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# Commons Praxis: Towards a Critical Political Economy of the Digital Commons

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**Abstract:** The concept of the commons has provided a useful framework for understanding a wide range of resources and cultural activities associated with the creation of value outside of the traditional market mechanisms under capitalism (i.e., private property, rational self-interest, and profit maximization). However, these communities often continue to intersect with capital and the state attempts to appropriate their resources. Recent scholarship has sought to unpack some of the contradictions inherent in the claims made about the revolutionary potential of the commons by offering conceptual frameworks for assessing commons-based projects. This paper builds upon this research by developing a two-pronged argument. First, by drawing examples from the free software movement, I argue that critical political economy provides the most useful analytical framework for understanding the contradictions inherent in the relationship between capital and the commons. Second, I argue for a commons praxis that attempts to overcome some of these contradictions. Within this discussion, I build on the notion of 'boundary commoning' to understand organizational form, and I develop the concept of 'subversive commoning' for understanding various forms of commoning that seek to undermine the capitalist logics of the digital commons.

**Keywords:** critical political economy, commons, commons-based peer production, free software, open source

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## 1. Introduction

In the search for alternatives to capitalism, the commons paradigm has emerged as a possible direction forward. The concept of the commons (Ostrom 1990; Thompson 1993; Linebaugh 2014; Hardt & Negri 2011; Bollier & Helfrich 2012; De Angelis 2017) has been used as a framework for informing and understanding the activities of various social movements that are actively working against the enclosure of public goods or commons-based resources. These range from natural resources like water, fish, grasslands, forests, or the atmosphere to human-created resources like education, housing, or ideas and their expression. Whatever the resource, these movements are linked by their attempts to maintain or reinstitute community control over such re-

sources, while resisting (to various degrees) state or corporate exploitation or control of the resource. The emergent ways that communities negotiate their relationship with either the state or capital has been the subject of scholarly interest and debate for at least the last 25 years.

More recent scholarship has attempted to clarify some of the diverse ways in which the commons can be understood, particularly as an emancipatory practice in the face of the prevailing capitalist economy (Broumas 2017; De Angelis 2017; De Rosnay & Musiani 2016). De Angelis's (2017), for example, has developed the notions of "commons value circuits" and "boundary commoning." These contributions provide a useful analytical framework for understanding how the commons and commons-based movements can be understood as alternative value systems and the ways they can intersect with capital circuits.

In this paper, I build on this scholarship by showing how such a framework can be applied specifically to the digital commons. By drawing examples from the free and open source software movement, I illustrate the dynamics that exist between capital and the commons value circuits, but I also argue that the power of these movements is still somewhat ambiguous, particularly considering the difficulty of preventing the digital commons from being used for unforeseen or unwanted purposes. To that end, I argue that communities involved in the creation and sustenance of the digital commons still need a progressive political project that goes beyond protecting commons-based resources from enclosure—what I call the "politics of subsistence"—to one that actively seeks to integrate resources from the state and capital into commons circuits. To do this, I work from a critical political economic perspective that can most adequately account for the contradictions within the dialectic of capital and the commons. I suggest that the specific forms of progressive politics may vary, but such movements need to find strategies for building commons-based capacity. Movements informed by liberal-democratic theory will try to find ways to work within capital or the state to bring about a commons transition (P2P Foundation 2017), but this strategy remains somewhat limited (Broumas 2017). But a commons-based praxis informed by radical politics would seek to actively appropriate resources away from capital and the state into circuits of commons value. I call this strategy "subversive commoning."

To develop this argument in what follows, I begin with an explanation of the digital commons by focusing on free and open source software has been understood as a type of commons and commons-based peer production. Important for this discussion is the conceptual distinction between FLOSS *products* and *processes*. To develop framework further, I draw from some of the foundational literature for understanding the commons, most notably the work of Elinor Ostrom. I then proceed to more recent scholarship that has attempted to reconcile commons-based movements and their limits within the contradictions of capitalism. Next, I provide greater detail about Massimo De Angelis's circuit of commons value and boundary commoning as key sites of struggle. Finally, by drawing examples from the free and open source software movement, I develop my argument for why we need to move beyond a politics of subsistence for the digital commons toward a progressive and multifaceted

strategy for actively building commons-based communities as well as appropriating resources from capital and the state into commons value circuits.

## 2. Free (Libre) and Open Source Software as Digital Commons

Each year, The Linux Foundation releases a report titled, "Linux Kernel Development: How Fast it is Going, Who is Doing It, What They are Doing, and Who is Sponsoring the Work." The kernel is an essential part of an operating system that facilitates communication between computer hardware and software, and the Linux kernel development project is considered "one of the largest cooperative software projects ever attempted" (The Linux Foundation 2012, 1). Aside from a technical overview of how kernel development has changed over time, the authors also include information about the corporations that sponsor contributions to the kernel. For the latest version of the kernel, 221 companies contributed to its development, while 1,582 individual developers contributed. Figure 1 provides an illustration of the top 15 most active companies that have sponsored contributions to the Linux kernel project. Other notable companies appearing outside the top 15 are Huawei Technologies, Facebook, Cisco, and Qualcomm.

**Figure 1:** Contributors to Linux Kernel Development.
(Linux Foundation 2016, 12)

| Company | Changes | Percent |
|---|---|---|
| Intel | 14,384 | 12.9% |
| Red Hat | 8,987 | 8.0% |
| none | 8,571 | 7.7% |
| unknown | 7,582 | 6.8% |
| Linaro | 4,515 | 4.0% |
| Samsung | 4,338 | 3.9% |
| SUSE | 3,619 | 3.2% |
| IBM | 2,995 | 2.7% |
| consultants | 2,938 | 2.6% |
| Renesas Electronics | 2,239 | 2.0% |
| Google | 2,203 | 2.0% |
| AMD | 2,100 | 1.9% |
| Texas Instruments | 1,917 | 1.7% |
| ARM | 1,617 | 1.4% |
| Oracle | 1,528 | 1.4% |

The Linux operating system is a form of Free (Libre) and Open Source Software, or FLOSS, which allows users to freely study, use, copy, modify, adapt, or distribute the software. FLOSS in general and the Linux project, specifically, have been hailed as the epitome of what is possible under commons-based peer production (Benkler 2006; Weber 2004; Moody 2001; Tapscott & Williams 2006). The commons and commons-based peer production, however, are often positioned in contradistinction to capital and capitalist production (Marx 1976; Benkler 2006). This begs the question as to how and why major corporations would contribute directly to a FLOSS project, especially when that project seemingly does not directly contribute to corporate profits. The question becomes even more curious when one considers that many of the companies contributing to the kernel not only compete with one another in the market for information technology, but companies like Microsoft and Google are direct competitors with Linux in the market for operating systems. To understand why corporations are involved in FLOSS projects, we must first draw a conceptual distinction between FLOSS *products* as common pool resources and the *process* of commons-based peer production that is used to create FLOSS products.

## 2.1. Commons Products: Common-Pool Resources

In tracing the roots of scholarship on the commons, most scholars bookmark the work of Elinor Ostrom (1990). The narrative often begins with Ostrom's work, and focuses on how her ideas developed and influenced subsequent generations of scholars. While Ostrom is a towering figure in scholarship on the commons, this simple narrative tends to obfuscate the broader history and context within which Ostrom's work is situated. Locher (2016) clarifies this history by demonstrating how Ostrom's work can be contextualized within a broader history of scholarly debates within economic, political, and anthropological scholarship concerned with the best way to achieve development. These debates were concerned with the role of the state, the market, and local communities in the project of development during the post-World War II period. This scholarship can be linked with the United States' international development projects through its flagship institution, USAID, in the 1970s-80s.

Two assumptions in the approach to development dominated this period. One was the assumption of the "tragedy of the commons" or the fallacy of collective action, based primarily on the work of Garrett Hardin (1968). Hardin (1968) argued that the commons were ultimately unsustainable because they were at risk of overexploitation as members of the community acted in their self-interest to maximize personal gain. Thus, there was a fallacy in the logic of collective action; it was simply impossible for communities to govern collective resources without overexploiting them. The second assumption was that the liberal technocratic state ought to be the central agent in development through economic planning and coordinating large-scale development projects. This assumption was driven by the success of the New Deal and the welfare state in the post-war period. As such, the model was viewed as the primary means for developing countries in the Global South where traditional practices would give way to modernization to boost economic productivity.

During the 1970s, these assumptions were challenged by development anthropology, which analysed "adaptive socio-ecological strategies" used by local communities to ensure the survival of ecological resources (Locher 2016, 313). Often, these decision-making strategies were situated within complex systems of customs and social rules that developed from local communities' historical experiences with their broader environment. Challenges to these assumptions continued in the 1980s as neoliberal economics emerged as an alternative to welfare state capitalism. Informed by rational choice theory, which privileged calculating and efficient economic decision-making by profit-maximizing individuals, the goal was to unleash productive capacity in the private sector through deregulation and privatization. Neoliberal doctrine thus argued for dismantling state regulation and withdrawing the state from social provision. As such, neoliberalism represented not just an economic doctrine but also "an ethic in itself, capable of acting as a guide for all human action, and substituting for all previously existing ethical beliefs." (Treanor 2005, np).

Within this context, Ostrom's scholarship, in collaboration with others, sought to illuminate the ways that local communities govern common pool resources outside of the binary of either state provision or market relations. The types of common pool resources governed in this way vary, but the initial focus was on natural resources like fisheries, grazing pastures, groundwater basins, and irrigation systems. Later, Hess & Ostrom (2007) would expand the study of the commons to non-tangible resources like knowledge and information. What developed was a typology of common-pool resources that was organized along two axes: excludability and rivalry. Figure 2 illustrates this typology. Excludability refers to the extent to which others can be prevented from using the resource. A resource with high excludability would be characterized as private property since the owner would have the ability to exclude others from using the resource. Low excludability would describe a form of common property, whereby many people can use the resource. Rivalry, on the other hand, refers to the extent to which one person's use of the resource detracts from another's ability to use the same resource. A resource with high rivalry would be a finite resource, where a resource with low rivalry could be used by many people without detracting from other's use of the resource. Intellectual property or a knowledge commons would be classified as a resource with low rivalry.

**Figure 2**: Typology of Property Characteristics.

| | | Excludability | |
|---|---|---|---|
| | | *High* | *Low* |
| Rivalry | *High* | Individual Property (finite resource) | Common Property (infrastructure) |
| | *Low* | Intellectual Property (books, music, consulting) | Knowledge Commons (language, knowledge, free software) |

(Adapted from Hess & Ostrom 2007; Frischmann 2012)

In this typology, FLOSS would be positioned as a knowledge commons because the resources produced by a community of contributors have low rivalry and low excludability. FLOSS products have low excludability because the code that is used to produce FLOSS products is often protected under alternative copyright licenses that enable widespread use of the code. These licenses are often referred to as "copyleft" licenses, which are more permissible licenses than traditional copyright in the sense that they allow others to use, study, modify, adapt, or build upon the code if they provide attribution to the original author and any product created using the code is also made available under similar licenses.[i] FLOSS also constitutes a resource with low rivalry because one person's use of a digital product does not detract from another person's ability to do the same.

The value of this scholarship, then, was to provide a framework for understanding how communities can manage common resources outside of market relations or state provision. Rather than offering a prescriptive argument for how all communities ought to govern common resources, Ostrom's framework accounts for the diverse and varied ways that communities establish adaptable institutions of governance for managing complex problems. As such, Ostrom's project builds a "bottom-up" approach for understanding community governance as well as the community's relationship to common-pool resources. Beyond the management of common-pool resources, however, we can also examine the ways that common-pool resources are produced and reproduced over time. To do so, we need to understand the *processes* involved in common-pool resource production.

## 2.2. Commons Processes: Commons-Based Peer Production

FLOSS in general and the Linux project, in particular, have been hailed as the epitome of what is possible under commons-based peer production (Benkler 2006; Weber 2004; Moody 2001; Tapscott & Williams 2004). Benkler (2006) argues commons-based peer production constitutes a new form of organization that is "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" (60). Benkler positions social production in general and peer production specifically in contradistinction to market-based production, arguing that these forms of production constitute a form of non-market production. While these spheres are not mutually exclusive, Benkler argues that diverse forms of non-market production, like FLOSS, have the capability to influence market production.

Peer production can challenge market-based production in at least a couple of ways. First, peer production can develop goods that will compete directly with those produced by commercial firms. In this case, commercial firms have a few different options: compete, do nothing, or adopt and adapt. If the firm competes, it will be required to create a better product than that offered by the nonmarket rival, although this may come at considerable cost to the firm. The firm may also do nothing to respond to peer production. This represents a risky strategy for the firm because the

products created by peer production may gain additional market share, which provides a threat to the profitability of the commercial firm. Finally, and most importantly for the present study, the third option is to adapt to the changing forces in the market by adopting some of the strategies of the non-market forces. This type of strategic reorientation to non-market forces can have the consequence of altering the structure of an organization. As Benkler (2006) notes:

> "As the companies that adopt this strategic reorientation become more integrated into the peer-production process itself, the boundary of the firm becomes more porous. Participation in the discussions and governance of open source development projects creates new ambiguity as to where, in relation to what is 'inside' and 'outside' of the firm boundary, the social process is" (125).

For those firms that adopt this latter strategy, they arguably give up a certain level of control over the production process, which marks a dramatic change from previous production models. The traditional view of a firm's control over its informational resources or, more specifically, knowledge, is that knowledge can be viewed as an asset to be managed as an investment (Machlup 1962). However, the peer production process is arguably more innovative and efficient than centralized production processes (Von Hippel 2005). As a knowledge commons, FLOSS advocates encourage users to tinker, adapt, improve upon, or otherwise create something new. Proprietary and closed forms of production rely on strong intellectual property protection and the ability to exploit those property rights across a variety of platforms.

### 2.3. Commons Products and Processes Summary

The foregoing discussion clarified two conceptual distinctions in theorizations about the commons. On the one hand, we can understand the commons by analysing specific resources or goods held in common or produced in common by a community. On the other hand, the process used to create the commonwealth of FLOSS can be understood as a form of commons-based peer production, as it relies on inputs from a diffuse community of contributors. The argument presented predominantly by liberal-democratic theorists (Benkler 2006, Lessig 2005, Von Hippel 2005) has been to stress how these unique features can be beneficial both for the expansion of individual rights and democracy as well as for market growth. These arguments are valuable insofar as they highlight the possibilities of commons-based resources and peer production, but they are still limited by their failure to account for the structural limitations faced by those communities attempting to build alternative economic structures from within capitalism. That is, they fail to account for how the state and capital can still exercise power within commons-based communities.

## 3. Toward a Critical Theory of the Digital Commons

The unique characteristics of the digital commons—low excludability and low rivalry—enable digital resources to be shared by a large community with relative ease. At the same time, however, it is somewhat difficult to enforce unwanted use or appropriation of the resource. As such, the products of the digital commons remain open for use by the state and capital. Bauwens and Kostakis (2014) refer to this relational contradiction as the "communism of capital" since large multi-national corporations can subsume commons-based production within capital accumulation circuits, which limits the ability of commons-based movements to socially reproduce the commons over time. Furthermore, FLOSS products can also be used by the state to develop tools that assist in the expansion of surveillance capabilities, for example.

What is needed, then, is an account of the commons that simultaneously incorporates a structural critique of capitalism. The goal of a critical political economy of the digital commons would then be twofold. First, the project would illuminate the structural dynamics and power differentials that exist within commons-based communities as well as the ways in which commons-based movements intersect with capital circuits. Second, the project would move beyond merely developing an analytical framework for understanding these power dynamics by developing a progressive political framework that could serve as a direction forward for a critical praxis of the digital commons. The analytical project of a critical political economy of the digital commons has benefited from two recent contributions: one from Antonios Broumas (2017), in which he develops a typology to differentiate between social democratic and critical theories of the commons, and the second is from Massimo De Angelis's development of an analytical framework for understanding commons value circuits.

### 3.1. From Social Democratic Theories to Critical Theory

Antonios Broumas (2017) developed a typology of commons theory to differentiate between social democratic and critical theories of the intellectual commons. His analysis may also be mapped onto the digital commons. According to Broumas (2017), social democratic theories of the commons "employ political economic methodologies to analyse the dynamics that unfold between the commons, the market and the state with the aim to propose reconfigurations of these relations which will best serve social welfare" (Broumas 2017, 103). Such theorists argue that by making progressive changes to existing structures, we can bring about a more just and egalitarian society. As it concerns the digital commons, the goal is to build repositories and platforms for commons-based knowledge and peer-to-peer production that can, in turn, bring about greater degrees of personal freedom as well as democratic decision making (Bauwens 2005; Benkler 2006).

In the typology, as seen in Figure 3 below, he examined some of the foundational characteristics of each, focusing on epistemology, agency, structure, internal/external dynamics, normative criteria, and social change. Of particular interest in Figure 3 is the relationship between the external dynamics, normative criteria, and social change sections. As it concerns external dynamics, I have already discussed the ways that free

software and the digital commons span both categories in certain ways. Mainly, the production occurring within free software communities can be subsumed within capital accumulation circuits, whether this is done with the willing cooperation of the community or not. Two additional examples can illustrate these tendencies. The first is an instance of corporate sponsorship of a free software project. Red Hat, Inc., for example, is the largest and only publicly traded company whose business is founded purely on free software. The company sponsors the Fedora Project, which is a free software project. The company can incorporate contributions to the Fedora Project into its proprietary software, known as Red Hat Enterprise Linux, to sell to its clients (see Birkinbine 2017).

| | **Social Democratic Theories** | **Critical Theories** |
|---|---|---|
| **Epistemology** | Political Economy | Critical Political Economy |
| **Agency** | Social Individual(s) | Social Intellect |
| **Structure** | Productive Community | Community of Struggle |
| **Internal Dynamics** | Bottom-Up / Top-Down Emergence | n/a |
| **External Dynamics** | Co-Existence of Commons with Capital | Commons / Capital Antagonism and Sublation |
| **Normative Criteria** | Deontological [reformist] | Deontological [subversive] |
| **Social Change** | The Commons as Substitute for the Welfare State | The Commons as Alternative to Capitalism |

**Figure 3:** Social Democratic and Critical Theories of the Intellectual Commons (Broumas 2017, 121)

At the same time, Linux-based software like Red Hat also provides a second example of how free software production can be appropriated by the state. From the disclosures made by Edward Snowden about the United States' surveillance apparatus, we learned that Red Hat servers were used by the National Security Agency (NSA) to deploy XKEYSCORE, which was also Linux-based (Lee, Greenwald, & Marquis-Boire 2015). XKEYSORE's web interface effectively served as the NSA's search engine to conduct surveillance on a target of choice (see Lee, Greenwald, & Marquis-Boire 2015). These two examples demonstrate the tension that exists in the external dynamics of free software as digital commons and its ability to serve as a radical alternative to state and capital logics. The labor performed by free software contributors is still susceptible to exploitation by the state and capital even if it is undertaken with the intention of working against those forces. The analytical goal of a critical political economy would be the development of frameworks that can account for the ways that the commons can couple with capital accumulation circuits, and De Angelis (2017) has recently developed such a framework.

### 3.2. Circuits of Commons Value

By combining systems theory (Luhmann 1995), cybernetics (Maturana & Varela 1998) and Marxist-feminist political economy (Marx 1976; Dalla Costa & James 1975), De Angelis's task is to demonstrate how the commons can be understood as a system capable of bringing about a social revolution through ongoing iterations of commoning activity that are reproduced over time. Rather than arguing that such a revolution is imminent, however, he takes an epochal approach by focusing on how an emergent alternative value system like the commons have the potential to bring about a change in social relations. Just as capitalist social relations and subjectivities emerged in the feudal era, De Angelis views the commons as a similarly emergent value system responding to the excesses and exploitative tendencies of capitalism.

In the analytical portion of this work, De Angelis (2017) attempts to analyze the commons in the same way that Marx did for capitalism. This leads him to develop a circuit of commons value, which accounts for the component parts of commons value systems. The circuit can be seen in Figure 4 below. In the circuit, an association of people (A) claim collective ownership of their commonwealth (CW), whether the sources of commonwealth are material, immaterial, commodity (C), non-commodity (NC). This dual relationship between the association—as subjects – and their commonwealth—as objects – constitutes the commons (Cs). Then, through the activity of commoning (cm), the commons are reproduced over time. Importantly, commoning should be understood as a process; not a state of being, but a state of becoming. Linebaugh (2008) explains that "commoning is embedded in a labor process," it is collective, and it is "independent of the temporality of the law and the state" (45). As such, commoning includes the reproduction of both the objects that comprise the commons as well as subjectivities in which mutual aid, care, trust, and conviviality are reproduced over time. For De Angelis, this commons circuit can couple with capital circuits through the commodity form. His argument, however, is not that these two can and ought to peacefully coexist, but he recognizes that they do exist.

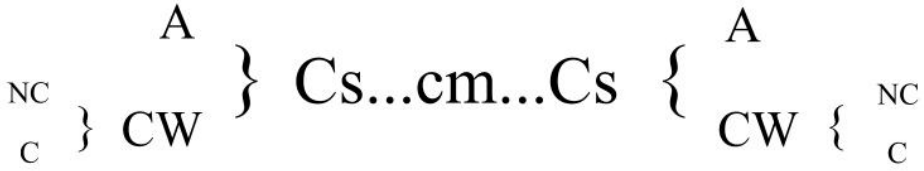


**Figure 4:** The Commons Circuit.
(De Angelis 2017, 193)

For example, when commoners must interact with the money form of capital, they do so only as a medium of exchange to gain access to the materials necessary to reproduce the commons and themselves over time. As this relates to the digital commons, a free software contributor still needs to pay for a computer to continue coding the digital commons. In addition, the contributor will also need to pay for access to food, water, shelter, and all those things necessary to reproduce her own capacity to

code the digital commons over time. In the absence of an agreement whereby these goods are provided in exchange for coding expertise, the coder will still need to intersect with capital circuits to gain access to these good. In De Angelis's formulation, the extent to which commoners engage with capital circuits, however, is left up to the community and will vary depending on the specific needs of the community.

The coupling of commons circuits of value with capital accumulation circuits, whether willingly or out of necessity, still does not overcome many of the contradictions of the commons. De Angelis's formulation, then, seems to leave us with a picture of a "long social revolution," which would proceed primarily through the autonomous development of an emergent alternative value system from within capitalism. Such a value system would privilege commons value rather than capital accumulation. But there is another element in De Angelis's work that he draws from systems theory and cellular biology, which seems to contain the possibility of linking diverse commons movements. That is the concept of "boundary commoning," which is defined as

> "the commoning that exists at the boundaries of the commons systems and that creates social forms of any scale, opens up the boundaries, establishes connections, and sustains commons ecologies, or that could reshape existing institutions from the ground up through commonalisation and create new ones" (De Angelis 2017, 24).

Boundary commoning has the potential to provide an organizational model for how diverse and distributed commons-based movements can work together toward a common goal. Through the multiplication of commoning activity and the interweaving of commons-based communities through boundary commoning, a commons movement could potentially lead to a tipping point at which social transformation is possible occurs. In addition, De Angelis claims that commons movements could link with social movements to form a hybrid movement with the combined power to bring about social revolution. As he explains, these "are not movements of fragmented subjectivities sharing a particular passion, but movements of connected subjectivities whose connection is further increased by their social movement" (387). However, we are still left with the question of how to facilitate this type of commoning, as well as the persistent question of how to grow and sustain those movements that follow commons value circuits.

### 3.3. Critical Theory and Digital Commons Summary

Recent scholarship has attempted to parse some of the ontological and epistemological differences between varieties of scholarship on the commons. Broumas (2017), for example, differentiated between liberal-democratic and critical theories of the commons. Liberal-democratic theories tend to position the commons alongside market growth and the expansion of individual liberties, whereas critical theories understand the commons in an antagonistic relationship to capitalist logics and position com-

mons movements as sites of social struggle. In addition, De Angelis (2017) developed the commons value circuit as an analytical device for understanding the alternative value system that undergirds commoning activity. While De Angelis takes an epochal view of a long social revolution that is emerging from within capitalism, commons-based movements are still confronted with the persistent problems of state and capital interference in their activities. In the following section, I outline some proposals for a commons praxis that would actively expand commoning capacity as well as the sources of their commonwealth.

## 4. Commons Praxis: Moving the Commons Forward

The task for a commons-based praxis is to overcome at least two hurdles. First is the task of determining an organizational form that would incorporate the lessons of critical scholarship on the commons. Critical scholarship has exposed some of the limitations of liberal-democratic or reformist approaches that seek to transition to a commons-based society from within existing institutions. While undoubtedly necessary to bring about change, we are still left with the limitation of radically transforming the organization of society and social relations from within existing institutions, which are based on hierarchical organizational structures that tend to privilege political and economic elites with the requisite capital necessary to exercise influence by shaping policy agendas. These institutions cannot account for the multitude of distributed, diverse, and unique needs of local communities, and yet their existence will continue unless this problem has become even more acute now that local publics can network with other communities of interest across national and international geographic boundaries. Second, a commons praxis needs to overcome the persistent problem of growing and sustaining commons-based movements over time. In this sense, a commons praxis needs to move beyond a *politics of subsistence* and institute a more progressive politics that would actively seek to grow the commonwealth available to commoners. I refer to this political project as "subversive commoning."

In this final section, I outline how a commons praxis might overcome these two difficulties. First, I discuss the problem of organizational form by building upon lessons from recent critical scholarship. Second, I discuss "subversive commoning," which would address the need for a progressive political project for moving the commons forward. In each section, I will be narrowing the focus to the digital commons, although these proposals may have broader appeal to a variety of commons-based movements.

### 4.1. Political Organization from Below: Decentralization, Autonomy, and Boundary Commoning

There is a contradiction that exists today for organizing political resistance. On the one hand, the spread of digital technologies has assisted diverse and fragmented publics in linking with others to form networked communities of interest. Such communities, like those involved in free software projects, rely on inputs from a distributed

community of contributors who can collaboratively produce goods, services, or create new meanings for cultural texts. On the other hand, these communities continue to operate from within existing institutions, which operate according to liberal-democratic logics. These networked publics have challenged previously held assumptions. As just two examples of this, consider the challenge to assumptions about ownership (i.e., the rise of copyleft licenses to challenge traditional copyright protection), as well as production bounded to a specific nation-state and its regulatory policies (i.e., globalized commodity supply chains and the question of whether a product is "Made in the U.S.A." or any other single country).

This raises the question of what organizational form political resistance should take from within this context. On the one hand, we want to preserve the relative autonomy of local communities to organize in ways that make the most sense for the community. On the other hand, we are confronted with existing institutions that require the coordination of diverse movements to effect change within those institutions. As it concerns the digital commons, De Rosnay and Musiani (2016) have developed a typology of centralized versus decentralized peer production that is instructive here. The typology can be seen below in Figure 5. The goal for the digital commons would be to move increasingly toward the decentralized models presented in the table above. Doing so would allow local communities to respond to unique needs and simultaneously preserve the highest degree of autonomy for the community.

| | **Ownership** | **Technology** | **Governance** | **Rights** | **Value** |
|---|---|---|---|---|---|
| **Centralised** | Company<br><br>Major Platforms | Central server controlled by platform owner | Top-down decision-making by platform owner | Exclusive rights assigned to platform owner | Concentrated in hands of platform owner |
| **Decentralised** | Cooperative non-profit<br><br>Informal unstructured collaboration | Several user-controlled computers/nodes linked in a peer-to-peer network | Participative democracy<br><br>Autonomy of peers | Terms of contribution leaving some rights to contributors | Redistributed within community and/or society at large |

**Figure 5:** Centralized Versus Decentralized Peer Production.
(De Rosnay & Musiani 2016, 196)

However, these diverse and distributed communities would still need to be linked through common interests to mount a significant challenge to existing institutions. This is where De Angelis's use of 'boundary commoning' becomes useful. As discussed earlier, boundary commoning allows specific communities to retain their autonomy, while also linking with other organizations through common interests. While similar organizational structures have been used in the past—namely, the federated approach taken by Indymedia (see Pickard 2006)—the commons offer a framework that is widely applicable and capable of linking diverse movements under

a common framework. Importantly, however, such a movement ought to be based on an antagonistic understanding of the commons relation to capitalism. The specifics of this political project are outlined in the following section.

## 4.2. Subversive Commoning: Toward a Progressive Politics for Commons Praxis

As discussed earlier in this article, for example, the unique characteristics of the digital commons – low rivalry and low excludability – make it possible for the products of peer production to be appropriated by the state and capital. Similar arguments have been made within critical scholarship on the commons, more generally. Specifically, scholars have drawn on the concept of "enclosure" to refer to the ways that common resources are transferred to private owners (Marx Capital Vol 1, Chapter 27; Harvey 2009; Linebaugh 2014). The term "enclosure" is useful for conceptualizing the capture of common resources for capital accumulation, but it does not describe the use of digital commons fully, as such resources do not become entirely closed off from the community that produced the resource. Rather, digital commons become dialectically situated between both capital and the commonwealth. As such, commons-based movements will actively need to work to subvert capital logics by positioning their activities in an antagonistic relationship to capital.

By seeking reformist agendas from within existing institutions, such movements risk remaining small-scale, fragmented, and only capable of temporary subsistence rather than formulating a coordinated alternative to prevailing logics. Therefore, commons-based movements need to move beyond a *politics of provision* (based on the granting of individual rights, open access, etc.). Such a politics would not only provide rights of access to community members, but the sources of their commonwealth would also continue to be susceptible to capital and state appropriation. To be sure, the inroads made by movements informed by liberal-democratic political economy have led to the widespread adoption of particular commons-based resources (see especially Linux and the technologies of free and open sources software). But insofar as these resources are available to capital, they only exacerbate or accelerate the inequities involved in circuits of capital accumulation.

What is needed, then, is a form of "subversive commoning," which would actively seek to incorporate resources into commons value circuits. Just as capital operates according to a logic of capital accumulation by dispossession (Harvey 2009), so too can commons-based movements reverse this logic to establish a site of social struggle. This could be framed as *commons accumulation by capital dispossession*, although there are a couple caveats to such an expression. First, "accumulation" is probably not an accurate term here, as commons-based projects should not be based on an incessant desire for growth. At the same time, however, commons-based movements need to find ways of actively growing the commoning capacity of their movement over time. Doing so could accelerate the pace of the social revolution described by Marx as well as more recently by De Angelis. Second, "dispossession" would also not necessarily be an entirely accurate term when applied to the digital commons.

Rather, digital resources could be appropriated by commons-based movements to serve their own needs.

If we accept the concept of 'subversive commoning,' then we already find numerous examples of this type of activity taking place. At a general level, we can think of movements to reclaim farming, housing, forests, and other natural resources by either occupying abandoned space or actively resisting the enclosure of ancestral lands. But we also have examples from within the digital commons. For example, organizations like RiseUp or Saravá provide "online communication tools for people and groups working on liberatory social change" (Riseup 2017). In addition, FemHack provides a space for feminist and queer hackers to "hack patriarchy, capitalism, and other systems of oppression," and the group actively works to encode non-hierarchical values into their technologies and networked infrastructures (foufem 2016). Apart from these organizations that provide digital infrastructures, tools, and services to assist in the project of bringing about social change, subversive commoning can also be seen in attempts to release knowledge and information that has been closed off from public access. Aaron Schwartz's downloading and release of academic articles held in the JSTOR database provides an example of commoning knowledge that was enclosed by the capitalist logic of publishing companies. What all these examples have in common is the subversive nature of their activities in attempting to undermine prevailing capitalist logics that either enclose knowledge and information behind paywalls or institute hierarchical systems of management, surveillance, and control over communicative resources. Any attempt to subvert these logics could provide an example of subversive commoning. Subversive commoning responds by appropriating these resources and re-encoding them within the logics of commons value circuits as well as within subjectivities that emphasize care, trust, mutual aid, and conviviality, while recognizing the social value in social production.

## 5. Conclusion

Both the products and processes involved in FLOSS and the digital commons continue to confront the state and capital, which can have either a direct or indirect influence on their community resources and relations. Critical scholars, however, have argued for ways of moving the commons forward, even though the systems and subjectivities of commons-based movements clash or intersect with broader circuits of capital accumulation. By exploring the radical potential of commons-based social movements in this way, the goal was to explore the emancipatory potential of the commons to bring about a postcapitalist future.

The argument developed in this article developed along two axes. First, I made an analytical argument by building off recent critical scholarship. By drawing examples from the free software movement, I argued that a critical political economy that is grounded in a dialectical understanding of the contradictions inherent in the dichotomy of capital and the commons offers a clear framework for understanding the extent to which the digital commons can truly become emancipated from broader structures of capital accumulation. Second, I offered some provisional arguments about a

commons praxis. This argument proceeded along two lines: first was the need to develop an organizational form that preserves the autonomy of local communities while still mounting a coordinated challenge to existing institutions; and second was the development of progressive political project for transcending the contradictions that exist between capital and the commons, while providing some possible directions forward. I argued that boundary commoning provides a useful framework for understanding organizational form, while subversive commoning provides a way for framing the antagonistic position of commons-based movements. By incorporating these two strategies, the project for bringing about a commons-based society can proceed, but it will still proceed as a more general process of social struggle.

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[i] I cannot account for all iterations of the specific terms and rights of copyleft licenses here, but my general statement about copyleft licenses being more permissible than traditional copyright and the attribution requirement is widely applicable. There is a useful Wikipedia page with a table comparing some of the variations in software licenses, which can be found here https://en.wikipedia.org/wiki/Comparison_of_free_and_open-source_software_licenses (Accessed June 17, 2017).