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Revolutionary Technologies: Praxical Time as a Way of Overcoming Reification

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Revolutionary Technologies: A Critical Analysis

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Abstract

This article argues that, although Andrew Feenberg recasts the problem of reification in his secondary instrumentalization theory as an extension of Heidegger's dwelling-in-the-world, this project will ultimately fail without due consideration for naming revolutionary technologies that has given rise to virtual relations. It argues that by recognizing the fundamental relationship between praxical time and dwelling as a matrix of interweaving modes of being, society can subvert the potential reification of humanity by technology. This can be only be achieved through a democratic process that involves actors and agents in future inventions. By looking at the work of Alain Badiou, it is shown how a fusion of Heideggerian-inspired phenomenology and speculative ontology is critical for the advancement of social theory, as revolutionary technologies become increasingly immersive.

Key words: Heidegger, Feenberg, Badiou, speculative ontology, reification, dwelling, revolutionary technology, *praxical* time, naming.

I.   Introduction

Much of the recent pre-occupation with the "IT revolution" is rooted in the drive towards efficiency and control, which, according to Martin Heidegger, is a 20th century phenomenon where time itself is reduced to a calculable value, something not to be wasted. As a consequence humans regard everything, including humanity, as a product of technical reason and action. Symptomatic of this is our total absorption in communication technologies, which has led to an exponential increase in online relations, commonly referred to as virtual relations. However, the language itself points to an ambiguity. This ambiguity can be summarized using Herbert Marcuse's technological consciousness of humanity which admits to a twofold structure of practical and representational thinking.[1] Martin Heidegger identifies this twofold understanding of technology as crafting and calculating. The former is characteristic of empirical knowledge, the latter epistemological knowledge, which Heidegger later formulates as a distinction between poetic and enframing consciousness. Enframing is the "reification of consciousness"[2] where human beings become subsumed by the predominance of the rational structures that governs modern communication technologies, leading to a distortion of human relations. Given the language of the internet,[3] which is dominated by Cartesian ideology with its emphasis on the interior self, the possibility of a thoughtful or contemplative life within a shared community remains closed off. Heidegger argues that thinking in terms of assertion as proof of existence, has been inherited historically from the Greeks. However, he also reminds us that latent in the Greek's notion of truth (alētheia) lies the tension between poiēsis and enframing. Truth, therefore, is not static, it is a building up and working out of a culture. For Heidegger, building means to dwell-in-the-world. In *Contributions to Philosophy* (*From Enowing*), Heidegger refers to dwelling as an *event*, or the truth of being.[4] Events, as opposed to universal truths, are ongoing transformations that *endure* until their cultural

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[1] Herbert Marcuse, *One-Dimensional Man,* (Boston: Beacon, 1964), p. 1.

[2] Georg Lukács, History of Class Consciousness, trans., Rodney Livingstone (Cambridge, Massachusetts: The MIT Press, 1971), 93.

[3] Language such as "selfies", "i-phones", and "i-tunes".

[4] Martin Heidegger, *Contribution to Philosophy (From Enowing)*, trans., Parvis Emad and Kenneth Maly (Bloomington and Indianapolis: Indianan University Press, 1999), p. 42.

time passes. Because revolutionary technologies are, by their very nature, new, the event of modern internet technologies is ongoing. In other words we are still building up and working out the political and social landscape of these technologies. But do these technologies by their very nature reify humanity?

Thus Section I will begin by outlining Heidegger's departure from the traditional ontology. By extending Heidegger's *dwelling-in-the-world* thesis in Section II, Andrew Feenberg develops his *secondary instrumentalization* theory to overcome the objectification of humanity by technology. Like Heidegger, Feenberg sees our technologies not as a construction or forming of the self but rather as an ongoing process of receiving and transforming. This ongoing process is a time of praxis, or *praxical* time. The twofold problematic of praxical time concerns (i) the kind of culture are we building and (ii) the naming of these transformative technologies. Therefore, in Section III, we will see that although naming does not signify truth, it nevertheless leads to the reification of things as objects. Therefore, the process of naming is at least as important as the objects we invent. As we invent new technologies that transform notions of the self and our relations to others in virtual space, we must name these technologies with care; care for the self, care for the other, and care for the environment, so that the social and political are embedded into the technologies prior to production.

II. Dwelling-in-the-World

While the Heidegger of *Being and Time* situated the ontological priority of being as temporality, his later philosophy focuses on the sociopolitical context of being's dwelling. The former was structured as a transcendental hermeneutical phenomenology as a being-in-the-world, the latter as the ontological priority of dwelling-in-the-world. This move towards dwelling is an attempt by Heidegger to address the final questions he poses in *Being and Time* concerning the "reification of consciousness", a response to Georg Lukács' *History and Class Consciousness* (1971). Heidegger writes in the final lines of his Magnus Opus:

> We have long known that ancient ontology deals with "reified concepts" and that the danger exists of "reifying consciousness". But what does reifying mean? Where does it arise from? Why is being "initially" "conceived" in terms of what is objectively present,

and not in terms of things at hand that do, after all, lie *still nearer* to us? *Why* does this reification come to dominate again and again? How is the being of "consciousness" *positively* structured so that reification remains inappropriate to it? Is the "distinction" between "consciousness" and "thing" sufficient at all for a primordial unfolding of the ontological problematic?[5]

Heidegger's entire project in *Being and Time* is the groundwork to restructure the sedimentation of the Cartesian object and subject division. This destabilization of objects as an ongoing process of disclosure as opposed to the objectification of things and people, is what preoccupied Heidegger for the remainder of his career, as he continually sought new ways to talk about human subjects and their relations.

In his essay 'The Thing'[6] he establishes how each thing worlds. Uncovering the etymology of the term "thing" he finds it to mean *das Ding, res, causa, Rosa, chose*, words that describe a gathering movement towards "that which bears on or concerns man," that which is present, "as standing forth-here".[7] In other words, a thing is not a representation or a sign that signifies something, nor is it, first of all, an object. Rather, a thing is a relational gathering that perdures. A thing perdures in the fourfold: earth, air, mortals, and divinities. When a thing is not simply an essence with its own limits, but is in relation with other entities, then it is worldly. For example, a jug gathers a world to itself, a gathering to which the potter merely contributes by shaping the clay. For Heidegger, in opposition to Husserl, the jug is not an object revealing itself with each new aspect, and in opposition to Aristotle the form of the jug is not contained in the mind of the potter, nor much less in the Platonic sense of an outward appearance as idea. Rather the jug emerges from its own void and is only "a thing in so far as it things".[8]

Using the old Germanic meaning of the word thing, (gathering) he uncovers the essential nature of the jug as a "poured gift".[9] The outpouring distinguishes it from other objects, say for example a hammer, and makes the jug a jug. The jug is an aggregate vessel which "holds" wine

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[5] All notes from *Being and Time* are taken from Joan Staumbough, 437.

[6] GA 79: *Bremer and Freiburger Vorträge*. Edited by Petra Jaeger, 1994. Parts of this volume were first published in *Vorträge und Aufsätze*, 1954 (See GA 7.) *Bremen and Freiburg Lectures: Insight into That Which Is and Basic Principles of Thinking*. Translated by Andrew J. Mitchell. Bloomington: Indiana University Press, 2012. [Earlier, from the lecture series "*Einblick in das was ist*" (1949):] GA 79: 5–21 (= GA 7: 165–87), "Das Ding" = "The Thing." In *Poetry, Language, Thought*, translated by Albert Hofstadter, 165–186. New York: Harper & Row, 1971. PLT hereafter.

[7] *PLT,* 173, 174.

[8] *Ibid*, 175.

[9] *Ibid*, 170.

or water, a thing "made" from the earth, "sits on" the earth, with sides and a bottom, which "holds" substances such as air and atoms and can be replaced by liquids. The world depends on the unity of the four. The worlding is the joining together of each of these separate natures into a "onefold". The thing (jug) stays (no longer in the process of being made) – gathering and uniting the fourfold.

> The thing things. In thinging, it stays earth and sky, divinities and mortals. Staying, the thing brings the four, in their remoteness, near to one another. This bringing-near is nearing. Nearing is the presencing of nearness.[10]

Thing is not a delimiting object but an unfolding of the fourfold. "[T]o create is to let something emerge as a thing that has been brought forth".[11] For example, a truthful work of art bids all that is world - earth and sky, divinities and mortals – to gather into the simple onefold of their intimate belonging together,[12] as something that stays for a while.[13] Things perdure, within a dynamic horizon of being.

Things in this context have inherent meaning and cannot be viewed in isolation. The jug is only a jug insofar as it used for pouring. The form (jug) follows from its function (out pouring). The function of the jug is what makes a jug, a jug. This is not the scientific way of thinking of a jug as an aggregate of individual causes. Rather the jug is an event of being. As an event (of the fourfold) it brings something to light, it quenches thirst, or is used as libation. The thing (jug), things (pours). In pouring it gives, but also holds something back. We do not see the well from which the water was drawn, or the ocean as its storehouse. These things are concealed; they remain invisible. The jug can only be truly known when it forms a unity within the manifoldness of being. In other words, the truth of the jug is not alone the material out of which it is made, its shape, or the purpose to which it is put, all which stand out there in appearance. Phenomenologically he discloses the nature of a thing as an event of being.

To understand truth, then, we appear to be looking within a framework of a complex mode of being, rather than any mere assertion of truth or falsity. Heidegger calls it *alētheia*, which means both showing itself, but necessarily forgets. It hovers within a rift of oppositions; truth and untruth,

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[10] *Ibid*, 175. See also, 177, 178, and 180
[11] OWA, 185.
[12] *Language*, 203.
[13] See *The Thing*, 172; BDT, 148-149.

being and non-being, revealing and concealing. The jug sets itself into work.[14] The work presences as this work, at this time, in this particular way. The essence of the jug as the outpouring, has nothing to do with form. It is rather the function of the jug that is essential to the jug's nature.

In his essay 'The Question Concerning Technology' Heidegger interchanges between *wesen* (essence) and *Anwesen* (presencing) to denote the event-like meaning of essence. *An-wesen* is coming to presence whereas *wesen* in the traditional sense is the stable condition of an entity. In normal usage there is no hyphen in this word; by using the hyphen Heidegger intends to emphasize the prefix *an* (to, at, toward) to indicate essence as a "coming to presence"[15] as a way of challenging the philosophical tradition that he sees as reifying the notion of essence and thus losing its event-like, historical, and relational nature.

Drawing on the original meaning of the verb form, Heidegger accords to the word *wesen* a crucial role in his speaking of the happening of being. Moreover, he asserts that *wesen* is "not whatness, *quidditias*, but enduring as presence, presencing, and absenting".[16] He associates *Wesen* [essence] with Aristotle's expression to *ti ēn einai* ("what [it] was to be"), which, like *Wesen*, has to do with the past: meaning what a thing was, or has been, before it is actualized, and what we understand "earlier", already or *a priori* about something.[17] Essence is also identified as *währen*, to endure, as Heidegger states: "The noun is derived from the verb *wesen* and is the same as to last or endure (*währen*)".[18] It is in the enduring that the being of *what-is*, as presencing [*An-wesen*], governs everything that, maintaining itself on-goingly in its own particularity, presents itself by way of time as a temporal duration for the essence is opened out by way of man and lived out by him.[19]

Heidegger's creative use of etymologies also links *wesen* to s*ein*, to be.[20] This then creates resonances with his etymologies in "Building, Dwelling, Thinking" where he links the *bin* of the

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[14] *Ibid*, 185, 186, 187. This is analogous to the act of founding a state as sacrifice of both a giving and receiving.

[15] QCT, p. 9.

[16] Note: this is Heidegger's translation from *Pathmarks* on page 208. Also, IM, p. 59.

[17] *The Basic Problems of Phenomenology*, trans., A Hofstadter (Bloomington: Indiana university Press, 1982), p.120. GA 24: *Die Grundprobleme der Phänomenologie*. Edited by Friedrich-Wilhelm von Herrmann, 1975. Hereafter BP.

[18] QCT, 161.

[19] 'Time and Being', in On *Time and Being*, p. 12.

[20] Martin Heidegger, 'Time and Being', in *Time and Being*, p. 12. Here after TB. Also, Lovitt et al., p.253, IM, p. 59.

interiority of the Cartesian *Ich bin* (I am) to the exteriority of ancient *bauen* (building), and recasts it as *buan* (dwelling). Thus, as with Plato we must think of essence in terms of the fullness of being, but Heidegger wants us to see being, not as a static, absolute truth separate from the realm of becoming, human involvement, and human experience, but more akin to the sheltering and stable (but not eternal) space for meaning created in a home that fits harmoniously into the rhythms of human life in a particular setting. In a similar vein Heidegger reminds us that a gathering of the assembly of free people in ancient Germanic societies was called a thing (*ding*).[21] Heidegger's answer to the questions what does reifying mean? Where does it arise from? Why is being "initially" "conceived" in terms of what is objectively present, *and not* in terms of things at hand that do, after all, lie *still nearer* to us? reinforces the idea that to be a thing (*ding*) is to have an essential nature but that his nature is tied to living, temporal communities and shared ways of life.[22]

This rejection of things as mere abstractions separate from content and meaning, is a confrontation with iron cage of rationality which conceals the immediate character of things as things. In advanced industrial and technological societies, things becomes reified in the form of a rational order, including human consciousness where, as Lukács observes, the fate of the worker is that "this self-objectification, this transformation of human function into a commodity reveals in all its starkness the dehumanized and dehumanizing function of the commodity relation". [23] The capitalist system subordinates the worker to use-values where nature, culture, and human relations become objects of commodity. Latent in the commodity exchange are relations between people, the objects used, and the labor they produce. Heidegger calls the dehumanizing function of the technological society enframing. But Andrew Feenberg is critical of Heidegger whom he sees as merely diagnosing the problem of high industrial and technical societies, without providing any answers. Thus it is to Feenberg we turn to extend Heidegger's dwelling-in-the-world thesis to include a critical analysis of particular technologies that transcend the reifying tendencies of modern technologies.

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[21] "Building, Dwelling, Thinking", 355.

[22] Further resonances with Heidegger's thesis come from Irish etymology in which *bí* (to be) and *buan* (lasting, enduring, permanent, solid) both come from the same Indo-European root, *bʰuH-* (to grow, become, appear). See *An Foclóir Nua Béarla-Gaeilge*: Grá buan (abiding love), Dath buan (fast color), Bóthar buan (long road), Do chara buan (your faithful friend), Gura beo (long may he live).

[23] Lukács, 1971, 92.

III Secondary Instrumentalization

Feenberg's *Critical Theory of Technology* (1991) projects a general analysis of technology, and its relation to culture, with the aim of opening opportunities for democratic development. The dual character of the technological phenomenon is a socially constructed historical phenomenon. Concomitantly there are two types of actors involved in every technology: firstly the technological master actors (technicians and programmers), and secondly the subordinate actors (users of technology) who influence the evolution of their design.[24] These two actors are what make up the technological phenomenon. The first is based on positivism, where technology is devoid of meaning. Thinking of technology exclusively in these terms eliminates the history of technology, understood in terms of Heidegger's present-at-hand (object-being). The second is based on life-experiences, i.e., the ready-to-hand (work-being).

The essence of technology needs to encompass this complexity, and Feenberg offers us an alternative to Heidegger's concept of dwelling outlined above. The modern house is full of meaning and is not merely a device. While a house is the centre of an electrical, communications, heating, plumbing, and mechanised system designed and created by the master actors, a house is more than that. Dwellers live in the house and often romanticize about the house by hiding and concealing devices, in traditional facades. Dwelling *in* the house obscures its technical character. In a paradoxical way, the house has become the "*machine* for *living*". While it belongs to our lifeworld, it is also an efficient device. Its goal is to shelter us from the weather, but also belongs to the realm of meaning. The essentialist response to this argument is that the duality of the house of devices is different to the house as a human environment: One belongs to the realm of technology and the analytic domain, the other to the life-world. The distinction is between the electric circuit as technology, and the experience of warmth and light in the space we occupy. However, Feenberg argues persuasively that these two "practices" (dwelling and devises) cannot be separated. The experience of these two dimensions – device and meaning, technical and life-world practise – are intrinsic to each other, as the user is aware of the technical source of warmth in the home.[25]

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[24] Feenberg, QT, p, xii.
[25] Feenberg, *Critical Theory of Technology*, xii.

While I agree with Feenberg's argument, it is not clear that this is entirely at odds with Heidegger's encounter with modern technology. Modern technology is also a site of ontological significance. In 'Building Dwelling Thinking' Heidegger's highway bridge is an example of this gathering. The spatial hyperbola of a bridge defines the river. It "gathers" the earth and sky. It preserves itself as a crossing over a river and at the same time "grants mortals the way".[26] Like the Cathedral square, villages etc., bridges gather the fourfold into what Albert Borgmann calls "focal practices" which function to gather peoples to the divinities. "The bridge *gathers* as a passage that crosses, before the divinities".[27] This "Gathering [*Versamulung*] is called 'thing'".[28] Thus, the bridge is not merely an unknown entity that determines people's views in an essentialist manner. Because of the bridge's existence it draws into itself a *site*, a place that is freed for settlement and lodging with a boundary; an horizon of being. Bridges are constructions that create a hyperbolic space providing a *locale* in which dwelling can occur, to the extent that people respond to this invitation. As such the technology of bridge building is always rooted in the larger project of being's dwelling. And while the technological understanding of being can be disassociated from technological devices, it is not necessarily so. Like Feenberg's example of the house, the highway bridge is not separated from the experience of drawing two communities together by crossing over the bridge, nor from their awareness of the social and political implications of this river crossing.

Highway bridges are not just an aid for human activity, they "reshape" those activities and meanings, according to Langdon Winner. Technology has in effect created multifarious worlds. Winner's example of the car exemplifies this radical reshaping of worlds. Drivers and pedestrians use bridges to arrive at their destination. However, both those activities reveal different worlds. Prior to the highway bridge, neighbors would bike or walk. With the development of the highway bridge, the car driver and pedestrian live in their own world, and any attempt to extend a greeting is complicated by the presence of a technological device, and its standard operating conditions. Communication between neighbours is "shaped by the incompatibility" of two forms of locomotion – one known as walking, the newer one, driving an automobile. Thus, the instrumental/functional knowledge of automobiles is not adequate to develop our understanding of how automobiles affect the "texture" of modern life.[29] He writes "[i]ndividual habits,

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[26] BDT, BW, 354.
[27] *Ibid*, 355.
[28] *Ibid,* 355.
[29] *Ibid*, 106.

perceptions, concepts of self, ideas of space and time, social relationships, and moral and political boundaries have all been powerfully restructured in the course of technological development".[30] The side effects or what he terms "secondary consequences," to these transformations of technology is to repeatedly enter into a series of social contracts, the terms of which are revealed only *after* the signing of the contract. Winner calls this a state of "technological somnambulism" (Winner, 1986).[31] He describes this as wilfully sleepwalking through the process by which technological entities reshape and condition our social and moral life.

Winner suggests that in the continuing activity of material and social production the instruments and processes together with the production of the life world must be accounted for. This leads Winner to investigate the ways modern technology creates new forms of political life. In *The Whale and Reactor* Winner examines two ways artifacts can embody political implications. Mitcham (1994) summarizes these implications. The first is where human beings specifically make or produce technologies that solve political problems such as Robert Moses' Long Island parkway overpasses.[32] These overpasses were designed to restrict the use of buses, and by implication, access by the urban poor. The second case includes technologies that, independent of any human intention, embody certain inherent political implications.

Feenberg, extending Winner's "secondary consequences", develops the political aspect of technology further by examining in detail how politics is embedded in tools or instruments. In a short essay "Subversive Rationalization", he offers the example given by Pinch and Bijker of the ways that the technological design of the bicycle has been influenced socially and politically.

> The object we take to be a self-evident "black box" actually started out as two very
> different devices, a sportsman's racer and a utilitarian transportation vehicle. The
> high front wheel of the sportsman's bike was necessary at the time to attain high
> speeds, but it also caused instability. Equal sized wheels made for a safer but less

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30 *Ibid*, 107.

[30] *Ibid*, 107.

[31] Langdon Winner, *The Whale and the Reactor: A Search for Limits in an Age of High Technology* (Chicago, University of Chicago Press, 1986).

[32] See Mitcham (1994), 187- 188 and Winner (1986), 22-25.

exciting ride. These two designs meet different needs and were in fact different technologies with many shared elements.[33]

But once closure is in place social origins are forgotten. Accordingly closure produces a "black box" effect.[34] The artifact that is no longer called into question is taken for granted. The artifact appears purely technical, even inevitable. The final object is arrived at through a democratic process. The rejection of Heidegger's *enframing* is apparent here. Instead of thinking of technology as a particular state of consciousness, technology is designed and modified as a result of practice and use, socially and politically. Unlike Winner who sees the political emerging after the technological invention, Feenberg sees it as embedded in the technology.

This affirms the phenomenological account that the essence of the bike is its function and not form. Heidegger's ontology of technology is directed at the function of the bike. The function is prior to the black-boxed effect. The inner structure or being of the bike is the metaphysical blueprint or the movement of consciousness that allows for the invention of the bike in the first place. How that bike is used, or what gave rise to modifications in the design, are merely superficial attributes. This does not deny variations in the bike, nor does it deny that the bike can be used for good or evil. Rather the bike, as opposed to a horse drawn carriage, has the political and social already embedded into it. In a similar way houses that are built today subsume the social and political. Feenberg writes: "A solar house that gets its heat from the sun rather than from burning fossil fuels internalizes environmental constraints in its design, making them in some sense part of the "machinery" (Feenberg, 1991, p. 217). For both Feenberg and Heidegger the world gives itself to be transformed. Humanity does not "form" or construct the world, it receives it as it is given. If that disclosure is rational, then human beings interpret it as such, creating instruments that are rationally constructed (including the bicycle). This is different to an essentialism that suggests that we have always been destined to the current technological era. Instead, humanity's receptivity is always already a response to the world, together with the metaphysical possibilities it presents.

Problematic of this is the trajectory of technological design which is moving increasingly in the direction of immersive technology. Immersive technologies have the power to bring distant

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[33] This paper expands on Chapter 1 of *Critical Theory of Technology* delivered at the American Philosophical Association, Dec., 28, 1991.

[34] Feenberg *Question Technology*, 11.

worlds into the same proximity where the two dimensional screen falls away, and two people can share a 3D experience. Yet this transformative technology remains within the control and design of technicians and engineers. Oculus Rift is an immersive interactive environment within the VR world. It is a wearable headset that goes over the eyes like a clunky pair of scuba goggles. The user is then transported into a 360-degree virtual world. Combined with "Leap Motion," which is a camera affixed to the Rift, elements of the outside world are added to the VR world including the body – particularly the hands, eliminating the need for a keyboard or mouse. In this way, users can interact with the environment: They can grab a chair, their partner's hand, or engage in full-bodied sexual acts. The Oculus Rift is based on an optical illusion, in much the same way as photography, mirrors, and film. Virtual-life, in this way, is becoming part of the real-life experience for many people, blurring the distinction between real-life and virtual-life.[35]

Virtual-life is a space where new experiences can be encountered. [36] The duality of this space is both calculative and dwelling. As a dwelling, humanity seeks to transcend the rational objectification of the rational character of the machine. As shown above, to dwell is to exist within a shared community, a place to build up and work out a culture. Because these spaces are revolutionary, we need to encompass the entire matrix of actors and inventors as Feenberg suggests, where design must incorporate the political and social, the artistic, and the philosophical.

However, virtual relations do not necessarily reify human beings as mere standing-reserve. Rather, we need to rethink our notion of time, and take seriously the language and naming of these technology, for language transforms our relationship to the world.

IV Naming Technologies

Up to recently we could think of the virtual-world in terms of eternal recurrence and immanent repetition. This is because virtual reality is the language of Boolean logic and set-theory; a language of logical instructions. The infinite set of looping algorithms repeat continuously, devoid of meaning. This language gets translated into the language of higher level programming

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[35] Aurora Snow, 'Welcome to Oculus XXX: In-Your-Face 3D is the Future of Porn', *The Daily Beast*. http://www.thedailybeast.com/articles/2016/05/31/smart-car-meet-the-smart-city.html. Accessed 7/13/2016

[36] Oculus is a new medium that has only begun to release its potential. Artists, film directors and in particular documentary and virtual-news are all making significant contributions to the world of experience.

languages used by Information technology, such as HyperText Markup Language (HTML), from which all other interface languages have evolved. Truth in this formal system becomes stripped of its "meaning," i.e. of its content and intuition. The only meaning that exists is the one given by the formal rules of the system, with no reference to either intuitive truth or relation to reality. In other words, the axioms of formalism need not correspond to any fundamental, self-evident intuition. Truth, here remains wholly mechanistic and algorithmic, for mathematical operations become nothing but a sequence of operations deduced from given axioms, which appeal to nothing beyond themselves.

This notion of truth, so dominant in postmodernism, has been challenged by Badiou. In *Being and Event,* he masterfully works out the conditions under which the new occurs. He posits that novelty is contingent on truth. He draws a distinction between truth and knowledge. Truth is first and foremost something new. Knowledge on the other hand is what is transmitted or repeated, he calls this "encyclopedic" knowledge. Truth is about action, or "intervention". One does not simply know or contemplate a truth, one acts on it as a "subject". *Praxis* subsists in the truth procedures of science, artistic creations, emancipatory politics, and love. According to Badiou, truths are made, not as the effect of an order, but by rupturing with the order which supports truth. This is what he calls 'event'. Thus, truth is newness, and the emergence of truth is strictly incalculable. It is subject to chance, only named truth after the fact. The truth may never come to pass. And when it does emerge, it emerges as infinite—but it is made possible by finite subjects. Truth in general (as opposed to 'veridicity') is known only through retroaction, a 'will have been' that is the structure of an 'event.'

Events are revolutionary almost by their very nature, once we hear the ambiguous sense of revolution as both destroying and instituting, *and* returning and repeating. Time emerges in and through the orders of doing (*praxis*) and making (*poiēsis* or *chronos*). Transformation happens both in the temporal plane of everyday actions and in the occurrences through which the history of being moves and means. Chronos and its measures are ontologically prior, it is the "between" moments that allow for praxical situation of revolutionary action. Praxis is not 'contained' in the future; rather it is the moment [*Augenblick*] between past and future; it is the temporal dimension of decision. Human beings are agents in and through time who disclose the practical constitution of temporality. Badiou appeals to the Christ Event as a time of revolution, an example already used by Kant in *Religion within the Limits of Reason Alone*. There Kant argues that Christianity is

not a mere continuation of the old. Instead it was the introduction of a new moral religion in place of the old worship, to which the people were all too well habituated. Christianity arose suddenly, though not unprepared for, from Judaism. Kant adds, this new teaching "effected a thoroughgoing revolution in doctrines of faith" (Kant, 1934, p. 118). However, while the Romans were provoked and awestruck at the revolution that was taking place, as is made clear by the persecution of the Christians, they failed to mention Christianity in their official public discourse. It was only after a lapse of a century that the Romans instituted inquiries into the nature of the change of faith, and "Christianity" as such is born. As Badiou teaches, the new situation is only named retroactively.

The event constitutes and creates a subjectivity in which, and through which, the event is manifested as a universal singularity. St. Paul is an example of the "faithful subject" to the event, but it should be remembered that Badiou's subject is not the individual. The subject, for Badiou, it is not egological, psychical, substantial, nor conscious, and to participate in its constitution is an anonymous dispersal into the variations of a procedural beginning.[37] The task of St. Paul, as a creative inventor, was to choose fidelity to the situation and accept the consequence of a "judgment" or decision against the continuity of his old life. Christians and followers of Christ were faithful to the Christ Event. This has lasted for 2,000 years. But this does not have to be the case, and more recently Christianity has been replaced by Secularism.

In a similar way, subjects faithful to the new technologies of Boolean logic and consequently information technologies were forged from the logic of set theory, and it is this to which we turn to illustrate Badiou's fidelity to the *Cantor Event*. The idea of a formal system in mathematics is the move to an "axiomatic system divested of all appeals to intuition"[38]. Truth then, in the formal system, becomes stripped of its "meaning," i.e. of its content. Such a system, devoid of intuitive appeals to truth, remains wholly mechanistic and algorithmic. This is why Badiou thinks that technology is not a real concept, but is merely a journalistic debate. As such it is not a serious question for philosophy. The question of technology should only arise within the truth-procedure of the scientific or political problems. There are no technological problems *per se*, only techno–

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[37] *The Concept of Model: an Introduction to the Materialist Epistemology* of eds. Zachary Luke Fraser, I.i..

[38] Rebecca Goldstein, *Incompleteness: The Proof and Paradox of Kurt Gödel* (New York: W.W. Norton 2005) 129.

political problems. In determining the political, scientific, artist, or amorous questions, the technological question is exhausted.[39] But is Badiou correct?

In my view, Badiou's ontology provides a powerful account of computer technology, with its set-theoretical underpinnings, but cannot, on its own, ever truly escape the *status quo* of the state of its situation. Although modern technology admits of a community of subject's faithful to the event, while we live and remain in the situation (i.e., the Information Age), the very possibility of naming of the event is foreclosed. We do not know where the Information Age will lead. Indeed it is only now the true potential of the printed word (1st Century BCE) is becoming evident where using 3D printing techniques, designers are developing vital organs such as hearts and lungs, skin and bone tissue. Thus, I agree with Badiou that information technology is not "revolutionary" insofar as naming an event can only be a retroactive process, and we do not yet have the temporal distance in this case to allow for the naming to occur. However, this does not mean we must leave technology to its purely formal mathematical origins and wait to assign value and make critical judgments until technology is absorbed into the meaning-making activities of science, politics, art, and love. Reality admits of more than one true description. Ihde is right, therefore to think of science and technology as coexisting and mutually inter-twinning (technoscience), and Feenberg and Ihde are both right to insist on the way technologies have political agency. However, to hold onto the insights of Badiou about the nature of the event and the underpinnings of contemporary technologies in set-theory and to integrate them into a philosophy that takes technology seriously in its own right, we need to integrate both speculative ontology and critical theory.

Virtual life reflects the narrative of life. It is a lifeworld. Spatially it is both a linear story-telling, but also full spatial experience. An intersection of life, narrative, video, feelings, and tools – it encompasses a life event. As an ontology, it is rooted in the practice of phenomenology, and thus the question of the event emerges as the coming of things into meaning. As such technology becomes more than merely an empty concept, it emerges within a horizon of meaningful relations. This does not mean an either/or binary. Rather the interweaving of the ontology of being *and* mathematics are critical in our understanding of technology today. Thus, I propose a philosophy that integrates both causal and speculative philosophy.

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[39] Alain Badiou in an Open Lecture *On The Truth-Process,* August 2002.

Conclusion

Arguably we are currently in *revolutionary time*, a time of *praxis* (doing) as opposed to *chronos* (making), a time of building up and working out the Cartesian project. Current technologies are grounded in a theory of absolute truth. They depend on a rationally ordered system encased within an algorithm of finite instructions. This type of metaphysics, beginning with the Enlightenment, dominated the mid-Nineteenth century and continues to prevail in our current consciousness. Modern technology, specifically virtual reality, is a manifestation of the logicism of Cantor and has contributed to the strand of epistemologically oriented philosophy that rejects the classical paradigm of a true essential reality that was grounded in causality, not as a means to an end, but as coextensive with being. This notion of truth contrasts with Feenberg's secondary instrumentalization and Heidegger's notion of truth as always in a process of revealing. This is not a constructing, but a transformation of the ready-to-hand. Heidegger's theory of truth is a tension that arises from the multistability of things ready-to-hand, within the context of the present-at-hand, history, and our involvement in the world as a state of progress and change that is always in conflict, a *praxical* time. *Praxical* time (revolutionary time), is what constitutes a genuine active participation in the *making of* and *working out* of a culture. Internal to revolutionary time, human beings find a place to dwell, a place that is familiar. The site or place of familiarity for much of Western society is the online world of virtual relations.

What the proliferation of contemporary technologies reveals is not the reduction of meaning to the contingent materiality of multiple embodiments, but the timeless truth that meaning has always emerged in the space that humans create when distancing themselves from nature. In other words, virtual reality and virtual relations are a first order distantiation from the world and as such is not subordinate to real reality. Rather the virtual and the real are coextensive with beings dwelling-in-the-world. As such, virtual relations are a possible disclosure of truth in this epoch. Concurrent with the recent innovations, we must, as Heidegger and Badiou suggest, take the naming of our technologies as seriously as the technologies we are creating.

As such we need to seek a way to think of technology within its social and political context. This paper argues that it is the responsibility of the philosophy to *anticipate* future technologies so that the ethics and policies are implicit in the production *prior* to its creation. Only then can we

develop responsible technologies. And, as has been shown, this can only be understood in light of a serious reflection on the metaphysical consciousness of humanity, and not merely on immediate and discrete technologies. As such ethics and politics are already subsumed into technologies prior to their production. Responsibility, therefore, lies in our orientation to technology. Once we understand technology in its own terms as a movement of consciousness within the prevailing philosophical structures, we can predict with some degree of accuracy the consequences of developing certain technologies. Concurrent with the recent innovations, we must, as Heidegger and Badiou suggest, take the naming of our technologies as seriously as the technologies we are creating. By integrating speculative ontology with critical theory we have shown that modern internet technology is not merely based on logic and epistemology, but are causal, and as such they affect change. This change should not be left to the technical team that developed the software, but must be opened up to a democratic process that includes responsible naming of future technologies.

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