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Issue of Applied Ontology

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James Juniper, School of Business, University of Newcastle

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Abstract:

The paper extends Foucault’s analysis of neoliberalism in *The Birth of Biopolitics*. More specifically, I construct and defend an *anti*-Husserlian approach to the labour process with the objective of investigating how collectively generated forms of intellectual labour have been appropriated under capitalist relations of production. I also interrogate the way that different notions of (computational) applied ontology influence both the nature of and our very conception of social creativity.

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What, quite wrongly, has been thought of in Spinoza as pantheism is simply the reduction of the field of God to the universality of the signifier, which produces a serene, exceptional detachment from human desire. In so far as Spinoza says—desire is the essence of man, and in the radical dependence of the universality of the divine attributes, which is possible only through the function of the signifier, in so far as he does this, he obtains that unique position by which the philosopher—and it is no accident that it is a Jew detached from his tradition who embodies it—may be confused with a transcendent love. [...] This position is not tenable for us. Experience shows us that Kant is more true, and I have proved that his theory of consciousness, when he writes of practical reason, is sustained only by giving a specification of the moral law which, looked at more closely, is simply desire in its pure state, that very desire that culminates in sacrifice, strictly speaking, of everything that is the object of love in one's human tenderness—I would say, not only in the rejection of the pathological object, but also in its sacrifice and murder. That is why I wrote *Kant avec Sade*. (Lacan, 1979: 275-6)

But it is like the story of the Resistance fighters who, wanting to destroy a pylon, balanced the plastic charges so well that the pylon blew up and fell back into its hole. From the Symbolic to the Imaginary, from castration to Oedipus, and from the despotic age to capitalism, inversely, there is the progress leading to the withdrawal of the overseeing and overcoding object from on high, which gives way to a social field of immanence where the decoded flows produce images and level them down. Whence the two aspects of the signifier: a barred transcendent signifier taken in a maximum that distributes lack, and an immanent system of relations between minimal elements that come to fill the uncovered field (somewhat similar in traditional terms to the way one goes from Parmenidean Being to the atoms of Democritus). (Deleuze and Guattari, 1987: 290-1)

Marx was vexed by the bourgeois character of the American working class. But it turned out that the prosperous Americans were merely showing the way for the British and the French and the Japanese. The universal class into which we are merging is not the revolutionary proletariat but the innovative bourgeoisie. (McClosky, D. 2009)

0. Introduction

The kernel of the argument that I make this paper, is that critics of mainstream economics, in their efforts to understand the full impact of “digitization” on the labour process, have to go beyond hackneyed nostrums about (i) the reductionist evils of positivism; and, (ii) the consequent need to replace an ethics grounded in negative notions of freedom from external domination with one grounded in positive notions of freedom, so as to realize and perfect both the innate and acquired capacities of the workforce. In this undertaking I have chosen a recent paper by García-Quero and Ollero-Perrán (2015), an earlier Constructivist Feminist contribution by Susan Feiner (1995), and a much earlier though more famous interrogative piece by Heidegger (1953), *The Question Concerning Technology*, as my targets. As the instruments for my own critique I have chosen Lacan's “Four Discourses”, as adumbrated in the Seminar of 1969-70, *The Other Side of Psychoanalysis*, along with Deleuze and Guattari's (1984) *Anti-Oedipus*. I go on to examine how certain aspects of these works have been developed by thinkers such as Bernard Steigler

García-Quero and Ollero-Perrán (2015) begin their critique of neoclassical economics with Aristotle, for whom ethics entailed the pursuit of individual good whereas politics, in seeking the collective good, was obviously more expansive and meritorious. Moreover, in accordance with this political reading of the nature of the ethical economy, too, can never be useful for its own sake. They turn to Immanuel Kant (1724-1804) as a fulcrum for their interpretation of the marginal revolution in economics, noting that Kant famously attempted to reconcile the rationalism of Descartes, Spinoza,

Leibniz with the idealism of Bishop Berkely and the radical empiricism of Locke and Hume, for whom true knowledge drawn from the senses is elusive.

Kant's Copernican inquiry into the 'conditions of possibility' of true knowledge, they suggest, allowed truth to be predicated on both a shared and an immutable cognitive structure (grounded in transcendental reason), which serves to mediate between the world and inner understanding. Thus speculative reason obtains material knowledge from the empirical senses, which can be universal. If practical reason is to attain a similar kind of universality, however, Kant cautions that it will have to refuse any efforts to ground this universality in the contingent and fleeting domain of feelings or wishes. Instead, it must attain to a unity and coherence through a pure formalism: that is, it must abandon any reliance on empirical content or emotional concern. This split between speculative and practical reason, however, implies that "ethics can never become science and science can never deal with ethical issues" (García-Quero and Ollero-Perrán, 2015: 58).

For García-Quero and Ollero-Perrán (2015), this bifurcation between ethics and science also allows for another split between economics and ethics, which is deployed by the so-called Marginalist economists—Jevons, Menger, Clark, Edgeworth, Pareto, Fischer and Pigou—most notably in their penchant for treating economics as a natural rather than as a social science. This is most clearly seen in General Equilibrium economics which views the attainment of equilibrium as an optimizing process maximizing utility based on individual preferences given endowments of scarce resources. Here, the market plays the role of balancing supply and demand. Nevertheless, not only do the underlying assumptions of methodological individualism and rational choice, in combining hedonistic psychology with an originally theological conception of the market as an "invisible hand", lead to a ludicrous simplification of human behaviour, they also bear the consequences of a commitment to Kantian liberal philosophy.

For Kant, (negative) freedom from external authority and aggressive domination can only be guaranteed and achieved "in the public domain through the democratic dialogue of economically independent men", thus serving to divorce "universally applicable agreements" from the private sphere of personal ethical considerations (García-Quero and Ollero-Perrán, 2015: 61).

In contrast, García-Quero and Ollero-Perrán (2015: 64) turn to communitarian notions of (positive) freedom associated with the realization of potential capacities, and to the Marxist and Veblenian tradition of institutionalist economics for which history matters, because "[i]t is not the consciousness of men that determines their existence, but their social existence that determines their consciousness", and because "institutions *build* motivations, making individuals internalize them and change themselves".

Susan Feiner has outlined a psychoanalytic interpretation of the yearning for general equilibrium which resonates with García-Quero and Ollero-Perrán's (2015) ethically based arguments for a return to institutionalist economics. Feiner turns to the Object-relations School of Psychoanalysis for a conception of the mother/child unit as the basis for the 'primordially repressed' fantasy of fusion and total fulfillment. This repressed kernel provides the locus in the unconscious of internalised feelings of powerlessness, dependency, and frustration which, in turn, gives rise to feelings of guilt at the aggressive impulses that are released as a result. The feelings of guilt and frustration, however, can be denied and thus overcome through mastery, autonomy and masculinist self-assertion (she refers to the erotic fantasies of science as a 'penetration' of nature's veils). When projected onto notions of the free market as a site of fair exchange, they become associated with

the notion that scarcity can be resolved through the attainment of a general equilibrium with the fictitious Walrasian auctioneer functioning as a guarantor of fairness. Nevertheless, she complains that the reproductive and caring role of household labour is entirely neglected by this fantasy.

Nevertheless, another reading of the ethical and unconscious ground for the marginal revolution in economic analysis is possible; one set out by Jacques Lacan, the Freudian psychoanalyst, in the essay *Kant avec Sade*. In this essay Lacan (2006: 645) compares the ethical philosophies of Kant and the Marquis de Sade, arguing that Sade's work is not so much an *anticipation* of Freud but rather a clarifying set of practices, which functioned more like an ancient school of philosophy insofar as it paves the way for science by rectifying one's ethical position. Thus Lacan sees Sade as the first step in a subversion for which Kant is the turning point. He notes (Lacan, 2006: 646) that *Philosophy in the Bedroom* came eight years after the *Critique of Practical Reason*. Moreover, he suggests that Kant's reasoning is subversive at its core because it suppresses progress, holiness, and even love for the "alibi of immortality", insofar as it is predicated on the sheer will to render its object intelligible. For Kant, no phenomenon can claim a constant relation to the pleasure principle, conceived as the law of feeling good. The purity of moral will can arise only if we accept the necessity of sacrificing the pathological interest of the subject. As such, the Kantian maxim derives its force from the voice in conscience. Nevertheless, while the universality of its logic implies the validity of its manifestations in every case, this in turn implies that the maxim must allow for analytic deduction. Thus, Lacan (647-8) points to the necessity for a more synthetic foundation: finding the requisite ground in the erotic trace of the lost object withdrawn from intuition.

From a Psychoanalytic perspective, the source of the split between pure and practical reason can be traced to the operation of negation conceived in turn as the *aufhebung* of repression: that is, negation is not an acceptance of what is repressed, rather the repressed persists in the form of non-acceptance (Hyppolite in Lacan, 2007: 746-754). Moreover, the intellectual function is separated from the affective process because negation serves (in the order of myth) as the very genesis of thought: behind every affirmation is negation, but behind negation is expulsion (*ausstossung*). Freud describes two types of Judgment: that of *attribution*, affirming or disaffirming the possession by a thing of a particular attribute; and, that of *existence*: asserting or disputing that a presentation has an existence in reality. Behind the first type, however, is both 'introjection' and 'ejection' where the latter is primordial, for the alien must first be expelled before the respective presentation can be refound once again. Thus, it is not a process involving some kind of Jungian remembrance but one of repetition. Where affirmation, as a substitute for unification, belongs to Eros, negation, as the successor to expulsion, belongs to Thanatos, for how can there be pleasure in negating that results from the withholding of the libidinal components? The performance of the function of judgment is only made possible by the *creation of the symbol of negation*, thus permitting a degree of freedom from both the consequences of repression and the relentless compulsion of the pleasure principle.

In his commentary on Lacan's celebrated essay, Slavoj Žižek observes that the conventional interpretation of Lacan's point is that Kant was a 'closet Sadean' whose rigor reflected a sadism of the Law. Instead, Žižek favors the inverse conception that Sade was a closet Kantian insofar as he epitomized the ultimate consequences and disavowed premises of Kantian ethical revolution: far from every 'pure' ethical act being grounded in a pathological motivation; desire, itself ungrounded in pathological interest, meets the criteria of an ethical act. He observes that Sade's fundamental fantasy—a beauty that survives endless torture—is formally equivalent to Kantian soul's endless striving for perfection. Moreover, Sade's injunction to reduce one's fellows to instruments of one's own pleasure should not be thought of as merely contingent and pathological for it reflects the

fundamental tension constitutive of the Cartesian subject: namely, the Kantian imperative is 'empty' so that it must be filled by contingent, empirical content, so that it can be rendered necessary. As such, this imperative cannot be reduced to solely to the superegoic injunction, for it is equivalent to desire itself, uncompromised.

Žižek goes on to examine the political consequences of this perverted realization of Kantian ethics. While acknowledging the obvious fact that that libidinal structure of totalitarian regimes is perverse, he notes that responsibility is the crucial Freudian notion of the ethical: in assuming full responsibility for one's duty the Sadean position of serving as an object-instrument of the Other's *jouissance* is prohibited. In his concluding comments he also insists that we must also avoid the ontological guilt of existentialism, which entails putting the blame on the Other (once we have escaped the inauthenticity of capture by the Other's 'look') through the embrace of a psychoanalytic ethics of duty "beyond the Good". The formal indeterminacy of Kantian ethics, for Žižek, is paradoxically not its weakness (i.e. its unrecognised historical contingency), but rather, its greatest strength (in requiring the subject to assume responsibility). As with aesthetic judgments, the invention of universal obligation raises the contingent object to the very dignity of the Thing! And here too, we arrive at a pure faculty of desire, given that it has a non-pathological object cause: namely, Lacan's *objet petit a*.

The characteristics of this lost object as it functions within economic discourse, are brought out by Jean Schroeder, who notes the fact that Juno Moneta, the Roman Goddess of womanhood, was the Latin source of the English word money. From a psychoanalytic perspective, both women and property function as phallic objects and objects of exchange. Schroeder introduces Hegel's distinction between possession (i.e. having the phallus), enjoyment (being the phallus), and alienation (exchanging the phallus), observing that the Law operates within the Symbolic register from which the Imaginary order can be perceived as a closed world. The legal order, however, is condemned to perpetually oscillate between juridical rights and duties. Nevertheless, the Real functions here as a quadratic term: it is the indivisible remainder, embodying an impossible and always-already lost completeness. From this perspective then, as what is expelled by the Symbolic, the phallus is the representative of the Desire of the Other—in both its unknowability and unattainability it is manifest as the *objet a*—insofar as it functions as what doesn't work, it is possessed by those who never had it, and it has no content.

Schroeder identifies both the fixity of subject and the tangibility of property as attributes that are correlated with the lost object. For her part, the subject is fixed by her subjection to the law and her existence as a subject of the law. For its part property is conceived as both physical and tangible, reflecting the urge to privilege possession and exchange as the search for a 'perfect mate' who will heal the hole of castration. In this light, Schroeder goes on to interpret the neoclassical pursuit of market efficiency as something partaking of this perfection in that it can supposedly be attained, in fantasy at any rate: beyond time (instantaneously), beyond space (without movement), and beyond subjectivity itself (without differentiation). Nevertheless, while *Eros* serves as the principle of exchange, she cautions that *Thanatos*—the death drive—operates as the *jouissance* ruling over the 'perfect market'.

I have chosen the theme of digitization of the labour process because I see it as being congruent with the "Socialism with National Characteristics" orientation of the Religion, Marxism and Secularism Research Project. In particular, I would suggest that the notion of a "variety of socialisms" is mirrored by "varieties of capitalism" notion elaborated in the

International Political Economy literature, including in the work of Robert Wade and Alice Amsden on conceptions of the “developmental state” and Mazzucato’s (2013) research on *The Entrepreneurial State*.

The issue of how to conceive of the different varieties of capitalism has been pursued by Regulation Theorists, for whom Marx’s dialectic of forces and relations has been displaced by one of ‘regimes of accumulation’ and ‘modes of regulation’, so that the resulting framework serves as a vehicle for “bringing the State back” into the economic field. Nevertheless, I have never been happy with this approach because, in my view, it undermines the rigour of Marx’s analysis of social formations and modes of production (characterised by their associated forces and relations of production). Accordingly, in Section One, I provide an overview of Foucault’s analysis of Austro-German neo-liberalism in *The Birth of Biopolitics*, focusing especially on philosophical influences over this tradition emanating from Brentano and Husserl. This is followed, in Section Two, by a brief discussion of the concept of “digitization”, which I have chosen to approach via the phenomenon of “ubiquitous computing” or the “internet of things”. In Section Three I begin some observations on Whitehead’s notion of Creativity, segueing into a consideration of how the notion of creativity has been deployed in the UK context to identify creative occupations and industries. I then turn to Heidegger’s 1953 work, *The Question Concerning Technology*, to identify crucial gaps and omissions in his analysis. These omissions, which are ostensibly political, are detailed in Section Four, which deals with the theme of the appropriation of knowledge as it appears in Lacan’s analysis of the Four Discourses and in Deleuze and Guattari’s *Anti-Oedipus*, before finally arriving, in Section Five, at the contemporary research of Pagano and Steigler. The process of theft or appropriation linking these seemingly diverse texts together is one that is completely ignored both by Heidegger and by those associated with the Austrian tradition of economics. Concluding comments follow in Section Six.

1. Philosophical Influences over Austro-Germanic Neoliberalism

In this section of the paper I review Foucault’s interpretation of neoliberalism in *The Birth of Biopolitics*, especially where he highlights the difference between classical liberalism and the neoliberalism of the Austro-German and Chicago-School traditions. In addition, I focus on the links that he establishes between Austrian economics and Husserlian Phenomenology.

In his lectures on Biopolitics, Foucault extends his analytical notions of the assemblage or apparatus as a structure of power-knowledge relations—relations which, in turn, weave together the archaeological strata of visibilities (with their conditions of emergence) and statements (with their conditions of enunciation).

It was a matter of showing by what conjunctions a whole set of practices—from the moment they become coordinated with a regime of truth—was able to make what does not exist (madness, disease, delinquency, sexuality, etcetera), nonetheless become something, something however that continues not to exist. That is to say, what I would like to show is not how an error—when I say that which does not exist becomes something, this does not mean showing how it is possible for an error to be constructed—or how an illusion could be born, but how a particular regime of truth, and therefore not an error, makes something

that does not exist able to become something. It is not an illusion since it is precisely a set of practices, real practices, which established it and thus imperiously marks it out in reality ,

This familiar apparatus, however, is now applied to a new theme, that of governmentality, which requires an analysis of governmental practice as it reflects upon itself and is rationalized, in such a way that the mechanisms of state and society, and of sovereignty and subjection are formed. Foucault develops an anti-essentialist analysis eschewing all universal notions of sovereignty, the people, the state, or civil society choosing, instead, to trace the emergence of a particular type of rationality, which enables ways of governing to modelled on the basis of a state that is both pre-existent and continually reconstituted as its objectives and rules are transformed.

From this governmentality perspective, the German tradition of Ordoliberalism is seen to be inscribed by the necessity to constitute a state under the supervision of the market rather than a market supervised by the state. The “Ordos” ask themselves the question of how the market economy could function as the principle, form, and model for a state. Nevertheless, for them market competition can no longer be viewed as a mere expression of innate appetites and the instinct to “truck and barter”, rather, Walter Eucken and his followers turn to Husserlian Phenomenology for its conception of a market as something historical and contingent, but something that is nonetheless constituted to be the expression of an underlying economic logic. The Ordos also took from Nazis the Sombartian critique of capitalism as a system destructive of natural community: one displaced by the administrative machinery of the state, processes of mass consumption, and state-sanctioned spectacle.

Foucault observes that the various schools of neoliberal thought, depart from their classical forbears in raising the issue of how the market economy can thus function as the principle, form, and model for a state. For Eucken, this process of governing the market included the control of inflation and price controls. Sectoral subsidies and programmes of public investment and systematic policies of job creation, however, had to be abandoned to ensure a necessary reserve of unemployment to ‘support’ workers in transition from less to more profitable activities. The Ordos thus opposed welfare-policies designed to provide equality of access to consumer goods and socialization of risk. For them the management of social risk had to be privatised through the creation of mutual benefit organizations. The role of sectoral policies was reduced to the facilitation of population movement, the enhancement of techniques of production, improving the allocation of property rights, and even modifying the climate.

For the Ordos then, a protected economy, a state unified on Bismarckian principles, an economy characterised by wartime planning, and one featuring Keynesian-style interventions was seen as one allied to an unlimited growth of state power along fascist lines. Foucault argues that, for their part, the Chicago School embraced conception of freedom that had been nurtured during the War of Independence, for which interventionist policies of a Keynesian variety were viewed as the alien and external imposts of a military and imperial state that could ultimately assume the mantle of Stalinist totalitarianism. For Chicago-style cold-warriors such as Gary Becker, the neoliberal conception of the market would even serve as a principle for “deciphering” social relationships. This same economic grid would also be deployed to assess the validity and value of government activity—a grid assuming material form with 1943 establishment of *The American Enterprises Institute*—so that it could become a “permanent economic tribunal turned against government”

Philosophy, Ontology, and Austrian Economics

The Austrian and Czechoslovakian Universities gave birth to both Phenomenology and the Austrian School of Economics because, in contrast to their German counterparts, which

were mired in High Romanticism, they were imbued with a more Aristotelean tradition of realist metaphysics. In Brentano's hands this gave rise to a philosophical and descriptive psychology which aimed to capture the structural interconnections amongst the objectively existing elements and complexes obtaining within the psychological sphere itself. In opposition to Kant, Brentano argued that the laws governing these interconnections were of a synthetic rather than analytic nature. In this milieu, Ehrenfels' conception of a Gestalt (i.e. a whole that is greater than its parts; whose very nature would be transformed by the removal of a part) carried over to value-theory, which was grounded in 'feeling-dispositions' linking mental phenomena with feelings of pleasure and displeasure. Along similar mereological lines, Stumpf argued that relations of necessary dependence obtained not only between the parts of a single whole, but also between objects that were not comprehended within any independently recognisable surrounding complex object. Grenon and Smith (14) observe that Brentano applied this mereological logic of dependency to the commodity itself:

A commodity or economic good is a dependent object in this generalised sense. A commodity cannot, of necessity, exist, unless there exist also appropriately directed valuing acts which depend in their turn upon specific subjective beliefs and intentions of individual subjects. A medium of exchange cannot, by its nature, exist, unless there exist also economic value, economic transactions, and a generally dispersed readiness to accept.

Of course, Husserl's variety of Cartesian asceticism played a crucial role in the distillation of neoliberal theory, especially through his distinction between objective and subjective ideals. Where logic and mathematics focuses on objective ideals and the science of consciousness on subjective ideals with respect to their lawfulness, eidetic science focuses on subjective ideals through a process of abstraction, because ideals are grasped on an *a priori* basis in eidetic intuition not through the elimination of particular determinations, nor on the basis of a belief in actuality and existence, but through an ideal non-positioning that was deigned to achieve ontic and epistemic neutrality. Through this process of abstraction, fulfilment would be accomplished in establishing an equivalence between meaning intention and intuited meaning:

The object is not actually given, it is not given wholly and entirely as that which it itself is. It is only given 'from the front', only 'perspectively foreshortened and projected' etc [...]. The elements of the invisible rear side, the interior etc., are no doubt subsidiarily intended in more or less definite fashion [...]. On this hinges the possibility of indefinitely many percepts of the same object, all differing in content. (Husserl, 1984: 712-3)

Another of the *persona* populating the neoliberal stage is that of the entrepreneur. In this case, the Phenomenological ground for entrepreneurship is granted by anticipation, which in turn relies on a three-fold weaving together of Husserl's primal impressions with protensions and retensions. In a nutshell, the entrepreneur is someone who can overcome Knightian uncertainty by working out what kinds of goods and services we shall be wanting in the more distant future, how they might be produced, and what the prospective streams of remuneration are likely to be. As Grenon and Smith (?) explain,

Entrepreneurial activity is dependent, first of all, on the perception of a certain kind of structural moment of material reality as this is, at some given time, articulated by the existing economic relations. It is dependent further on the knowledge or belief engendered by the given perception that this structural moment is an economic

opportunity (will generate a stream of profits). And it is dependent also, like the given moments of perception and knowledge, upon a specific individual - the entrepreneur - who is endowed with an appropriate background knowledge of the economic articulation of the relevant area of material reality [and the latter must also obtain!].

Derrida's Immanent Critique:

In Husserl's philosophy, a transcendental grounding is achieved through an intuitive fulfillment of meaning-bestowing acts. A merely contingent connection is thus established between the ideal unities productive of meaning and the signs to which they are tied. Everything is predicated on an almost Platonic distinction between meanings-in-themselves and the meanings-expressed. Husserl argues that as image is to perception, so the meaning-intending act is related to meaning fulfillment: intuition is seen to make good the promise issued by the expression. It is hardly surprising that knowledge of fact and logic are thereby accorded precedence over both grammar and understanding.

In contrast, Derrida questions the metaphysical identity of meaning-intention on the basis of a temporal difference and otherness that is seen to constitute the intuitive re-presentation of the same object by extracting it from the spatio-temporal flux of experience. In internal time consciousness, intuition is made possible through the conjoint activity of compounding and productive protentions and retentions (i.e. most notably in the form of expectations and remembrance). Therefore, the supposedly unmediated living presence of intuition is illusory because identity is actually guaranteed by the sensible form that underpins the ideal character (the formal identity) of either the phoneme or the grapheme. For Derrida, however, the externality of expression brings forth the difference between signification itself and that for which it stands, between the inner-worldly sphere and the articulated linguistic meaning, underpinning the separation between both the speaker and the hearer, and between speech and the objects of speech: within a general structure of 'making-present' and 'coming-to-light'. Derrida argues that the basis for these distinctions is overlooked by Husserl due to the dominance in the Western tradition of a notion of the phoneme as something that obtains within an auto-affective act that is responsible for uniting sound-patterns, sensual self-affection, and intended meaning within a 'realm of ownness'. In opposition to this phonocentrism, Derrida articulates the play of *différance* as an archewriting, an event without a subject, which permits him to deconstruct the Western conception of Being as both the production and the recollection of beings within an abiding presence and mastery. As we shall see in Section Three below, Heidegger draws on the notion of unconcealment to articulate a similar conception of the *difference* at play in both *technē* and *poiēsis*. Nevertheless, I shall argue that Heidegger's analysis falls short precisely in relation to our chosen theme of the 'theft of knowledge'.

2. Digitisation and the "Internet of Things"

So much has been written about the phenomenon of "digitization", much of it of dubious value. In an effort to "cut-through-the-clutter", let's turn to one of the experts in the field of formal computation. In a lecture sponsored by the *Computer Journal*, Robin Milner—one-time recipient of the Alan Turing Award and developer of the Calculus of Interactive Systems characterised by concurrency, the Pi Calculus, Meta-language, and the encompassing Bi-graph formalism—discusses what he prefers to call the phenomenon of 'ubiquitous computing', which he defines as a system populated by interactive agents that each manage some aspect of our environment¹. Crucially, for Milner these software agents move and interact not only in physical but also in virtual space; their

¹ The lecture was subsequently published on BCS, The UK Chartered Institute for IT website.

components include data structures, messages and a structured hierarchy of software modules. He observed that the low level model of such a system must consist of a conflation of physical and virtual space, and therefore a combination of physical and virtual activity. Milner identified four sets of questions that needed to be answered about the phenomenon of ubiquitous computing, namely: **social questions**: what ubiquitous computing systems (UCSs) do people want or need, and how will they change people's behaviour? **technological questions**: how will the hardware entities - the sensors and effectors whose cooperation represents such a system - acquire power, and by what medium do they communicate? **engineering questions**: for the populations and subpopulations - including software agents - that make up a system, what design principles should be adopted at each order of magnitude, to ensure dependable performance? And, **foundational questions**: what concepts are needed to specify and describe pervasive systems, their subsystems and their interaction? His vision of what was required in foundational terms is a "tower of process languages" that would be able to explain ubiquitous computing at each of the different levels of abstraction.

3. Digitization and Creativity

In this section of the paper I briefly examine Alfred North Whitehead's conceptions of creativity, which leads on to Alan Freeman's Marxist influenced analysis of its role in the identification of the creative industries. From there, I move on to consider Heidegger's analysis of "The Question Concerning Technology", where I identify two glaring omissions or elisions in his analysis.

In an introductory piece on the philosophy of Alfred North Whitehead, Stephen Myer (2005) cites Kristeller's cautious inference that it is Whitehead who is singularly responsible for introducing the modern conception of creativity into the English language:

[...] we are led to infer that the word became an accepted part of the standard English vocabulary only between 1934 and 1961. We may even go back a few more years. The great philosopher, Alfred North Whitehead used "creativity" in his *Religion in the Making* (1927 [sic!]) and in his major work, *Process and Reality* (1929), and in view of the great influence of this last work, we may very well conjecture that he either coined the term or at least gave it wide currency.

In *Process and Reality*, Whitehead (1978: 21-22) went so far as to make creativity into a fundamental principle of his metaphysical system, as evidenced by the following quote:

The ultimate metaphysical principle is the advance from disjunction to conjunction, creating a novel entity other than the entities given in disjunction. The novel entity is at once the togetherness of the "many" which it finds, and also it is one among the disjunctive "many" which it leaves; it is a novel entity, disjunctively among the many entities which it synthesizes. The many become one, and are increased by one [. . .] These ultimate notions of "production of novelty" and of "concrete togetherness" are inexplicable either in terms of higher universals or in terms of the components participating in the concrescence. The analysis of the components abstracts from the concrescence. The sole appeal is to intuition.

For Whitehead (1978: 16), then, the terms 'creativity,' 'many,' 'one,' 'thing,' 'being,' and 'entity' are equivalent in the sense that an actual entity *is* a prehension and a prehension *is* an actual entity, so the many *are* one, and the thing *is* a creative being. Moreover "[e]ach task of creation is a social effort, employing the whole universe" (Whitehead, 1978: 223)

Under Tony Blair's *New Labour*, the UK *Department of Communication, Media, and Sport* (DCMS) realized that it could attract more funding from a recalcitrant Treasury by talking about the "Creative Industries" rather than the "Sphere of Culture". This led to a proliferation of efforts directed at determining the nature of creative employment and, thus, the industries characterised by an high intensity of creative to non-creative labour. Bakhshi et al. (2013) summarise the DCMS definition of the Creative Industries in the following way:

- *[...]those industries which have their origin in individual creativity, skill and talent and which have a potential for wealth and job creation through the generation and exploitation of intellectual property.*

Their report, commissioned by the UK innovation quango, NESTA, defines "Creative Occupations" as those having:

- *[...] a role within the creative process that brings cognitive skills to bear to bring about differentiation to yield either novel, or significantly enhanced products whose final form is not fully specified in advance*

In arriving at a more workable characterisation of these occupations Bakhshi et al., develop a 'grid-score' approach based on the following five criteria: (i) a novel process must be involved; (ii) it must be mechanisation resistant; (iii) labour activity must be non-repetitive and non-uniform; (iv) and, it must make a creative contribution to value-chain entailing 'Interpretation' rather than mere 'transformation'.

The economic model of the creative industries that Bakhshi et al., (2015) adopt is on characterised by:

1. A common type of input or resource (the creative workforce)
2. Common features of the output (emphasis on content, product differentiation, shorter, often smaller, production runs, preponderance of cultural or culture-related outputs, sale to discretionary markets, exploitation of both traditional IP and firstmover advantage)
3. Common processes of production (pre-market selection, uncertainty-management contracts, just-in-time short-run production methods, 'open innovation' with an emphasis on collaborative contracts, geographical clustering at the micro level, and so on)

Alan Freeman, one of the co-authors in the Bakshi et al., (2015) Report, has identified a series of major obstacles to the capitalist-driven expansion of the creative industries, which include the fact that creativity cannot be mechanised and separated from the labourer, so that the myopia of private sector could lead to low levels of investment due to the fear that there will be a high turnover of workers. By the same token, he warns that there will be a tendency for real accumulation to be displaced by fictitious capital, and for intellectual property rights to operate as a "parasitic" substitute for innovation. Freeman therefore calls for reconceptualization of the public sphere, with the interests of humans/artists placed at centre of policy, corporate bodies defined on the basis of their capacity to develop individuals, and with cultural infrastructure developed on an unprecedented scale, so that "cities function as factories" for the creative sectors.

Many writers on the Creativity have been influenced by Martin Heidegger's (1953) essay "The Question Concerning Technology". In this section of the paper I intend to review Heidegger's arguments about technology to identify some important elisions and gaps in his interpretation of the dichotomy he sets up between *technē* and *poiēsis*. Heidegger begins his thought-piece by asserting

that the *essence* of technology is nothing technological, rather, it is a way of revealing the totality of beings. This thought of Being occurs prior to distinction between theory (contemplation) and practice (deed). In addition, “[t]he thinking that inquires into the truth of Being, and so defines man’s essential abode from Being and towards Being is neither ethics nor ontology. (Heidegger, 1953: 259)

Moreover, despite its contemporary prevalence and its apparent source in the Scientific Revolution, it precedes the latter. Heidegger warns that it is both an expansionist and reductionist ordering of man and nature in terms of a certain manipulability, which may overwhelm other forms of revelation, such as Art, which is also concerned with the dialectic of concealment and unconcealment.

On one hand, enframing challenges forth into the frenziedness of ordering that blocks every view to the propriative event of revealing and so radically endangers the relation to the essence of truth. On the other hand, enframing propriates for its part in the granting that lets man endure—as yet inexperienced, but perhaps more experienced in the future—that he may be the one who is needed and used for the safekeeping of the essence of truth. Thus the rising of the saving power appears. [338]

This quote captures the full panoply of Heidegger’s network of concepts. On one hand we have the idea of enframing (*Gestell* = frame, apparatus, skeleton), which, much like Plato’s *eidos*, is that which in everything endures as present, it is a “gathering together of the setting upon that sets upon man” (Heidegger, 1953: 324-5) And modern science, itself, is such an enframing, which, “as pure theory, sets nature up to exhibit itself as a coherence of forces calculable in advance” (Heidegger, 1953: 326) Heidegger (1953: 328) even goes so far as to consider the ‘orderable’ as a system of information, insofar as it functions as neither an occasioning, nor a making, nor a planning, but a mere reporting!

We also have the idea that human activity becomes history as a destining (*Geschick*) “That first starts man upon a way of revealing” [329] in such a way that man can exhibit the freedom not merely to listen and obey but also “to conceal in a way that opens to light” (Heidegger, 1953: 330) Yet man is also endangered by this destining,

Since destining at any given time starts man on a way of revealing, man, thus underway, is continually approaching the brink of the possibility of pursuing and promulgating nothing but what is revealed in ordering, and of deriving all his standards on this basis. (Heidegger, 1953: 331)

Yet it must be obvious that there is much that has been elided in this comparison between *poiēsis* and *technē*: on one hand we have the question of the State, as David Krell (1999: 310) concedes, whereas, in Heidegger’s speeches of 1935,

[...] the deed that founds the political state” participates in the revelation of beings, in 1953 the political state is in total eclipse. Not the political but the poetical appears as the saving power; not *praxis* but *poiēsis* may enable us to confront the essential unfolding of technology.

The other glaring political omission in Heidegger’s deliberations is one situated at a more localised level at the very site of production and exchange: for it is here at this level that we must confront the theft of knowledge.

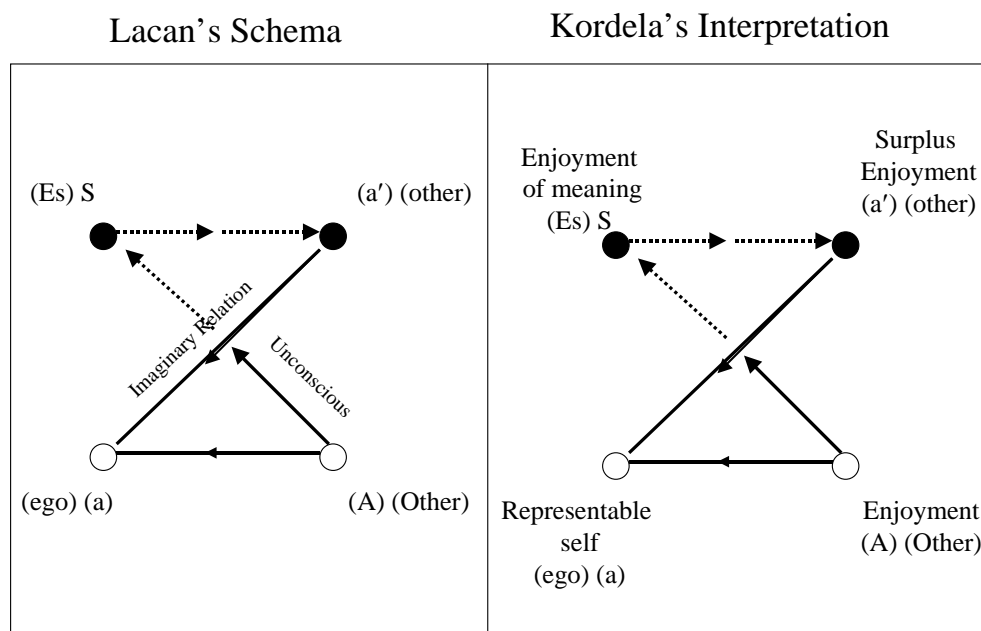
4. Digitization and the “Theft of Knowledge” in Lacan, Deleuze and Guattari

In this section of the paper I set the scene for a review of more recent writing on knowledge-based production through a detailed reading of Lacan’s notion of the “theft of knowledge” in his

description of the Discourse of the Master. I go on to consider the reappearance of this theme of appropriation in Deleuze and Guattari's *Anti-Oedipus* and *A Thousand Plateaus*.

Karina Kordela observes that Lacan first points to the analogy between surplus enjoyment and surplus value in Seminar XXII. As surplus enjoyment is *extimate* to the chain of circulation of signification, so too is surplus value *extimate* to the chain of circulation of capital: each is produced by the chain as its effect and also as ontologically distinguishable from the chain (Kordela, 1999: 810-11). While surplus value is the structural condition for the transformation of money into capital enabling the latter to circulate and expand, Kordela (1999: 810) notes that money and the commodity, from the view of capital as self-producing and self-reproducing, are mere forms supporting capital's autonomy and self-expansion: in theistic and patriarchal terms, through the surplus (the son), the original amount expended (the Father) can be reunited as one, even when there is no (blood) relation between them. It is the prohibition of incest (because the mother is always the property of the patriarch or father), which transforms need (i.e. blood) into demand (in the form of the law). Simultaneously, the law is representation (of meaning and power), enjoyment (the *objet a*), and enjoyment of meaning (the underside of desire), in this way, turning exploitation into something more tolerable.

Hence, Lacan suggests that unbeknownst to Marx, the Marxian notion of surplus value is the ground of the constitution of the subject as an effect of the unconscious. This is supported by Kordela's reading of Lacan's analysis of metonymy and metaphor which relies on the psychoanalytic interpretation of a line taken from Victor Hugo's *Booz endormi*, "His sheaf was neither miserly nor spiteful" ("*sa grebe n'était pas avare ni haineuse*"). Deploying his schema-L, Lacan (2007: 53) argues that metonymy is one side of the field constituted by the signifier, which guarantees that meaning will emerge there, whereas the other side is metaphor (Lacan, 2007: 506). The creative spark of the metaphor is a function of the fact that one signifier has taken the place of the other in the signifying chain, however, the occulted signifier remains present through its metonymic connection with the rest of the chain: the place of Booz is 'usurped' by the sheaf, so that his "asserted generosity is reduced to *less than nothing* by the munificence of the sheaf", but the metaphor also conveys the promise that the old man will give birth to a son, thus reproducing the 'paternal mystery' (Lacan, 2007: 507). Elaborating on Lacan's analysis, Kordela suggests that use value and the vulgar law of property is negated by the attribute of munificence, which metaphorically transforms power and possession into an incomprehensible bounty—the surplus of poetic free-play (Kordela, 1999: 812-3). Kordela then maps this structural argument over Lacan's schema-L.



Kordela argues that, as surplus value was for Marx, surplus enjoyment is ambivalent in being precondition for both abundance and deprivation (Kordela, 1999: 814). In its capacity to designate lack, surplus enjoyment transforms the *jouissance* of the 'two' (the gap between master and slave) into the enjoyment-of-meaning derived from the harmony of the 'one' (where everything is substitutable for everything else, presumably through an equivalence of exchange). Here, she assigns the former to the node of the 'other' as the master signifier (S_1) and site of the dialectic between master and slave, while the latter is assigned to the position of the 'Subject' (*Es*). Finally, Enjoyment, as such, is assigned to the locus of the 'Other' embodying the real (antinomic) opposition between the presence and absence of miserliness and spite. Thus, under the sway of symbolic (capital) rather than real property (land), the mirage of the imaginary relation comes into play, rendering the 'spite and greed' of the masters, those who have real power (Spinoza's *potentia*), invisible, all the while instilling the illusion that the slaves, themselves, have power (Spinoza's *potentia*) (Kordela, 1999: 815). To summarise, in Marx's circuit of capital, the initial stock of money represent enjoyment-in-meaning, on its transformation into capital it represents enjoyment, while the surplus value added on at the completion of the circuit is surplus enjoyment (Kordela, 1999: 816).

In his seminar on "The Other Side of Psychoanalysis" Lacan (2007: 80) introduces a thermodynamic metaphor to explain his notion of surplus *jouissance*. In this metaphorical milieu, he interprets the master signifier (ie. the unary trait) in machinic terms: S_1 is the dam holding the water, below it another S_1 is the pond that receives the falling water for powering the turbine, whereas *Jouissance* is conceived as the energy released (i.e. insofar as the signifier serves as an apparatus of enjoyment). The power of the master is now interpreted as conservation of energy while the incidence of the signifier entails loss of energy or *jouissance*. That is, in obstructing *jouissance* the signifier is propelled by what it obstructs, but something disappears in the process: in mortifying the body, the signifier produces a residue, which is surplus *jouissance*. Only through the effect of entropy (wastage), however, does *jouissance* acquire a status by virtue of showing itself (Lacan, 2007: 50). In repeating the first signifier, however, the second becomes separated by the residue produced by entropy. Lacan suggests that S_1 frames the slave's knowledge, assigning it a place, so that it becomes knowledge in service of the master. This notion of assignment comes to the fore in Lacan's

interpretation of the discourse of the master, the first of the four discourses depicted in the table below.

Discourse of the Master	Discourse of the University
$\frac{S_1}{\$} \epsilon \frac{S_2}{a}$	$\frac{S_2}{S_1} \epsilon \frac{a}{\$}$
Discourse of the Hysteric	Discourse of the Analyst
$\frac{\$}{a} \epsilon \frac{S_1}{S_2}$	$\frac{a}{S_2} \epsilon \frac{\$}{S_1}$

The position of the symbol above the bar on the left represents the agent or sender of the message while the position above the bar to the right represents the Other or the receiver of the message. Each symbol is moved a quarter turn in a clockwise direction as the analysis progresses in moving from the discourse of the university to that of the master, to the hysteric and finally, to that of the analyst. The position on the right below the bar represents what is produced by the communication whereas the position to the left and below the bar represents the unconscious truth of the message.

The discourse of the master portrays the unconscious truth of the drive in accordance with the matheme, $\$ \diamond a$ (i.e. the subject is constituted, as split, in relation to his desire for the *objet petit a*):

What occupies the place there [of the Other, work, receiver of the message], which we will provisionally call dominant, is this S_2 , which is specified as being, not knowledge of everything (*savoir de tout*)—we’ve not got to that point that—but all knowing (*tout-savoir*). (Lacan, 2007: 31)

For its part, the hysteric’s discourse reveals the relation of the master’s discourse to *jouissance*, in the sense that, in it, knowledge occupies the place of *jouissance*. (Lacan, 2007: 94) As Lacan (2007: 20) puts it,

Of course, it wasn’t Marx who invented surplus value. It’s just that prior to him nobody knew what its place was. It has the same ambiguous place as the one I have just mentioned, that of excess work, of surplus work. “What does it pay in?” he says. “It pays in *jouissance*, precisely, and this has to go somewhere.”

Lacan (2007: 22) situates the strictly philosophical origin of this conception of the theft of knowledge in Plato’s *Meno*, noting that,

The entire function of the *episteme* insofar as it is specified as transmissible knowledge—see Plato’s dialogues—is always borrowed from the techniques of craftsmen, that is to say of serfs. It is a matter of extracting the essence of this knowledge in order for it to become the master’s knowledge. [...] Philosophy in its historical function is this extraction, I would almost say this betrayal, of the slave’s knowledge in order to obtain its transmutation into the master’s knowledge.

The dominant influence over Lacan’s analysis, however, derives from Hegel’s *Phenomenology of Spirit*, specifically the infamous dialectic of Lord and Bondsman. In a witty aside Lacan (2007: 32) observes that,

The slave knows many things, but what he knows even better still is what the master wants, even if the master does not know it himself, which is the usual case, for otherwise he would not be a master.

As Kordela (2007: 20) explains, Lacan named *jouissance* after the master's enjoyment not the slave's lust, for the sadist is no master, merely an instrument of the *jouissance* of the Other.

The Theft of Knowledge in Deleuze and Guattari's Political Economy

In this section of the paper I want to show how the notion of the 'theft of knowledge' is central to Deleuze and Guattari's notion of the axiomatic of capital². Significantly, at a time when Husserlian conceptions of eidetic or essential logic are coming to play such an important role in grounding neoliberal policies, it is important to acknowledge that Phenomenology, when applied to the social sciences, seems immune to any considerations of this kind. Moreover, as I have reasoned above, Heidegger's post-Husserlian analysis of technology also ignores the issue of how technology could serve as a vehicle for the appropriation of surplus value and knowledge.

Deleuze and Guattari take from Artaud the key notion of the Body-without-Organs (BwO), a notion that is reframed in Marxist terms as the natural or divine presupposition of labour and this, insofar as it is conceived as a surface over which all the forces and agents of production are distributed and recorded. In relation to this surface of inscription the being of capital comes to operate as a quasi-cause from which all production seems to emanate. More specifically, as fixed capital it is seen to be productive of relative surplus value.

In more detailed terms, Deleuze and Guattari contend that there are three forms of the BwO with each one corresponding to one of the passive syntheses of the unconscious³. In regard to the flow – producing and flow-interrupting *connective synthesis of production*, the BwO is the non-identity of producing and the product operating via the non-organic though functioning singularities or elements of the machinic assemblage (i.e. the active inscription of the recording surface). In relation to the attracting, appropriating and distributing of surplus value by the *disjunctive synthesis of recording*, the BwO is equivalent to capitalist being operating as a quasi-cause (i.e. the catatonic stasis of the non-productive recording surface). Finally, in regard to the subject constituted as an effect of the recording and determined by share of product assigned to it through the *conjunctive synthesis of consumption*, the BwO functions as an oscillating series of intensities set up between the other two syntheses.

Deleuze and Guattari embrace Foucault's diagrammatic approach to the analysis of social processes:

...the diagram acts as a non-unifying immanent cause that is coextensive with the whole social field: the abstract machine is like the cause of the concrete assemblages that execute

² A more detailed exposition of Deleuze and Guattari's political economy is provided in Juniper (2006).

³ Desiring-production—conceived as the *natura naturans* of Spinoza or the will-to-power of Nietzsche—is composed of three syntheses, the connective, disjunctive, and conjunctive which perform, respectively, the three functions of production, recording, and enjoyment. The syntheses have no underlying subject; they are just immanent processes which constitute subjectivity through their conjoint activity. In *Difference and Repetition* these syntheses are formally interpreted, respectively, as the undetermined differentials (dx, dy), the reciprocally determined differential relation (dx/dy), and the singularities completely determined within the vector field (by the values of dx/dy). And in regard to the constitution of the subject they are, respectively, the foundation of time on basis of living present (the binding action of *habitus* which endows pleasure with value as empirical principle), the foundation of time on the pure past (the disguising action of *Eros-Mnemonsyne* which conditions application of the pleasure principle to Ego), and the absence/groundlessness of the ground that has been prepared by the ground itself (the function of *Thanatos* which achieves a desexualisation followed by resexualisation of the drive by linking pleasure to pain).

its relations; and these relations between forces take place 'not above' but within the very tissue of the assemblages they produce (Deleuze 1999, 37).

Nevertheless, they call for a subtle 'transmogrification' of the Foucaultian assemblage along the following lines:

Our only points of disagreement with Foucault are the following: (1) to us the assemblages seem fundamentally to be assemblages not of power but of desire (desire is always assembled), and power seems to be a stratified dimension of the assemblage; (2) the diagram and abstract machine have lines of flight that are primary, which are not phenomena of resistance or counterattack in an assemblage, but cutting edges of creation and deterritorialization.

Deleuze and Guattari (1987: 452) argue that, for capitalism to be realized, there had to be generalized conjunction or integration of the decoded flows. In the same way that specific production activities had to be constituted as production in general, and specific forms of wealth constituted as wealth in general, specific forms of labour had to be transformed into free labour in general and specific forms of circulating capital into capital in general in a manner that achieved an independence from state control. As capital becomes an active right, the law changes, abandoning its previous form as an overcoder of customs, it adopts the characteristics of an axiomatic. Capitalism is formed from a general axiomatic of decoded flows. Nevertheless, Deleuze and Guattari insist that this axiomatic can be realized in a variety of models across different industries or sectors and different state-forms, including through the integration of a variety of non-capitalist sectors or modes of production.

Three different State forms are thus distinguished: imperial archaic states constituting a machine of enslavement allow little diversity, while diverse feudal states—city states, systems and monarchies—proceeding through subjection—enable more decoding of flows. However, the greatest degree of decoding is permitted within the modern nation-state (Deleuze and Guattari, 1987: 459). This diversity of nation states, centred in the North and the West, is subtended by three great bipolarities (Deleuze and Guattari, 1987: 465; 468). On one hand, the isomorphy of States at the centre are confronted by the heteromorphous bureaucratic socialist States of the East. On the other hand, they are confronted by the polymorphous Third-World States of the South (465). Moreover, there are Third-Worlds inside as well as outside the centre (468). The third kind of bipolarity, Deleuze and Guattari identify as being one that operates within each State-form. To the extent that capitalism is axiomatic, Deleuze and Guattari (1987: 436) warn that,

States tend to become isomorphic in their capacity as models of realization: there is but one centred world market, the capitalist one, in which even the so-called socialist countries participate.

5. Steigler and Pagano on the Appropriation of Knowledge:

In this section of the paper I trace the way that this Deleuzian notion of theft carries over to Bernard Steigler's critique of "post-industrial" society and consumer sovereignty, and Ugo Pagano's analysis of intellectual monopoly capitalism.

Ugo Pagano (2014) applies a conventional Bravermanian approach to the analysis of contemporary changes in the labour process. While Braverman (1974) recognised that modern techniques of scientific management involved an increase in the monopolization of knowledge by capital and management, Pagano suggests that he overlooked one possible development, namely: the inclusion

of knowledge among privately owned assets of firm. H further contends that this process of inclusion was consolidated by the TRIPS negotiations that were concluded in the mid-1990s.

Where Adam Smith argued that division of labour would maximize “learning acquired by doing”, Pagano (1411) observes that Babbage (1832) and Ure (1835) adopted a contrarian position in arguing that it would minimise both the “learning and strength required for doing”. He follows Braverman in identifying an extension of this process of minimisation of skill and effort from the handicrafts, to the mechanical crafts, and ultimately to all forms of work.

Braverman grounds his analysis in Marx’s conception of workers under capitalism as a class confronted by the intellectual potencies of production manifest as the property of another. With the refinement of Taylorist management the process of dissociation of the labour process from the skills of workers continued unabated due to the separation of conception from execution and the deployment of the resulting monopoly over knowledge as a means to control each step of labour process. Marx argued that workers with skills specific to a certain production processes would be deprived of these craft-specific skills so that they became general purpose workers with general purpose abilities that could be controlled indirectly through the machine.

Pagano contends (2014: 1413) that the impetus for this long run de-skilling, was due to the existence of well-defined property rights over machines alongside ill-defined rights over labour, although this could be partially offset by higher skill content in new production processes. In a further elaboration, Pagano emphasizes the difference in the *nature of human and non-human assets*. While the objects worked on by machines are circumscribed within a limited space, the objects of knowledge are not circumscribed in this way. While the enclosure of commons, for example, only affected the legal position of a few individuals, Pagano (2014: 1414) observes that the imposition of monopoly over knowledge affects the legal position of many individuals globally. He even goes so far as to suggest (Pagano, 2014: 1416-7) that this imposition may have contributed to the Global Financial Crisis, for although tariffs can close off market of country imposing them, intellectual property agreements of the kind championed by the TRIPS agreement can effectively close off global markets for all other firms. Any countries prevented from specializing through TRIPS must import goods or licences resulting in forced trade. This may result in global squeeze on investment opportunities. Moreover, the degree of patent inequality increases over time and amongst countries (augmented by cross-licencing and other alliances).

The policy requisites for overcoming the adverse consequences of such a monopoly include open science, open markets, and public intervention for public science, which should, Pagano argues (2014: 1425) be viewed in liberalizing pro-market terms. He further note that the size of the multiplier is higher for such investments citing ARPANET, the IPC/TP protocol, and MILNET. He also endorses public buyouts of IPR plus profit-sharing with public sector (Pagano, 2014: 1426). In a global context he also acknowledges that policy makers must overcome the free-rider problem to promote higher global investment in public knowledge, suggesting that the WTO charter could impose a percentage of GNP threshold for public research activity. Finally, he supports the tax-based redistribution of assets⁴. (Pagano, 2014: 1427)

⁴ Similar policy recommendations have been endorsed by Mazzucato (2013) in her influential book on *The Entrepreneurial State*.

In a 2011 paper entitled “Suffocated Desire” Stiegler launches into a critique of two increasingly prevalent myths about the contemporary world. The first of these is the myth that we are living in a ‘post-industrial society’. Instead, Steigler talks about a kind of ‘hyper-capitalism’ defined by an increasing control over both the means of production *and our* patterns of consumption that is accomplished through: (i) the power of media conglomerates; (ii) the prominence of the culture industry; and (iii) the resilience of the program industry. The second myth revolves around the notion of consumer sovereignty and autonomy. Here, Steigler introduces Simondon’s notion of the *co-constitution* of both group and individual which combines a *synchronous fund* of pre-individual knowledge, experience, and tradition with a *diachronous process* of inter-generational knowledge transmission and individual knowledge adoption, to suggest that we are now moving into a world of production which has been transformed into an on-going clash between industrial temporal objects (characterised by short termism and ‘newness’) and the pre-individual fund (emphasizing longevity and the values of the ‘old’).

In his 2010 text, *For a New Critique of Political Economy*, Steigler elaborates further on his theme of a cognitive proletarianization, which he defines as a loss of knowledge in the sense of *savoir-faire* (knowledge of making and doing) and *savoir-vivre* (knowledge of life). Like Pagano, he suggests that these procedures of knowledge theft have now been extended to service sector (e.g. automated trading) to yield a pure cognitive (noetic) form of labour power devoid of knowledge. In explaining the mechanisms behind the loss of knowledge he draws on Derrida’s distinction between *anamnesis* (i.e. the interior remembrance of the truth of being), and *hypomnesis* (i.e. the exterior mnemotechnics of memory). He also deploys another Derridean concept, namely, the logic of the *pharmakon* or drug partaking of the attributes both of poison and cure. So rather than functioning in terms of *opposition* or *sublation*, he suggest that technology partakes of this paradoxical logic; one consummated, in turn, through what he calls *grammatization*, which entails a procedure of discretization and abstraction from the continuum of memory. Since the industrial revolution this has occurred, not as an exceptional episode, but as a secular process of permanent innovation offsetting the Marxist tendency for the rate of profit to fall. Steigler (2010: 116) suggests that there is now a ‘technization’ of the social rather than an ‘individuation’ of the social which has occurred alongside both a disintegration of the interior milieu and an exhaustion of libidinal energies. At the same time, the technical system has become deterritorialized as its reach has been extended across the globe.

In his three-volume Heideggerian study, *Technics & Time*, Steigler (1994, 1996, 2001) argues that the genesis of technics corresponds not only to the genesis of what is truly called “human” but of temporality as such, and that a recognition of the dual character of this process provides us with insight into the future coevolution of humans and the technical. He extends the Lyotardian conception of a libidinal economy by suggesting that,

Now, the libido is constituted by technics: it’s not an energy that develops spontaneously, but it is articulated on the basis of technics: of “fetishes” and, more generally, *protheses*. It’s *technè*, the artefactualization of the living, that constitutes the libido. (Steigler, 2012: 10)

Nevertheless, he warns that,

This libidinal economy, in its current form, has reached the exhaustion of desire. As a result, it has become auto-destructive. (Steigler, 2012: 10)

And this for the simple reason that, “*When desire is treated industrially, it leads to the destruction of desire*, which triggers the demotivation of the worker and the consumer.” (Steigler, 2012: 10) In developing this theme of the destruction of desire, Steigler introduces a distinction between two temporal circuits of accumulation. On one hand, there are *individuating, long-circuits*, which achieve an intensification of libidinal energy accomplished through the donation of (infinitely unachievable) objects of desire. On the other hand there are *disindividuating, short-circuits*, which ensure the destruction of libidinal energy accomplished through finitizing processes of desublimation. It is his view that the dominance of short-termism over the circuit has resulted in the systemic stupidity of today’s creative workers who only create “value” that is susceptible to evaluation by the market. As such, he suggests—citing the activities of press officers & public relations staff—that they work towards an entropic adaptation of the system rather than to create works. Moreover, in this myopic milieu the noetic ‘intermittency’ of arts workers (in relation to *otium*) is entirely ignored (Including by the seemingly radical proponents of ‘basic income’ policies)⁵. Turning to the Deleuzean theme of a control society, Steigler (2012: 13) concludes that:

When Deleuze says we must try to invent an art of control, however, he means that we must depart from control, that is to say from calculation, to produce incalculable objects: incomparable and infinite singularities (one does not calculate only things that can be compared). We are in a dimension of immanence that cannot be calculated.

6. Concluding Observations on The Politics of Computational Ontologies

From process philosophy, from our reading of Deleuze and Guattari, and from Marx’s dialectic we derive the notion that capital is a process not a thing. Moreover, it is a process in which money operates as the medium of production as expressed in Marx’s matheme for the monetary circuit $M \rightarrow C \rightarrow C' \rightarrow M'$. Of course, the transition $C \rightarrow C'$ describes the labour process converting raw materials and capital as congealed labour into products and services. This stage is productive of the surplus value realized in exchange as profit, interest and rent. The transition $M \rightarrow C$ disguises the private appropriation of forces of production that are otherwise collaborative and cumulative in nature.

In computational terms, the process of capital accumulation can be described as the evolutionary algorithmic process of metabolism between inputs and outputs, where the outputs support both repair and replication. For replication to occur, however, systems interact and communicate with one another in such a way that the progeny resulting from replication are more complex than their parents. In other words, I am proposing to bring together John von Neumann’s notion of self-reproducing automata (whose progeny are more complex than their parents) with Robert Rosen’s conception of metabolism-repair-and-replication systems (which, through impredicativity, violate the conditions of the Church-Turing theorem: they cannot be mathematically simulated by a finite algorithmic program)⁶. What we end up with, then, is an evolving metabolism-repair-replication-and super-replication system resulting in continuous improvements in the efficiency of the

⁵ Steigler (2010: 51-2) sources the concept of *otium* to the work of Corsani and Lazarrato who highlight the importance of this form of studious leisure to arts workers. More abstractly, he contends that Foucaultian ‘technologies of self’ establish an economy of *otium* and neg-*otium* (Steigler, 2010: 54). In policy terms, he warns that *otium* is ignored when the French Government calls for an increase in the time spent in employment by this category of workers (as happened in June, 2003).

⁶ I have examined these issues at further depth and more formally in Juniper (2007 and 2013).

metabolic process itself! Thinking with Whitehead, we can certainly say that, in this setting, the many become the one plus one.

In this context, the genealogy I have traced above from the work of Lacan, mediated by Deleuze and Guattari, and further developed by Pagano and Steigler, should not make the reader feel unduly pessimistic. Territorialization is always accompanied by deterritorialization. And at the very least, policy makers have to confront the grim realities of the system that they wish to effectively regulate. Moreover, a comprehensive analysis of both the national varieties of capitalism and the national varieties of socialism would do well to ground itself in the contemporary diagnoses on the part of Pagano and Steigler of the dangers of digitization⁷. Nevertheless, I for one would hope that we could reach a little further than Steigler has in his somewhat modest vision of a cooperative future:

The question today for me is not the end of capitalism or the return of the communist horizon. Today we have to create a new industrial model. This new industrial model will possibly produce a new political organization, and an economical organization which may not be capitalist. [...] It is possible for example to produce a cooperative capitalism. I know of people exploiting capital in a cooperative way. It still is capitalism, because you have ownership of the means of production by a collective, but this collective is proprietary. It is not a collectivization in the communist sense. It is capitalist. But it is a new form of capitalism. (Steigler in Lemmens, 2011:39)

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⁷ In Juniper (2015) I examine the influence of Brentanian and Husserlian Phenomenology over the development of *foundational* computational ontologies (which are designed to achieve integration over and inter-operability amongst relevant clusters of domain-ontologies), arguing that this is another mechanism of transmission through which neoliberal discursive and strategic practices can adversely influence knowledge-related activities.

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