Knowledge and Cultural Production in the Context of Contemporary Capitalism: A response to Wittkower

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Introduction

My critique of Wittkower's position on revolution industries is a metalevel critique based in the understanding of human subjectivity in relation to our knowledge and culture. In parallel, it is a critique of the reification of the capitalist model of intellectual property found in the revolutionary ideology surrounding open source software, Creative Commons, and related open knowledge projects. The critique is based in the core idea that knowledge and the knowledge society as founded in an appropriate understanding of knowledge and culture cannot be objectified into commodity relations. The basis of this critique is the understanding that knowledge and culture are processes that manifest themselves in human activities instead of understood as things or objects. When we think about knowledge in terms of knowledge societies, reflexive modernization and late capitalism, we should not think of it as something that is objectively alienated from ourselves, but as a series of processes that are distributed and communicated intersubjectively to establish shared meaning about the world.

Knowledge is a distributed process communicated amongst subjects in relation to their understandings of the world. This understanding is the basis of the knowledge society, the basis of the service economy of late capitalism, and the innovations in communication arts and practices of the internet age. This understanding of knowledge and culture is also the foundation for understanding knowledge production and cultural production. It is not the commoditized object that contains the knowledge or culture; it is only in the mixing of the commoditized object with subjects that the subjects share in knowledge. In the processes of distributed cognition, which imply communication and relatedly negotiations with consent and dissent, the processes become knowledge. The knowledge society is not a society of knowledge objects but a society of people, and it is in the people that I find hope.

The conceptual relations that ground the relationships between labor, capital, culture, and knowledge in Wittkower's construction of revolutionary industry do not map onto the actual relations of cultural and knowledge production. By constructing the objective relations as he does, Wittkower's Marxist conceptual roots are based on the same roots as liberalism; in that shared foundation, he provides for the operationalization of precisely the modes of enclosure and colonialization of knowledge and culture that are found in neo-liberalism. Given his understanding of the relationship between objects, values, and knowledge and the mediations of capital and culture, the revolutionary elements cannot be liberators, but will be leading the enclosure of our potential in neo-liberal corporatization. This corporatization, objectification, and enclosure of knowledge and culture, I argue, is the basis for the growing shared alienation, whereas Wittkower ties that alienation to labor and goods. Contrarily, should Wittkower escape his model of the subject and the relations of knowledge and value, then move toward the model that I have elaborated, the liberation of knowledge and culture implicit in humanism is again possible.

The metacritique of Wittkower's cultural environmentalism requires the construction of the knowledge society based in distributed cognition, but it derives also from the phenomenological sense that someone else cannot

objectify, commodify, or 'own' what is in our minds; corporations cannot own the processes in our minds which are our knowledges and values. Those knowledges and values are not alienable, but are subjectively experienced as ours through their communication. If we give up knowledges and values to objective relations, then we give them up to capitalist relations and when we will have given up our claims to our own minds, they will be owned to someone else.

Informational Cultures and Cyberinfrastructures

Cyberinfrastructures are the systems and structures that provide the basis for information-based development(Atkins and al. 2003; Unsworth and al. 2006). The internet, with its routers, fiber-optic cables, the computers with their processors, memory, monitors, and keyboards, and the systems that make them all function are what we mean when we say cyberinfrastructure. Most things that are labeled cyberinfrastructure exist on the internet between the users terminals; such as terabyte and petabyte computing clusters, high speed research networks, and huge data repositories. Cyberinfrastructure conceptually covers all the infrastructures necessary for the information age. Cyberinfrastructure is the means of production of informational objects and the base of our informational culture. As an economic base, it has a central ideological function that defines relations in our informational culture. That function is based on certain central social and technical assumptions about identity, the capacity to act based on identity, and the modulation of that capacity(Deleuze 1990, 1992).

Those assumptions are the basis for the control society, for reflexive modernity and for our consumer society(Deleuze 1992; Beck 1992; Beck, Giddens, and Lash 1995; Baudrillard, 1998). These three descriptions of society all participate in contemporary capitalism; they share fundamental assumptions of capitalism such as: the distribution of goods and risks, the assumptions of control of production and relatedly control of populations required by capitalist modes of production. In relation to those assumptions, we create the signs, codes, rules, norms, and laws that govern our relations to the the objects of our life (Thévenot 1984, 2001). These assumptions of capitalism have moved beyond their myths of origination and have become institutions of our political economy. These mythogenetic institutions are of legitimation, reflexively reconstructed based on our current social forms into places where they need not exist, following trajectories based on pasts that are frequently fictionalized in order to provide the apparatus to justify their current juridico-discursive regimes (Foucault 1990). People tend to use past patterns to make sense of new patterns; in those heuristics, they make novel techniques look and operate nostalgically as metaphors of a misremembered time. These ill-formed conventions and organizational principles, drawn from a obscure and fabricated past, inform our future. The banality of the institutions of the society of control is founded in our everyday lives and the reproduction of culture, organization, and meaning of our intersubjective domain.

There is not a new colonialism of informational capital as Wittkower argues, but instead we have the obverse of the extension of our current conventions and their meanings. Our organizations always look like colonialism in the obverse because they are all extensions of our past conventions as reterritorizations. Colonialism, like imperialism and capitalism as extensions, become translations of everyday conventions. They are seemingly dominating and transforming those conventions into a new intersubjective domain where they may be unwanted. These conventions may resonate with people's memories and respective narratives, especially in respect to differential power and knowledge. We can see this firstly in the organization of the protocols of the internet, which clearly reflect the borrowing and translating of bureaucracy and related necessities of dis/organized capitalism (Offe 1985; Davis 2003; Gershenfeld, Krikorian, and Cohen 2004). Similarly, the way we organize informational capital, such as intellectual property, is conventional(Lessig 1999). Intellectual property is intertwined with cyberinfrastructure is not a revolutionary construct but conservative one, as it borrows conventions and traditions from physical property and rewrites them as an apparatus which provides its justification. Intellectual property as part of informational culture is a new normal based in the practices of the banalities of everyday life. This new normal is part of the problem that Wittkower misses as it is based on the assumptions objectification of knowledge and culture found in his account and the neo-liberal account. We will always have colonialization of knowledge and culture as long as knowledge and culture are commodities instead of processes.

Individuation Contra Peer Production

Other norms come into play as one looks at how communal production and distributed cognition is undermined

in our informational culture. One norm of computing, and by necessity a norm of cyberinfrastructure, is centered in reflexive modernity; this norm waylays the construction of Wittkower's new communal production. The cultural norm of individualism is central to modernity and its self critique. Individuation as the process and individualism as the norm are pervasive in computing which co-produces the cultural norm of individualism in capitalism(Beck et al. 1995; Beck-Gernsheim and Beck 2002; Lyotard 1984). After the period the initial systems of computing where time-sharing was managed by people and bureaucracy, individuation and bureaucratic control of users has been built into computers and cyberinfrastructures (Salus [1994] 1995; Ceruzzi 2003). One standard tool for the management of the computing population that arose early was the idea of the computer user, which was given capacities in the computer system, and could belong to groups, which would also be a medium to transmit, restrict and modulate user capacity. Users and groups are systems of control, ordering, and governance of users through categorization and incapacitation.

The metaphorical 'universal machine' of modern computing is not predicated on freedom, but limitation, control and the modulation of user behavior. Every function of the computer or computing environment does not necessarily serve to empower users. From the interface to the processor to the networks, there are systemic structures of control and individuation. The individual is designed into contemporary computing at a basic level of interaction. All interaction is mediated on an individual level and at best this action only surpasses individualization in custom designed interfaces for some games. However, most experience of computing is an individual at an individuated screen working on an individuated keyboard. As the computer progresses toward commodity device via mobile computing vectors, individuation is following along. Escaping the construction of one's computer identity is less and less possible as participating in the consumer society is becoming participating in the information society.

Cyberinfrastructure is based on individualist and consumer-based understandings of its users. These understandings are apparent in the manifest affordances of the technologies as they are designed. From the technics of screen, keyboard and chair that construct our body in relation hardware, to the individual log-in, personalized interface, and private password that construct our identity in relation to software, to the credit cards, electronic signatures, IP and MAC addresses that enable the Trusted Computing(TM) required for establishing our consumer habits on the internet, computers are constructed on the assumptions of users as individual consumers participating in a consumer society.

The cyberinfrastructures of science and the cyberinfrastructures of consumption are both cyberinfrastructures of knowledge production and cultural production. Seemingly the construction of cyberinfrastructures in the realm of sciences and technology would not necessarily feed into the cyberinfrastructures of consumption in a modern world, but in reflexive modernity the border between the knowledge society and the consumer society is arbitrarily enforced by boundary workers in all disciplinary arenas and undermined by their actions in our everyday lives. This is not to say that knowing and consuming have become the same, but to say that in many of our everyday capitalist conventions; consuming is a metonym for knowing. As the distinction exists but the usage collapses, the meaning of the terms become ambiguously related and in that relation there is evidence of the new modes of valuation of capital.

This relationship between the labor of consumption, knowledge production, and cultural production is found in works on produsage and consummativity, but more generally, the relationship is centered around capital and its valuation (Baudrillard 1998; Dant 1999; Bruns 2006; Bruns 2007). Capital in the form of objects, capital in the form of knowledge and capital in the form of culture have become equivocated in terms of valuation, which in turn relates back to the construction and valuation of cyberinfrastructures. For the cyberinfrastructure of knowledge relies on the same conventions and norms as the cyberinfrastructure of consumption and the labor of knowledge consumption ends up similar to the labor of consumer consumption, especially in the realms of fandom and celebrity cultures (Jenkins 2006). The cyberinfrastructures, which could seemingly be separated, are one cyberinfrastructure, and the legal systems surrounding them, such as copyright and trademark, do not differentiate in any substantive manner.

The problem once again is one of objectification of knowledge which must occur for knowledge to act as a commodity to be consumed. In cyberinfrastructures, documents with information in them become property of individual users; these documents are inaccessible to others unless they are shared via special or novel technologies. The metaphor of ownership of information has transformed our understanding of knowledge in relation to consumption, and in that transformation we can locate the central issue of the the value of knowledge production and consumption, that of the objectification of knowledge and the denial of its intersubjective, processual nature.

The Affordances of Open Source as a Differential Mode of Production

Open source and peer production do not escape the affordances of the technologies they use; they do not escape the norms of cyberinfrastructure. They still rely on the same affordances and we construct the same conventions as other software either through interface abstractions and universalizations, such as the world wide web's Amazon One Click purchasing, or our almost universal tool-bar based word processing as found in both Microsoft Word and almost all open source word processors. These conventions of the interface form practices of everyday life and become a de facto politics with a technological deterministic antipolitics in the Bourdieuan field constructed from popular discourses of technology. The deterministic antipolitics center on the encoding of the idea that the systems are built or designed with affordances for the users that are supposed to direct and limit the possibilities for use. The politics exists in the building of the interfaces, the chance for change and the chance for revolutionary difference. However, the politics are limited by norms which are frequently based in research which constructs, quite similarly to the computer, the human as an individual without distributed cognition or intersubjective domains. The research forms the justification for the design of the interface, and it reflects the norms of the interfaces that people have learned to find effective. We have the dialectic of convention and its justification occurring in this continual reproduction of the perfections of the interface of the universal machine as machine of control. he politics of norm breaking/norm creation confronts the antipolitics of social reproduction and research; generating the next generation of sameness and difference in a manner that maps very closely onto the generation of consumer branding in the process of constructing and deconstructing markets. The affordances of the interfaces rarely, if ever, provide for any revolutionary mode of production, contrarily, radical changes in interfaces seem to generate from the antipolitics of a nonparadigmatic computer system, such as the Apple Iphone, the OLPC, and the Violet Nabaztag. The affordances of open source and peer production are, as such, vehicles of cultural reproduction more than vehicles of revolution.

The everyday lives of computer programmers associated with peer produced projects are rarely in any way revolutionary, though there are the occasional exceptions. Instead, the mode of production that they exist in is less one where they have escaped their mode of production in capitalism, but instead one in which their leisure time, their hobbies have come to participate completely in the same modes of production as their work lives. So long as they have access to the technical infrastructure to produce their code and distribute it, the mode of production is not revolutionary, but merely expansive. It is the reterritorialization of their leisure time by their labor and related interests.

So the differences of open source and peer production tend to produce more of the same in normal relation to the extensive division of the marketplaces in which it participates; it produces normal goods that compete in capitalist relations. The differential mode of production of a normal set of practices of an open source programmer produces multiple outcomes that not only reproduce software, but reproduce its interfaces, reproduces its norms and reproduces its sociology of knowledge. The differential aspect occurs when the software confronts different users with different knowledge bases, thus spinning out different sets of codes and conventions by user and group. Open source software and peer production, while seemingly novel, are not novel at all, they are conventions, codes, and systems of reproduction structured on prior conventions, codes, and norms. The multiple outputs of content creation and software production are still realized in the realm of capital and consumption where the idea of 'free as in beer' is a metaphor necessary to hide the multiple forms of capital required for production (Weber [1996] 2004; Torvalds and Diamond 2002).

Alienation in Relation to the Mode of Production

The mode of production of capitalism centers on the reproduction of capitalism and its problems in relation to modernity and its reflexive critique. The mode of production then is that which reflexively reconstructs the relations, forces, and means of production in ways that emphasizes the problems and risks of modernity. As argued above, cyberinfrastructure emphasizes the risks of individuation and its relation to the production of subjectivities. In reflexive modernity, the civil social order recreates our risks and problems into rational, manufacturable and accountable systems (Beck et al. 1995:10). Fundamentally, this is the demand for control, and this demand for control in the face of uncertainty, risk and shared problems is the basis for alienation from both our shared collectivity and our labors (Beck et al. 1995:10). The alienation of our labor is at best metaphorical and at worst metonymical for the

alienation based control and its generalization. The alienation that one feels by participating in capitalism is not an alienation of what we have produced, but an alienation based in what we can produce in a system of instrumental rationality and individual accountability.

The alienation felt in reflexivity modernity is an alienation based in the desire for autonomy, the desire to tell our own stories, and more importantly the ideological structures that say that individually, each person must be the center of his or her own narrative. This biographical production of subjectivity found in reflexive modernization feeds into the capitalist mode of production through management practices, such as taylorist time studies, self reports and individual annual reviews. These documentary practices narrativize our lives to others, objectifying it as goods operating in the political economy. That we tell our stories as individual and center ourselves there, even when presented with the co-production of software, the peer production of the internet. The problem that we feel, the problem that generates this sense of alienation, is not the feeling of labor lost, but of collectivity lost. Our alienation is not that we have lost ourselves in the production of the commodity object, but that in the production of the commodity object we have lost each other. We have to describe it in terms of individualized production, in terms of our individual contributions, our individualized narratives.

Corporatization against Collectives: the Leviathans of Contemporary Capitalism

This inability to construct an identity other than the individual is seen clearly in the reconstruction of this individual identity through corporatization of collectives such as has been seen in science and research (Newson 1998; Cannella and Miller 2008). In that corporatization has occurred in universities and research institutes worldwide, it should not be surprising that it exists in peer production and open source communities. The re-creation of the many people working in concert as a collective into the body of the corporation is the creation of the leviathans of contemporary capital (Hobbes 1994). In uniting the many into the one, the corporation creates a common good that is separate from the individuals, but to which the individual can contribute. We can see the creation of many leviathans of contemporary capitalism recreated in the open source boom and the web 2.0 boom. From the Mozilla corporation, to Apache Corporation, to Facebook, Flickr, and Twitter, the necessity to build the new whole that is the leviathan is found in the realization that the new whole can be worth more than any reasonable construction of the labor or any real construction of the ideas involved. That the leviathan is greater than any valuation of its parts indicates the break of valuation in capitalism. The hyperbolic valuation in both booms relates to the way the leviathans of contemporary capitalism work. They work through the alienation of collectivity in favor of the one and in re-embedding the stories of the many into the one they recreate possibilities of valuation untied to the individualized projects.

This lack of tie of the individualized corporation to the individualized people is a key move in capitalism as it introduces the possibility and virtuality of mediation. The leviathan as mediation between the many and the one is important because it allows the construction of the new identity, the telling of new stories, and the rebranding of the whole. This new whole is distanced from the people who form it, becoming its own entity, its own firm, and operates separately from the interests of the people involved in it.

This mediation of interests in peer production and open source operates through the original collectives or later through their leviathans. It is through the leviathan that we come to terms with the recreation of consumer of open source and peer-produced materials. Without the leviathan, the collective rarely if ever has the capital nor the political direction to construct first the audience then the consumer of its production. It is the integration of the new participant in capitalism, the creation of the corporation, that we generate the market and with that market we generate a whole secondary set of relations and conventions to the objects we produce (Amin 1995; Baudrillard 1998; Castells 2002). This set of relations and conventions relate to the construction of the parties that are outside of the corporation. That is to say, the construction of the clients, the audience, and in the end the consumer of the corporate provided goods as 'other'. It in this creation of this second set of relations and conventions that identify the producer/consumer and thus insider/outsider dynamic that generates a sense of alienation of the people who are within/without respectively to each other as individuals. The user of YouTube and the contributor to YouTube exist in a different relations than the original mixed collective of mashup producers distributed around the internet before YouTube. The nature of the social and conventional differences is the core of the issue of ownership in peer production and open source software. The idea with either open source or peer production is that anyone could

be on either side of the production/consumer dialectic. In that 'realization', we are not changing the organization, interests, or needs of the leviathans of contemporary capitalism, nor are we creating a new class of prosumers, or a new revolutionary mode of production, what we are creating is a new way for capital to accumulate in corporations.

Like Hobbes' leviathans of the state accumulating and representing power and capital, the leviathan of contemporary capitalism is the creation of a new identity, a new center for accumulation of capital, codes, conventions, and mediations, and in the creation of the new identity, you create and represent a set of interests. In that the collective that creates the leviathan, such as creators of mashups, have different interests than the leviathan, YouTube/Google, then there will be disinterest and dissent. These are also easily found on the internet with innumerable posts about the problems of YouTube, such as intellectual property claims, hate speech claims, and sexual content issues. There are even sites created to show you those things that YouTube has taken down, and then websites that represent what cannot even be shown on YouTube. The proliferation of data points railing against uniform identity can be found for all peer production and distribution systems. We need not look far in open source production either. The persistent problem of the forking of projects is an obvious example, that is when one set of programmers produce a code branch that becomes independent of the original branch and starts a new project following a different path thus duplicating the work of others and dividing the audience. These divergences from the corporation as the unity of representation of the project are significant in that they highlight the pluralization of identities in relation to individual narratives, as in each of these cases the technological systems are built to recognize and promote the individual and their stories above the needs, real or perceived of any construction of the collective.

We need to be wary of explanations of binarity in describing the operations of capital, as in each case the leviathans of contemporary capitalism do not ally as a whole in operation against any subset of users necessarily. On the occasion that they create new, larger wholes, such as the MPAA, RIAA, or the BSA we have to realize that the interests of the new whole are not really the interests of those it seeks to represent, this is clear from the numerous releases of open music and statements against these corporations by their own constituents. This indicates that while we do have an age of leviathans that represent themselves as sovereign people serving communities of producers and users, we also have a proliferation of dissent from those leviathans. However, we should not assume that open source software or peer production operates outside or differently within the corporation, as the operations of the dominant paradigm and its conventions tend to control the long march through the institutions. It is that long march through institutions that tempers and recreates the conventions and practices as amenable to current modes of production, taking the radical potentiality of the collectives and processing it back into individuated production.

This accretion of capital in corporations is made possible by the construction and conventionalization of intellectual property rights. Those in turn are based on a misconception of knowledge and culture as commoditized objects. The capital accreted in corporation is valuable, but it is not valuable necessary to individuals as persons as much as systems for reproductions of the valuation of capital and the extension of value in that reproduction. The value of the leviathan is not in its corporate body, but in that body's symbolic regime, the institutions and institutionalizations it creates, and its projection into the future. If we can manage to promote an understanding of knowledge that contradicts the justificatory apparatus for intellectual property, we can undermine the legitimation of the institutions.

Conclusion: Rethinking Value and Informational Cultures

In our current informational culture, Marxist (and likely other) interpretations require adaptation because as our plural cultural and economic systems change, the modes of analysis for those systems must adapt to the extent that the analysis needs to continue to map onto the practices and economics of the peoples. No singular perspective seems to be able to map onto all times and all places in any universal sense. Marxist analyses of the current informational culture and the related political economy frequently try to be universal and in doing so they lose the facts of our world in the face of the world that was the basis of Marx's analysis. Specifically, a Marxist cultural economics centered on labor-value as Wittkower uses no longer seems to capture or even apply in our informational culture. It has been surpassed by Baudrillardian economies of signs and desires as emphasized in his analysis of the consumer society in which we live (Baudrillard 1998). Value in our informational culture has become a free floating code of signs and conventions, less based on any reflection of the objects or labor then in the conventions surrounding the objects, and the consummativities of those objects. When confronted with the consumer society in

our informational cultures, a reprisal of labor theories of value fails to capture the complexities of value found in the consumer society. Labor, as such, has failed to become abstracted from value and instead has become the metonym of value, but that metonymical relation exists in a field of near infinite transposition with other concepts that are also the metonym of value, such as desire, symbolic meaning, and humor. Each possible transposition indicates a possible alternative meaning with its interpretation and in that the mode of valuation is increasing disjointed from the mode of labor. This disunion of reference through metonymical relations indicates over time that the labor theory of value is not really an operating system of value, but at best one set of tenuous relations between a laborer and an object of desire. The labor theory of value is a system of objectification of value that fails to operate in a world of subjective interpretation of values.

In all cases of value, we are confronted with questions of modernity, questions surrounding the purity of the concepts, questions around the relationship between simplicity and clarity, questions of humanisms and antihumanisms, and ultimately questions of the nature of knowledge. In our questions of modernity, we are confronted once again with the choice of modernities and within the modernity we choose, the form of informational culture which rests on its assumptions. Should we choose a modernity based on the isolated cartesian models of knowledge that objectify and construct knowledge as external to us, or should we follow Montaigne and recognize that knowledge is a process, a reflective process of constructing the world within us to relate to the world outside (Toulmin 1992)? It is in this recognition of modernity, and its internal self-critiques, that there is the space to return to Montaigne's construction of knowledge, and through that construction we can resist the objectification of knowledge in relation to the objectification of value.

These choices, like the analytical perspectives that devolve from them, inform our understanding of the questions, concepts, axiologies and axioms that we use. The problem that I am pointing to is not one of Marxist analysis, but one of the acceptance of certain terms of Marxist analysis and what those terms cover in modernity. The meaning of those terms are bound up in an ongoing process of dissensual resistance to modernity. To say 'labor', is not merely to name a process, but a people, and beyond a people, it names a nearly infinite linguistic process of negotiation in everyday life that constructs and legitimizes relations in society. In using the labor theory of value, we are invoking a construction of reality that legitimizes and delegitimizes elements of people's experiences, their everyday lives, and in that we need to insure that we construct their everyday lives in relation to the reality we are constructing in our analysis, lest we pass the negative implications of our perspectives into reality (reifying problems without providing solutions).

As such our perspectives play their part in reflecting how we consider knowledge production and relatedly cultural production. By constructing this critique of the informational culture in modernity a consistent awareness of being one of many competing alternative understanding of reality pervades the test. It is not merely our construction of the theories we use which informs people, but also the competing viewpoints which are part of the mode of production of knowledge and are part of the conditions of knowledge production in our society. Realizing the plurality of perspectives and their relation to models of knowledge production in the informational culture, our perspective must account for the plurality of normativities constructed within them. Critical and reflexive analysis, as such, must move beyond dismissing the relative goods of one account over another and recognize why that account has become the legitimate or illegitimate choice for those people using it.

In this meta-critique of Wittkower, I have attempted to show that there are several issues with his account of revolutionary industries. I have avoided his reconstruction of the problem of copyright to center on the reasons why copyright and the current legal framework is not the core of the problem. Instead, I identify the core of the the problem as a cultural issue of modernity and capitalism. We have a problem of objectification of value, knowledge, and culture, which allows for their commodification. I have identified places where given current practices and computer systems, the revolution that Wittkower suggests may happen, will not happen.

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