

COMPREHENSIVE EXAMINATION

COMS 702

On Infrastructure and Economy

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“Ankara’s cold cuts through me...
In one pocket, I have (no) Capital left,
In the other, only cannabis seeds.”
Ezhel – Şehrimin Tadı (Taste of My City)

Question 1. *Marxist thought and its descendants have long struggled with questions of causality and determination, especially as they emanate from base-superstructure models that try to make sense of the relationship between economy and culture. Conceptions of “economy” and “political economy” remain critical for understanding the dynamics of power, especially on larger scales (beyond the scale of the individual), but is there any critical consensus about what those terms mean? Based on the sources in your bibliography, what does it mean to do a “political economy” of something today, in the wake of various attempts to expand or redefine “the economy” the “the political”? What should it mean? How should the domain of economy be rethought or expanded? Conversely, how should it be limited, and how should it be thought in relation to that which is outside it (conventionally, the superstructure)? What “counts” and “doesn’t count” in a political economy? Should we be concerned about metaphoric uses of “economy” in media and cultural studies?*

One can think of this essay as variations on a theme. The theme is, the issue of causality in conceptualizing “economy,” “politics,” “culture” and the possible determinations among them. I begin by discussing the work of Raymond Williams because he most clearly captures the underlying tensions that I will explore. I end by providing my own variation, pointing towards how the term economy could be developed and constrained. Since there are so many different distinctions and connections between the different works I read, the linear structure of a comprehensive essay, discussing one damn scholar after another, felt inadequate. While I was unable to overcome this problem, I have at least provided some non-linear elements such as interludes where I break down concepts or pursue tangents.

The study of political economy, especially in relation to culture, usually begins with a discussion of the base-superstructure model. Williams’s (2005) answer to the problem of base and superstructure in Marxist theory is highly original because he transposes the question. Williams suggests that the formulaic understanding of a determining base and a determined superstructure often traps us in a fixed and definite spatial relationship. Instead he offers a related but distinct proposition, that “social being determines consciousness (31).” What could this mean? He begins to clarify by noting that in German Marx’s preferred term for “determine,” *bestimmen*, achieves two different effects. First Marx’s use of the word reclaims agency from the idealism that places it in

abstract forces, such as Spirit or God, and locates it amidst people's own activities. In this inversion of meaning, the word nonetheless inherits the European theological image of "an external cause, which totally predicts and prefigures, indeed totally controls subsequent activity (32)." The other meaning captured in *bestimmen* arises "from the experience of social practice, a notion of determination as setting limits, exerting pressures (32)." One can think of related terms used by Marx such as "conditioning." Williams's discussion therefore brings us to a different register, one that is attentive to theories of causality and reflexive about the production of social life.

Crucially, Williams outlines three different ways social theory should revalue the base-superstructure relation. I use these suggestions as an analytic with which to map out my bibliography. In doing so, I turn Williams's prescriptive suggestions into a descriptive account. First, are the attempts to "revalue 'superstructure' towards a related range of cultural practices, and away from a reflected, reproduced or specifically dependent content (34)." In this group I place social theories that have taken a process usually associated with the superstructure and have demonstrated that it involves autonomous cultural practices that are irreducible to the base. Williams's discussion of "structures of feeling" in literary writing (22-23) is one example. Below, I expand this discussion to include Baudrillard and Bourdieu who use language ordinarily reserved to the economy, such as "capital" or "labor," to describe cultural processes.

Second, Williams explains it is necessary to "revalue the base away from the notion of a fixed economic or technological abstraction, and towards the specific activities of men in real social and economic relationships...always in a state of dynamic process (34)." Williams understood the base very broadly, as the self-production of society, the "material production and reproduction of real life (35)." One example from Williams's work is his essay on "Means of Communication" (50). Here Williams suggests a history of communication by presenting a typology of the kinds of labor that are involved in different media. Beyond an abstract conception of the base, Williams studies the particularities of the production process in media industries, (the expertise required for editing and directing TV-shows for example). I also include, in this category, authors such as Marcuse, Mitchell, Gibson-Graham, who investigate the technological, historical and metaphysical grounds of a self-contained sphere called "the base."

Third, Williams argues "we have to revalue determination towards the setting of limits and the exertion of pressure, and away from a predicted, prefigured and controlled content (34)." Williams achieves this through his famous dominant, residual,

emergent theory of hegemony. Hegemony emphasizes the agency in domination, while at the same time offering a view of culture that deeply saturates experience (37). Solely describing the complexity of social life can be an academic luxury that all too often naturalizes injustices. Against this tendency, hegemony insists that domination has to be made, by actively suppressing or incorporating emergent and residual practices (35). I also include in this discussion Marxist scholars whose work has been influenced by Spinoza, rethinking causality along the lines of immanence. Last, I end by considering what political economy *should* mean today, particularly exploring how the term can be developed and constrained.

1. From Superstructure to Symbolic Exchange

1.1 Weber and Religion

Weber presents one of the earliest responses to the causal model of classical Marxism. In his *Protestant Ethic*, Weber (2001) critiques what he saw as a “one-sided materialistic...causal interpretation of culture and history” (125). Briefly, he points out how during the medieval period, an attitude of calculative rationality, seeking profit or performing labor systematically as an end in itself would have been morally unacceptable. The calculative rationality that characterizes capitalism, Weber argues, cannot have arisen solely out of the material conditions that shape human behavior, but could only be “the product of a long and arduous process of education” (25). Thus Weber describes the emergence of the Protestant ethic and the transformation of a medieval spiritual and economic system in the process. He insists that the Calvinist doctrine of predestination in particular, “tears the individual away from the closed ties that bound him to the world,” eliminates magic and all forms of religious ceremony as sinful excess, supplants “brotherly love” with duty (64). For Weber, this transformation is at least part of the causal schema laying the groundwork for capitalism.

Yet a closer look at the text reveals another emphasis. Weber observes that, “the modern man is in general, unable to give religious ideas a significance for culture...which they deserve” (125). This is because under conditions of modernity, calculative rationality no longer needs the guise of spiritual doctrine, even that of Calvinism. The Protestant ethic is only a temporary ally. Both the spirit of “religious asceticism” and “its laughing heir,” the Enlightenment, now “prowls about in our lives like the ghost of dead religious beliefs” (124). Replacing them are the “technical and economic conditions of machine production,” which turn this rationality from spiritual practice to an “iron cage” (123). For Weber, the rational character of modern production

is forced on individuals, and is nothing like the spiritual practice of asceticism. Why? What is it about the “rationality” of “modern man” that is reinforced through “machine production?”

1.2 Baudrillard: Setting the Dialectic on Fire

Baudrillard’s essays in the *Political Economy of the Sign* (1981) start with an analysis of concepts around consumption. Drawing on Mauss, Bataille and Veblen, he argues that the “fundamental sociological analysis of consumption is not use value, the relation to needs, but symbolic exchange value, the value of social prestation, of rivalry and, at the limit, of class discriminants (34).” Symbolic exchange indicates how, “objects never exhaust themselves in the function they serve and in this excess of presence they take on their signification of prestige (30).” There need not be any correspondence between symbolic and use value. Baudrillard offers “the gadget” as an example of an item that is purchased purely gratuitously, to nonetheless signify an ethic of practicality (32). One can think of the proliferation of all manner of electronic gadgets that are often bought to create an atmosphere of functionality and efficiency, yet after the purchase are summarily confined to a dusty living room drawer without once entering use. Moreover, symbolic exchange can work to hide “thwarted desires for social mobility (50).” Indeed, Baudrillard intimates that sumptuous expenditure, the consumption without return that Bataille thought would be suppressed under capitalism, may today be “conceded to the lower classes,” enacting a kind of mobility in the realm of symbolic exchange to hide the underlying social inertia (61). Since the ruling classes simply own the means of production, symbolic exchange can work to conceal rather than reproduce social rank.

However, symbolic exchange does not occur automatically. Consumption, for example, does not reflect the unmediated desires of an individual, but requires the social production of abstract categories that assemble desire alongside a symbolic order. Fetishization works in this way, where a product is “emptied of its concrete substance of labor and subjected to another type of *labor of signification*, that is, of coded abstraction (92).” While symbolic value is realized through exchange, the symbol still needs to be produced through some kind of labor.

Interlude: While buying cut flowers for my living room, I don’t purchase the infrastructures of farming labor, water extraction and logistics required to make them available to me, in the middle of winter. Rather I appear to attribute value to the color, smell, and freshness of the flowers. Yet these qualities don’t exist in themselves, nor are they the result of my individual fetish. They are produced by a labor of signification, a

history of cultural representation of plant-life, that bears on not only what I pay attention to when purchasing the flowers, how I might display them, what filter I use when I take a picture, but also the material features of the production process – for example, that the flowers have to be delivered to my local florist at a particular pace, so they can be stored and bought while they are still sufficiently aesthetically pleasing. Baudrillard is making an intervention here. Under another reading, the fetish works cynically, arising not from what consumers think but structurally through how they act. Value is not something one necessarily believes to be an attribute of the commodity. Rather, in buying commodities, one inevitably acts as if it were. Yet if the fetish isn't merely produced structurally but requires a labor of signification, as Baudrillard argues, then where to place this labor? Due to this shortcoming, Baudrillard says the base-superstructure model “should be exploded (90).”

How? Baudrillard points to two paths (165). 1) One can retain the Marxist understanding of the mode of production as a dialectical contradiction between forces and relations of production yet generalize the schema to also include the production of culture. Smythe's (1977) work on the “consciousness industries” and “the audience commodity” is one such example. How viewer attention is transformed into “the audience commodity” seems like an obvious starting place of any political economy of culture, especially in the era of online advertisements. Yet Baudrillard quickly dismisses this perspective (165). For him, this work misses the importance of symbolic exchange, leaving classical models of communication intact. If the content of media are merely a free lunch compared to the audience commodities they produce, then the communicative models we have to understand this content evades scrutiny. 2) Or, one can let go of the determining role played by relations and forces of production, instead constraining this dialectic to the base. Baudrillard mentions Althusserians who retain a classical understanding of the base as the contradiction between forces and relations, while denying it a determining force – the last instance that never comes. Yet Baudrillard is unsatisfied. If the dialectical contradiction vanishes “in the field of language, sign and ideology, perhaps it was never really operative in the field of material production either.” For Baudrillard “the dialectics lies in ashes *because* it offered itself as interpreting a separated order of production (166).” He instead envisions a wholly new project for political economy, a “political economy of signs,” that expands production to include signification while altogether dispensing of the dialectic. This theory would analyze “material” (use and exchange value) and “symbolic” (signifiers and signifieds) production as irreducible parts of one process. “A critique of general political economy (critical theory of value) and a theory of symbolic

exchange are one and the same thing (128).” Unfortunately one never quite gets a full sense of what this project looks like.

1.3 Bourdieu and “Symbolic Capital”

Bourdieu also studies the importance of symbolic processes through the language of economy. Based on his studies with the Kabyle peoples, Bourdieu (1977) explains that “archaic” societies –noncapitalist social formations- are organized around what he calls good faith economies. Good faith economies describe a situation where exchange is subordinated to genealogy. “The general law of exchanges means that the closer the individuals or groups are in the genealogy, the easier it is to make agreements, the more frequent they are, and the more completely they are entrusted to good faith (173).” In this context, trade between strangers becomes a problematic social relation. Thus good faith economies establish symbolic procedures such as gift exchange, marriages, feasts, visits, with the function of “limiting and disguising the play of economic (narrowly understood) interest and calculation (172).” Even the notions of buyer and seller are dissolved “in the network of middlemen” cousins of cousins, to maintain the economic relation within a genealogically based one (174).

Yet economic logic is not completely excluded from this framework, instead it is socially repressed. The relation between production and labor (176), exchange and self-interested calculation are all cloaked under symbolic processes. Bourdieu draws attention to the accumulation of symbolic capital, the prestige and renown attached to a family and its name (179). Building on his ethnographic work he provides the example of a closing rite at the end of a house building, whereby the builder is provided with a meal instead of being paid his final installment (174). When one builder decides to forgo the meal instead asking to be paid its money equivalent, the family’s reaction is one of shock, since the meal had to have the appearance of a free gift for the system to work. Using the example of such “gifts” Bourdieu argues that labor is performed both to produce the gift (the preparation of the meal) and to pretend it was offered gratuitously as if operating in a framework of “disinterested exchange” (171).

What is the relation between these gifts and a more narrowly understood economy? Like Baudrillard, Bourdieu argues that the relation is certainly not one of superstructure and base. In the attempts to describe noncapitalist societies, Bourdieu locates an ethnocentrism, which unconsciously universalizes a restricted definition of “economic interest.” In fact, strictly speaking, the differentiation of symbolic and economic capital is alien to such societies. The differentiation only follows from a

process of “ontological transformation,” which disenchant nature reducing it to raw materials, reveals labor as the ground of material production and at its extreme construes symbolic production as a gratuitous activity, lacking in concrete effect (177).

“The only way to escape from the ethnocentric naiveties of economism... is to carry out in full what economism does only partially, and to extend economic calculation to all the goods, material and symbolic, without distinction, that present themselves as rare and worthy of being sought after in a particular social formation - which may be "fair words" or smiles, handshakes or shrugs, compliments or attention, challenges or insults, powers or pleasures, gossip or scientific information, distinction or distinctions, etc. (178)”

Bourdieu suggests that every time there is a symbolic or material good that appears scarce – “rare and worthy of being sought” one can assume it has an economy. Yet one studies these economies not by completely dissolving the distinction between symbolic and economic capital but insisting on their inter-convertibility. Bourdieu gives several examples of how the accumulation of symbolic capital can come to play a vital role in the preservation of more narrow economic interests (180). He notes that while these abstractions are useful, in lived experience they operate in ambiguous ways. Thus he can both affirm that economic calculation exists in noncapitalist society and begin to unravel how this economy is broader than what economism might conceive.

Interlude *Bourdieu is far from the only author to invoke the notion of an “archaic” or “primitive” society as examples of how economic dispositions attributed to capitalism are transformed and contained in other social formations. Such primitivizing terms are popular in political economy. Yet Deleuze and Guattari argue that seemingly “archaic” sentiments are often produced alongside capitalism. They write, “neoterritorialities are artificial, residual, archaic, but they are archaisms having a perfectly current function” (1983, 225). Part of the idea here is that capitalism operates cynically and axiomatically, in other words, “by lodging itself on a level of coagulated abstraction” (1987, 144) that halts the play of feelings and desires. The creative force of feeling isn’t registered in an abstraction such as “labor.” Yet this results in the strange return of sentimentalism, a production of archaisms in the present, that sometimes leads to fascism, at other times expresses a revolutionary charge. As Virno explains “It is no accident, therefore, that the most brazen cynicism is accompanied by unrestrained sentimentalism. The vital contents of emotion, excluded from the inventories of an experience that is above all else an experience of formalism and abstractions – secretly return, simplified and unelaborated, as arrogant as they are puerile (Virno 1996a, 17).” Today one can note the persisting appeal of neoarchaisms among fascist movements, from neo-Ottomanism in Turkey to the obsession with Germanic folklore in Europe. Far from existing outside capitalism, as remnants of a pre-modern past, such neoarchaisms are produced alongside it.*

In A Thousand Plateaus, Deleuze and Guattari (1987) continue to draw on the figure of “primitive” society. Through concepts such as the “war machine,” they hint at all

manners of expenditure enacted by “primitive” societies, such as the practice of war.¹ However, the function of war isn’t to conceal a deeper logic of self-interested exchange or to resolve the disputes that may arise from it. Rather it is to ward-off the State. War maintains the dispersal and segmentarity of groups and inhibits circles of exchange and power from resonating through a single point of accumulation. It prevents the “genealogies” –as Bourdieu called them- from resonating through a single center of significance, one Royal lineage that overcodes them (211). War “limits exchanges, maintains them in the framework of alliances, prevents them from becoming a State-factor (357-358).” In addition to the function of war in “primitive society,” there is also the war machine, a distinct form of nomadic organization, which is set up to combat the State. In fact, strictly speaking, it is ambiguous whether the war machine really has war as its object. “If war necessarily results, it is because the war machine collides with States and cities, as forces (of striation) opposing its positive object... It is only at this point that the war machine becomes war: annihilate the forces of the State, destroy the State-form (417).” Last, the supposed autonomy and autarky of primitive societies from the State is an “ethnological dream” (423). Rather, primitive sociality, the nomadic war machine and the state all “coexist in perpetual interaction (430).” Deleuze and Guattari stress that concepts such as the war machine meant to invoke an image of thought that need not have any relation with “primitive society.” **Nonetheless the colonial stakes of both Deleuze and Guattari’s and Bourdieu’s work are inescapable.** Not only because the term “primitive,” but also because Indigenous sociality is invoked instrumentally and a-historically, abstracted and generalized without being engaged. What language is available to social theory, to think about a mode of belonging, of making, consuming and holding value together, that resists capture either by capital or the State?

2. When Will the Base Drop? Economy and the Critique of Metaphysics

2.1 Marcuse’s Heideggerian Marxism

Marcuse’s critique (1991) of advanced industrial society is one of the clearest examples of how a model of causation can come to determine how one thinks about the relation between economy and culture. Put simply, Marcuse’s account of reality privileges negation and mediation as the causal engine of change. Thus, both Marcuse’s critique of automation and his dismissal of modern culture can be seen as attempts to describe the rise of a “one dimensional” society, where the forces of negation are contained. Let’s begin with a précis of Marcuse’s argument.

Marcuse’s critique of political economy poses an interesting question: Why, in an era of unforeseen productivity and technological development, does there continue to be vast economic inequalities? In order to explain the pertinence of this question to Marxist formulations of the base, I need to elaborate. In classical Marxist analyses the contradiction between the forces and relations of production is the engine of social change. In the long run, technological development of the forces of production only serves to further sharpen this contradiction. Under socialism, a rationalization of the

¹ Deleuze and Guattari also cite the potlatch as a means of “preventing the concentration of wealth”(553 n. 12).

relations of production – abolishing the wage form and enforcing common ownership of the means of production - would result finally in a society where the productive forces are used for the development of freely arising human wants, rather than the accumulation of capital. Classical Marxism seeks to “destroy the political apparatus of capitalism but retain(s) the technical one.” (24)

Yet Marcuse argues that far from sharpening the contradiction, automation works to actively contain it, enacting a transformation in the productive forces. Borrowing from Simondon, Marcuse explains that in Marx’s time, machines resembled technological individuals. Thus the alienation of workers in part resulted from the fact that they had lent both their labor and their status as the bearers of tools to the machine (27). Yet under postindustrial society machines exist in ensembles, performing semi-automated work that extends beyond the individual worker (27). This has several results. First, it creates a qualitative shift in the relation between dead labor (large-scale machinery) and living labor. Not only is the quantitative function of labor decreasing, under such conditions it becomes impossible for capital to conceive of productivity in terms of individual workers (31). Second, the type of work involved no longer requires lending one’s physical labor to the machine. Working among automated machines requires virtuosity, a type of “masterly enslavement” which hides exploitation by submitting both the body and the unconscious to the swings of rhythmic automatism (30). Last, since production is now spread out across an ensemble, exploitation is rendered anonymous and is instead presented as mere technical administration (35).

As automation increases productivity, it encourages a culture of consumption and instant gratification.

“The growing productivity creates an increasing surplus product which allows an increased consumption. As long as this constellation prevails, it reduces the use-value of freedom; there is no reason to insist on self-determination if the administered life is the comfortable and even the good life (53).”

Since value needs to be realized through exchange, advanced industrial society constantly needs to invent and rationalize new forms of consumption (52). This has profound impacts on culture. In a world where every cultural product is reduced to immediate consumption, high culture is also effectively incorporated within the “material ground of increased satisfaction (75).” In the past, high culture used to be the source of artistic alienation. For all its problems, high culture existed as a space for the denial and sublimation of instinctual needs. In a culture of instant gratification, such a

negation of reality no longer takes place. This results in a one-dimensional society, where mass consumption exhausts the potential for critique.²

Yet Marcuse's description of the rise of one-dimensional society and the foreclosing of agonism in both economy and culture, are not separable from his critique of technological rationality, which is also a critique of metaphysics. Marcuse proposes that negation exists, first as an ontological condition of reality, and then as the condition of thought trying to understand that reality (155). Being for Marcuse is "permeated by negativity" and generated through corruption (131). Realizing the subversive character of reality requires a subversive character of thought, engaged in concrete practice.

"Dialectical thought understands the critical tension between is and ought first as an ontological condition pertaining to the structure of Being itself. However, the recognition of this state of Being, -its theory- intends from the beginning a concrete practice (137)."

Mediation is the tension that arises between is and ought, appearances and reality, as thought comes to terms with negativity (88).

For Marcuse, the problem of techno-logical reason is how it objectifies the world. In construing the world as an object, technology traps it in the realm of instrumentality. While technological reason presents itself as neutral, the instrumental character of this neutrality is the greatest danger for Marcuse (160). For it separates both thought and the world from the negativity that permeates reality, instead rendering this reality as fixed objects. This objectification also turns human ideas into mere ideals, separated from the dialectic, their critical content hollowed out into a lofty humanism (151). Connecting his Marxism to this Heideggerian critique, Marcuse writes:

"Technology has become the great vehicle of reification. The world tends to become the stuff of total administration, which absorbs even the administrators. The web of domination has become the web of Reason itself (172)."

Simply put, autonomy becomes impossible, as humans are confined to the given and the rational.

Interlude: *Yet what is the relationship between the critique of metaphysics (the analysis of techno-logical reason) on the one hand and the critique of political economy (the analysis of advanced industrial society) on the other? Marcuse traces the roots of modern technological rationality back to the mathematization of nature under Galileo, and perhaps even further, in the formalization of logic by Aristotle (140). Does the*

² This critique of modern culture is revised when Marcuse considers the protest movements that were beginning to brew around the world in the late 60s. In his *Essay on Liberation*, Marcuse (1971) describes the elaboration of a new sensibility, the imaginative creation of a new type of perception that would be physically incapable of tolerating any repression – and for that reason would no longer be need to be repressed. Marcuse investigates the cultivation of a desire that cannot desire repression. In short, he encounters another form of desublimation, one that insists "black is beautiful," one that valorizes "flower power," mocking and subverting the moral law to imagine both a new sensibility and a new rationality. Perhaps most provocatively, this sensibility is anarchic and spontaneous, attempting to embody in the present, the economic and social features of a future classless society.

entire history of Western metaphysics exist outside of the mode of production, secretly determining it, as one long process of accumulation of technological reason? Nothing could be more opposed to a Marxist understanding of history, which is always cognizant of historical contingency. Worse yet, Marcuse's critique of technology can easily become a sweeping paradigm, enfolding areas of the world within a narrative trajectory of Western "modernity," through the spread of automation.

2.2 Buck-Morss: Economy and Colonialism

In contrast to Marcuse's arguably Eurocentric narrative, Susan Buck-Morss (2009) demonstrate how the familiar objects of capitalism – the factory, 'free' labor, capital and the economy were invented in the plantation, the colony and the slave trade. One could even say that the great factories of Manchester and Liverpool, which so inspired Marxist thinking in the 19th and early 20th centuries, were but nodes in a vast trans-Atlantic economy of extracting raw materials, founded on slave labor (Federici 2004, 104). Crucially, Buck-Morss argues that this colonial system subtended what thinkers like Hegel described as "economy." By economy Hegel understood a web of human interdependency, not unlike the concept of ethical life (Sittlichkeit). Yet economy was organized through a system of need and labor, forming social connections

"among strangers who neither know nor care about each other. The insatiable desire of consumers, combined with the inexhaustible and illimitable production of what the English call comfort, produces the movement of things that has no discernable limits (6-7)."

In contrast to ethical life, which is grounded in tradition and community, economy pushes beyond communal boundaries, establishing new interdependencies (9). Therefore Hegel advocates for a political system founded around the figure of the bourgeois civil society, that contains the insatiable drive of economic interdependence within a limited framework of mutual recognition. Yet such mutual recognition is only possible through excluding slavery and colonialism from the realm of civil society.

Interestingly, Hegel's argument leaves open the possibility of the enslaved testing and breaking the limits of mutual recognition through risking their life - a trial by death, an insurrection (55-56). Placing this insight alongside the history of the Haitian revolution, Buck-Morss articulates the emancipatory powers of universal history, where humanity is expressed as the rupture and discontinuity that emerges when distinct cultural identities have been "strained to their breaking point (133)." Such moral universality "is in the register of the negative," existing through nonidentity, lodged in the "gap between reality and social fantasy (84)." Yet isn't this precisely the register which Marcuse thought was contained by modern technology? One path out of

this conundrum is to advance the critique of metaphysics to completely rethink the economy as a self-contained object defined in opposition to politics or culture.

2.3 Mitchell and 'Enframing' the Economy

Mitchell's work begins from an assumption of hybridity. For him, the binaries of nature-culture, economic-noneconomic, base-superstructure are "neither original nor completely stable (36)." Instead he believes "our world is made up of technical bodies, hybrids that are neither wholly objects nor ideas, more than just things but not disembodied spirits, not properly divisible into nature and culture, or reality and representation (117)." Within his work, the function of "the economy" is artifactual, made up of practices that enframe the world into binary oppositions. Yet for Mitchell the bifurcation is never complete. Thus for the oppositions to work, the ways in which the bifurcation fails to take hold have to be concealed. This is why the politics of expertise is especially pertinent. If the making of "the economy" is both "the method of staging the world as though it were divided in into two, and a means for taking the division for granted (89)," the question of expertise becomes crucial. He explains:

"The constraints, understandings, and powers that frame the economic act, and the economy as a whole, and thus make the economy possible, at the same time render it incomplete. They are an interior-exterior, simultaneously the condition of possibility of the economy and the condition of its impossibility...Just as a frame seems distinct from the picture it enframes,... the institutions that enframe the economy are imagined to have a different and extraeconomic, nature... In practice, however, this distinction is not a stable one. Each piece of the frame, each rule, procedure, understanding, constraint, enforcement, and sanction, involves potential exchanges of its own (292)."

How is the economy enframed? Mitchell begins by drawing a distinction between "economy" and "the economy." Economy is described as "the principle of seeking to attain or the method of attaining, a desired end, with the least possible expenditure of means (81)." The term political economy, as thinkers such as Ricardo used it, combined this sense of parsimony with a concern for the "proper governing of a community's affairs" (82). This is in contrast to "the economy" as understood by figures such as Keynes, who founded economics as a modern discipline. The economy came to refer to "a self-contained structure or mechanism, whose internal parts are imagined to move in a dynamic and regular interaction, separate from... what could now be called its exterior (82)." The economy was distinguished from its outsides, such as culture or politics, as the "material sphere of life." At the same time the economy is also conceived as the realm of rational and numerical calculation (82). In this sense, the economy renders material realities calculable and rational so as to "establish

equivalences, contain circulations...make quantities and performances measurable and designate relations of control and command (8-9).” One example Mitchell uses is the creation of a great land map of Egypt, in the early 20th century. The centralized map, replaces a technique of cadastral registration, allowing for a new type of knowledge to emerge, one that can compare different plots of land with one another and more easily keep a record of who has paid taxes (90). Moreover, by claiming to represent material differences in a rational form, the economy achieves the bifurcation of the two, in this case the land and the map, the social community and the state, materiality and its statistical representation (90). The map also hides the violent nature of this bifurcation, as forms of landownership that aren’t representable on the map are transformed. Last, the new maps were significantly less accurate than the cadastral method. What the map actually achieved was not increased accuracy but a redistribution of knowledge from local to central structures (92). The economy involves a similar politics of expertise and therefore cannot be thought outside of the extraeconomic apparatuses that constitute as an object, in this case both the material map and the colonial officials who created it.

Mitchell’s book joins Marcuse’s critique of techno-science with an emphasis on colonialism. For Mitchell the colonial context of bureaucracy, occupation and modernity are inseparable from the constitution of the economy as an object and that of economics as a discipline. Yet when he argues that the extraeconomic acts that enframe the economy contain “exchanges of their own” what does Mitchell mean? Why preserve the language of exchange? The distinction Mitchell made earlier between “economy” and “the economy” disappears. “The economy” now becomes synonymous with contemporary capitalism, making it difficult to locate what is distinct about capitalism and whether there are other economies operating alongside it.

2.4 Gibson-Graham and the Constitutive Outside

Gibson-Graham’s (2006) groundbreaking work “focuses on how accounts of capitalism tend to subordinate non-capitalism in relations of subsumption, containment, suppression, opposition and complementarity to capitalism as the quintessentially economic form (7).” The author notes how scholarly theorizations of “capitalism” on the one hand inflate the concept as the secret causal force operating behind every social process, while at the same time sparing it from any critical analysis (39). Gibson-Graham is wary of theories that uncritically grant capitalism a hegemonic role, as they produce a “pessimism of the intellect,” that might stifle political action (237). If the system one is fighting is construed as an all-encompassing beast, the sources of

resistance and the targets of intervention may be harder to locate. Hegemony must be “theorized rather than presupposed (18).” Inspired by the feminist critiques of phallogocentrism, Gibson-Graham explain how contemporary theory tends to construe alternative economic structures through “absence or lack rather than autonomous being (35).” Gibson-Graham’s antidote, that is promised but not developed, is to use the tools of deconstruction to create space for “an economic imaginary populated with friendly monsters of the non-capitalist sort” (21).

In order to do so, Gibson-Graham has to first provide an anti-essentialist theorization of capitalism, which is the principle aim of their book (11). The definition of anti-essentialism developed by Gibson-Graham is one that primarily builds on Althusser’s work on overdetermination. They use the concept to index the “incompleteness of every identity; the ultimate unfixity of every meaning; and the correlate possibility of conceiving an acentric...social totality that is not structured by the primacy of any social element or location (27).” If capitalism has no logic of identity, relations that are wholly exterior to it must constitutively (rather than residually) define it. More interestingly, if social totality is a-centric, capitalism can come to exist in relations of mutual determination with other economic forms, without articulating a whole. Given all of the above, how Gibson-Graham define capitalism becomes extremely important. And they are one of the few authors on my list who actually defines the term. Gibson-Graham opts for a minimal definition, so one can see what else is operating under this homogenizing banner. “(C)apitalism is defined as a social relation, or class process, in which nonproducers appropriate surplus labor in value form from free wage laborers. The appropriated surplus is then distributed by the appropriators to a variety of social destinations (Gibson-Graham 2006, xxiv).”

Interlude: *Let’s break this down. Having worked at a café, I use to this example. Every time I take an order and make a cup of coffee, I produce a profit. I could work until I have made enough of a profit to spend on my monthly expenses, close the store and go back home. But I don’t own the store. Thus my boss Başak expects me to come to work around 6 rather than 7 am and stay on until 5pm, even though by then I will have probably generated enough profit to pay triple the amount of money I receive as hourly wages. But hey, “everybody has got to make a living.” And there in lies the rub, because everybody does not share the profits. This narrative however, underestimates the level of circular causality involved in the process Gibson-Graham is describing. After all, value not only has to be appropriated, it needs to be realized through the sale of commodities. Notice that the surplus value I produce would be meaningless if the cup of coffee were not sold to a customer. If exchange were not to happen, appropriation of surplus labor by itself would have no fixed value form. In fact, in the context of a café the symbolic-material conditions of consumption, (hot, fresh coffee, served with a smile)*

comes to determine this interdependency even more. Başak could not store cups of coffee I have prepared and hope to realize their value in bulk later. On the other side, commodities presuppose that labor itself is a commodity that can be bought and sold. This once again presumes the doubly “free” character of labor; not only that it is separated from the means of production (don’t have the means to open my own café) but also that it has been literally transformed into labor in the abstract, (the knowledge that my labor as a 20-something is dispensable) where one’s work is measured against abstract goals of productivity, where the production process anonymizes labor, where one can transition albeit with some social adjustments, from working at a café, to working at a bank, to becoming a chef. How did it come to pass that it was Başak and not me who owns the café? How did I come to accept drifting between unemployment and underemployment? In short, what I’m pointing to is the problem of reproducing a mode of production. As I elaborate below, capitalism often sets in motion peculiar causalities where, as in this example, the (re)production of free labor and free capital **are both the causes and effects of the same process**. As Michelle Murphy observes, capitalism is an economic form that requires the constant reproduction of its conditions of possibility, constantly “conjuring its own milieu” (Murphy 2017, 7).³

2.5 Tsing and the limits of the critique

Tsing (2009) draws on Gibson-Graham to argue that, “capitalism incorporates contingencies without forming a single, homogenous structure, in deed, that is the genius of its spread (152).” Tsing builds on this insight by offering figurations of contemporary capitalism that aim to demonstrate how capitalism can scale differences to its own advantage. One such figuration is the supply chain and the different modes of work associated with it. By spatially stretching the production process, Tsing explains, supply chain capitalism is able to take advantage of cultural and social differences across various geographies. Tsing points to how exploitation works alongside non-economic forms of difference, calling this super-exploitation. One example she provides is how women in the global south tend to be excluded from the labor market and instead perform reproductive work such as sewing. Yet for women employed to sew clothes at the maquiladoras located across the US-Mexican border, this difference becomes construed as an asset. At the same time, because they are marked by noneconomic forms of difference their wages are treated as auxiliary or supplemental to the family’s income, thus making them a cheaper work force (162). Super-exploitation can even be expressed through forms of self-exploitation where cultural beliefs around freedom or self-expression are mobilized to help sustain economic precarity. Tsing provides the example of male chicken farmers in the US, who refuse to work for bigger companies, instead choosing to live under precarious economic conditions to uphold ideals of

³ There are good reasons why Gibson-Graham actively resists this line of thought, more below.

freedom and independence (168). Yet if Tsing's account is true, it is not enough for political economy, to show how capitalism exists in relation to constitutive out-sides. If capitalism eschews a single homogenous structure, then one shouldn't think of its political economy in terms of interiority, but rather in terms of apparatuses of capture. Political economy requires a different model of cause/effect, interiority/exteriority that identifies capitalism's need to reproduce its conditions of possibility, is attentive to its parasitical nature and can leave room for alternatives without resorting to a primitivizing language.

3. Immanence, Causation and Economy

"If you're the bosses, fuck work." *Ezhel – Taste of My City*

As I pointed out in the introduction, one persistent issue within political economy has been the enduring legacy of a transcendent notion of causation and determination (*bestimmen*). Why is transcendence an insufficient concept for political economy? First, a transitive causal model that treats the base as a transcendent and self-same cause while imagining the superstructure as a wholly determined and insubstantial set of practices is a very meager one – especially if the terms base and superstructure are an attempt to describe the relation between economy and culture. By now this should be evident. Second, I also flagged how capitalism tended to operate in a peculiar fashion, conjuring up its own conditions of possibility. This is a historical claim about "postmodernity" and the emergence of a mode of control that is ever more immanent to social relations. Therefore transcendent interpretations of power, sovereignty, colonialism are inadequate under postmodern conditions (Hardt and Negri 2001; Jameson 1992). Third, is the related but more general claim that capitalism tends towards an immanent field. As I hinted while discussing Bourdieu, capitalism acts on and loosens productive flows that had, during other social formations, been suppressed, maintained and kept in check. Yet it also immediately reterritorializes these flows, registering them axiomatically. In this view, capitalism is defined less as an all-encompassing system, and more as a series of captures that act on an immanent field, composed of all kinds of power relations – disciplinary institutions, despotic states, gender regimes. As Deleuze and Guattari explain: "Capitalists may be the masters of surplus value and its distribution, but they do not dominate the flows from which surplus value derives. Rather, power centers function at the points where flows are converted into segments: they are exchangers, converters, oscillators (1987, 226)."

In this section I unpack what is meant by the term “immanence” and how it can help outline a new model of thinking about political economy. I first elaborate this through the works of autonomist theorists such as Hardt and Negri, Lazzarato, Terranova and Virno. I then explore some of the limitations of autonomism, focusing on the strengths and weaknesses of a philosophy of immanence for political economy, through the work of Michelle Murphy and Elizabeth Povinelli. Last I return to Deleuze and Guattari, to define some key the terms that I have been using throughout this essay, such as the “apparatus of capture.”

3.1 Immanence and the Multitude: Autonomists

a. Hardt and Negri: Immanence, Enlightenment and Mediation

Hardt and Negri develop a historical account of immanence to outline their critique of modernity. Like many authors, they note that “immanence” and “transcendence” originate from medieval theological debates about the nature of God. Immanence in this context is the idea that God/Nature is a cause that can only inhere through its effects.⁴ Hardt and Negri provide a quasi-historicization of the medieval “discovery” of immanence claiming that it represents a radical vein of modernity (2001, 74). However, the discovery they point to is less consistent with Spinoza’s immanent God/Nature and more akin to, in simple terms, the self- productive potential of a broadly defined human sociality. The “plane of immanence” for Hardt and Negri, is the discovery that humans are “masters of their own lives”

“producers of cities and history, and inventors of heavens. They inherited a dualistic consciousness...but they handed down to future generations an experimental idea of science, a constituent conception of history, they posed being as an immanent terrain of knowledge and action (2001, 71).”

Immanence is best represented by the figure of “homohomo, humanity squared, enriched by the collective intelligence and love of the community (2001, 204).” Indeed this is what Hardt and Negri will later call the multitude, a spontaneous and elementary form of communism expressed in our cooperative interactivity.

However modernity is also as a state of crisis rife with attempts to contain and foreclose the creative force of the multitude. In particular, the Enlightenment is a counterrevolutionary project attempting to dominate “the idea of immanence... by constructing a transcendental apparatus capable of disciplining a multitude of formally

⁴ An immanent cause implies a relation of mutual presupposition between cause and effect. In other words, God or Nature is an expressive and self-causing force that not only remains within itself to produce effects (since it is not transcendent), but also whose differentiating effects nonetheless remains within it.

free subjects (2001, 2001, 78).” The cornerstone of this transcendental apparatus is a theory of mediation, which insists

“nature and experience are unrecognizable except through the filter of phenomena; human knowledge cannot be achieved except through the reflection of the intellect; and the ethical is world is incommunicable except through the schematism of reason (2001, 78-79).”

In this Kantian vision, the transcendental no longer operates by causally determining phenomenon from above, but rather mediates and structures the horizon of human experience. Whereas transcendence expresses the absolute exteriority of the causes to the effects, the transcendental confines the plane of immanence to a transcendental subject. Humans can infer causation not due to the machinations of a transcendent force, rather because causality is built into the universal structure of human faculties, mediating our every experience. This interpretation of causality and mediation find their counterparts in political theory. For Hardt and Negri the political counterpart of transcendence is sovereignty, the absolute determination of the rulers over the ruled, which endures despite its contractarian or republican variations. Yet sovereignty alone doesn’t describe the modern state. Rather, in modern theorizations, such as that of Adam Smith or Hegel, the state exists to ensure the ultimate correspondence of private enrichment and public interests, of bourgeois economy and civil society (2001, 86). In other words, the modern state is transcendental, already implied within the historical structure of human belonging, mediating private and public interest, as they are defined within bourgeois society. Hardt and Negri argue that today the project of Enlightenment is in decline. In its place stands Empire, which wholly transforms sovereignty. Empire “operates on the plane of immanence, through relays and networks of relationships of domination, without reliance on a transcendent center of power (2001, 326).”

b. Immanent Base: Cooperation and Immaterial Labor

The decline of modernity and the shift to postmodernity is enacted through a change in the mode of production. This change was not inscribed in “technology” but rather was a counterrevolutionary reaction to the cooperative struggles of labor during the 1960s and 1970s. One of the main insights that Hardt and Negri are drawing from Marx is that “cooperation is immanent to the laboring activity (2001, 294).” In *Capital*, Marx explains how one of the distinguishing characteristics of industrial capitalism is the economies of scale labor achieves in the factory setting – e.g. if the artisanal shop can produce 2 coats a day with 2 workers, a factory of 100 workers can produce 500 coats a day. In this way, the capitalist can reap the benefits of the surplus productivity

achieved by cooperation. For Hardt and Negri, cooperation is spontaneous and extensive; neither orchestrated by the capitalist nor contained to the factory setting. The object of exploitation is no longer specific productive activities, “but the universal capacity to produce, that is *abstract social activity* and its comprehensive power...the cooperating set of brains and hands, minds and bodies” that are inherent to post-modern production (2001, 294).

Immaterial labor is an attempt to scale this description of cooperation to conceive of a host of gregarious activities as labor. As Lazzarato (1996, 138) explains

“The concept of immaterial labor presupposes and results in an enlargement of productive cooperation that even includes the production and reproduction of communication and hence of its most important contents: subjectivity.”

In other words, there is something inexhaustibly productive about our abstract capacity for cooperation – that capitalism can exploit. Simply put, immaterial labor can be described as the labor that “produces the informational, cultural or affective element of the commodity (1996, 262).” Yet this cultural or affective aspect, which begins to dominate the production process, relies on communicative social practice, which cannot be contained in or measured as wage labor. If capital can be valorized through the production of social cooperation and if the value of a commodity can be increased through immaterial labor, then the communicative and affective activities that enable this cooperation are a type of labor that isn’t coterminous with the wage relation.

In more concrete terms immaterial labor names three new types of activity; 1) Autonomist authors argue there has been a remodeling of the relationship between consumption and production. Through the aid of technology, production is now driven by a rapid communication between consumption and production. This is expressed in the growing significance of supply chains and just-in-time production (2001, 290). The material labor of production mixes with the immaterial labor of communication, reorganizing the productive forces. As contemporary studies of logistics elaborate, not only are commodities produced on-demand, but also the entire production process (the factory) is stretched across a logistical space that facilitates circulation of both consumer goods and raw materials. Logistical space attempts to absorb material differences through elasticity and permeability, because it is constantly adjusting to the real-time calculation of total-value (Rossiter 2016, 39). 2) Autonomists note the rising importance of “knowledge-based jobs” which involve different forms of computer-based work from seemingly more creative work to mundane coding or data entry jobs. 3) Last, immaterial labor also requires “affective” work which joins the reproductive activities of care and

maintenance with that of production (Hardt and Negri 2001, 293-294). Terranova (2000) provides the example of an affective, creative and spontaneous type of “free labor” that sustains the Internet, through which emerging social knowledge or cultural practices can be appropriated within consumer products. Thus the activities shared on a social media site is a type of free labor which both reproduces the affective bonds that maintain a community, say houseplant enthusiasts, while at the same time can express the emergence of a new niche market. In a sense this is the flip side of the increasing communication between consumption and production. Online, one consumes not a product, but rather contributes to an ideological and communicative environment, that can itself be consumed, thus blurring the distinction between consumption and (re)production (Terranova 2000; Lazzarato 1996).

This description of immaterial labor has important consequences for how we think about the relation between base and superstructure. First, immaterial labor troubles the description of the mode of production as a contradiction between forces and relations of production. Replacing them is the concept of the general intellect. General intellect is even broader than social cooperation, referring to collective faculties such as “language, the ability to learn, the ability to abstract and correlate and access to self-reflection” (Virno 1996b, 194–95). The idea of the general intellect indicates that these faculties have become a public resource that capital benefits from. Thus the general intellect both enables the development of fixed capital, through science and technology and provides the repertoire for cooperative action and immaterial labor through language (Virno 1996b; Terranova 2000). Both labor and machinery, in other words, are enabled through the general intellect.

Yet if immaterial labor extends beyond the factory to cover all forms of social activity, the distinction between production and social reproduction; between base and superstructure; between the production of surplus value and the reproduction of subjectivity becomes harder to maintain. The vital and affective efforts that reproduce life have themselves become directly productive (Hardt and Negri 2001, 364).

“If production today is directly the production of a social relation, then the raw material of immaterial labor is subjectivity and the ideological environment this subjectivity reproduces (Lazzarato 1996, 143).” Schools, universities, prisons, not only reproduce the docile bodies that can function as wage labor, rather they become environments where cooperation is channeled into fashioning networked, creative and opportunistic subjects. Thus these institutions not only exercise social control but rather are themselves productive, illustrated by the fact

schools and prisons are in fact, privatized. Last, under these conditions revolutionary struggle can no longer be satisfied with occupying the factory, for the productive forces no longer reside here exclusively. Rather, one must abandon the modes of subjectivity and belonging that help (re)produce capitalism, and seek to reclaim the very grounds of communal existence, expression and knowledge (Virno 1996b).

c. Real Subsumption and the Economy

Above I have described postmodernity as an immanent form of power. What does this mean? Hardt and Negri characterize modernity as a hierarchical spatial relation between an inside and an outside; where reason rules over the passions, civil law over the state of nature, civilization over the colonized. Postmodernity describes a situation where modernization has “run its course” and any “natural” outside has been completely subsumed (Hardt and Negri 2001, 187). Driving this subsumption is an economic process, capital’s constitutive need for an outside, which then must be internalized. The two forces at work here are the process of *realization* on the one hand and that of *capitalization* on the other. Realization indicates how surplus value extracted from labor needs to be realized in exchange. The commodity needs to be sold at a profit. Yet in a closed system, this becomes increasingly difficult. If there is to be profit, by definition workers must produce more value than they consume. Similarly, if there is to be accumulation, then by definition capitalists cannot consume all of the surplus value either (2001, 223). In such a system, value constantly needs an external market that it must expand to, a constantly widening sphere of circulation (2001, 225).

“Capitalism is the first mode of economy which is unable to exist by itself, which needs other economic systems as a medium and a soil. Capital is an organism that cannot sustain itself without constantly looking beyond its boundaries (2001, 224).” Once this surplus value is realized however, it needs to be invested anew in order to further the cycle of production. This requires the acquisition of new raw materials and machinery on the one hand but also more labor power. Capitalization involves not only the appropriation of raw materials, knowledge and technology through theft, imperial war or environmental destruction, but also robbing people of their means of production, destroying their social organization and rendering them as wage labor. Capitalism’s constant expansion is driven by this fundamental contradiction. On the one hand there must be an outside in order for value to be realized, on the other hand this outside needs to be internalized to turn surplus back into capital (2001, 227). Real subsumption is when capital’s outsides have been exhausted. As Jameson writes, this implies the “colonization of Nature and the Unconscious” and the “destruction of the pre-capitalist

Third World (1992, 36).” Under these conditions capitalism consumes not a noncapitalist environment but rather an artificial environment that is wholly mediated by technology (Hardt and Negri 2001, 272). Accumulation through violent dispossession subsists under late capitalism, but the environment that is being accumulated is an informational one, composed of “social relations, communication systems, affective networks” (2001, 258). Last, this mode of production is joined by a new technique of power that attempts to govern social activity. The centrifugal force of intensifying exploitation is joined by the centripetal force of control networks and surveillance cameras (2001, 297).

Interlude *The idea of real subsumption has been criticized by many feminist and queer scholars. Above I have noted how Gibson-Graham argue that real subsumption imagines noncapitalist economic relations as lacking, subordinate and “only ever sites of potential invasion/envelopment/accumulation (2006, 126).” Echoing this, Halberstam argues that postmodernity also creates opportunities for people who “opt to live outside of reproductive and familial time as well as on the edges of logics of labor and production (2005, 10).” These critiques are certainly right in identifying Hardt and Negri’s emphasis on postmodernity as a system of total administration. However, what Hardt and Negri (2001) are describing, is not only the extinction of an outside to capital, but also capital itself becoming immanent to a social field. Far from being subordinate, this social field is composed of struggles and systems of creating value that are beyond capital’s ability to measure.*

“...however, from the perspective of social productivity and creativity, from what we have been calling the ontological perspective, the hierarchy is reversed. The multitude as the real productive force is our social world, where as Empire is a mere apparatus of capture that lives only off the vitality of the multitude – as Marx would say, a vampire regime of accumulated dead labor that survives only by sucking off the blood of the living (2001, 62).”

Key in this account is the dual standpoint occupied by labor. Labor, broadly construed as social activity, “is productive excess (2001, 357).” This excess is virtual, existing everywhere and nowhere, as a kind of capacity beyond measure. The virtual power of labor resides in its “self-valorization that exceeds itself, flows over onto the other, and through this investment, constitutes an expansive commonality (2001, 358).” There is value in labor’s creative and expansive activity, a value that cannot be measured by any external metric. In my experience, this is the value of comradeship, of friendship, of allyship, of collective subsistence even in the face of authoritarian pressure. Hardt and Negri call labor’s virtual capacity to self-valorize and constitute commonalities, the multitude. This excess on the one hand results from actual struggles for emancipation such as social movements, workers strikes, and occupations that all try to constitute a commons. On the other hand the excess is virtual, as a perpetual horizon of liberation. Whereas from the perspective of Empire, immaterial labor maybe wholly determined by capital, from the perspective of the multitude Empire is an “empty shell or a parasite (2001, 359).” In this vision the social life and struggles, especially of those who are poor or marginalized who rely on social cooperation, becomes the most important grounds for the multitude (2001, 159).

The above analysis would suggest that the real problem with the autonomists is not their inflated conception of capitalism but their hyper-inflated conception of social

activity and labor. For the autonomists everything appears to be yet another avatar of the self-causing force of multitude. This becomes apparent in their outdated theorization of technology, where the role of technology is only ever “prosthetic,” extending the inherent communicative faculties of humans (2001, 291). It is also apparent in their theorization of terms such as the commons, cooperation and reproduction, where a relation with nonhuman life forms, such as plants or animals, appears to be foreclosed. The infrastructures of the Internet, the logic of technicity, the materialities of extraction are all dissolved - extraction becomes the accumulation of data from social networks, technicity becomes the general intellect, the Internet turns out to be about immaterial labor.

3.2 A Note on General Economy

One can imagine simply expanding the definition of terms such as the commons, as a corrective to Hardt and Negri’s anthropocentrism. There are contemporary projects, such as Michelle Murphy’s (2017), which rethink reproduction or the commons, along the lines of a “distributed agency” that can recognize nonhuman actants. It is tempting to imagine replacing Hardt and Negri’s plane of immanence, defined as human activity, with a new plane of immanence, defined around concepts such as life or ecology. This move can be understood as an expansion of what in Marxist terms is described as the “productive forces.” Whereas Hardt and Negri expand the productive forces by equating labor with human social activity in general, projects such as Murphy’s seem to indicate that “life” itself has a part to play in production.

One reference point for thinking “economy” alongside “life,” is Bataille. In his *Accursed Share*, Bataille develops the concept “general economy”, a notion that is refreshingly at odds with conventional thinking about economics. What characterizes general economy, as Bataille defines it, is not scarcity but excess. The idea that economy is about scarcity stretches virtually everywhere, from the rhetoric of austerity and belt-tightening that has become a mainstay of attacks against social welfare programs around the world, to undergraduate level textbooks that define economics as the opposition between infinite human wants and finite resources. Bataille argues however, that this proposition only makes sense from the point of view of particular organisms or systems. Taking aim at the economists of his time, he explains that they wrongly start from the point of view of an isolated individual and “generalize the isolated situation” (1991, 23). The isolated individual here could be a person, a family, a corporation or even a nation-state. Whatever our unit of analysis, it is treated as a restricted entity with defined interests, that then enters into relations of exchange with the outside world. In contrast, Bataille’s general economy starts from the opposite

principle; that living systems always receive more energy than they need, because the sun functions as a free source of energy. Some of this excess energy is diverted towards growth. Energy not used in maintaining an organism can be used to expand into new territories, like bushes and weeds that will begin to consume pathways that aren't used regularly. However at some point this growth reaches certain local limits; the trampling feet of other species, the intervention of climatic phenomenon or a change in the ecosystem all work to impose a limit on the energy that can be directed towards growth. Any energy that cannot be used for growth must be consumed uselessly. For our purposes, then, Bataille's general economy opens our thinking up to the crucial role played by the transfer of energies and life forces, that exceeds the individual economic actors (Bataille 1988, 20). Rather than starting with an economic agent and situating them within a larger network, it forces our attention towards that which escapes the schema of calculated growth – war, waste, expenditure. Such consumption is characterized as squander since the object is consumed intimately and without any gain. When one consumes wastefully, one stops considering the objects of consumption as instruments one can utilize towards some other greater end. Therefore such consumption can enact moments of intimacy, where the alienating concerns with growth are put aside (Bataille 1988, 55). This too is a temporal relation. Useless consumption consumes and destroys objects immediately, without submitting them to the instrumental calculation of future growth. In short, squander is an intimate form of consumption, without gain and therefore without the restrictions of instrumental reason working to recuperate the productive energies within the framework of calculated growth (Bataille 1988, 58).

The future oriented-ness of growth finds an echo in contemporary discussions around “life” and political economy. In her book the *“Economization of Life”* Murphy provides more concrete examples of how artifactual constructs around life, such as “population” or “fertility” were used in the modeling of national economies. During the Cold War, theories around modernization that created ideal models of population growth based on European experiences were exported to South East Asia and used to promote birth control measures. Murphy launches a critique of US-led birth control programs that targeted young women in countries like Bangladesh. Most strikingly, Murphy details how the “value of a girl” becomes entangled in an ever wider web of anticipatory calculations towards future life states, a growing set of axiomatic “if...then” statements (if a girl is educated now, she will generate value later). The

biopolitical statement that some births must be averted so that future others might live more prosperously, is converted into a cloud of anticipatory calculations emanating from the statistical construct of a Bangladeshi girl: “some children must be invested in so that future others might not be born, so that rates of return increase, so that future adults are worth more, so others live more prosperously (Murphy 2017, 114).” The idea is that life processes are increasingly governed and made calculable, so that they can be inserted in future projections of capital.

There seems to be a conviction that this particular understanding of futurity and potential value connects capitalism and life. Povinelli argues:

“Capitalism sees all things as having the potential to create profit; nothing is inherently inert, everything is vital from the point of view of capitalization. And anything can become something more with the right innovative angle. Indeed capitalists can be said to be the purest of Animists (Povinelli 2016, 20).”

Povinelli draws an analogy between the work of thinkers such as Deleuze and Foucault on the one hand, and what she identifies as “late liberalism,” on the other. In both cases, she criticizes the tendency to see life as an immanent and vital force, believing that such a description requires an originary determination between life and non-life, the violence of which is then concealed at the expense of the Indigenous community she is working with. However, I suspect the problem that Murphy and Povinelli are pointing to runs deeper, having to do not with “life,” but with how one conceptualizes immanence itself. It is telling, for example, that even Bataille’s thought at times resembles a strange monotheism, where the sun is an absent transcendent causal force that gives without asking in return. A potential pitfall of an immanent causal model, whether this immanence is defined as human action or life, is that once one proposes a self-causing force, it becomes convenient to dissolve differences within this unfolding process. In order to define political economy, we must go further than merely describing an ever-wider and immanent circuit of production.

3.3 Immanence and Capture: A Thousand Plateaus

I hesitated writing this section, but there’s no getting around it. Any attempt that tries to merge a philosophy of immanence with an account of political economy has to contend with the two volumes of *Capitalism and Schizophrenia*. There are many iconic images of Deleuze and Guattari’s work. Yet in the interest of space, in this section, I limit myself to some of the key terms used by Deleuze and Guattari, that might be helpful for my present discussion.

a. Plane of immanence, BwO and Socius

Deleuze and Guattari's work bears a curious relation to political economy, because the standard Marxist concept of a mode of production is wholly transformed. To understand why, we must explore a varied terminology all related to the concept of immanence – the plane of immanence, the BwO, the Socius. In political economic terms these three concepts touch on the issue of the distribution of the productive forces, drawing attention to how different productive flows are assembled and brought to register across a social formation. This moment of disjunction between an immanent field of productive forces and a system of captures that registers their “value,” is crucial for a critique political economy that takes the challenge of immanence seriously.

Interlude: *Every now and then the hibiscus tree in my living room blossoms. In a matter of days, I watch the flowers harden and fall on to the carpet. Sometimes, if I am less careful in tending to the tree, a leaf might detach itself. A disjunction is at work. I pick up the flowers and add them to the stock of dried flowers I am keeping in a box in the bedroom. The leaves go to the compost in the kitchen. The soil that spills on my carpet, I try to replot. Kitchen, bedroom, living room: around these strata a home asserts itself as the immanent cause of the whole affair, a body without organs. Once I have enough flowers, I plan to organize a house gathering and make hibiscus tea for all my friends. I take joy in imagining them drink the tea. My very own potlatch ...*

The plane of immanence describes a relation between production and distribution, between a body and its organs. Simply put, the term refers to the ground on which differences can express themselves, similar to Spinoza's God or Nature. The plane of immanence (the plane of consistency of Nature) expresses the unity of differential modes of becoming, artificial and natural, living and inanimate. Yet this unity does not arise from the fact that all things express the same essence, nor that God has designed them according to a pre-established harmony.

“Instead it is a plane upon which everything is laid out, and which is like the intersection of all forms, the machine of all functions...It is a fixed plane, upon which things are distinguished from one another only by speed and slowness. A plane of immanence or univocality opposed to analogy. The One is said with a single meaning of all the multiple. Being expresses a single meaning all that differs. What we are talking about is not the unity of substance but the infinity of the modifications that are part of one another on this unique plane of life (Deleuze and Guattari 1987, 254).”

The relation between the plane of consistency and its connecting and heterogenous parts is one of mutual presupposition. On the one hand, it is the infinity of the different modes expressing themselves that create something like a plane of immanence. The cause (Nature), in other words, finds its expression not through its own internal unity, but rather through the infinity of modifications and effects that composes it. On the other hand, this abstract plane is nonetheless real. It effectuates distributions and

compositions through the movements that take place in it. “There is a pure plane of immanence, univocality, composition, upon which everything is given, upon which unformed elements and materials dance (1987, 255).” The distinguishing factor of Deleuze and Guattari’s description of immanence, then, is this weird superposition between cause and effect where the unity of Being only ever exists as it is expressed in the anarchic dance of becomings. One important note here is that immanence does not dispense of the efficient cause. One can still outline partial causal chains and identify forces and interests. The point, however, is that the cause has no independent existence of its own, only inhering through its effects. This view has important consequences for political economy. Understood this way, the mode of production does not exist at a given place – not in that sense hard-wired into the factory or infrastructure, nor expressed essentially as an attitude of calculative rationality– but rather itself depends on the machinic processes that assembles an economy (1987, 435).

BwO and the Socius describe analogous processes having to do with the distribution of productive forces. For Deleuze and Guattari

“forms of social production, like those of desiring production, involve an unengendered nonproductive attitude, an element of anti-production coupled with the process, a full body that functions as a Socius... This is the body that Marx is referring to when he says that it is not the product of labor, but rather appears as its natural or divine presuppositions. In fact, it does not restrict itself merely to opposing productive forces in and of themselves. It falls back on all production, constituting a surface over which the forces and agents of production are distributed, thereby appropriating for itself all surplus production and arrogating to itself both the whole and the parts of the process, which now seem to emanate from it as a quasi-cause (1983, 10).”

One can begin to question the mode of production through the concept of *Socius* (or in *ATP plane of consistency*). For example, the capitalist economy is a surface of recording across which “forces and agents of production are distributed,” where human activity is transformed into labor, where the means of reproducing life are registered as capital and where hopes, dreams and fantasies are registered as risk. There are two processes at stake in this act of recording. On the one hand, a process of partitioning takes place, where “connective and heterogenous” flows are transformed into distinct elements that are commensurable where, for example, the flows of human relations are made into distinct individual workers (1987, 454). On the other hand, it also implies a process of spacing where, for example, different types of capital are distributed in an unequal fashion across different bodies to extract a surplus value (later I will call this a “capture”). Some have access to university education, others to money, others to social

prestige or others yet to an improvised and “fugitive” sociality (Harney and Moten 2013). This unequal distribution allows capital to interrupt the productive flows, congealing and registering their unfolding as profit. Yet this profit also appears to come from capital itself, as money begets money, M-M’; capital asserts itself as an “unengendered” force. Capital thus becomes a mystical being, since social productivity seems to emanate from capital itself. Consider the politician who cries, “What we need is investment!” This is not simply a psychoanalytical event, rather capital really does appear as a quasi-cause; acquiring its own semi-autonomous financial dynamics such as interest rates and derivatives. Last, this recording is not enacted from above by transcendent agents, but is rather produced alongside the processes of social production.

If the plane of consistency is the “full body,” the *body without organs (BwO)* expresses this same act of recording and distribution from the point of view of desire. One might say there are two orders of distribution here, one macropolitical (Socius) and the other micropolitical (BwO). The former operates on the level of extensive social production, the while latter at the level of desiring-production.⁵

“The BwO is the field of immanence of desire, the plane of consistency specific to desire – with desire defined as a process of production without reference to any exterior agency, whether it be a lack that hollows it out or a pleasure that fills it in (1987, 154).”

Here, desire is immediately productive, without the intervention of a mediating subject. Or rather the subject is only ever a threshold of this desiring process. “Desire” is very broadly defined, referring to the ways in which our lives are stratified by organic, signficatory and subject-forming processes. The BwO names the difficult distribution enacted by these strata. Deleuze and Guattari describe the BwO as swinging “between two poles.” In the one hand it tends towards a transcendent pole, “the judgment of god” whereby the organization of the strata is naturalized under a transcendent organism. For example, a transcendent man as an organism marked by a normativised distribution of desires, designated erogenous zones, hands that grab, feet that march. On the other hand, the BwO swings towards “the plane of consistency in which it unfurls and opens to experimentation (1987, 159).” This is why Deleuze and Guattari are so drawn to masochism, which is now seen not as a pathologized condition but a genuine experimentation with the body and its distribution of desire (1987, 151). In any case the BwO (like the socius) is never completely independent of the productive forces it

⁵ I’m not being entirely faithful to Deleuze and Guattari here, since the relation between the BwO and the Socius is more complicated, with desire always playing the determining role.

distributes. It is only ever distributed and stratified, even as it caught up in “a perpetual and violent combat” between the plane of consistency it tends towards and the surfaces of stratification it opposes (1987, 159).

In short, there is neither base nor superstructure. Instead the subject of political economy is a threshold, articulated somewhere between two levels of complexity, two orders of stratification, Socius and the BwO; as well as the two poles of desire these distributions tend towards, the pole of increasing stratification on the one hand and the plane of consistency on the other. One can have an authoritarian stratification at the macropolitical level. For example, a totalitarian state attempts to articulate its independence from the different flows of labor-power that helps reproduce the economy, by overcoding the movement of people across its borders in a paranoid fashion. The rise of totalitarianism in Turkey was accompanied by an increasingly rigid and centralized regime governing the mobility of people in and out of the country; a massive security apparatus tracking the movement of Syrian refugees and Kurdish seasonal workers. Or one can have an authoritarianism that operates through the BwO, the microfascist desire for the repression and annihilation of desire itself (1987, 215).

b. Apparatus of Capture, the State and Capitalist Axiomatics

How does value get inscribed into a certain system of distribution? This is where Deleuze and Guattari’s chapter on the apparatus of capture comes in most handy. Here, I will provide brief definitions of the terms “apparatus of capture”, “the State” and the “capitalist axiomatic.” Deleuze and Guattari describe *the State* as a “megamachine” a system of overcoding that enacts a type of machinic enslavement. There are several important elements to their description that I’ve alluded to. First, the State is always tautological, always presuming itself, suddenly appearing without a gradual evolution (1987, 427). Every historical process that supposedly leads to the formation of states already implies the existence of a State. For example, if war leads to states, this is only because the war machine is actively fighting against an existing State formation. If private property leads to the state, this is only because there already exists the public functions of a state that ensures and secures private property. What could this strange formulation mean? Deleuze and Guattari seem to indicate that the State, as a type of distribution, already exists as a threshold that other social formations anticipate and ward-off. There is no particular point in history where states begin to appear. Rather the State “comes into the world fully formed and rises up in a single stroke (1987, 359).” Here we can begin to see the effects of the type of causality Deleuze and Guattari are

working with. Deleuze and Guattari mention how the State operates before ever actually existing, as a form of “reverse causality,” acting within primitive societies as a tendency to centralize productive flows (1987, 431).

Stockpiling performs the function of accumulating these productive flows and making them commensurable. Again, the State’s stock begins not gradually, but all at once. It is the State’s violent appropriation of a stock of uncultivated seeds or a herd of tame animals, from which agriculture and animal raising can arise. In this sense, it is the State that organizes the stock, distributes and begins accumulating. It is this initial violence makes activities such as agriculture possible. There is no agricultural “mode of production” in relation to which the State exists. Rather “it is the State that makes production a mode (1987, 428-429).” Through stockpiling seeds and territories one can establish equivalences and commensurabilities, see how much each plot of land produces and collect ground rent.⁶ As soon as the land becomes the object of agriculture it is deterritorialized “because instead of people being distributed in an itinerant territory, pieces of land are distributed among people according to a common quantitative criterion (441).” In this sense, the activity being captured here is inseparable from the activity and fertility of the earth. If the State asserts itself in a hierarchical manner, this is not because it proceeds by homogenizing or totalizing its constitutive elements, but rather, through creating circuits of resonance and redundancy as alluded to above. This is overcoding. Spatial differences, for example, the town and the country side which both have their own codes, entry and exit points, semiotics, and modes of circulating goods, are not overcome. Rather, they are made to resonate at a global level through the spreading of a single language, through being integrated to a single semiology, related to a single capital-city, race or Imperial ruler (1987, 433).

Stockpiling and appropriation actually describe the two elements that are implied in every *apparatus of capture*.

“What forms the apparatus of capture are two operations always found in the convergent modes: direct comparison and monopolistic appropriation. And the comparison always presupposes the appropriation: labor presupposes surplus labor; differential rent presupposes absolute rent; commercial money presupposes taxation. The apparatus of capture constitutes a general space of comparison and a mobile center of appropriation (1987, 444).”

⁶ Rent refers to the additional surplus value that can be extracted from exercising a quasi-monopoly over a certain good. Rent can be extracted from the restricted control over the availability of land – for example, the extra money charged for a wine brand that is specific to a particular region in France. Or it can be extracted from exercising monopoly control over a good such as urban housing, or still yet from restricted ownership of intellectual property online. For more on rent (Harvey 2013).

I have already outlined these two features, appropriation and commensurability, above in discussing rent. Yet, there are in fact three apparatuses of capture that Deleuze and Guattari identify; rent, labor and taxation. Labor enacts a similar system, on the one hand, rendering free activity commensurable in the figure of “labor,” on the other hand, appropriating a surplus from it. To clarify, “labor” does not refer to an essential and fundamental human capacity. Rather, labor is free activity made commensurable through stockpiling. The worker herself is merely a “stockpiled actant (1987, 442).” Labor is formed through a “quantitative comparison of activities” and surplus through “monopolistic appropriation of activity by the entrepreneur (1987, 442).” This gives rise to the counterintuitive conclusion that there is no “labor” without surplus labor, since the system of making activity commensurable would not emerge, without the ability to extract a surplus. In this sense surplus labor precedes labor itself.⁷ Under State formations this commensurability is attained through direct, machinic enslavement. Under capitalism, it is because surplus labor can be realized through exchange. The last apparatus of capture is that of taxation. The apparatus of taxation stockpiles exchanges in money form. This is indeed the most important apparatus of capture for Deleuze and Guattari since, by establishing control over money and extracting a surplus from money in the form of imposing taxes (money issued by State fiat) or interest (money issued by bank, usually backed by the State), one can effectively control the means of making things commensurable (1987, 444).

Capitalism

Like the State, capitalism also exists as a limit that is warded off and held in check by other social formations. For the limit to turn into a threshold there needs to be a “generalized conjugation of decoded flows (1987, 452).” In other words, there needs to be a transformation of the processes of subjectification into a “global Subjectivity.” Under capitalism free laborer becomes “the sole subjective essence of wealth.” This is joined with a transformed Object, capital, as the universal object of wealth (1987,452). These are “decoded flows” in the sense that they are stripped of their previous social entanglements and can no longer be reclaimed by the State;

⁷ This also makes possible a nuanced understanding of automation under capitalism. Deleuze and Guattari talk of “machinic surplus value” to describe the increasing productivity that can be secured through adopting new technologies. “Machinic surplus value,” joins human surplus value, “both of them together constituting the surplus value of flux that characterizes the system.” However, “human surplus value remains decisive” (1983, 233) because value needs to be continually realized through consumption, “innovation is never sufficient to realize or absorb the surplus value of flux (1983, 234).” In other words, because the “labor” is subtracted from the “surplus” and not the other way around, the axiomatics of the market, the play of labor and capital continue to be relevant.

“on the one hand, the flow of labor must no longer be determined as slavery or serfdom but must become naked and free labor; on the other hand wealth must no longer be determined as money dealing, merchant’s or landed wealth, but must become pure homogenous and independent capital (1987, 452).”

Last the word “conjugation” refers to the peculiar way in which the flows are brought together. The relation is axiomatic, freezing and congealing the two flows:

“It is not enough to say that axiomatics does not take invention and creation into account: it possesses a deliberate will to halt or stabilize the diagram, to take its place by lodging itself on a level of coagulated abstraction ...this is the “capitalist” level (1987,144).”

The axiomatic deals with “purely functional elements and relations whose nature is not specified and which are immediately realized in highly varied domains simultaneously (1987, 454).” Free labor in this sense refers to not the labor of this or that individual, but rather the functional activity of whatever person that produces a particular surplus. Whereas codes refer to particular relations with specific qualities that cannot be subsumed directly, and overcoding imposes a transcendent plane of registration on these codes, axioms altogether strip the codes of their qualifying features. For example, overcoding makes the activity in a classroom commensurable by imposing a new center of significance (how close you are to the teacher) and axioms impose a quantitative measure (your mark in an exam) where the particular content of your activity is irrelevant as long as you achieve a high grade.

It is important to note that the role of coding or overcoding has not completely disappeared under this picture. Once again, capitalism, like other social formations, also anticipates and wards off its limits. Capitalism requires a certain:

peripheral polymorphy, to the extent that it is not saturated, to the extent that it actively repels its own limits; this explains the existence, at the periphery, of heteromorphic social formations; which certainly do not constitute vestiges or transnational forms since they realize an ultramodern capitalist production (oil, mines, plantations, industrial equipment, steel, chemistry) but which are nonetheless precapitalist, or extracapitalist owing to other aspects of their production and to the forced inadequacy of their domestic market in relation to the world market (1987, 436).”

Just like the State enacts a distribution of the town and countryside, which it then resonates through its own machinic processes, so too does capitalism continue to require a heterogeneity of social formations. States continue to make important decisions that completely contradict the interests of global capital. There continue to exist forms of communal living and anticapitalist movements, sometimes in the middle of ultracapitalist cities such as İstanbul, New York or Tokyo.

Conclusion: Elements of a New Political Economy

How should political economy be expanded and constrained today? First, it serves us well to remember that Marx's *Capital* was presented as a "critique" of political economy and was indeed a long polemic with the work of thinkers such as Ricardo and Smith. If Marx's theory of value had accorded such a special place for labor, if his description of primitive accumulation was so focused on the violence of slavery and colonialism, this must have been in part because in his time, economic language was used to justify the exploitation of wage labor as the result of free individuals entering into contractual arrangements, to naturalize violent appropriation and colonialism as the rightfully earned triumph of hardworking people. Similarly, any political economy today must be attentive to the task of launching a critique of the present. If political economy is at base a theory of value, then it is best to be strategic rather than exhaustive about which values we chose to valorize, which agencies we chose to emphasize.

In this spirit, I claim there are two important ways in which the study of political economy should be expanded both stemming from historical developments. First, political economy should expand its theory of value to account for the particularities of production in nature. While Marx himself may have been attentive to the effects of environmental destruction, the Marxist theory of value tends to take the "free gifts of nature" for granted. Not only is nature not part of Marxist accounts of value, but also a communist society is often thought to be one where human consumption of nature would be developed independently of the irrational restrictions placed on it by capital. Here it helps to return to the work of Raymond Williams to clarify what I mean by nature. Williams points to how rational conceptions of nature as an abstract realm, autonomous of human affairs and separate from God, first emerged through another abstraction, that of Man. Yet he points out these abstractions are no longer useful ways with which to think about political economy. He writes:

"In this actual world there is then not much point in counterposing or restating the great abstractions of Man and Nature. We have mixed our labor with the earth, our forces with its forces too deeply to be able to draw back and separate either out...It will be ironic if one of the last forms of the separation between abstracted Man and abstracted Nature is an intellectual separation between economics and ecology (Williams 2005, 84)."

For Williams, then, nature implies the "living processes, of which we are a part...though unequally (2005, 84)." Nature refers to the physical and living milieu that surrounds the production of human society and the unequal ways in which this milieu is distributed through production. Like Williams, my historical motivation stems from the intuition that nature is increasingly becoming governed, predicted and surveyed to

benefit capital. For example, weather, the genetic composition of crops, the availability of water are all governed, in order to facilitate the seamless circulation of coffee within a particular supply-chain. This involves acknowledging that nature may bear its own productive processes that are being rendered calculable. While the surveillance of nature is not novel in a historical sense, disparate forces such as the increasing urgency of climate change and the growing availability of tracking technologies implies that this is one area where we may witness intensifying intervention. This is demonstrated through the work of scholars such as Povinelli and Murphy. Second, political economy must also learn to revalue how human wants, needs and desires are rendered productive. My historical motivation here is the availability of big data and the use of machine learning tools that can analyze this data to extract surplus value. In particular one can point to two different but related developments. First, the spread of targeted advertising techniques and therefore intensified consumption. Second, there are new regimes for administering the productivity of labor through analyzing consumption patterns, including tools such as personal health trackers that encourage workers to increase future productivity by modulating their own consumption. On this end, existing tools of cultural theory are more developed. From Baudrillard, to Hardt and Negri or even to Smythe there is a rich tradition of Marxist scholars in cultural studies addressing the issue of desire as it relates to consumption and production. Nonetheless, the intensity and novelty of contemporary data mining tools are worthy of investigation.

A concrete example better illustrates the point. In her book on algorithms, mathematician Kathy O’Neil points to a new scheduling software employed by large companies such as Starbucks. The software analyzes “ever changing data” from weather patterns to hash-tags to adjust how much labor a particular Starbucks branch may require on a given day,

“A rainy afternoon for example, will likely drive people from the park into cafes. So they’ll need more staffing, at least for an hour or two. High school football on Friday night might mean more traffic on Main Street, but only before and after the game, not during it. Twitter volume suggests that 26 percent more shoppers will rush out to tomorrow’s Black Friday sales than did last year. Conditions change, hour by hour, and the workforce must be deployed to match the fluctuating demand (O’Neil 2016, 125).”

The company can further maximize profit by distributing work hours among employees in a way that prevents them from earning full time employment and the health benefits that are legally associated with it. Let’s recount all productive forces that are captured – surveyed and rendered calculable- for this software to operate. Weather patterns,

emotional expressions on Twitter and cultural patterns of consumption are all conceived as possessing a fluctuating futurity (“ever changing” weather patterns) and brought to register axiomatically through the category of more or less labor. This economic calculation can be said to operate at a point of entanglement where two milieus intersect, an intensive milieu of desires, affects and emotions and an extensive milieu of physical, geographical and climatic forces. Political economy then has to contend with how our desires and our environments are captured through the abstractions of capital. The standard Marxist term “productive forces,” ordinarily describing the means of labor (such as machinery, land and raw materials) and labor power, should be expanded, to describe an immanent field of differential forces extending from our natural environments, to our intensive desires and affects.

The more difficult question however, is how political economy should be constrained. One way political economy ought to be constrained is by insisting on the importance of distribution. What I am referring to is not only the distribution of surplus value, but also the distribution of the productive forces themselves – that certain bodies have access to different forms of capital while others do not.⁸ It is important to note, that in actuality, there is no pure flow of production or that of consumption without distribution. Every type of social production remains stratified. What enables stratification? Here I refer back to the ideas of capture and registration that I described above. In this sense the categories of land, labor and capital should remain as fundamental analytics with which to think about political economy. Yet these now refer not so much to actual laboring subjects, but rather describe how a multiplicity of activities come to be distributed and stockpiled, ascribed a futurity and a value from which a surplus can be extracted (in this case labor & profit) through being exchanged.

By placing the production of distribution front and center to a definition of political economy, one can constrain the term in several ways. First the productive forces which political economy organizes all have their own independent politics and history that is not reducible to political economy. It is perfectly possible to write a history of technology, to study social movements through affect theory, to rethink the models of human communication without once having to mention political economy. Neither is it good to think of political economy as a master discipline that somehow synthesizes these diverse fields of study. Outside of political economy, is a vast field of

⁸ What Marx describes as the distribution of the instruments of production and the distribution of people among different forms of production.

academic inquiry. Rather, political economy is better conceived of as an approach that emphasizes the question of production and how this production is captured and distributed in an unequal fashion. Second, by focusing on the distribution of productive forces, we emphasize the importance of ongoing primitive accumulation. The destruction of the environment, the seizure of land and the ways in which people are robbed of their means of self-sustenance are integral to maintaining a distribution of the productive forces. Any study of political economy that doesn't at least marginally contend with this issue risks naturalizing a given mode of production. Finally, by insisting on the question of distribution, as a potential constraint political economy must abide by, the material arrangements of space and time that enable distribution becomes an important point of intervention.

Question 2) *The terms “technology,” “media” and “infrastructure” are often deployed as categories that signify or organize the material aspects of communication. What are the stakes of categorizing the materiality of communication in these terms (rather than, say, in terms of economy)? How do these relate to economy as an analytical category? Additionally: are these three terms identical (synonymous, equivalent, interchangeable, etc.) or distinctive?*

*“When the dark has settled down and the streets smell like coal,
I can taste my city again; Soot, rust, dirt, coal and plastic.”
Ezhe – Taste of My City*

Above I have concluded that the term “political economy” should be reserved for a particular approach that emphasizes production and distribution, indicating a vast field of academic inquiry besides it. In the process I have begun to discuss what this vast field might look like, through definitions of terms such as technology, infrastructure and mediation. In this section I elaborate alternative definitions of these terms. In addition, I also pay close attention to how authors mobilize the term “materiality” to achieve different effects. Last, I end by discussing the work of Friedrich Kittler and whether this can provide us with a roadmap with which to think about the distinction between technology, media and infrastructure.

1. Technology

I previously noted how Marcuse and Timothy Mitchell provided a critique of technological rationality to trouble the idea of an independent sphere called the economy. Yet, in both cases, the materiality of technology was overlooked. For Marcuse the question of materiality is overtaken by a critique of technological reason overall. For Mitchell, technology acts as the agent of bifurcation that separates the material from the symbolic. Therefore, the materiality of technology itself was not explicitly discussed. Here, I explore alternative definitions of technology that pay closer attention to its particular material entanglements.

1.1 Brian Larkin – Technology and Aesthetics

While Larkin’s work is presented as a study of infrastructure and media, his emphasis on materiality is concerned more narrowly with what he calls “technical objects (Larkin 2018, 175).” To be more precise, whereas Larkin uses the term infrastructure to refer to the “technical and cultural systems that create institutional structures whereby goods of all sorts circulate, connecting and binding people into

collectives,” (2008,6) the word technology is reserved for discussing a “sensate and material world” that is recalcitrant to human intention (2008, 20). Technology, unlike infrastructure, refers to material objects. To be clear, for Larkin, the ability of technology to resist human intention does not imply that they should be studied at a level that is “wholly autonomous from the aesthetic fields and political rationalities that accompany them (2018, 197).” On the contrary, he expresses anxiety over how this might result in erasing technology’s embeddedness in power relations, and in the context of his work, “epistemologies of colonial rule (2018, 197).” In that sense he distinguishes his position from what he characterizes as new materialism. Rather, for Larkin, the materiality of technology signifies its contingency and symbolic instability (2008, 10). In his book *Signal and Noise*, Larkin studies the politics of infrastructure in Nigeria, identifying two competing cultural traditions, “the Islamic legal system” and “colonial administration,” that attempt to stabilize the meaning of infrastructural technology. In other words, the symbolic and political logic of infrastructures and their ability to establish meaning and exercise forms of power, is defined and circumscribed by the instability of the material technologies subtending them.

Larkin is also interested in the materiality of technology to hint towards its form-bearing and aesthetic qualities. He gives the example of how British colonial officers attempted to elicit reactions of awe from Nigerian subjects through the spectacle of electrification. He notes how lightshows were organized and the reaction of Nigerians diligently recorded and broadcast, in order to impart a sense of sublimity, a feeling of submission and prostration (2008, 19). However, aesthetics and form are relational properties – part figural and part material, part organized by humans and part enabled by the materiality of the technology itself. This ability of technology to impart aesthetic form is why, in the context of Nigeria, “technologies became the material objects through which relations between rulers and ruled were embodied (2008, 250).”

Yet because the materiality of technologies is always unstable, the meanings they impart are never wholly fixed either. Technologies carry semiotic and aesthetic qualities in excess of the political attempts to fix this meaning

“It is the materiality of media as objects, their sensual qualities and the contingencies those qualities exert, that generate excess or lack) which creates semantic fragility. Objects breakdown, power plants fail, water supply dries up, radio broadcasts are sometimes too weak to be heard... (2008, 249).”

This is why moments of infrastructural breakdown are potential moments of political intervention. They are moments in which the sensory qualities of infrastructure can be

redistributed (Larkin 2018, 184). The material indeterminacy of technology constantly installs the possibility of infrastructural failure and political intervention, at every site an aesthetic order is expressed and embodied through technology.

1.2 *Natasha Schüll – Co-production of User and Technology*

Although Larkin acknowledges the materiality of technology, at times his work gives the impression that the political stakes of technology is only related to its aesthetics. In other words, technology's materiality becomes a matter of political concern, only insofar as it renders technology unstable, always dependent on aesthetic intervention to fix its meaning. Schüll's argument in *Addiction by Design* provides a good counterpoint. In her study of gambling addiction amongst residents of Las Vegas, Schüll emphasizes the material qualities of casinos, from the architecture of the building to the sensorial qualities of the slot machines themselves. The political stakes of Schüll's argument lies in showing that addiction is co-produced as a relation between machines and humans (Schüll 2012, 20). Whereas cultural depictions, academic research as well as propaganda by the gambling industry "tend to focus on gamblers' motivations and psychiatric profiles" Schüll insists addiction is a phenomenon that is also produced by the objects and environments of addiction (2012, 15). Relying on psychological accounts of addiction as well as ethnographic research with gambling addicts, Schüll explains, "the potential for addiction emerges when repeated interaction with specific objects, produces a desirable subjective shift (2012, 17)." This repeated interaction results in the gamblers entering what they describe as a "machine zone" where the aim is not to win money but merely continue playing. The motivation for gambling addicts is not experiencing risk nor seeking wealth but rather undergoing an alienation from the world and dissolution of subjectivity. The machine zone is described as an "elusive point of absorption, beyond contingency," a homeostatic equilibrium (2012, 135).

Schüll presents a different account of technology than that of Larkin. In this case what matters is not how the materiality of slot machines is indeterminate, but rather how slot machines couple, anticipate and evolve with human activity to produce the phenomenon of addiction. There is thus a feedback loop between gambler activity and the design of slot machines. Schüll gives the example of pay-out schemes and visual clues that get more complex and more fine tuned, as gamblers grow habituated to them (2012, 140). Crucially for Schüll, while the phenomenon of addiction is co-produced there is a dissymmetry of objectives between the players and the machines. While the

players want to keep on gambling, the gambling industry wants to drive gambling activity to extract larger amounts of return (2012, 74). In other words, Schüll's work reminds us that while phenomena like addiction are coproduced between humans and technology, there is an unequal distribution of agencies here, that is built into the architecture and design of slot machines. For Schüll technology is not an artifact that produces a fundamental instability, but rather is itself an assemblage of design practices, regulatory policies and political economic values (2012, 308) that achieve a certain distribution of agencies.

1.3 Simondon: Technical Individuation

Like contemporary thinking on materiality, Simondon rejects the idea of matter as a substance that is completely inert and devoid of becoming (2012, 184). His thought is materialist. However emphasizing the materiality of technology is not enough for identifying what characterizes technical individuation. Simondon conceives of technology as an aspect of human culture, which has thus far been ignored, "the machine is the stranger...inside which something human is locked up, misunderstood, materialized, enslaved, and yet which nevertheless remains human all the same (2012, 16)." Simondon's work is positioned against two attitudes in cultural depictions of technology. On the one hand the tendency to confuse technical individuals with "pure assemblages of matter, devoid of true signification, and merely presenting a utility." On the other hand, the tendency to "suppose(s) that these objects are also robots and that they are animated by hostile intentions towards man, or that they present a permanent danger of aggression and insurrection (2016, 17)." Thus Simondon criticizes the overriding cultural tendency to relate to technical individuals either as potential rivals or mere slaves of human intentions.

Instead, Simondon's work can be described as an effort to understand technology alongside "life." The machine, like the living being, is a work of organization and information that resist the degradation of energy (2016, 21). In this sense technology has as its ground a metastable state that is associated with life (2016, 51). Crucially however, the two are not the same. Instead, technology fundamentally depends on life processes. "There is no pure automatism excluding man and aping the living (2016, xvi)." There are no robots. Thus Simondon deploys a host of evolutionary terms such as "ontogeny" and "phylogeny" to talk about technology. He begins by distinguishing between technical elements, technical individuals and technical ensembles. *Technical elements* resemble the "organs" of the living being in that they do

not carry their own milieus with them. Springs, boards, hot-cathode lamps, tubes are all examples (2012, 67). The technical *ensemble* is composed of “a certain number of technical individuals that are positioned in relation to one another (2012, 66).” The factory, for example, is composed of technical ensembles. A technical element may represent a crystallization of a previous technical milieu and its associated ensemble. In this way Simondon can begin to complicate the “passage of causality proceeding from prior ensembles to subsequent elements (2012, 67)” to individuals and so forth. In other words, this distinction between element, individual and ensemble allows for a much more nuanced view of technical evolution, inserting all kinds of nonlinearity into the process. The line of causality “is not rectilinear but serrated (2012, 68)” existing at different levels at the same time.

If elements are like organs does this mean the *technical individual* is an organism? Once again, Simondon’s theory should not be confused with the flattening gesture that is associated with cybernetics, where biological bodies are now conceived in machine terms (see, Martin 2005, 13). Simondon clarifies that “one must avoid the improper identification of the technical object with the natural object and more specifically the living being (2012, 50).” Drawing external analogies between living and technical beings is ultimately misleading, for these distract us from analyzing how they are individuated. Instead the technical individual is understood as the result of what Simondon calls a “phase-shift,” existing somewhere between living and physical being. What does this mean? Briefly, unlike a physical individual (say a rock), the technical individual carries its associated milieu alongside it. The idea here is that a technical individual such as an engine is concretized through an internal milieu of recurrent causalities (2012, 59), several redundancies and mutual dependencies between technical elements that reinforce a certain diagram of actions. As the engine goes from an abstract idea to a concrete individual the battery, the pistons, the cooling system begin to enter into a relation of mutual presupposition, each determining one another, so that the engine can travel from one context to another while retaining its functions.⁹ As the engine concretizes, it loses its “artificial” character and depends less on the intervention of humans to operate (2012, 49). Joining this internal milieu is an external milieu of geophysical surroundings. In other words, the engine relates something of its technical conditions of inception to its geographical surroundings, creating an associated milieu to

⁹ For example, an engine that relies on water-cooling is less concrete than one that relies on air, since the engine already produces air, whereas water-cooling requires humans to refill the water tank with the right kind of anti-freeze water (2012, 30).

operate.¹⁰ Yet this concretization does not therefore mean the technical individual is more perfect or rational. For Simondon the true measure of technicity isn't automatism— independence from human intervention- but rather the ability of technical individuals to deal with a greater margin of indeterminacy and exhibit sensitivity to information (2012, 15).¹¹

The two attitudes towards technology I have outlined above, either as potential rivals to humans or as slaves to human intentions, in fact indicate something crucial about how Simondon conceives contemporary society. These attitudes result from a historical misidentification of humans technical individuals, as the bearer of tools that incorporates technical elements and ensembles into his own being. The artisan who uses the technical tools in his workshop to design and craft objects out of raw materials, is one example of this image. Yet in contemporary society, the function of tool bearing is now taken over by the machines. This also transforms the status of humans. Humans now operate at the infra and transindividual levels. Dissociated from the artisanal workshop, the human is either organizer

“of the ensemble of technical individuals, or helper of technical individuals: he greases, cleans, removes detritus and burrs, in other words, in some respects he plays an auxiliary role: he provides the machine with elements, changing the belt, sharpening the drill or lathe cutting the tool (2012, 78).”

This new relation between humans and machines ought not be that of master and slave. Rather the machine serves as “the purpose of a relay, an amplifier of movements (2012, 79).” Human beings can still participate in technicity, but now this participation figures as contributing to a technical sociality. Put differently, humans need to “entertain a relation of equality with technical objects, that is a reciprocity of exchanges, a social relation of sorts (2012, 105).”

In this sense, Simondon's thought is novel. A number of thinkers on my list, especially Larkin (2008, 61), have emphasized how in their moments of introduction, disruption and failure, the meanings of technology becomes open for political contestation. The underlying assumption here is that technology imposes a certain rational order, which then becomes troubled only in moments of breakdown. For Simondon, this is not necessarily the case. If technologies are used to establish political rule, this isn't due to an underlying technological rationality, as it was with Marcuse. If

¹⁰ “The technical object is thus its own condition, as a condition of existence of this mixed milieu which is simultaneously both technical and geographical. This phenomenon of self-conditioning defines the principle according to which the development of technical objects is made possible (2012, 58).”

¹¹ This has important consequences for how we think of the political stakes of something like machine learning.

contemporary society experiences automation as enslavement, this is because the master-slave analytics remains the dominant cultural mode in which we relate to technology. In this experience of the human as the master of machines:

“The machine is only a means; the end is the conquest of nature, the domestication of natural forces by means of a first act of enslavement: the machine is a slave whose purpose is to make other slaves. Such a dominating and enslaving inspiration can coincide with the quest for mans freedom. But it is difficult to free oneself by transferring slavery onto other beings, men, animals, or machines; to reign over a people of machines that enslave the entire world is still to reign, and every reign presupposes the acceptance of the schemas of enslavement (2012, 141).”

Thus while it is possible to relate to machines through the master-slave analytic, this will only create more enslavement. Most crucially, the type of master-slave imaginary that is installed in our relation to technology is directly related to the idea of “reign” as such. In that sense a true reimagining of our relation to technology is immediately political, forcing us to abandon models of political rule that are technocratic themselves. Counter intuitively, to abandon technocratic rule, we need to establish a better cultural understanding of technologies, becoming familiar with their operation.

2. Infrastructure

2.1 Easterling – Infrastructure and Disposition

For Easterling infrastructure refers to a very broad phenomenon from physical transportation and communication systems such as roads or phone lines to “the shared standards and ideas that control everything from technical objects to management styles (2016, 11).” However Easterling uses the phrase “infrastructure space” in particular, to indicate an attempt to think infrastructure along the lines of information technology:

“Infrastructure space, even without media enhancement, behaves like spatial software... While we also do not typically think of static objects and volumes in urban space as having agency, infrastructure space is doing something. Like an operating system, the medium of infrastructure space makes certain things possible and other things impossible (2016, 12).”

Thus while Easterling is interested in the materiality of infrastructure, for her contemporary infrastructure constantly exercises and updates its agency. In the urban milieu, infrastructure works by setting “the rules of the game,” creating protocols routines and schedules (2016, 13). In other words, infrastructure operates by outlining active forms, repeatable formulas such as highways, suburbs, resorts, malls that Easterling describes as spatial software (2016, 71). What does it mean to suggest that infrastructure space “does things” that it “makes certain things possible and other things impossible”?

Here Easterling offers a particularly useful concept, that of “disposition.” Disposition simply defined is “propensity within a context (2016, 72).” Easterling gives the example of the “energy of a ball at the top of an inclined plane (2016, 72).” Even without moving the ball carries a disposition – a potential direction, speed and incline. In more dynamics terms one can imagine a person skiing down a mountain. As the skier makes her way down, the angle of the slope, the quality of snow, the type of equipment, the presence of wind and the virtuosity of the skier would all configure in “the unfolding relationship between potentials (2016, 73).” Thus “disposition is immanent” expressed within the relation between these changing variables (2016, 72).

If Easterling suggests that infrastructure is akin to an “operating system,” this is the particular quality she is pointing towards (2016, 21). In other words, Easterling is interested in studying the arrangements within urban space that manifest certain dispositions rather than describing physical infrastructures. Easterling offers examples of several infrastructural arrangements that carry a dispositional effect. One such arrangement is that of the “multiplier.” Here, Easterling gives the example of Levittown where designer William Levitt broke down a complex infrastructure such as a house, into scalable parts. Instead of seeking to make 1,000 individual houses Levitt focused on making “1,000 slabs, 1,000 frames, 1000 roofs and so on (2016, 74).” Another infrastructural arrangement is that of the “switch” (modeled on the electrical switch) where traffic congestion is overcome not by building more roads but rather through offering people “switches” such as busses, railways etc (2016, 75). In short, through Easterling’s work we can begin to understand infrastructures as a material arrangement that stores bundles of dispositions.

2.2 Boyer – Infrastructure as Potential Energy

In his essay *Infrastructure, Potential Energy, Revolution* Dominic Boyer situates infrastructure studies alongside a “turn” within anthropology against anthropocentrism. Thus the materiality of infrastructure is positioned against “a longish heyday of semiotic, psychological and ideational trends in human scientific theory (2018, 225).” The urgency of this anti-anthropocentric thought, from new materialism, to post humanism to object oriented ontology is the insight that “the life world, our life world, is now failing. All the happy biopolitical promises, whether neoliberal or Keynesian, of endless growth, wealth, health and productive control over nature now appear increasingly deluded and bankrupt 2018, 226).” With this insight in mind, Boyer proposes a new, relational way of understanding infrastructure as an “energopolitical

process.” Boyer explains that infrastructures become political only by enabling other things to happen. “And what allows them to enable? The expenditure and storage of energy. Infrastructure can thus be viewed in terms of potential energy (2018, 227).” Building on Marx’s work Boyer describes how infrastructure functions as a means for “gathering and holding productive powers in technological suspension (2017, 228).” Through a close reading of Marx’s description of commodities as “congealed labor time,” Boyer notes how the German word for congeal “*Gallert*” implies an “ontological transformation through adding then subtracting thermal energy...binding commodities, people, machines and nature together with its glue (2018, 227).” In the same way, infrastructure transforms and stores energopolitical processes, holding their powers in suspension.

However, there is another political reason for Boyer’s description of infrastructure as potential energy. Boyer explains that in order to evade the “worst outcomes of global warming an incremental, partial, slow transition from fossil-fuel sources and infrastructures is simply a luxury we cannot afford (2018, 231).” Thus Boyer advocates for what he calls “revolutionary infrastructure (2018, 231).” By calling attention to how infrastructure stores potential energy Boyer argues that large-scale infrastructures also accumulate power. Focusing on electrical grids, he explains how they “have become a chief instrument in the monopolization of political authority, an energopolitical apparatus mutually reinforcing the inertia of a particular organization of fuel and a particular organization of power (2018, 236).” Worse yet large-scale infrastructure also creates path dependencies, actively working to diminish the success of any future alternatives (2018, 236). A revolutionary infrastructural politics would attempt to “hack and redistribute the stored energies of anthropocentric carbon modernity towards imagining and pursuing paths out of the Anthropocene (2016, 239).” Yet there are important obstacles for such a revolutionary politics. First is the desire to delegate the act of redistribution to technology. Second, the desire especially for people in the global north, “to get to hold on to the abundance we have accumulated during the fossil era (2018, 239).”

3. Media

3.1 Reinhold Martin: Media and Organization

Reinhold Martin’s work in the *Organizational Complex* uses the term “materiality” to focus on how human bodies and perception are reconfigured through cybernetics. Martin pays special attention to how cybernetic notions of the organism and the

machine transform the materiality of the body into informational concepts. Drawing on the work of Norbert Wiener but also of artists such as Gyorgy Kepes and László Moholy-Nagy, Martin describes a flattening out of the human as organism:

“The body as communicative organism is, for Wiener, to be understood as a vortex of data whose integrity is maintained homeostatically by virtue of its linkages to physical communications networks. Its materiality, and the materiality of all bodies, has not been superseded but has rather been reformulated (2005, 25).”

Media have an important role to play in this shift, not necessarily through their materiality, but rather through how they organize patterns. Architecture and works of art are among many such media, loosely defined as “technologies of organization (Martin 2005, 215).” If the human body is made up of communicational patterns, then the material media systems (in the context of a company Ultrafax and telephone lines for example) that organize this pattern become important. The role of media then is to organize humans’ “physical environment,” but especially as this physical environment relates to elements of their corporeal experience (Martin 2005, 64-65).

3.2 Fred Turner: Media Environments and Ideology

Taking up a similar framework Fred Turner argues that in the 1940s and 1950s thinkers, government employees, artist in the US attempted to create a “multisource, environmental kind of media” that would help foster a culture of diversity (2015, 7). This would be accomplished, above all, by creating sensory environments where individuals would be encouraged to freely interpret messages and works of art. Turner calls this multisource environment the “democratic surround (2015, 9).” “It was the job of intellectuals and artists to develop modes of media and mediated interaction that could transform the integration of diversity into an experience that could be enjoyed by everyday citizens (2015, 8).” The political stakes of Turner’s book then, is to argue that although the foundations of contemporary media environments were laid in the 1940s by a group of artist and thinkers, the “radically liberal” and egalitarian ideals they held onto are no longer with us.

“The ideal of a radically liberal, diverse, and egalitarian society once lived where we might least have expected it to: in media, at the heart of America’s leading intellectual, artistic, and political institutions (2015, 11).”

Turner presents an arguably technocratic vision of democracy, one that is not interested in reclaiming genuine political disagreement and popular insurrection as a source of democratic action. This tendency is redoubled when Turner, who is otherwise silent about the cultural origins of the civil rights movement, equates the democratic struggles of figures such as Rosa Parks with the organizers of *The Family of Man* exhibit (2015,

211). Putting the book's politics aside, one wonders what happens to the question of materiality here. If the liberal ideals held onto by artists like Fuller and Bayer turned out to be incidental to how these media environments later ended up being used, where does this leave the materiality of those ideals? Was the diverse and even egalitarian content of these media environments ideological in the Marxist sense, a *camera obscura*, later through which the political struggles of the 1960s were obscured? Or is there genuinely something to be reclaimed in them?

4. Conclusion: Processing, Memory and Information

In both my answers, I have tended to dwell on ideas rather than summarize them. As a result I may have reserved more time for certain scholars over others. In this section, I try to step back and synthesize. In concluding my answer, I borrow from the work of Friedrich Kittler, to begin to distinguish between the terms infrastructure, media and technology. Kittler's work provides a similar function here to the work of Raymond Williams in Question 1, as a scaffolding with which to organize the literature I have been outlining.

Media are processing. For Kittler "media" are what transmits, processes and records information (1996, 720). Kittler explains the analogy:

"The *processor* carries out logical or arithmetical commands, according to the parameters set up in the memory; the buses *transmit* commands, addresses, and data based on the parameters of the processor and its most recent command; the *memory* ultimately makes it possible to read commands or data at precise addresses or to encode them (1996, 722)."

In his essay "*The City is a Medium*" (1996) Kittler calls processing, transmission and memory; commands, addresses and data respectively. Using these terms, he provides a sketch of the contemporary city as a computerized network and the computer as a tiny city. Yet I want to pay particular attention to the relation between processing and media here. Processing intervenes in and mediates both transmission and memory. In an urban setting if the flow of cars is a kind of transmission, as Kittler seems to suggest, the traffic lights are a crucial media that process this transmission. Since a city is not a flat graph but a series of networks upon networks, media which process information such as traffic lights, subway transfers, post-offices have a crucial role to play (1996, 719). Yet what is most interesting about Kittler's description of processing is its autonomy. He explains how processing systems aren't rooted in "the forest of symbols planted by a power. Rather they spring up in the less obvious tangents (1996, 726)." In that sense, processing makes the sovereign image of centralized command superfluous. Kittler

(1996, 726) gives the example of how Prussian presidents had to ascend to power by coopting the administrative apparatus of the bourgeois lawyers. It was the processing system, the bureaucratic and administrative apparatus and the network of chancery courts that allowed the central Prussian capital to emerge. The exercise of power is conditioned by such processing systems. “Power thus means occupying at the right moment the channels for technological data processing (1996, 726).” While Kittler’s emphasis on processing is useful, how processing relates to materiality isn’t always clear. Thus, I claim we can use the work of Reinhold Martin and Fred Turner, to insist that media relates processing to sensory perception, although perception need not be exclusively human. By insisting on the centrality of perception, one can limit the term media and by extension “processing” to a more corporeal and material phenomenon. This is why multisensory methodologies are especially well suited for media history (Mattern 2017, xxxi).

Infrastructure is storage. In Kittler’s informational terms, infrastructure is memory (1996, 721) but storage helps emphasize the materiality of the action. Infrastructure is what records information and later makes it available. While this computational metaphor seems odd, it also allows Kittler to point to different types of recording activity. A church, for example, is likened to read only memory (ROM) where information is stockpiled and preserved (1996, 721). A school or a university however is similar to random access memory (RAM), a memory unit that constantly helps exercise a command, disciplining more students and soldiers as the need arises (1996, 723). While the metaphor has its limits, generally infrastructure refers to technologies that store or stockpile certain relations in order to enable others. There are two elements to the definition here; first infrastructures are dispositional as noted by Easterling. They enable and actively shape the movement of other bodies, the help exercise commands (RAM). However, as Boyer explains in order to repeatedly enable such dispositions, infrastructure must preserve energy (ROM). Infrastructure therefore exists as a complex technological relation, whereby productive energies are gathered and held in suspension, to enable unfolding dispositions.

Technology is information? Unfortunately Kittler’s term “transmission” isn’t analogous to technology. Rather as a term, technology crops up everywhere. Kittler talks of “technological media” and “technological processing.” Other authors such as Larkin add the term “technological infrastructure.” As a beginning point, Kittler offers a tentative definition of technology along the lines of Simondon. “What strikes the eye of

the passerby as a growth or entropy is technology, that is, information (1996, 718).” Yet this definition seems far too extensive. If technology were information, in the sense of reducing entropy, then the definition would seem to include every living being. Indeed this is the intellectual genealogy pointed out by Martin (Martin 2005). In any case, Kittler also uses the term “information technology” (1996, 727) rendering the earlier definition effectively meaningless. Technology seems elusive. A more precise term maybe the technical object or individual as used by Simondon. Here the term does refer to individuals built by living beings. Yet they are nonetheless distinct from those living beings since they concretize by establishing their own logics and recurrent causalities. In that sense the evolution of technical individuals have their own irreducible history and logic. Does this mean technologies are wholly outside human history? No. Since their technicity lies not in the degree of their independence from human relations. Rather, the real stakes of their technicity lies in using this concretization to process and interfere in indeterminate situations.

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