" (306). Such licensing proposals have been realized more recently in BiOS (biological open source) licenses, which "extend the metaphor and concepts of Open Source to biotechnology and other forms of innovation in biology" (317).

Such examples could, of course, be multiplied indefinitely. In *Wikinomics: How Mass Collaboration Changes Everything*, Don Tapscott and Anthony D. Williams point

to F/OSS as a pioneer in peer production processes. Open source development—

especially through the key examples of the Linux operating system, the Apache server,

and the Firefox browser, demonstrated that voluntary cooperation could be harnessed to

produce successful, high quality commodities; the evangelism of the early open source

movement pointed the way toward a working model of production that constitutes a new

and replicable process. For Tapscott and Williams, as well as for Benkler, these processes

are not isolated within software development, but comprise an entirely new (primary)

sector of the economy (Benkler, Tapscott and Williams). Jeff Howe's *Crowdsourcing:*

Why the Power of the Crowd is Driving the Future of Business is even more explicit,

identifying F/OSS as the "blueprint for how people might come together to work—

enthusiastically, competently, and without pay—on projects outside of software" (70),

what Howe calls "the emergence of a new mode of production" (99). For Howe, this

mode of production, in which "diversity trumps ability," requires a number of elements.

First, the problem that the crowd is set to must be difficult, thereby inspiring creative

affective attachments. Lurking in this first requirement, in other words, is Howe's claim

that involvement in crowd sourcing projects require what he calls throughout

Crowdsourcing "enthusaism" or "passion." Second, there must be a generally qualified

audience; the Linux kernel would never have been expanded without skilled

programmers who turned toward the problem. Third, there must be a "method of

aggregating and processing an individual's contribution," whether this involves voting,

rating, posting, or submitting work to single location (143). Finally, there must be a

"large enough pool to guarantee a diverse array of approaches" (143). The groups

involved in "crowdsourcing," moreover, are notable because they serve *at the same time* as both generator and filter of production; there is no need for exterior assessments when the crowdsourcing group both produces content and evaluates its quality. F/OSS is the "generalizable model of functioning" for Howe insofar as it provided the replicable processes of constructing such groups in electronic networks.

Whether it serves as a replicable process or analogical touchstone for Howe and others, there can be little doubt that the network technologies have enabled the sort of massive parallel operations and procedures that make something like crowdsourcing common. At the same time, production as a general communicative (rhetorical) act covers the field of network processes; the social network is all rhetoric, all the time. It is also clear that F/OSS processes have transformed the operations in traditional sectors and, as Benkler and other have argued, begun shaping a new sector of the economy or mode of production. To summarize the points thus far, I am arguing that such processes cannot be read as merely resistant to the centralizing forces of traditional management structures, nor merely set against the judicial restrictions of intellectual property laws. F/OSS constitutes a saturated site, rather, of an emergent form of power that must be examined in its own historical and operational specificity. In this sense, my argument is not far from where DeVoss and Porter end up, but I think more work needs to be done before defining a new "internetworked ethics," or formalizing a set of observable behaviors which may be simply effects of and relays for incorporeal sets of relationships. If we're after an economics of rhetoric, it would first be useful to ask after the economic subject of F/OSS, or the programmer—and, ultimately, the writer—in this new mode of

production. For Howe and others, the subject takes on the characteristics of the entrepreneur on the market. If we're asking after an "economics of rhetoric," the subject of writing might be the investor.

To this point, I have been relying on Deleuze's short essay on control societies to sketch out a form of power that comes after disciplinarity. Most observers take this route, largely because Foucault doesn't write extensively about a post-disciplinary apparatus. His most detailed account of post-disciplinary society might be said to appear in a series of lectures he delivered at the College de France in from January to April 1979. Called "The Birth of Biopower," the lectures focus on the emergence of the economic subject of neoliberalism, or precisely the Chicago School discourse that drives Surowiecki's fascination with crowds as markets. Indeed, it is startling to see, toward the end of the lectures, Foucault turn the genealogical light on post-war American thought. Foucault's analysis of neoliberal discourse identifies a number of transformations that might help us make sense of both the F/OSS diagram and an economics of rhetoric. Foucault argues that neoliberal discourse transforms all individual relationships into relations of investment. Rather than being a "partner of exchange," the economic subject "is an entrepreneur, an entrepreneur of himself" (Foucault 2008 225-226). This transformation has several consequences. First, and this ties the concept of neoliberalism most tightly to that of biopower, all capacities and experiences, down to the very genetic potentials of a person, are transformed into "capital." If the individual is an entrepreneur of himself, then everything that makes up the self, from the strength of the muscles, to eyesight, to real property, to symbolic knowledge of programming, to the childhood trauma of bullying

becomes a resource for "investment." It is in this sense that the relationships established

in F/OSS processes are necessarily *indefinite*. It is not merely that "someone" is out there

who might fix a bug or develop a feature; if those who invest in F/OSS projects assume

an indefinite shape as entrepreneurs of themselves, it is impossible to know what

resources they will bring to the table. The labor relation is completely transformed

because in this kind of indefinite human capital, "the ability-machine of which it is the

income cannot be separated from the human individual who is its bearer" (226). That is,

the whole human becomes the resource, including any potentials lodged in genetics and

experience. The labor relationship is no longer a meeting of capitalist and worker, but

multiple levels of investment and return.

The transformation of the economic subject from a partner of exchange into an

investor has a second consequence as well, this time in the sphere of consumption. How

could consumption, Foucault asks, be viewed as *investment*? For consumption to be

investment, it must be an investment in one's own pleasure. Years before the internet

popularized the notion of the prosumer, or the user-developer (which is to say, the subject

of F/OSS), Foucault describes just such a phenomenon as a fundamental element of

neoliberal economic thought:

> The man of consumption, insofar as he consumes, is a producer. What does he produce?
> Well, quite simply, he produces his own satisfaction. And we should think of
> consumption as an enterprise activity by which the individual, precisely on the basis of
> the capital he has at his disposal, will produce something that will be his own satisfaction.
> Consequently, the theory, the classical analysis trotted out a hundred times of the person
> who is a consumer on the one hand, but who is also a producer, and who, because of this,
> is, as it were, divided in relation to himself, as well as all the sociological analysis—for
> they have never been economic analysis—of mass consumption, of consumer society,

and so forth, do not hold up and have no value in relation to an analysis of consumption in the neo-liberal terms of the activity of production (226).

Foucault is, of course, discussing a subjective transformation, but the notion that the consumer as producer is lodged in the power arrangements of neoliberal economics has been more or less off the radar in the analysis of the now legendary "prosumer." For example, Mark Poster's discussion of the "consumer as producer" identifies it as one of the key ethical and legal transformations related specifically to technological change: "Information technologies place into the hands of the consumer the capacity to become a producer of cultural objects" (Poster 2001 47). This notion of the prosumer certainly differs from Foucault's description; in internet discourse, the consumer produces both cultural objects and the network itself. But the theoretical slot for such practices may have already been prepared by the transformation of the consumer into an entrepreneur of himself. Poster asks, "Can capitalism still justify itself in an age when the consumer is already a producer?" (48). If Foucault's analysis of neoliberal economic discourse tells us anything, it is that *a* capitalism not only justifies itself in such an age, but serves as the spur for precisely such a relationship.

Finally, the third consequence attending transformation of the economic subject from a partner of exchange into an investor is, Foucault argues, the generalization of the entrepreneurial consciousness. Put more simply, the assessment of risk and return can be applied to any action whatsoever because the subject of investment is—like the gaseous firm of contemporary organization theory—fundamentally responsive to external environmental conditions, and particularly gains and losses. It is on this point that

Foucault draws the clearest line between the forms of power that circulate in disciplinary

societies and those that circulate in the societies that follow disciplinarity. Specifically,

Foucault investigates Gary Becker's analysis of criminality as a market operation, with

the criminal not merely as a delinquent, but as an investor in himself, a player in the

market of criminality who responds to "possible gains and losses" (259). What is the

consequence of a such a shift in concrete terms? In disciplinary societies, the panoptic

form of power sought the "complete suppression and exhaustive nullification of crime"

(256). In neoliberal discourse, this imperative evaporates; the society tolerates levels of

criminality, and affects the market for crime by shaping "negative demand." For

Foucault, this is a complete departure from panopticism:

> [Y]ou can see that what appears on the horizon of this analysis is not at all the ideal or
> project of an exhaustively disciplinary society in which the legal network hemming in
> individuals is taken over and extended internally by, let's say, normative mechanisms.
> Nor is it a society in which a mechanism of general normalization and the exclusion of
> those who cannot be normalized is needed. On the horizon of this analysis we see instead
> the image, the idea, or theme-program of a society in which there is an optimization of
> systems of difference, in which the field is left open to fluctuating processes, in which
> minority individuals and practices are tolerated, in which action is brought to bear on the
> rules of the game rather than on the players, and finally in which there is an
> environmental type of intervention instead of internal subjugation of individuals (260).

Foucault is here making a clean break from both disciplinary societies (a "legal

network hemming in individuals") and sovereign societies ("general normalization and

exclusion") to outline something new. This outline adds another dimension to the

discussion of crowds begun in chapter 2. The cybernetic crowd is precisely the crowd of

investors who are thought to be responsive to reference signals in the environment, while Maffesoli's affective crowd can be seen in the two-fold transformation of the power arrangements Foucault is describing. If a passional logic returns in post-disciplinary society, it is because margins for disorder re-emerge as "fluctuating processes" that become fundamentally important for the "optimization of differences." Diversity trumps ability. And we can see that in such a set of power relations, in such a diagram, power is not brought to bear through internal subjugation, but through the construction, manipulation, and sheer presence of environmental factors: the network. Behavior is investment, buffeted by probabilistic assessments of gains and losses.

In his recent *Capital and Language: From the New Economy to the War Economy*, Christian Marazzi examines what he calls the pension fund revolution in the financial markets. According to Marazzi, at the same time Foucault was analyzing neoliberal economic discourse, and free software was emerging from the transformative struggles in the intellectual property arena, the changes that led to the development of the New Economy were in full swing. Specifically, he identifies the investment of pension plans in the financial markets (1975), and the gradual shift from the pension to the 401K (established in 1981) as key moments in the transformation of labor relations. In place of the confrontation between the worker and the capitalist, and the accumulation of the wage as household savings, this "financialization" transformed workers into investors, or entrepreneurs of themselves, and transformed both the wage and an indefinite labor into investment capital. As Foucault's analysis of neoliberal economics demonstrates, such changes are not merely matters of becoming contract workers in empirical terms; rather,

this shift, the finance of post-Fordism, mirrors the changes in labor, and corresponds with substantive changes in subjectivities and modes of power. They are historically linked, furthermore, with the widespread emergence of symbolic analytic work in the sphere of production. As Marazzi suggests, the deployment of "cognitive properties," which is to say, language, produces significant difficulties in a disciplinary labor process, as point I will return to in chapter 4. We might begin to analyze such features by assuming, as a hypothesis, that the transparency of power is not a particularly great gain. All the theories that suppose power must retain some opacity to operate effectively, were we to accept this hypothesis, seem poised to strike at the heart of disciplinarity: the panoptic tower, silent in its operations, presenting the subject with an opaque front, the one-way mirror of power. But the rational choice theorists in the Hayekian school believe just the opposite: transparency should rule the day. Once the worker, oblivious to the total process in a disciplinary mode, is called upon to act as an entrepreneur, and a thoughtful language-user, transparency becomes the *sine qua non* of economic activity. Transparency is itself an operation of power. The worker does not merely shift the pension fund into the 401K. She reads the statements.

We might thus return to the epigraphs that began this section. In *Discipline and Punish*, visibility is a trap precisely because it opens the subject up to an "internal subjugation." The abnormal subject, once invisible in the excluded mass, is included in a set of processes by which she becomes the bearer of the power situation. In the fully transparent arrangement in which "eyeballs make all bugs shallow," on the other hand, the subject enters into an interoptic relationship with the totality of the external

environment. This arrangement, as Howe is so insistent on pointing out, "optimizes difference" while assuming that an indefinite totality of human capital ("someone") will be available for any given project. The crowd becomes productive because it is both the figure and actualization of this universal entrepreneurship. What, then, happens to the worker in this economy?

*   *   *

This chapter may be read as working toward a gloomy conclusion: open source, and peer production more generally, is *dangerous*. That is, indeed, the conclusion to be drawn, but it is not the whole story. One can see these production processes as dangerous in a traditional way that bemoans decentralization, voluntary (i.e., unpaid) labor, and flexible organization as the collapse of order, the reduction in the quality of expertise, or the economization (or, really, financialization) of social life. While such dangers are very real, they are not the dangers I am concerned with here. The key danger is the embrace of transparency in production and power as an end in itself. I do not mean, of course, that a return to opacity is preferable. As I have suggested throughout, the site of conflict taken up by this study is not located between the enclosure and openness sides of the configurations established in chapter 1, but within the openness columns themselves. To this end, I offer the establishment of an indefinite relation as a way to begin theorizing the subjective changes that are required for entering into F/OSS relationships, whether those involve software or some other kind of production. In the next chapter, I will transit

from the question of what happens to the worker to the question of what happens to the writer. If the relations sought and established through a F/OSS diagram are indefinite, how can we characterize their point of intersection, the *moment* of the counterpart's meeting in the now fully external/internal environment? I will suggest that rhetoric already supplies a concept for this moment, though it has been examined perhaps too ahistorically in its recent re-emergence: *kairos*.

CHAPTER 4: KAIROTIC ECOLOGIES; OR, TOWARDS OPPORTUNISM

We may well ask what the software engineer has in common with the Fiat worker, or with the temporary worker. We must have the courage to answer: precious little, with regard to job description, to professional skills, to the nature of the labor process. But we can also answer: everything, with regard to the make-up and contents of the socialization of single individuals outside the work place. That is to say, these workers have in common emotional tonalities, interests, mentality, expectations. Except that, while in the advanced sectors this homogenous *ethos* (opportunism, idle talk, etc.) is included in production and delineates professional profiles, this *ethos* strengthens, instead, the "world of life" for those who fall into the traditional sectors, as well as for *border-workers* who swing between work and unemployment. To put it succinctly, the seam is to be found between the *opportunism at work* and the universal opportunism demanded by the urban experience. The essentially unitary character of socialization detached from the labor process stands in counterpoint to the fragmentation of productive models, to their World's Fair style co-existence. –Paolo Virno, *A Grammar of the Multitude.*

At about the same time that F/OSS was emerging and the 401K was coming on the scene, James Kinneavy's sought to resuscitate the classical concept of *kairos* for American university education. Thinking of *kairos*, like most compositionists do today, as having "much in common with the situational context," Kinneavy sought a broad based program of "kairotic" education, a program that would provide students keys for decision-making grounded in relevance (104). Since Kinneavy's effort to breathe life back into *kairos*, the concept has enjoyed a remarkable resurgence. Indeed, between the detailed histories of *kairos* in its classical sophistic tradition and its wide range of application to contemporary rhetorical phenomena, *kairos* has been transformed from the "neglected concept" that Kinneavy identified and sought to build a systematic pedagogical program around less than thirty years ago to one of the most important and frequently used concepts in rhetoric and composition studies. While the field's understanding of the way *kairos* functioned in antiquity has been greatly enriched by the

varied studies of its role in sophistic discourse (Consigny), and while collections such as

Philip Sipiora and James Baumlin's have extended knowledge of the concept through

Renaissance and twentieth century thought, little analysis has sought to explain *kairos*'

historical reemergence in our own era, in the present. Put more plainly, the contemporary

literature on *kairos* teaches us that the concept was neglected, and that it is back now; it

teaches us about the origins of the concept in antiquity, and the way it functioned in

various historical periods; it teaches us how to apply *kairos* today for various analytic and

pedagogical purposes. But it doesn't particularly reflect on what has been a remarkable

return to prominence of the idea. Rhetorical instinct would suggest that for a concept to

attain such centrality in any historical period, it must solve a number of theoretical or

practical problems; it must lend order, coherence, or shape to a broader table of concepts

or discourse; or it must link up with material conditions in some relevant or useful way.

Kairos, as a concept, must have developed some contemporary analytical utility.

Rhetorical instinct should cause us to ask, in other words, "Why *kairos* now?"

In this chapter, I will suggest that *kairos* emerges alongside the reformulated

crowd as crucial operator in post-Fordist social formations. If the discourse of the crowd

produces a set of indefinite relationships mediated in networked space, as I argued in

chapter 3, it nevertheless contemplates a moment of *meeting*, what I've called the

meeting with the counterpart. In network peer production, however, this moment of

meeting is not only between two; it is, rather, a universal-particular coordination, a

critical and necessarily unpredictable point when multiple indefinite relationships solidify

or resonate together. If, as Howe suggests, the crowd "authors Linux," for instance, it is

because thousands of contributors self-organize, joining in unlikely combinations, and often making leaps in development. The rhetoric of self-organization, for its part, is replete with vocabulary for signaling *moments* when coordination seems to take hold or shift directions. For instance, we already saw physicist and contemporary crowd theorist Philip Ball suggest that the concept of a phase transition—which is both a physical and temporal description—could be used to describe human societies. Malcolm Gladwell, of course, effects a similar generalization of the concept of a tipping point, originally developed to describe contagion in epidemiology (we are not far from Le Bon, even here). In complexity theory, the relationship between attractors and bifurcators accomplish similar temporal-physical purposes, where attractors are patterns that cohere over time, while bifurcators are "points when systems flip between one region of state space and another," or "thresholds where a system changes patterns" (Bonta and Protevi 20). Each of these cases indicate a broader problematization of the temporal point of *meeting*, which may itself signal a general crisis in the concept of time as it pulls clear of the linear (which is to say, disciplinary) time of modernity. It may be insufficient, then, to distinguish *chronos* and *kairos* at merely the ontological level, pointing up the distinction between two approaches to temporality. Rather, these temporalities could be indexed more directly to historical formations that develop their consistencies, or align them with material and conceptual organizations of language, bodies, and power.

Such indexing would itself suggest that the reemergence and remarkable uptake of *kairos* over the last thirty years can be linked with cultural transformations in both market thought in economics and ecological thought in the sciences: wherever far-from-

equilibrium dynamics seem to take hold in a population, the point of juncture, emergence, or resonance is invented as its key operator. We might find in *kairos*, then, not merely a more complex or traditionally grounded expression of how rhetors "read" and adjust to situational context, but also a kind of master trope for far-from-equilibrium dynamics. That is, phase transitions, tipping points, attractors and bifurcators, and *kairos* gain currency at a particular historical moment because they address a set of similar physical-temporal problems: where the linear systems of causality seem to detach themselves from any fixed temporal sequence, as in far-from-equilibrium dynamics, various areas of knowledge-making activity (epidemiology, ecology, complexity theory, rhetorical studies) must invent concepts to describe and understand non-linear phenomena. Given this formulation, I'd also suggest that *kairos* is crucial for understanding the features of network communication. I do not mean this in Kinneavy's way of approximating an awareness of a "situational context." Rather, this chapter seeks to build on the indefinite crowd relations adduced in chapter 3 and already implicit in the numerical trope of network peer production discourse by thinking *kairos* as both a physical feature of networks and a subjective responsiveness to particular communicative environments or ecologies. *Kairos* returns, that is, because the present is most pressingly understood as a kairotic ecology.

In order to develop this point, the first section will turn to an analysis of post-Fordist production developed by Italian political philosopher Paolo Virno in his series of lectures titled *A Grammar of the Multitude*. More specifically, I will discuss the character of labor Virno identifies in post-Fordism, and particularly three concepts of *opportunism*,

idle talk, and *curiosity* that Virno sees as common (pre)subjective characteristics

developing out of those labor arrangements. Virno's analysis has value for the study of

rhetoric because, to the extent that such arrangements include language at their core, it

calls on us to *respond* to the changing nature of language in contemporary societies. I will

then turn to the ways Virno's thought can help us rethink network peer production by

locating F/OSS within a historical trajectory of post-Fordism. Finally, I will address a

reformulated understanding of *kairos* where composition students actually engage it:

through the use of humor[3] in online writing environments, and through the claim of

transparency that attaches itself to wikis.

The Opportunist's Moment

Why *kairos* now? Initially, of course, a number of directions would seem relevant

to the historical reemergence of the concept since the late 1970's. It may be that the

revival of *kairos* simply goes hand in hand with the revival of rhetorical studies more

generally. It's not surprising that the resurgence of rhetorical studies within the

humanities would necessitate the resurgence of one of its traditionally central terms.

Moreover, as a concept within rhetorical studies, *kairos* seemed well suited to solve, or at

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[3] The focus on humor in online environments arises out of my reading of Virno's category of "idle talk," developed in *A Grammar of the Multitude*, Maffesoli's discussion of "computer palaver," and the composition literature since the 1990's. Virno does not address humor or *kairos* at any length in *A Grammar of the Multitude*. Subsequent to the formulation of this chapter, Virno's study titled *Multitude: Between Innovation and Negation* appeared in English translation. In *that* study, Virno addresses both "the joke" and *kairos* at some length. Indeed, these topics could be said to constitute the central arguments of the study. While this subsequent development serves, in my mind, to confirm tendencies I noticed in *A Grammar of the Multitude*, I will not address *Multitude: Between Innovation and Negation* in this chapter because I have not had sufficient time to digest the argument.

least mediate, theoretical *stases* of agency and structure that came to a head in the 1970's

(Bitzer, Vatz). That's an intradisciplinary answer to the question. It's also clear that

kairos—and sophistic thought in general—fits together well with larger movements in

the humanities, and particularly poststructuralist philosophy. Because *kairos*—contra the

linear time of *chronos*—proposes a concept of temporality similar to those which gained

currency in critical theory, cultural studies, and philosophy, it allowed and allows

rhetorical scholars to communicate more effectively across disciplinary boundaries

(Vitanza 172-173)[4]. That's an interdisciplinary answer to the question. While I suspect

both these factors play important roles in the drama of *kairos*' return, I'd like to suggest a

different direction: that *kairos* is the expression, or a translation in rhetorical terms, of

broader changes in cultural and economic production, and specifically in the

cultural/economic complex of post-Fordist production.

    Kairos, as nearly everyone who writes on it is quick to remind us, defies easy

definition. Carolyn Miller provides a definition that foregrounds its stakes in her

introduction to Sipiora and Baumlin's collection: *kairos*—as the opportune moment—

straddles the virtual space between decorum and spontaneity, between recognition of

what a given context calls for, and the leap into the "radically particular" (Miller xi).

Kairos thus serves to mediate repetition and difference; it designates a temporal hinge

between repetitive socio-rhetorical forms and transformational action. For Charles

Bazerman, similarly, *kairos* as temporal hinge serves to coordinate social complexity by

allowing space for reflection on the relationship between hardened habits and more fluid

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[4] The way Bergsonian thought has been reintroduced in cultural conversation, largely through Gilles
Deleuze's engagement of Bergsonian duration, may serve as a key example.

sensation. More than simply a rhetorical resource, *kairos* names a qualitative point of

intersubjective contact and coordination. Bazerman's account thus tends to deploy *kairos*

ontologically, but we also catch a glimpse of its necessary historical variation. It's not

merely that different historical periods have different sorts of opportunities for action.

Rather, different forms of social organization will make *kairos* a more or less relevant

concept. Opportunity itself takes on different shapes and characteristics based on the

social formations in which it circulates. For example, Bazerman suggests that the

"formation of the *agora* and its characteristic activities make it more likely that certain

classes of individuals recognize moments and impulses for forensic and deliberative

rhetoric" (179). Further, Bazerman notes that "the modern world"—presumably global

capitalist society—presents "great opportunities for movement and interaction among

countries, races and ethnicities, occupations, forms of culture, and entertainments" (187).

If the *agora* established conditions under which *kairos* had to be invented as a concept,

the variations of global capitalist social organization require that techniques for

coordinating repetition and difference, habit and new sensation be raised to a conceptual

level (187). Bazerman's historical qualification provides, I think, a rich resource for

thinking through the function of *kairos* in contemporary discourses. However, we might

further explore the relationship between the *agora*, the modern world, and *kairos*. To do

so, I'd like to turn to Virno's thought.

Virno draws a number of distinction between Fordist and post-Fordist production,

but they all rest on the relationship between work and politics, or *poeisis* and *praxis*.

Rhetorical action has, of course, traditionally been associated with the latter, but this

association caused at least some trouble during the period of Fordist production.

Specifically, Hannah Arendt's argument in *The Human Condition* is that features of the

industrial work process had "instrumentalized action" and thereby "degraded politics."

Arendt saw authentic politics (freedom and action) exemplified in the Greek *polis*, and

particularly in its supposedly strict division from the scene of production and

reproduction (the household, or *oikos*). The household/economy is the realm of necessity,

the needs of the body, biological life. The agora is the realm of freedom from precisely

biological necessity. If the household is structured around the preservation of life as it

encounters privation, in other words, the *agora* is constituted through putting oneself at

public risk to create a dynamic and differentiated common. The first is concerned with

mortality, while the second is concerned with immortality. For Arendt, the immortality

that becomes the object in the authentic *polis* is not the immortality of the person

(through the name or otherwise), but rather of common structures and affects that can be

abstracted from the individual, like, say, democracy or Law. It is in only through their

departure from the biological needs of individuals that they become "common" in a

political sense. Conversely, it is through the reintegration of biology and political action

that an authentic common space disintegrates.

Virno suggests, however, that the relationship in post-Fordism is reversed: it is

not that instrumental reason, work, or *oikos* invades and transforms action, or politics, but

that the characteristics of action—of the *agora*—begin to infect and dominate the work

process. The characteristics Arendt associated with action—"the relationship with the

presence of others, the beginning of new processes, and the constitutive familiarity with

contingency, the unforeseen and the possible"—become the ground on which contemporary work "makes," or operates poeitically. As Virno has it, "post-Fordist labor […] brings into play the talents and qualifications which, according to a secular tradition, had more to do with political action" (Virno 51). Virno is especially fascinated with those forms of work that require an audience and produce no clear end product, what he calls virtuosity, the work of the performing artist, the dancer, the teacher, and the orator. This form of work was always poised on a fuzzy border between *poeisis* and *praxis* in both the classical and Arendtian sense (even Marx is unsure of how to categorize it); for Virno, it has assumed a primary place in the post-Fordist work process. This primacy extends across the spectrum of post-Fordist labor, even as we move far afield from work that would clearly fall in the category of rhetorical performance. The symbolic-analytic work described by Robert Reich bears close resemblance to kinds of action usually reserved for the political sphere (Reich). As the Italian labor movement underwent the structural readjustment in the 1970's, its theorists felt compelled to trace connections between what they called immaterial labor, affective labor, and standard industrial production. Virno and others (notably Negri) suggested that a general socialization of labor, marked by *praxis*, was the common thread that connected forms of work in post-Fordism (Wright 176-196, Katsiaficas 18-43).

Even traditional industrial production, which would seem to remain strictly instrumental—the realm of *homo faber*—we see the rise of *praxis* in the political sense, to the extent that industrial workers are increasingly required to develop forms of cooperation that are then reinserted into the work process. For Virno, the shift from

Fordism to post-Fordism occurs when the organization of work calls on the subjective

participation of the worker; whether the worker "makes" lesson plans or software or cars

is important, of course, but the underlying logic of production is extended across the

social field.The insertion of political action into even the manufacturing work process can

be seen most clearly in the development of the famous Toyota Production System, its

just-in-time manufacturing, and its *ethos* of continuous improvement, called *kaizen*. In his

mammoth study, *The Evolution of a Manufacturing System at Toyota*, Takahiro Fujimoto

calls *kaizen* the "factory as a 'learning laboratory'" (113). Introduced into post-War Japan

by American industrial engineers, *kaizen* called on workers to contribute their knowledge

to the work process for the purpose of eliminating waste. Rather than focusing merely on

the routinized task of the Fordist assembly line, in other words, workers in a *kaizen*

system are asked to participate in a collaborative act of process improvements, to develop

an awareness of both particular inefficiencies or problems, and their relationship to a total

system. The practice, which Fujimoto identifies as one element of evolutionary learning

organization, includes five elements: 1) revealing, visualizing, and dramatizing

production problems on the spot; 2) immediate problem solving by all levels of

employees; 3) development of standard "problem solving tools"; 4) rapid

experimentation, which may include testing process improvements prior to submitting

them; and 5) the development of evolving links between formalized procedures (i.e., in

operating manuals) and concrete problem-solving activities, which, in practice means

frequent revisions of the manuals "by shop floor supervisors" (114-115).   *Kaizen*—

which, at the level of labor, could be considered the essential differentia of specifically

post-Fordist manufacturing—thus focuses on rapid, incremental improvements which require workers to constantly test their activities and locate openings that would reduce waste while maintaining the coherence of the "big picture."

While we might put aside the excessive claims about worker empowerment that are generally packaged with *kaizen*, it is clear that the concept shifts the discursive ground away from the objectified, top-down work process (organized by, say, an industrial engineer) and toward novel forms of worker subjectivity. For example, consider the difference between the assembly line worker who attends only to a routine task, and leaves the organizational and process decisions to various levels of management, on the one hand, and the same kind of worker who is urged (through reward programs or otherwise) to identify, locate, and correct process improvements, on the other. Both workers may develop a particular subjective attention to their own processes (assuming, in a traditional manner, that both would seek to reduce their workload by locating process efficiencies), but the latter worker would also (have to) develop communicative processes to pass on improvements. Indeed, Fujimoto notes that "[a]bove all, '*kaizen mind*,' or problem-consciousness of workers, supervisors, and plant engineers, facilitates quick detection of problems on the shop floor" (114). The cumulative processes of the Toyota Manufacturing System (of which *kaizen* is only one element) produce for firms, as Fujimoto has it, "opportunistic *ex post* learning capabilities" (79). While such evolving forms may seem familiar in light of the F/OSS diagram, this foray into the Toyota factory may seem to take us quite a distance from rhetorical practice, at least as it is presented in the classroom. If any concept parallels the

startling success as *kairos* in rhetorical theory and practice since the 1980's, however, it

is surely *kaizen* in organizational and management theory and practice. I would suggest

here that *kairos* and *kaizen* call for similar subjective postures, especially where they both

presume an evolving, feedback driven population.

Of course, critiques of post-Fordism as an *actual empirical* transformation of

labor should give us pause, and it is wise, I think to follow critic Steven Vallas' advice to

avoid notions of a "single, unitary logic of post-Fordist work organizations" (Vallas 76).

Attempts to replicate the early success of *kaizen* in non-Japanese contexts, for example,

have faced numerous difficulties, largely attributable to cultural and organizational

variables. It is nevertheless the case that attempts to deploy *kaizen* have been widespread.

At the very least, Virno's claim that workers in post-Fordist economies have been asked

to "invent and produce new cooperative procedures" seems as if it could be extended

even into traditional manufacturing sectors (Virno 62). *Kaizen*, whatever its effectiveness

in local contexts, can be said to constitute a specific node for the introduction of political

action into the work process, even at the heart of what would traditionally be considered

poeisis. Apart from its empirical effectiveness, what *kaizen* seeks *as a concept* is both a

subjective transformations. Since this is where the kinship between *kaizen* and *kairos* is

most intense, I'll now turn to three concepts that define post-Fordist subjectivity for

Virno: universal *opportunism, idle talk, and curiosity*. In even their plain meanings, they

should already recall the features of the F/OSS diagram described in chapter 3.

Rhetorical scholars, perhaps defending the ethical honor of sophistic practice,

have been at pains to suggest that the "opportune" in *kairos* cannot connote opportunism

as subjective calculation or mastery of rhetorical context. Rather, the "opportune" in the opportune moment must reflect a complex dialectic between context and speaker, structure and agency. So the mere mention of "universal opportunism" may raise some initial alarms. The concept of opportunism so central to Italian Autonomist thought, however, similarly departs from everyday usage to suggest a more complex relationship between subject and environment. In his essay "Toward a Phenomenology of Opportunism," for example, Massimo de Carolis distinguishes between morality, on the one hand, and two forms of opportunism, on the other: sovereign opportunism, and what he calls "the opportunism of the disinherited" (41). Both morality and sovereign opportunism suggest the autonomous actor; the third category, by contrast, implies something more like *fear*, the animal seeking to escape the predator, a result of what de Carolis calls the "naturalization of the social environment." The opportunist, then, is not merely a calculating individual, but an instance or explication of a common background: the universal opportunism that invests social life. Opportunism is, for Virno, a capacity, "a question of a sensitivity sharpened by changeable *chances,* a familiarity with the kaleidoscope of opportunities, an intimate relationship with the possible, no matter how vast" (86). Like Bazerman's historical qualification of *kairos*, Virno suggests that the shape and relevance of opportunism varies according to social formations. He locates its contemporary *value* in the specific conditions of post-Fordist labor, or "whenever the concrete labor process is permeated by a diffuse 'communicative action' and thus no longer identities itself solely with mute 'instrumental action'" (86). Put another way, the subjective transformation called for when political action enters the labor process

produces the opportunist, or an opportunism of the disinherited. De Carolis' posits two objects for this species of opportunism: first, "*the rules themselves in their abstract and formal beauty*, in their capacity to assume new forms in each game," and second, "the *singular experience in its concrete materiality*, freed henceforth from any subordination to presumed universal principles" (49). Needless to say, these objects bear a close formal relationship to Miller's "propriety and decorum," on the one hand, and "radical particularity," on the other.

In addition to opportunism, Virno identifies idle talk and curiosity as constituent subjective characteristics of post-Fordism. He draws these characteristics from Heidegger, who viewed them as a symptom of inauthenticity, the failure to connect with the world and life in a meaningful way (which is to say, purposively and referentially). It is on this point that we see the closest connection with both the indefinite as it was described in the last chapter, and with the minor rituals of affective cohesion described by Maffesoli (under the umbrella of "computer palaver'). Where Heidegger, as Virno has it, is repulsed by the "impersonal pronoun...*one* says, *one* does, *one* believes this or that," Virno establishes that very anonymity and indefiniteness as the "pre-individual" common element, that which binds people together and *out of which* they individuate. (I will return to the "common" quality of indefiniteness, the some*one*, at the end of this chapter.) While viewed as wasteful and unengaged by Heidegger, idle talk and curiosity are, for Virno, elements that have been directly imported into the contemporary labor process:

> Let us ask ourselves this question: is it true that idle talk and curiosity remain confined to the realm of free time and relaxation, outside of labor? ...should it not be supposed, rather, that these attitudes have become the pivot of contemporary production in which

the act of communication dominates, and in which the ability to manage amid continual innovations is most valued? (89)

If the contemporary workplace differs from the silent factories of modernity, if, that is, the "principle breakthrough of post-Fordism is that it has placed language into the workplace," then the renewed value of idle talk and curiosity has to do with production. It is the very quality of indefiniteness, moreover, that makes both modes valuable. Certainly, if we view the incremental improvement process of *kaizen* again through this lens, the value of idle talk and curiosity become the sorts of (non-purposive) rhetorical activities that can be leveraged, especially where an "opportunistic *ex post* learning" environment is the object. While Virno doesn't connect curiosity and idle talk, they would seem to compose the very interoptic systems that drives processes like F/OSS. Maffesoli's "computer palaver," as a species of idle talk, retains the qualities he sees in it—the capacity to form the (nonproductive) social glue of a group. But idle talk—say, "computer palaver"—also becomes directly productive, especially when paired with filtering mechanisms that serve to connect curiosity with it. These connection, unpredictable and *ex post*, are what we might call *kairos* in the post-Fordist learning organization. To the extent that networked peer production mimics and extends such relationships, it may even be the case that *kairos* leaves the realm of the conceptual, and becomes both an automated feature of systems, and a general subjective condition in network ecologies.

Of *kairos* and *kaizen*, then, we may say this: these concepts are linked in their historical specificity. They gain currency at around the same time, organizing themselves

around material transformations in modes of life, modes of production, and modes of knowledge. Of course, we have to determine the material character of these consistencies if we want to avoid mere Zeitgeistism. But to get there, we would first have to accept the historical character of our own theorizing. The strong claim for rhetorical theory, then, is that *kairos* is not a neutral concept for analysis, nor an ontological category that has merely remained hidden beneath competing ontologies. Nor, for that matter, is it simply a sophistic concept to be deployed more or less uncritically in the era of global capitalism. It is, rather, a concept laden with historical weight and functioning within a specific set of conditions, not least because both analysis and teaching with *kairos* might be considered training for post-Fordist labor, even where it would seem most divorced from the labor process, as in the analysis of a political speech. In the next sections, I will seek to better ground this function of *kairos* in contemporary thought by linking two areas of peer production. First, I will return to the category of the indefinite described through the F/OSS diagram in the last chapter to better locate F/OSS within the developments of post-Fordist labor. Second, and to come back full circle to the concerns developed in chapter 1, I will turn to network technologies in the writing classroom, examined not through the prism of intellectual property or publics, but *kairos* and crowds.

From the Mythical Man-Month to the Bazaar: F/OSS as Post-Fordist Labor

I opened the previous chapter with a brief overview of free and open source history. In fact, F/OSS proponents often use historical arguments that seek to locate their activities within a larger history of software development. Eric Raymond opens *The*

Cathedral and the Bazaar, for example, with a chapter called "A Brief History of

Hackerdom." Open source, as Raymond has it, is related to a whole history of successful

tinkering with programs that really goes back to the early days of computing.

Specifically, "hacking" was a widespread phenomenon among programmers from the

1950's onward, kept vibrant by a scientific culture that valued the sharing of knowledge

for the purpose of technical innovation, and was cultivated by programmers who built the

big software systems during the 1960's. It expanded during the 1970's through both the

connectivity enabled by ARPAnet, and the growing hobbyist interest in microcomputing.

An almost identical tale is told by Pekka Himanen in the appendix to her book *The*

Hacker Ethic: A Radical Approach to the Philosophy of Business. She names the

appendix, like Raymond, "A Brief History of Computer Hackerdom" (179).

Richard Stallman takes a broader historical view, often describing the necessity

for a culture of tinkering with technology in general, as in the following example about

auto repair: "But lots of people can learn enough to do easy jobs, just the way, you know,

50 years ago, lots and lots of American men learned to repair cars, which is what enabled

the U.S. to have a motorized army in World War II and win. So, very important, having

lots of people tinkering" (Stallman 2001). Where Stallman turns this history to software,

he locates a culture of sharing within the local confines of the MIT AI Lab, but imputes

its general operation throughout academic software culture. The sharing and hacking

practices associated with F/OSS, these historical arguments suggest, are in some sense

inherent in the process of programming itself, and can certainly be traced throughout the

post-war development of software and other computing products. Indeed, there is good evidence for this claim.

Certainly, as computer historian Paul E. Ceruzzi has shown, the field of computer science was no stranger to either tight restrictions on access stemming from the government nature of the work or proprietary software stemming from industry and financial pressure (Ceruzzi). However, there remained an ethic among programmers of tinkering and sharing improvements. This ethic of working on computer problems for pleasure and sharing any improvements or problems is broadly referred to as the "hacker ethic" within computer culture lore. Levy dates the development of the hacker ethic to the late 1950's and describes its four main precepts as a commitment to total information freedom, a conviction that authority and centralization should not be trusted, a belief in the aesthetic aspect of programming, and a faith that computers can improve social life at large (Levy 38-49). We can find the major philosophical point of conflict with proprietary software precisely in these precepts: "[I]nstead of everybody writing his [sic] own version of the same program, the best version would be available to everyone, and everyone would be free to delve into the code and improve on *that*."

The notion of a hacker ethic was not a mere pipedream position, but actually functioned usefully throughout the development of computer technology. During the 1950's, IBM founded the SHARE program, a consortium that brought companies together to solve common problems with IBM's software (Akera). As Akera demonstrates, companies found dealing with the complexity of software difficult and redundant on their own; when sharing solutions with others (i.e., the "hacker ethic"),

software problems tended to be identified and improved more quickly. Internet historian

Janet Abbate argues, moreover, that the very notion of the Internet and what it was used

for changed drastically as a result of lax restrictions on information and user-driven

innovations. Throughout the 1970's, the ARPANET, despite its role as a Defense

Department System, had a relatively "relaxed access policy." Managers tended to look

the other way when user restrictions were breached by staff, and even the company

responsible for running the ARPANET, Bolt, Beranek and Newman (BBN), tended to

encourage putatively "unauthorized use," since such use gave it more data to test the

stability and capacity of the system (Abbate 85). Users not only developed innovations

for the hardware, but came up with new ways to use the network as a whole. While the

network was originally designed for resource sharing – that is, sharing computing power

between remote locations – its capacities made such sharing difficult. Instead, users

seized on the communication capacities of the network, finding these much more useful.

Thus, the entire purpose of the ARPANET shifted as the users transformed its function

(Abate 111). At MIT, where Stallman began work in 1971, the programmers decided to

use the system as a Local Area Network (LAN). Rather than the long-distance transfer of

information, users at MIT began transferring information *within* MIT, a "spontaneous

innovation" which initially "puzzled" BBN's network monitors (Abbate 94).

If a break appears with F/OSS discourse, it happens—not surprisingly—at the

beginning of the 1980's, when the cultures that enabled widespread hacking began to

come under assault from both intellectual property pressures and technological change,

not least being the introduction of the personal computer. Stallman, always more

aggressive when describing this historical moment, presents it as the destruction of the

community at the Artificial Intelligence Lab (Levy, Stallman 2001, Williams). Raymond,

who seeks to draw a more stable continuity and downplay conflict with industry, presents

this moment perhaps more conservatively as the "end of the elder days," summarizing the

state of affairs:

> So matters stood in 1980: three cultures, overlapping at the edges but clustered around
> very different technologies. The ARPAnet/PDP-10 culture, wedded to LISP and MACRO
> and TOPS-10 and ITS and SAIL. The Unix and C crowd with their PDP-11's and
> VAXen and pokey telephone connections. And the anarchic horde of early
> microcomputer enthusiasts bent on taking computer power to the people (10).

Despite these varying approaches, a consistent set of narratives can be found in

these histories. First, software production has always worked better as "open source,"

even before F/OSS existed as such. Second, the development and expansion of

intellectual property laws threatens the efficient development of software. The function of

the historical narratives is to draw a continuity that is disrupted by the emergence of

severe intellectual property laws and protections. Where Raymond is more willing to

meet business interests halfway, the accent is on the increasing freedom and efficiency of

open source programming. Where Stallman is more radical in his calls for opposing

intellectual property of any kind, the accent is on the decreasing freedom and efficiency

of proprietary software. But the general outline of each narrative is the same: a period of

relative freedom to tinker was disrupted by poorly conceived intellectual property

arrangements. The F/OSS systems and processes provide a response, wresting freedom

back aggressive expropriation. Despite some differences, this is indeed the narrative that

has prevailed when thinking of the F/OSS diagram in general: transparency and decentralized control trump the privatized . One need only glance back at Porter and DeVoss' table of oppositions to see the way it plays out in composition's approach to intellectual property; the rather ludicrous notion that internet should be a "shopping mall" rather than a "community forum" would likely even be denied by the late Jack Valenti, as vociferous as he was for copy protection in the motion picture industry.

I would like to complicate this narrative by examining one of the key texts used by Raymond to situate the difference of open source software development from that of the "cathedral style" programming that prevails in proprietary firms, Frederick Brooks' *The Mythical Man-Month*. Brooks' text is a classic in software literature for a number of reasons. Published in 1975, the same year that New York City invested its employees' pension funds, *The Mythical Man-Month* was one of the first books to attempt a formalization of software *management* techniques. It thereby captured a set of problems that would beset managers not only in software engineering, but across an increasingly informatic set of workplaces. More importantly, Brooks' himself was able to reflect on concrete management experience at the center of one of the largest and most complex software projects of his generation; he managed the IBM OS/360 (Operating System 360).

The OS/360 was an ambitious project at the time of its conception in the early 1960's; IBM designed it for their System 360 mainframe computers, and envisioned it as competition killer. As software historian Martin Campbell Kelly demonstrates, the

development process of the OS/360 was essentially a disaster, but a disaster with many

lessons that Brooks' would formalize:

> [The OS/360] project started in 1965 with a team of 150 programmers, quickly slipped 6
> months behind schedule, so more programmers were added; this happened time and
> again, and eventually a thousand people were working on the project. […] In all, 5,000
> man-years were expended on OS/360. It was eventually released in mid 1967, a full year
> late, unacceptably slow and with many residual errors. Together, OS/360 and the rest of
> the System/360 software cost $500 million, over the original budget by a factor of 4 and
> "the single largest expenditure in company history" (95)

Some speculate that this disastrous production process led in part to the most

radical business and foundation move in the history of the software industry, IBM's

unbundling of software from hardware in 1969 (that is, selling software separate from the

hardware systems). Brooks was at the center of this production process, and learned from

it a very important lesson that was at the time "being learned simultaneously in many

projects": "software writing did not scale up linearly" (95).

In *The Mythical Man-Month: Essays in Software Engineering*, Brooks formulates

the law that reflects the non-linear quality of software development this way: "Adding

manpower to a late software project makes it later" (Brooks 25). Software project

management had proceeded as if the software project operated in essentially the same

way as any other kind of commodity production. If the job was off schedule, it would be

easy enough to hire new workers and throw them at the materials in order to boost

production levels. One can see how this sort of solution might work for cars, where

double the additional workers can insert additional engines at double the time of the

current workers, given the requisite physical capacities. For software, as Brooks'

discovered during the OS/360 project, this linear effect of *adding* more programmers not only doesn't work, but actually slows down the progress of the project. Why? Whereas the assembly line in the Fordist model provides an inherent or built in communication of subtasks (Marx calls the machines themselves the "general intellect"), in software, the problems of sequential debugging and external communication adds additional time to the workload: "In tasks that can be partitioned but which require communication among the subtasks, the effort of communication must be added to the amount of work to be done. Therefore the best that can be done is a somewhat poorer trade of men for months" (17). We might recall at this point one of the central contentions about post-Fordism, seen in Marazzi's statement at the beginning of chapter 3: "The centrality of language in post-Fordist production and the putting to work of the cognitive properties of the workforce leads to a *crisis of measurability* of single work operations (of the work time necessary to produce goods)." The *mythical* man-month—that is to say, the very idea that the "man-month" is an illusory notion in software engineering—should be considered, suggests Marazzi, a generalizable principle of post-Fordist production. It is certainly true that software programming assumes a complexity not experienced in other forms of work, but the communicative coordination involved would presumably have parallel effects elsewhere.

For Brooks, the solution to this problem involves tighter controls and more central direction, and a cleaner division of labor. He models the software team after the "surgical team," with a clear leader figure who makes the final judgment on any dispute. (It would not be the only time that collaborative organization touches the medical strategies for

engaging the body; Kenneth Bruffee famously models his theory of collaborative

learning after the pedagogies of the British medical schools (Bruffee 394-395)). In this

sense, Brooks proposes an intensification of segmentation and hierarchy, both a

"separation of function" and a "superior-subordinate relationship" that models the

assembly line while smoothing coordination difficulties. In Brooks' approach to problem

of language and coordination, ability trumps diversity: "top-down design is the most

important new programming formalization of the decade" (144).

It is on this point, as I have shown in chapter 3, that the F/OSS diagram most

radically departs from a disciplinary model by establishing a *common* or indefinite field

of contributors. Unlike the deeply segmented members of the surgical team (labeled by

Brooks with such titles as "the surgeon," "the copilot," "the toolsmith," 'the tester," and

"the language lawyer"), the F/OSS model assumes a core group at the center, and only a

range of "someones" at the periphery. The results, for Raymond, are a direct overturning

of Brooks' Law:

> Brooks' Law analysis (and the resultant fear of large numbers in development groups)
> rests on a hidden assumption: that the communication structure of the project is
> necessarily a complete graph, that everybody talks to everybody else. But on open-source
> projects, the halo of developers work on what are in effect separable parallel subtasks and
> interact with each other very little; code changes and bug reports stream through the core
> group, and only within that small core group do we pay the full Brooksian overhead.
> (Raymond 35)

The point here isn't to merely to present Raymond's conception of F/OSS as a

counterpoint to Brooks. Rather, the differing approaches demonstrate that both the

"surgical team" approach and the F/OSS approach are responses to a particular labor

problem, the problem of immeasurability that infests the labor process when coordination

of complex materials and communication become central to work. This immeasurability,

moreover, is related to the form of measure previously used to evaluate production: "the

work time necessary to produce goods." Whereas Brooks seeks to reduce the "wasted

time" of communication and coordination by stricter subdivision, Raymond introduces

another temporality altogether by splitting the timescales themselves: the indefinite set of

contributors operate according to "cost-free" time, while the core group assumes a

limited overhead by plucking solutions from the contributors. Where these two timescales

meet, we find the mysterious eruption of coordination and changes in direction: *kairos*. It

is in this sense that the F/OSS diagram can be said to "automate" *kairos* through the

development of post-Fordist subjectivities of opportunism, idle talk, and curiosity. Each

of these subjective attitudes becomes useful because they serve to link these two groups;

they transform the indefinite into the concrete contribution. Where the post-Fordist work

process finds its greatest difficulty, the time of coordination, the F/OSS diagram—or peer

production in general—develops its most radical innovation, improving on even the

kaizen model of Toyota: a *kairotic* ecology.

If the standard narrative of increasing freedom , or the tendency to view F/OSS in

terms of its conflict with intellectual property obscures an economic and ecological

relationship, it may be this: that F/OSS is not a departure from post-Fordist problems of

labor, but a radical solution to those problems. In composition pedagogy, to its credit, the

problem of idle talk in network ecologies has been a particular issue of concern. The

focus, however, has tended to cluster around issues of authority in the writing classroom,

the identity of students, and the capacity for rational argumentation. I turn to these issues

now, with a view towards reading online forums and wikis as a subset of peer production

in a post-Fordist mode.

The Opportunist's Edit: Rethinking Online Composition as Work Environment

Nearly all the literature on electronic class discussions notices, at the very least, a

sharp increase in students' use of humor in electronic space, what we might call the

"computer palaver." In one of the earliest works addressing online discussion, Lester

Faigley's chapter in *Fragments of Rationality* titled—somewhat ironically, of course,

"The Achieved Utopia of the networked Classroom"—the question of humor causes

some pause, largely because it both troubles the instructor's role and has the capacity to

hurt other students in the class. These two themes became primary during the 1990's , as

students' use of racist, sexist and homophobic "jokes" suddenly became all too visible in

network space. In each case, the humor produced by students holds a rather unstable

position, if it is not rightly condemned for its negative content. Several articles in

different journals have focused specifically on the production of humor; they draw

attention to the way joking operates in online discussion forums, and especially in

electronic classroom discussion. These studies do not point to merely the lighter side of

online discourse, however. Rather, they explore the way joking serves to cement and

fragment discussion groups, the way the online format calls forth different subjectivities

for writers, and the implications of these humorous outbursts for pedagogy.

So why all the joking around? Those studying the use of humor in electronic discussion point to what Faigley calls its hybrid status – or its curious suspension between oral and written forms of literacy – as one cause for the proliferation of joking and humor online. In a classroom context, moreover, the relative freedom from constraints of teacher-centered pedagogy produces more joking due to a change in the form of structure. These two points generally serve as preliminaries; two studies on online humor in *Computers and Composition* are more concerned with effects and implications. In "A Class of Clowns: Spontaneous Joking in Computer-Assisted Discussions," Christopher Holcomb argues that spontaneous joking demonstrates student "competency in a new form of literate practice, a practice that emerges from the conjunction of orality, literacy, and technology" (4). Rather than merely unleashing some chaos that traditional classroom structures ostensibly order, electronic discussions call forth a set of rhetorical strategies and visualize their effects.

Students engage in spontaneous humor, of course, in offline discussion – and probably more so in collaborative group work. Since such humor is so prevalent in electronic discussions, however, Holcomb aims to provide its credits and debits and draw some conclusions about its use. Interestingly, the two main uses of humor that Holcomb notes involve some attempt to produce an online *ethos*; students use humor to "build rapport" with the other group members and to "save face" when they have offended other members. Students also use humor when they bump up against the boundaries of their belief systems, to "explore and negotiate (in a relatively safe way) thresholds between different ways of thinking and behaving" (4). In this sense, the kinds of humor

that students use online can be examined critically in their rhetorical dimensions: How do students attempt to forge coalitions, dispute or assert epistemological claims, or defend positions through humor? What kind of personas do students construct with their various joking strategies? Yet Holcomb is also concerned with the "more troubling effects" of building rapport:

> A joke instantly organizes participants into hierarchically differentiated groups: those who get the joke and those who don't; those who laugh and those who choose to withhold laughter; and, finally, those who laugh with the speaker and those who are laughed at. (4)

One returns, then, to the point made time and again: electronic discussion does not ensure egalitarian communication. We are surely sufficiently cautioned on this point, however, so it may be more useful to concentrate on the *other* rhetorical effects of humor. Rather than focusing on the divisive function of humor, M.T Hubler and D.C. Bell examine how humor online serves the purpose of building group *ethos*, or constituting the boundaries of the group. Examining an email list for writing center tutors, Hubler and Bell seek to "sketch a model of online community building through humorous discourse" (278). By affirming some jokes and rejecting others, the group forms a set of boundaries and shared identities. For Hubler and Bell, it is notable that these activities – which can fall into what maffesoli calls an underground emotional tenor that cements groups – here take a clear textual form that is not distinguished from the "serious" work of the group.

By using the "metaphor of informal note passing" to approximate mailing list humor, Hubler and Bell suggest traces of Robert Brooke's use of "underlife."[5] Joan Tornow also uses the notion of underlife explicitly to describe the difference in online writing (Tornow 97-106). As Albert Rouzie uses the concept in his 2001 *CCC* article "Conversation and Carrying-on: Play, Conflict, and Serio-Ludic Discourse in Synchronous Computer Conferencing," student underlife is the "ostensibly off-task talking and activities performed by students during class" (257). The key word here is "ostensibly." What appears on its face "off-task"—or activity not directed towards the class goals—is actually, for Rouzie, a form of "playful work, or serio-ludic discourse, that helps students develop roles and identities distinct from prescribed institutional roles" (257-258). Because synchronous discussion spaces render this underlife visible and explicit, they can, says Rouzie, help instructors direct it toward productive interrogation of student and instructor roles.

At the same time, it is the very notion of productivity that Rouzie calls into question. Serio-ludic discourse – the kind of joking that erupts during work-time in electronic discussion – helps to disturb the ostensibly strict boundaries between work and play. Rouzie notably links a targeted challenge to the work-play distinction with changes in the kinds of workplaces students will enter. While Rouzie sees a "debilitating rift between the serious and the ludic in academic culture" and notes the "multiple literacies

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[5] The concept of underlife was first developed by Erving Goffman in his work on staff and patients in mental health facilities, *Asylums: Essays on the Social Situation of Mental Patients and Other Inmates*. New York: Anchor Books, 1961. See also Brooke, Robert. "Underlife and Writing Instruction." *Rhetoric and Composition: A Sourcebook for Teachers and Writers*. Ed. R. Graves. Portsmouth, NH: Heinemann, 1990, 96-107.

of embedded communication that most students will use intensively in their jobs," he

continues to see a larger social formation of "cultural and market forces that separate

work and play through commodified leisure" (292-293). Rouzie, in my view, moves

composition studies very far along indeed by turning his analysis to the problem of

production. He provides the tightest link between idle talk and work. In light of the

analysis of the F/OSS diagram, we might question Rouzie's assumptions on precisely the

problem of commodified leisure. Far from maintaining a work-play distinction through

commodified leisure, we might see "market forces" collapsing work-play distinctions,

especially when it comes to the higher end symbolic-analytic work. Drawing on the

concept of role-reversal and role-uncertainty in the carnivelesque, Rouzie argues that the

joking in electronic discussions produces a shift in power dynamics, and thereby

"unsettle[s] traditional instructor roles even more thoroughly than […] collaborative

group work in traditional classrooms" (288). The F/OSS diagram, and a general analysis

of post-Fordism, would suggest another reading altogether. While "role-uncertainty" may

undermine the instructor's position within the classroom, it also helps produce the sorts

of indefinite relationships that drive productive crowds. In Rouzie's approach to

"commercialized leisure," we may be seeing the return of the dreaded intellectual

property discourse in another form, the internet as "shopping mall" rather than

"community forum."

This tendency is most clear in one of the key works on wiki technologies to

emerge from composition studies, Matthew D. Barton's "The Future of Rational-Critical

Debate in Online Public Spaces." In the article, Barton suggests that the attention

composition instructors have turned on internet spaces is crucial at just this moment

because the internet is "losing its democratizing features and is becoming everyday more

like newspapers and television, controlled from above by powerful multinational

corporations, who demand passivity from an audience of total consumers" (Barton 177).

Using Habermas' concept of the public sphere to work through the variety of writing

spaces available online (such as internet forums, blogs, and wikis) Barton arrives at a

perhaps unsurprising conclusion:

> Wikis are democratic in that the apparent status of the individual users is not observed,
> but also in a more fundamental way: Wikis emphasize a progressive, democratic aspect
> of writing that is mostly ignored by the commercial press, where only the finished
> product is represented. Like Feenberg's "city," the god of wikis is freedom, not efficiency
> (187).

Barton certainly qualifies his discussion a great deal after this rather startling declaration ,

noting, for example, that students using wikis will not be able to construct a meaningful

community voice without first developing a personal identity and voice (a claim that a

F/OSS diagram as I have described it here would certainly view as at best ambiguous).

The conceptual problem, however, does not reside in tone of euphoria, but the

positioning of power dynamics. It is easy enough, and certainly encouraged, to focus on

commercialization, the expropriation of community voices, and the privatization of the

Internet. What becomes more difficult and troubling for wikis is not such threatened

opacity, but their obvious transparency. We might apply Virno's critique of Arendt here:

where "rational-critical" debate becomes precisely a form of communicative action in the

production process, the problem is no longer the forces that would stifle it. Indeed, the

features of wikis that Barton sees as most democratic—the presentation of text as "in

process" and amendable by anonymous users—would also seem to place these forms most solidly within a post-Fordist labor process, a process that becomes invisible when the opposition to democracy is commercialization. But this is precisely the effect of the Benkler and Porter-DeVoss tables, as stand-ins for the image of power circulating in Internet discourse. Wikis, too, are *kairotic* ecologies, or spaces developed by self-organizing groups of indefinite contributors. Who will edit the "manifestoes" that Barton imagines as the wiki's most promising product? Someone.

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I would like to return in the conclusion to the problem of the indefinite, and the way *kairos* operates as the mode of temporality serving to connect *someones*, the point of connection in online space. I noted earlier that Virno sees a value in the pre-individual character of the "one" who speaks, or, in this case, edits. If the indefinite character of contributor in a F/OSS project or wiki serves as a novel approach to the problem of organizing symbolic-analytic work, it also serves to create a common space among a diverse set of constituencies. Opportunism, as the epigraph of this chapter indicates, is both a peril and a promise for Virno. It is a peril insofar as it points to the collapse of a form of organization that worked so effectively to promote labor rights in modernity. As a subjective transformation, the constant attention to the opportune both strips people of solidarity and indicates that the common measure of work—the confrontation between the worker and the capitalist—no longer serves the political function it once did. What

used to be common was an identity, a laboring identity. In the "World's Fair" style

diffraction of the work process, this identity collapses: the software engineer has nothing

in common with the Toyota worker, or the composition students, for that matter. But the

same force of subjective transformation suggests for Virno a regrouping or clustering at

another level, the re-establishment of a common at precisely the level of idle talk,

curiosity, opportunism, and *kairos*. It is in this sense that the Toyota worker, the software

engineer, and the student of composition face a similar set of problems, and specifically

rhetorical problems, and it has been my goal here to construct an image of the

environment in which those problems operate. The image of power developed in the

activist intellectual property discourse and its composition studies partner tends to block

out this distinction by collapsing forms of openness and transparency into a beleaguered

group, struggling against a ravaging form of privatization that seeks to shut it down.

What the crowd technologies of the internet tell us, on the other hand, is that the

swarming and productive crowds of open source and wikis produce their own sets of

problematic relationships, but also their own promises—however currently limited—of a

different kind of resistance.

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VITA

ANTONIO CERASO

4848 N. ROCKWELL #3 ● CHICAGO, IL 60625
PHONE (773) 728-2187 ● CELL (814) 360-9982 ● EMAIL ACERASO@DEPAUL.EDU

EDUCATION

Ph.D. English   The Pennsylvania State University (2009)
MA English   The Pennsylvania State University (2000)
BA English and History Binghamton University (1995)

TEACHING EXPERIENCE

2007-2009   DePaul University—Technical Writing, Professional Writing, Document Design (Graduate), Grant Writing (Graduate)

2002-2007   Penn State University—First-Year Composition, Business Writing, Technical Writing, Writing in the Social Sciences, Introduction to Critical Reading, Article Writing (Graduate)

1998-2000   Penn State University—First-Year Composition

SELECTED PAPERS PRESENTED

"The Opportunist's Moment: The Contemporary History of *Kairos*." *Rhetoric Society of America* (2008)

"A Rhetoric of the Multitude: The Minor Politics of 09 F9." *Computers and Writing*. (2008)

"Thieves Like Us: Open Source and the Privatization of Culture." *Computers and Writing*. (2007)

"Wikis and Peer Network Documentation." *Association of Teachers of Technical Writing Conference.* (2006)

"Writing Crowds: Reframing the Wiki for Composition." *Originality, Imitation, Plagiarism: A Cross-Disciplinary Conference on Writing*. (2005)

AWARDS

Penn State Graduate Assistant Teaching Award (University-wide honor)
Wilma R. Ebbitt Graduate Fellowship in Rhetoric
Science, Medicine, Technology, and Culture Research Award
Nancy Lowe Excellence in Teaching Award (Department Award, English)