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BERNARD STIEGLER AND THE TIME OF TECHNICS

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ABSTRACT **This paper examines Bernard Stiegler's thinking about technics as developed in the first two volumes of his *Technics and Time* trilogy. It does so against the backdrop of Francis Fukuyama's highly influential thinking about technologically driven historical progress in *The End of History and the Last Man* (1992). The paper argues that Stiegler's account of an originary supplemental logic structuring the relation of the human to the technical offers an understanding of technological development which is radically different from that of Fukuyama. It shows how Stiegler's philosophy of time and technical prosthetics emerges in what is called a transformative combination of a range of thinkers (most notably Husserl, Heidegger, Derrida, and Virilio). It concludes by arguing that Stiegler's time of technics,**

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together with his thinking of epiphylogenesis, epochal redoubling, and the evolution of technical systems, yields an understanding of historical time which implies very different conceptions of contemporary and future political development than those implied by Fukuyama's idiosyncratic Hegelian/Kojèvian model.

KEYWORDS: time, technics, phenomenology, deconstruction, epiphylogenesis

INTRODUCTION: THE END OF HISTORY AND THE TIME OF TECHNICS

In the opening pages of *Specters of Marx* Derrida remarks that the fashion of the early 1990s to proclaim the "end of history" and the "end of Marxism" is nothing new. This, and the more general eschatological theme of the "end," was, he notes, the "daily bread" of much European intellectual culture in the immediate postwar period (Derrida 1994a: 37; 1994b: 14). Yet, within the wider political context immediately following the end of the Cold War, it is also undoubtedly true that the hugely influential arguments of Fukuyama's *The End of History and the Last Man* (1992) succeeded in conferring upon this rather worn Hegelian/Kojèvian theme a new urgency and a new contemporaneity. Certainly Derrida devotes a sizeable portion of *Specters of Marx* to a close engagement with Fukuyama's work and to the question of history and its "end." This does not mean, of course, that he seeks to give any legitimacy to Fukuyama's bastardized Hegelian/Kojèvian account of history or to place it on any level of philosophical seriousness. As he puts it in the course of his penetrating analysis: "Kojève deserved better" (Derrida 1994a: 98; 1994b: 56). Derrida also suggests that *The End of History* was, in the 1990s, more of a "media gadget" (Derrida 1994a: 115; 1994b: 68) than a serious philosophical work. And yet, he concedes that Fukuyama's book articulated very precisely "the schema of a dominant discourse" (Derrida 1994a: 97; 1994b: 56) in the years immediately following the end of the Cold War.

Fukuyama's argument that history has led us to a point where the greater part of humanity will come to embrace liberal democracy and free-market capitalism, and will resolve future global and political problems by technical-rational means is brilliantly unpicked by Derrida in *Specters of Marx*. He highlights its neo-evangelical rhetoric and structure and exposes the key philosophical oppositions underlying the argument as untenable, simplistic, and, indeed, opportunistic. He also acutely shows the supposedly universalist reach of Fukuyama's argument to be a rather more particular and parochial "Christian eschatology" in disguise, piggy-backing off a partial and degraded reading of Kojève (Derrida 1994a: 105; 1994b: 60). A key aspect of *The End of History* that Derrida does not highlight, however, is the reference, sustained throughout the work, to what is dubbed "the mechanism." This "mechanism," according to Fukuyama, gives:

"history its directionality" (Fukuyama 1992: 72). It is the mechanism of historical progress driven by: "Modern natural science – in the familiar forms of technological innovation" (Fukuyama 1992: 91), which in turn underpins "the unfolding of technologically driven economic modernization" (Fukuyama 1992: 96). This economic modernization is ideally and, at decisive moments, in reality, accompanied by the emergence of modern liberal democratic political forms. The supposed triumph of liberal democracy and of free-market capitalism, therefore, has as its fundamental motor and directional force scientific, techno-scientific, and technological progress.

Fukuyama's secularized Christian eschatology appears to be fundamentally dependent on his assumptions regarding the directional force of the "mechanism." Put in other terms, it is a certain mutual imbrication of historical time and techno-scientific or technological development that gives history its directional and eschatological impetus. It is in this context that the interest and importance of Bernard Stiegler's philosophy of time can be situated. Across a trilogy of works bearing the title *Technics and Time*, published in 1994, 1996, and 2001 respectively, Stiegler develops a sustained thinking of what might be called the time of technics. "The time of technics" should be understood here as the time of a specifically human history articulated in, and as, a fundamental order of technicity, technical prostheses, and technological development.

It may be interesting to note that the first volume of *Technics and Time*, subtitled *The Fault of Epimetheus*, was published in the very same year as Derrida's *Specters of Marx* and, while it contains only brief and rather allusive references to Fukuyama, it is arguable that Stiegler's thinking of the time of technics can be directly opposed to the directional "mechanism" of *The End of History*. What follows will argue that one of the great strengths of Stiegler's thinking of technics is that it gives a powerful and rigorous account of the historical time of technical development and progression which overturns and moves beyond the metaphysical assumptions, teleological, eschatological, indeed anthropological, which underpin the dominant discourse on technology that Fukuyama's arguments so clearly exemplify.

There is, of course, a long and diverse history of critical engagement with Fukuyama's work which cannot be engaged with in the context of this discussion. Fukuyama himself has also modified his position since the publication of his influential work in 1992 and, in the first decade of twenty-first century, there may also be all sorts of reasons to be skeptical about the "Good News" of market-driven capitalism and the triumph of liberal democracy. And yet, it is perhaps still very much part of the "schema of a dominant discourse" today that technology, and in particular digital communications technologies and the Internet, are thought to be in some way inherently democratizing (this is arguably a commonplace endlessly recycled in contemporary political and media discourse). Stiegler's account of the time of technics and of contemporary technical development and technological society

offers a sustained philosophical, critical, and political challenge to this dominant discourse. It also opens the way for an entirely different thinking in relation to contemporary technologies and technological modernity.

TRANSFORMATIONS: EPIPHYLOGENESIS AND THE DIFFERANCE OF DIFFERANCE

Those familiar with the first volume of *Technics and Time* will know that it draws on a wide range of references: on historical, anthropological, and philosophical work concerning technology, principally, the writings of Betrand Gille, André Leroi-Gourhan, and Gilbert Simondon respectively, but also on myth, the myth of Epimetheus, as well as on the phenomenological and post-phenomenological philosophies of Husserl, Heidegger, and Derrida. I want to focus here the on manner in which core of Stiegler's thinking about time emerges from the way he adopts, *combines*, *and also transforms*, key elements of Leroi-Gourhan's thinking of hominization (Leroi-Gourhan 1993) and the Derridean thinking of "differance," and then deploys these within a reading of the Heideggerian and Husserlian account of temporality, which is decisively different from the readings of existential and transcendental phenomenology given by Derrida.

Stiegler's aim in *The Fault of Epimetheus* is arguably twofold: firstly he wishes to demonstrate "the technological rooting of all relation to time" (Stiegler 1994: 146; 1998: 135) and secondly he wants to open the way towards a philosophical and speculative history of technics, according to which the emergence of man as a technical animal both continues a process of the differentiated unfolding of life which precedes hominization and at the same time constitutes a new regime within that process of differentiation. In other words, for Stiegler, the advent of the human and of human history is a matter of technics: "the invention of the human is technics" (Stiegler 1994: 148; 1998: 137).

In order to meet this twofold aim Stiegler attempts what might usefully be called a transformative combination of Derridean "differance," the logic of the trace, the supplement, and originary technicity, together with the Heideggerian account of the worldly temporality of Dasein, and Leroi-Gourhan's account of the emergence of tool use in early hominids. This argument has its roots in the Husserlian phenomenological account of temporality according to which the passage of time, and the givenness of a world of things to the flux of temporal consciousness, is constituted in and through a structure of retention and protention, according to which traces of an immediate past are retained and futural elements anticipated. By way of a rather schematic summary, it can be said that the crucial point for Stiegler is that this structure of protention and retention, constitutive of time, always passes through, engages, and is engaged by an exteriority of technical objects and technical prosthetics, which bear the traces of the past or function as certain form of impersonal memory. As Stiegler himself puts it, it is a question of apprehending, outside of any anthropocentric

bias: "the constitution of temporality [...] from the standpoint of the emergence of memory elaborated and conserved by the organization of the inorganic" (Stiegler 1994: 154; 1998: 143). Expressed in the terms of Heidegger's *Being and Time*, it could be said that the ecstatic temporality of Dasein is constituted in temporal projections both forward and backward, which occur on the basis of a worldly circumspectful or purposive engagement. This worldly engagement roots Dasein into a past, an already there, or as Stiegler calls it a "déjà-là," and thrusts it into a future, thus constituting temporal experience. In this sense the experience of Dasein and its temporal consciousness is without any interiority, it is only exteriority, standing outside of itself, or ek-stasis, and this, exteriority or ecstatic temporality is, always for Stiegler, one might say always already, constituted in a relation to technical objects and prosthetics, "exteriorized, inorganic, organized matter." Stiegler, of course, diverges in a decisive manner from Heidegger's account of technology insofar as technical objects are seen to be constitutive of time in its most fundamental form. In "The Question Concerning Technology," Heidegger famously argues that the essence of modern technology is "nothing technological" (Heidegger 1993: 285, 305, 317). For Heidegger, technology must not be viewed *in its essence* either instrumentally (i.e. as a means to an end) nor anthropologically (e.g. as one form of human activity amongst others). Rather it must be seen, in essence, as a fundamental mode of the revealing of the Being of the world. Rather than a means to an end, technology reveals Being to us and, crucially, Heidegger argues that it reveals or "enframes" the Being of the natural world as exploitable resource, or what he terms standing-reserve (der Bestand). This is opposed to a more fundamental mode of revealing he associates with the Greek terms *tekhne* or *poiesis*, a temporal-spatial unfolding of being which is poetic and works as a more "authentic" revealing of the world as a "bringing-forth" (Heidegger 1993: 293) and as a "letting-be." Heidegger's account sets up an opposition between an originary "authentic" temporality, which unfolds according to a logic of poiesis, and the time of modern technology, which is one of calculation and exploitation. Stiegler challenges this dismissive assimilation of technical objects and tool use to the derived, secondary, and "inauthentic" time of Being revealed and enframed as calculable and exploitable resource. What, he asks, if we think of technology, contra Heidegger, as *essentially* instrumental, but refuse to assimilate instrumentality itself to a secondary logic of ends and means? What if the instrumental purposiveness of technics and tool use were constitutive of temporalization at its most fundamental level in a way which overturns the poiesis/technology divide (Stiegler 1994: 213; 1998: 205)? This key move against Heidegger, that is, the insertion of technics into a fundamental order of temporalization, will be elaborated upon further in relation to Husserl's thinking of time consciousness discussed below. The key point to note at this stage is that, for Stiegler, time itself both deploys technical prostheticity and is deployed within it.

In a perhaps difficult move, indeed one which has been seen to be highly problematic, Stiegler combines this reading of the temporality of Dasein with a reading of Derrida and Leroi-Gourhan. This structure of temporality, constituted in a relation to the exteriorized already-there of technical prostheses, is always a structure of referral, of referral to and through the alterity of technics, and as such it is also a differing, a spacing, *and* a deferring, a temporalizing, and *as such*, is aligned by Stiegler with the Derridean logic of the supplement, of the trace, of "differance" and what one might call the arche-synthesis of originary technicity. It is precisely this move that allows Stiegler to interpret Leroi-Gourhan's account of the upright stance, tool use, and the development of the brain cortex in early hominids as inaugural of the human per se, and to interpret this inaugural moment as a rupture in the regime of "differance" understood, after Derrida's analyses in *Of Grammatology*, as the history of life in general. Stiegler is attempting to think the inaugural moment of the human according to a logic of "differance" and originary technics, which precedes or is anterior to the moment of the human, but which comes to organize itself according to a new regime of *exteriorized* technical objects in that inaugural moment. The name he gives to this new regime is *epiphylogenesis*, which he understands as "the conservation, accumulation, and sedimentation of successive epigeneses, mutually articulated" within the material environment (Stiegler 1998: 140), or as "a recapitulating, dynamic, and morphogenic accumulation of individual experience" in technical objects (Stiegler 1998: 177). Epiphylogenesis, then, is used to designate the development of the human organism in and through its relation to the past experience of others such as it is inscribed, accumulated, or sedimented within a wider environment of inorganic technical prosthetics. This complex reading of Heidegger, Derrida, and Leroi-Gourhan each into the other can best be illustrated in the following quotation. It is a question, Stiegler argues, of understanding:

> how tools do not derive from a creation or from a consciousness present to itself, master of matter, but pursue a process engaged long before the rupture yet nevertheless constitute a rupture – a new organization of differance, a differance of differance (Stiegler 1994: 186; 1998; 178)

So, for Stiegler, the advent of the human is a rupture within "differance," a rupture whereby the supplement, the differing and deferring, the spatializing and temporalizing inscription of the trace, is exteriorized into technical objects thus constituting a doubling of "differance." This is a passage from: "a *genetic differance* to a nongenetic *differance*" (Stiegler 1994: 183; 1998: 175).

DERRIDEAN OBJECTIONS

Now it might immediately be asked whether Derrida's writing and thinking around the supplement, the trace, and "differance" could

ever really admit or countenance this notion of the doubling, or the differance, of differance, or the reduction of differance to genetic and non-genetic modalities. Certainly a number of commentators have raised powerful objections to Stiegler's account and, in particular, have done so with regard to his appropriation of Derridean thought. It has been argued that Stiegler's doubling of differance necessarily reinstates an untenable distinction between nature and culture and that it confuses empirical and anthropological insights on technology or tool use with the quasi-transcendental field of originary technicity (Roberts 2005: §11, §16, §27). His account, then, would involve a re-anthropologization of technics and its elision or suppression as the arche-synthesis of originary technicity (Beardsworth 1998: 81). Most damningly perhaps, Geoffrey Bennington has argued that Stiegler's arguments, from the outset, commit him to a "certain positivism about difference" (Bennington 2000: 171). They commit him to a positivistic account of the development of techno-science, which then fraudulently masquerades as a Derridean thinking of differance. So, in confusing the quasi-transcendental of originary technicity with the positivity of technology, Bennington argues, Stiegler's account reinstates all the metaphysical oppositions he is trying to deconstruct (Bennington 2000: 171). All these criticisms could be summed up by saying that Stiegler misreads, or reads badly, the key figures with whom he is engaging: Derrida, Heidegger, Leroi-Gourhan, and others.

ON HUSSERL AND TEMPORAL CONSTITUTION

Yet if close attention is paid to the way in which Stiegler's readings combine the thought of these thinkers each with the other, and in so doing transforms the thought of each, then such criticisms do not, arguably, do justice to the originality, rigor, and detail of his thinking in *Technics and Time*. If one takes the accusation of re-anthropologization of the human and of technics, for instance, it might be noted that Stiegler takes great pains, in *The Fault of Epimetheus*, and in the other volumes of the trilogy, to underline that the logic of technics he is ascribing to the human, pre-dates the human. As a specific, *and dominant*, regime of exteriorized prosthetics, technics certainly, in the very dominance and hegemonic status of that regime, articulates a specificity of the human, but Stiegler, for instance, nowhere claims that animals do not use tools or exteriorized prostheses. Nor does he claim that the logic of genetic difference should be opposed to, or distinguished from, the logic of non-genetic difference in such a way as to affirm, explicitly or implicitly, any kind of crypto-theological or ontological break which would mark the advent of the human. It is no doubt easy to take Stiegler's use of the myth of Epimetheus as a figure for a founding of the human *as* technical, or as an essentially anthropological fable about the relation of the human to the technical.[1] In particular, it would be easy to view it as a figure which maintains Stiegler's thinking of technics within the orbit of an essentially Greek problematic concerning the relation between the human and technical prosthetics. Yet if we pay close attention to

Stiegler's insistence that a logic of technicity *precedes* the human, and that only on the basis of this precedence does it then come to *constitute* the human (as a hegemonic but by no means exclusive regime of the technical), then the myth of Epimetheus can be seen simply as a figural mode by which this transformation of Derridean supplementarity is thought. Stiegler's use of this myth is in the service of this transformation of Derridean differance, and not in the service of a Greek and essentially anthropological thinking of technics. In the light of this, the arguments relating to the re-anthropologization of technicity, or the reinstatement of the nature/culture, tekhnè/phusis opposition are not really sustainable.[2]

On the question of confusing the quasi-transcendental with the empirical, or with a positivity of technology and techno-science, a more nuanced and developed response is required. It is interesting to note that Stiegler does not use the language of the conditions of possibility *and* impossibility that Derrida uses in relation to the quasi-transcendental (however much he comes to question of the aporetic logic which attends the advent of the human). He *does* use the word "condition," such that technics may be the condition by which, or through which, the past or the already-there is accessed. More systematically, Stiegler uses the term "constitute" and its variables, "constitutive," "constituted," and "constituting," a usage which seems not to have been given a great deal of attention by his commentators to date. He talks about the "constitution of temporality" (Stiegler 1994: 154; 1998: 143) in technics, or of the technical already-there as "constitutive of temporality" (Stiegler 1994: 150; 1998: 140). It might be worth remarking at this juncture that, in the *Critique of Pure Reason*, Kant refers to as *constitutive* that which enters into the structure of actual experience. Thus the Kantian categories are "constitutive" of knowledge and are held to be rigorously distinct from the transcendent Ideas (God, the Cosmos, the Soul) which have a regulative or speculative value. Bearing this Kantian resonance in mind, it could be suggested that the key thing for Stiegler is that technics and technicity, constitutive of time, enter into the actual structure of temporal experience, but in a way which does not necessarily imply a positivity of technics or a commitment to positivism per se.

This point is much more clearly illustrated if one examines in greater detail the role of "constitution" in the Husserlian account of time. Stiegler's repeated use of the term *constitution* in relation to temporality directly borrows from, and develops, Husserl's analysis of time consciousness such as it is elaborated at length in *On the Phenomenology of the Internal Consciousness of Time* (Husserl 1991). In particular, Stiegler engages extensively with this text in the second volume of *Technics and Time*, subtitled *Disorientation*. For Husserl "constitutive" refers, above all, to the synthetic *process* of the constitution of the intentional object through consciousness. Readers of Husserl's text will know that his phenomenological analysis of time relies heavily upon, and indeed is largely derived from, the lengthy

descriptions he gives of the constitution of temporal objects. By "temporal objects" Husserl understands those unified objects which appear to, or in, consciousness in extended duration and whose identity is inseparable from their temporal extension (e.g. a piece of music). Stiegler's reading of Husserlian temporality focuses specifically on the role played by different kinds of memory in the constitution of the temporal object:

> Husserl defines as temporal the object constituted in its duration as flux or flow, and whose flux is coincident with the flux of consciousness of which it is the object. In this flux, Husserl identifies a primary retention belonging to the object's "now," which is its "just past" [...]. Husserl emphatically distinguishes this primary retention from secondary retention: re-membering, or secondary memory (Stiegler 1996: 13; 2009: 5–6)

It is worth noting here that, within the context of phenomenological analysis, constitution cannot be understood in any ordinary sense. As David Wood points out in his account of Husserlian temporality in *The Deconstruction of Time*, acts of consciousness in this context "do not constitute objects in the way that cakes or candles have ingredients" (Wood 1989: 55). The key point to reiterate in this regard is that temporal constitution, as a synthetic process, is a threefold relationality of intentional directedness forming a flux: time perception is always a relationality of a directedness to the "now" of an object, but is so only insofar as it is also a directedness towards an immediate past of the object (retention) and an anticipation of its future (protention). Stiegler's argument relating to time and technics both relies upon Husserl's account of temporal constitution as a synthetic process but also crucially diverges from that account in key respects. The role played by primary memory (or primary retention), secondary memory (the act of remembering), and what Stiegler comes to call "tertiary memory" is key in this regard.

As is clear in the above citation, Stiegler takes pains to underline the manner in which Husserl rigorously distinguishes between the primary retention of an immediate past within the present, that is, a form of memory which is not an act, and secondary memory which on the contrary is an independent act (that of remembering). In this context, primary memory could be said to have a "presentative" function in relation to perception and is therefore a key element of perceptual immediacy, "presence" or the "now" of an object. Secondary memory on the other hand has a "representative function" (Husserl 1991: xlii–xliii) and, in Husserlian terms, might therefore be said to be at one remove from the immediacy or presence of the present moment. At the same time, Husserl also talks of "image consciousness," which he aligns with "pictorial representation" (Husserl 1991: 36) and pictorial objects: "paintings, busts, images of phantasy, after-portrayals" (Husserl 1991: 189–90). Husserl further distinguishes image consciousness from both

primary and secondary memory. In this context image consciousness (in what might be called "pictorial memory") would only be a re-presentation of the representation that is secondary memory. As such it exists at a degree of further remove from the immediacy of the present and is excluded entirely from the constitution of temporality. It is in this context that Stiegler comes to name Husserlian image consciousness as "tertiary memory," extending its scope from "pictorial object" to technical prosthetics in general.

The originality of Stiegler's reading of Husserl in *Disorientation* can be found in the way he rethinks and resituates the relation of primary, secondary, and tertiary memory each to the other. His reading amounts, in effect, to a reversal of the hierarchy or logic which governs their interrelation. He begins by highlighting the exclusion, by Husserl, of tertiary memory, or image consciousness, from temporal constitution: "consciousness of image [. . .] is purely and simply eliminated from the dynamic of the temporal object" (Stiegler 1996: 14; 2009: 6). Stiegler is not interested in overturning Husserl's important distinctions. Rather, and not unlike Derrida, he is interested in demonstrating the manner in which there is a certain contamination or mutual imbrication of those distinct elements, which should, according to Husserl, be rigorously set apart from each other and maintained as discrete in their very distinction. He develops his arguments at some length throughout *Disorientation* using the examples of photography (in particular, he gives an extended discussion of Barthes' *Camera Lucida*) and film, as well as detailed readings of Husserl's texts (the volume on time consciousness but also "The Origin of Geometry" (Husserl 1970: 353–78)). The detail of these arguments is beyond the scope of the present discussion. What is most important to note in relation to the question of the "constitution" of the time of technics in this context is that, where Husserl seeks to maintain an immediacy and primacy of primary retention in opposition to the progressive degrees of *remove* from immediacy that inform the structure of secondary and tertiary memory, Stiegler argues that, far from being "pure" or "immediate," primary retention is always and necessarily inhabited by both the secondary and the tertiary modes of retention and is itself only ever constituted in its dependence on those modes. Stiegler puts this in the following terms:

> Secondary retention is already within the primary impression, expressing it, imprinting the effects of its indeterminacy there. It itself is inhabited by the retention of non-lived experience which is essential to it and that is nothing other than its world. It is made possible by an essential already-there composed of non-lived memories preserved as conscious images (Stiegler 1996: 249; 2009: 217; translation modified)

Stiegler firstly affirms the inscription of the secondary within the primary and then, crucially, affirms the inscription of the tertiary within the secondary (and therefore also the primary). The memory borne by

exterior inorganic technical objects, the impersonal memory that one has not lived oneself but which is retained in the worldly materiality of those technical objects, finds itself excluded by Husserl in its tertiary, derived status. But for Stiegler tertiary memory, that is, image consciousness borne by technical prosthetics, is: "the condition of the secondary's entry into the primary" (Stiegler 1996: 250; 2009: 217).

Husserl, of course, would be unlikely to countenance the move Stiegler makes with regard to the inscription of tertiary memory within secondary remembering and primary retention. Stiegler's insistence on this critical reading of Husserl is, nevertheless, entirely consistent with his fundamental claim that technics is the "unthought" of metaphysical thinking and with his desire to reveal this unthought in order to show that technics is at play at a fundamental level of temporal and spatial world-disclosure. His reading of Husserl also clearly resonates with the reading of Heidegger evoked briefly above. In both cases, Stiegler argues, phenomenological thinking excludes technical prostheticity from authentic temporality: the ecstatical temporality of Dasein in the case of Heidegger, and the phenomenologically reducible "lived present" in the case of Husserl.

The consequences of Stiegler's arguments in relation to the Husserlian phenomenological project are far-reaching. As he himself puts it: "not separating lived from non-lived, primary from secondary, secondary from tertiary [. . .] calls the phenomenological principle itself into question" (Stiegler 1996: 250; 2009 : 217–18). There are two key points to note here: firstly Stiegler, like Derrida, is engaged in a deconstructive reading of phenomenological presence: the inscription of the tertiary in secondary and primary retentions, is similar but, as will become clear, also different from the Derridean deconstruction of presence. Secondly the emphasis, within Husserlian thought, on the *constitution* of temporal objects (and therefore of temporal perception) through consciousness is arguably altered in an important manner. For, if one follows the logic of Stiegler's arguments relating to primary, secondary, and tertiary retentions it follows that consciousness is not just constituting but is also *constituted* in and through its relation to technical prosthetics. Technicity is not simply any number of technical devices or procedures which one might encounter as positive objects of knowledge in the world. Before they can be encountered in their positivity as objects present to consciousness they constitute temporal consciousness *as such* and thus they enter into the actual structure of the world appearing *as such*. These two points are worth developing at greater length, particularly in the context of Stiegler's similarity to and difference from Derridean deconstruction.

DIFFERING ON DIFFERANCE AND THE DECONSTRUCTION OF PRESENCE

With regard to the deconstruction of presence it might be noted that, in his repeated emphasis on technical prosthetics as *constitutive* of time, Stiegler is shifting his thinking away from the Derridean logic

of conditions of possibility and impossibility. More precisely, he is attempting to thinking "differance" and the "quasi-transcendental" *differently*. As constitutive, technical prosthetics and tertiary memory are no condition of possibility and impossibility, but are rather, for Stiegler, the "actual play" [*mise en jeu effective*] (Stiegler 1994: 240; 1998: 234) of the "differance" that is Dasein. If Derridean differance is a condition of possibility and impossibility of meaning constitution and the unfolding of a temporal-spatial experience of world, Stiegler's "differance of differance" (epiphylogensis, tertiary memory) is, as it were, the effective concretization thereof in technical prosthetics; "this prostheticity" writes Stiegler, "effects and concretizes the endurance of the deferred and differing time that it is" [cette prothéticité *effective*, *concrétise* l'endurance d'un temps différé qu'elle est] (Stiegler 1994: 240; 1998: 234).

The key word in the original French is "effective" and the notion of effectivity it implies. Stiegler wants to argue for an effectivity of technical prosthetics in the constitution of time rather than for any positivity of technical objects per se. Put in Derridean terms, he wishes to argue for the worldly, historical, and contingent unfolding of supplementarity, that is, to argue for the *effectivity in technics* of the logic of the supplement. This is no confusion of the quasi-transcendental with a positivism of technical objects. Stiegler would clearly want to distinguish between, on the one hand, the already-there of a past which has never been present, an immemorial past which resists or exceeds the logic of presence (that is, the logic of the Derridean trace), and on the other, a historical past, an "actualized" or "effectualized" already-there of exteriorized prosthetics which bear the traces of a past that has been *lived* (albeit by others more or less anonymously). For Stiegler the latter presupposes the former, but certainly should not be confused with it. This also means that, rather than conflating the quasi-transcendental with the positivity of techno-science as Bennington argues, Stiegler is, in fact, aiming to think traces of singular empiricity within, or indeed as, the quasi-transcendental. The immanence of Husserlian consciousness in its "lived presence" always passes through, or is constituted in, the transcendence (in the Husserlian sense) of prosthetic objects, lived by others in the past, but not by me in the synthesis of my "own" lived present. In a more recent text, Stiegler puts this in terms which clearly bring him into proximity to, but decisively differentiate him from, Derridean thought: the structure of tertiary memory as constitutive is, he argues, "'Quasi'-transcendental (and not transcendental) because the inscription of elementary supplementarity in the empirical is originary" (Stiegler 2001c: 254).[3]

A close reading of the concepts of "constitutivity" and "effectivity" in Stiegler arguably undercuts the criticisms made against his thinking of double differance, and the supposed confusion of the quasi-transcendental and the positivism of techno-science outlined earlier. This is not to say that Derrida's arguments within a text such as *Specters of Marx* would not pose a serious challenge to Stiegler's

affirmation of the effective and the constitutive role played by technics in time. For Derrida the entire phenomenal field of the already-there would always, and always already, be struck by a logic of spectrality, and he argues quite clearly, perhaps with Stiegler in mind, that, according to the "spectrality effect" (Derrida 1994a: 72; 1994b: 40): "effectivity phantomalizes itself" (Derrida 1994a: 85; 1994b: 48). Yet this is perhaps to say nothing other than that Derrida and Stiegler are thinking differently, and, specifically, differently with regard to the question of constitution and to the deconstruction of phenomenological temporality.

THE EPOCHALITY OF TECHNICS AND THE TIME OF DISORIENTATION

The upshot of this difference about the structure of differance is a divergent account of the time of technics itself, and a divergent negotiation of the question of a "politics of memory," a motif which both Derrida and Stiegler invoke in their respective works of 1994. Derrida's thinking of justice, the messianic, and of the time of a future without identity is well known.[4] Yet although Derrida does engage with such "messianic" conceptions of historical time, as Ben Roberts rightly points out, the Derridean arche-synthesis of originary technicity as the condition of memory, and as the (quasi)transcendental condition of knowledge: "can't possibly be made present, rendered intelligible, dissected, theorized, *historicized*" (Roberts 2005: §16; my italics). What Stiegler's account makes possible, in its divergence from Derrida, is the thinking of technics and technicity in *historical* terms. It allows him to give a historical account of different epochs of technics each of which would constitute an experience of time differently. This historicization of technics allows Stiegler to think a "techno-logical constitution" of historical time and with that to articulate an "epochal reflexivity" (Stiegler 1994: 212; 1998: 205) of different and differentiated modes of temporalization within history.

The fact that, for Stiegler, (temporal) consciousness is not just constitutive but is also *constituted* (the second outcome of his deconstruction of Husserlian presence noted above), and is so in and through technical prosthetics, is of decisive importance in this context. For, in introducing what he calls the "mondo-historial" (Stiegler 1996: 250) of tertiary memory into the constitution of time consciousness, Stiegler opens up the possibility of accounting for the differing ways in which that constitution occurs in different historical epochs and in differing and historically contingent phases of techno-logic. Indeed, the arguments of *Disorientation* relating to Husserl's account of time are all unfolded in the service of just such an accounting.

Across the first two volumes of *Technics and Time* the scope of Stiegler's historical account runs from the advent of tool use in early hominids (his analyses of Leroi-Gourhan and the "invention of the human") through to the contemporary dominance of digital technologies in modern communications society and culture. In *Disorientation*

his principal aim is to delineate the limits of an epoch of historical culture rooted in the linearity of writing, that is to say, an alphabetical culture of the letter in which the retention of the past and the collective experience of historical time passes primarily through the technical system of writing. He then wishes to differentiate this culture from what he perceives as an emergent epoch in which the retention of the past passes primarily through the technical systems of analogical, numerical, and digital communications media and other contemporary "techno-scientific" modes of apprehension. If Stiegler is correct that historical epochs, together with the individual and collective forms of time-consciousness which define them, are constituted in and through technical systems and prosthetics, then the stakes of this analysis are indeed high given the rapid pace of technical development in that latter half of the twentieth century and first decade of the twenty-first.

The Fault of Epimetheus devotes considerable space, via an engagement with thinkers of technology such as Gilbert Simondon and Bertrand Gille, to an analysis of the logic, or techno-logic, of historical change and development. One of the key insights he develops is that technical systems tend to program fundamental aspects of culture but that the rapidity of technical development means that such systems often develop *in advance* of existing cultural forms. The "techno-logic" of historical change here would be one in which the development of a dominant or hegemonic technical system suspends, interrupts, or renders obsolete existing cultural forms. This would be followed by a process in which cultural forms in turn develop to "catch up" with emergent technical systems in a form, as it were, of reprogramming dictated or ordered by those new systems. This instability of cultural forms and temporal non-alignment or asymmetry of technological and cultural change is not necessarily in anyway dialectical, and the process of change Stiegler describes is certainly not any kind of teleological or eschatological dynamic. In this context he uses the language of "epochal redoubling" to describe this process of change. According to such a process, a dominant technical system develops into something new and is then subsequently accompanied by an epochal redoubling (i.e. the emergence of new cultural forms programmed by that new system (a "redoublement épochal" in French)).[5] In *Disorientation* Stiegler identifies the (specifically European) epoch of alphabetical writing with a constitution of a collective historical time which is linear and which above all privileges the value of *presence* (he does so in a manner consistent with, and arguably dependent upon, Derrida's analyses of writing, logocentrism, and the epochality of the metaphysics of presence in *Of Grammatology*). Conversely he identifies the contemporary historical moment with the suspension of this culture by the emergent information and communication technologies and digital media. The contemporary crisis that he tries to highlight in *Disorientation* is rooted, he argues, in our inability to identify this opening of a new epoch *as such*, and thereby to engage in a more lucid confrontation with the emergent culture that may come to be programmed within that new

epoch. Stiegler expresses this successive process of the "redoubling" of epochs in the following terms:

> Linear and phonological writing is a programmatic *epokhē* suspending all forms of a heritage [. . .] and which, in suspension, pro-grams an other vestige [endurance] of the past, of anticipation, and consequently of a present conceived as presence. Which idea of today [Quel *aujourd'hui*], then, would (improbably) program the *epokhal redoubling* of différant analogic, numeric, and biologic identities, thus throwing into crisis the presence of which *"today" consists*? (Stiegler 1996: 75; 2009 : 61)

This last question is posed by Stiegler with considerable urgency. For just as the technical system of writing once suspended one experience of time and inaugurated an experience of retention and protention which privileged a conception of time as presence, so too new techno-scientific modes will "reprogram" our ways of retaining the past and anticipating the future and inaugurate a new and different mode of temporalization together with a new and different experience of time. Indeed, Stiegler suggests, new technologies are already doing precisely this.

It is this sense of a collective blindness with regard to the exact nature and ongoing course of contemporary epochal change that motivates the rhetoric of urgency which is threaded throughout the entire trilogy of *Technics and Time*.[6] This rhetoric of urgency, while clearly designed to have a persuasive impact on the reader, can also be related directly to the nature of the crisis Stiegler is trying to identify. The crisis is one to which he gives the name of the second volume of *Technics and Time* itself, "disorientation," and the urgency of his rhetoric can be related to the question of *speed* and what might be termed the speed of the epoch of new technologies. Stiegler puts this in the following terms:

> Contemporary disorientation is the experience of an incapacity to achieve epochal redoubling. It is linked to speed, to the industrialization of memory resulting from the struggle for speed, and to the specifics of the technologies employed in that struggle (Stiegler 1996: 15; 2009: 7)

On one level Stiegler identifies the crisis of the contemporary as a disorientation brought about our inability to "catch up" with the pace of technical change, to engage lucidly with and to stabilize new cultural programs or forms: this is our "incapacity to achieve epochal redoubling." Yet this incapacity is rooted in the nature of the new technical system itself, the rapidity of its development certainly, but also its very nature as a mode of technical time-constitution defined in and through s*peed*.

Much of the analysis in *Disorientation* is devoted to the way in which digital technologies, information processing, and contemporary

communications media constitute a new structure or synthesis of retention and protention which deracinates (disorientates) the temporal unfolding of a linear historical time with its privileged "now" (presence). Overturned also is the constitution of a past, historical event *as* properly historical only in and after a certain period of delay or deferral (e.g. events are proclaimed to be "historic" or are constituted in their historical significance in the very moment of their coverage in "real time" by broadcast media). If our dominant access to, or retention of, the past passes through the diverse media of digital communications and information technologies then our relation to the perception of a "historical past" may be profoundly altered. Technologies which transmit "directly" and in "real time" (that is, in a mode of transmission where instantaneity and speed are the very essence of transmission itself) will necessarily, according to Stiegler, alter the constitution of the time in which events unfold or are perceived and rendered meaningful as such. Stiegler describes this passage of collective memory or retention of the past in the new digital communications technologies as "the industrialization of memory." This industrialization of memory, he argues, is in the process of forming, and will in the future fully articulate an industrialized synthesis of temporal finitude, that is, a dominant mode by which time-consciousness is constituted in our emergent epoch. This, he says, is an epoch of speed and notes: "To think the current age through speed is thus to think [. . .] the general modification of event-ization [*événementialisation*] that is taking place before our in-credulous eyes" (Stiegler 1996: 20; 2009: 11).

Readers familiar with the work of Paul Virilio will immediately recognize some of the key motifs associated with Stiegler's account of disorientation in the second volume of *Technics and Time*. The emphasis on speed, on the transformative nature of digital communications technologies in relation to the perception of time and, indeed, to the very "eventness" of events themselves, are all eminently Virilian concerns.[7] Like Virilio, Stiegler argues that contemporary media, communications, and digital or information technologies engender a wasting of a situated (embodied) experience of space as well as of time. Indeed, it is the absence of situatedness in relation to temporal and spatial experience as constituted in and by digital technologies which, for Stiegler, defines the disorientation of contemporary experience: "to live contemporary technics today is less about the structuring of territory than it is about deterritorialization" (Stiegler 1996: 110; 2009: 90). This deterritorialization is articulated as a wider paradigm of spatial and temporal experience. Deterritorialization occurs as a collective structure of perception articulated in the disembodied, or virtualized "real-time" of digital communication. It occurs in the quasi-instantaneity of transmission across the globe which annihilates geographical situatedness just as it annihilates temporal delays. Stiegler argues, with Virilio, that this overturns or transforms our sense of temporal rhythm, of calendar time modulated by the rhythms of night and day, week and month, month and year. The rhythm of night and day gives

way to a perpetual "false-day" (another term borrowed from Virilio), a day bathed in the continuous electronic light of television and monitor screens and the unceasing transmission of information around the entire space of the globe. This false-day Stiegler writes:

> marks a different relation of space and time, a different synthesis, and an entirely new question of intuition, leaving the "body proper" behind and investing in industries of the visionic, of telepresence and of virtual reality (Stiegler 1996: 120; 2009: 98)

Again the key terms used here, "body proper," "telepresence," are all taken from Virilio and are fundamental to Virilio's account of contemporary technologies. Stiegler diverges in key respects from Virilio, however, and this divergence is marked in his use of quotation marks around the term "body proper." For where Virilio maintains a strong, albeit residual, attachment to the authenticity of situated bodily presence and to the phenomenological conception of the "body proper" (which he takes from Merleau-Ponty), Stiegler, of course, has no faith at all in the purity of "presence." The nostalgia for presence which arguably marks Virilio's work is absent from Stiegler's account. Indeed he goes so far as to suggest that the disorientation of the contemporary epoch was already emergent in the preceding epoch of writing and, indeed, is a fundamental characteristic of technical man and of epiphylogenesis:

> Orthographic writing enacts a wrenching out of context that is intensified even further by memory's industrialization (disorientation being precisely this decontextualization, this disappearance of place), which has actually been occurring since epiphylogenesis's origin (Stiegler 1996: 16 ; 2009: 8; translation modified)

In effect, Stiegler is once again reading in the mode of transformative combination: he takes on the Virilian motifs of false-day, virtualization, tele-presence, etc. but suggests that the loss of presence at work in the disorientation of the contemporary is simply an intensification of that loss of presence and origin inherent in the time of technics itself. Thus Virilio's thought is combined with Stiegler's readings of Leroi-Gourhan, Husserl, Heidegger, etc. but, in this transformative combination, the reliance on, and nostalgia for, the plenitude of presence and the "body-proper" has been overturned.

The arguments of *Technics and Time*, and, in particular, those of the second volume, are not, therefore, orientated simply to a condemnation of contemporary media and culture in the name of the virtues of the preceding epoch.[8] As has been indicated, Stiegler's demand, urgent though it may be, is a demand of thought: to think the unthought of technics and to think accordingly what may be at stake in the rapid development of contemporary technical systems. Above all, it is a demand that the new technical media be thought in such a way as to engage critically with the modes of temporalization they engender,

with the time-consciousness they may come to constitute, and with the "programs," or cultural forms they may produce or be in the process of producing.

CONCLUSION: THE END OF THE END OF HISTORY AND TECHNO-ERRANCY

It has been argued that Stiegler's readings of various thinkers need to be understood in the context of the way in which he *combines* the thought of those thinkers each with the other and, in so doing, significantly *transforms* the thought of each. In this way Husserlian, Heideggerian, Derridean, and Virilian thought, for instance, all emerge in Stiegler's text in ways which diverge from their "original" form. In this context Stiegler's arguments have been defended against some of the criticisms that they have received to date and it has been argued that he develops a distinct account of the epochal time of technics which is orientated towards a politics of the contemporary and a politics of memory, that is, of memory as it is articulated in a contemporary industrialized synthesis of temporal finitude.

If the Derridean objections to Stiegler have been misplaced and if Stiegler's account of temporal constitution in the *effectivity* of technical prosthetics leads to a different "politics of memory" than that of Derrida, this does not necessarily mean, in any reductive way, that Stiegler's account is somehow more politically *effective* than Derrida's by dint of its recuperation of a certain epochal historicity or historiality. Yet Stiegler's elaboration of "a techno-logical instrumental condition in which time is a *technological synthesis*" (Stiegler 1994: 228; 1998: 221) does have a particularly strong resonance in relation to dominant modes of thinking about history, the end of history, and technology in the wake of the Cold War. These dominant modes, it was suggested at the outset, find a strong expression in Fukuyama's thesis on the end of history. Stiegler's time of technics, however, is not a time centered on a foundational figure of the human. Its "techno-logic" of suspension and redoubling does not propel a teleological or eschatological historical time. Indeed the techno-logic of the time of technics is arguably a *historical* time without time, that is, without an identity of time past, present, and future, without origin or end. It is perhaps the very antithesis of a teleological or eschatological time, and the very antithesis of Fukuyama's "mechanism," with all its techno-scientific, directional progress towards the "Good News" of liberal democracy. Stiegler's time is one in which history is only the "error of technics" or as Stiegler also puts it, is "the techno-logical errancy of 'Dasein' itself." Could this not also, he asks, take "the name of 'the end of history' declaring itself to be an end, that is the fulfilment of metaphysics?" (Stiegler 1994: 228; 1998: 221).

The strength of Stiegler's account lies perhaps in the way in which it opens up a radically different means of accounting, both philosophically and politically, for the nature of technological, social, and political change in both recent history and more generally. His

account stands as a major critical and philosophical counterweight to prevailing discourses on technology and, in particular, those which proclaim the inherently democratizing power of the new digital media. It also suggests that, in a time of perhaps unprecedented danger to both human and non-human life across the globe, deep seated teleological assumptions about technical "progress" and the ability of technology to solve all human problems may be profoundly misplaced. If we look forward to the possibility of a catastrophic future, but at the same time accompany that futural view with assumptions that technology and technical progress will somehow inevitably save us, it is precisely the structure of that double eschatological gaze which may be the means by which catastrophe will be accomplished. If, on the other hand, we adopt more sober and less eschatological assumptions about technology, history, and our human trajectory as such, then perhaps the challenges and side-effects of human technological and economic activity may be more effectively faced. Ultimately Stiegler's thinking of the time of technics may have shown us that the "end of history," far from the neo-evangelical announcements of Fukuyama, lies, not in the democratizing power of techno-scientific progress, but in our ability to think the end of any thinking of an end, and to submit ourselves to history as the errancy of history in technics, to the absent foundation and essence of the "the techno-logical errancy of "Dasein" itself."

NOTES

1. According to this myth, Epimetheus was responsible for giving a positive trait or skill to each animal but, lacking foresight, when it came to humans he had run out of traits, leaving man himself lacking. Prometheus then stole the gift of arts/craft (tekhne) and fire from the gods to give to man.
2. On this point Stiegler writes in the second volume of *Technics and Time*: "the appearance of the human coincides with the rise of a sudden hegemony of the epiphylogenetic within the developing process of differentiation. 'The human' is precisely this hegemony" (Stiegler 1996: 186; 2009: 161). His point is that a specific logic of technics may indeed be at work prior to the human, "in ape societies but perhaps much earlier in the pre-history of animality." The rupture of the differance of differance is the coming into hegemony of epiphylogenesis, the intensification of a logic already at work within life.
3. Perhaps it might be worth distinguishing the Kantian resonance of Derrida's use of the term "transcendental" ('quasi' since it refers to conditions of possibility *and* impossibility) and what might differently, and in more Husserlian terms, be termed the "quasi-transcendence" of technical objects for Stiegler: quasi-transcendent because they are transcendent in relation to the immanence of consciousness but are also *constitutive* of that immanence. Stiegler does not elaborate on this point.

4. For a recent important contribution to the reception of the political dimension of Derrida's thought in relation to time, see the volume of collected essays entitled *Derrida and the Time of the Political* (Cheah and Guerlac 2009).
5. The French "redoublement" has the sense of doubling, beginning once again, overhauling, or renewing. It also resonates with the verb "doubler" meaning to double, repeat, accelerate, or overtake (as in a car). All these senses are at play in Stiegler's use of the term.
6. On the question of urgency, see Bennington (2000).
7. For an introductory overview of Virilio's work, see James (2007).
8. In his more recent work Stiegler does, however, develop a sharply critical, philosophical-political account of contemporary consumer society, late capitalism and what he calls "hyperindustrial society." See Stiegler (2001a; 2001b; 2004; 2005; 2006a; 2006b).

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