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# Being and technics : humans, hybrids and the ontology of machines

James Alexander Forbes  
*Ryerson University*

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**BEING AND TECHNICS: HUMANS, HYBRIDS AND THE  
ONTOLOGY OF MACHINES.**

by

**James Alexander Forbes,**

**BA McGill, Montreal, 2002, BA Concordia, Montreal 2007.**

**A thesis**

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requirements for the degree of**

**Master of Arts**

**In the Program of  
Communications and Culture**

**Toronto, Ontario, Canada, 2009**

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**Being And Technics: Humans, Hybrids And The Ontology Of Machines.**  
**By James Alexander Forbes, Master of Arts, Communications and Culture, Ryerson**  
**University, Toronto, 2009.**

**Abstract:**

**This paper discusses the possibilities of mechanical life. A non-dual methodology borrowed from Martin Heidegger combines the materialist media theory of Friedrich Kittler with Bernard Steigler's teleological philosophy of technics. This perspective is employed to analyze the literature and film of science fiction, and in particular, the recent television series, *Battlestar Galactica*. This analysis permits the elaboration of a communications-based ontology that at once highlights the individual (human) and systemic (material) aspects of the life world, and ultimately delivers an articulation of Being that is systemic and individual. It attempts to transcend traditional subject object distinctions and to naturalize the theoretical progression from biological to technical life by suggesting that human being is always already *hybrid* technical being, and that technological being is not only a logical, but also perhaps necessary product of Western cultural progression.**



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*This work is dedicated to my father, Dr. Ernest Robert Forbes, whose love and guidance made it possible, and to all of my family and friends, near and far, who share equally in the success that the completion of this thesis represents.*



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## 1.0 Introduction:

The question of being (ontology) centers much of the history of philosophical thought. In this sense, it is impossible to answer it definitively. Rather, ontological research is as a process of ongoing questioning, one that allows us access not only to a clearer understanding of the self, but also of the surrounding phenomenal world. This postulate forms a point of departure for the following discussion, and it will serve as an anchor for the larger theoretical scope of this argument. This paper attempts to examine and define *technics* (as a system of all technical activity, material and conceptual) anew. It will argue, from a non-dual perspective that technics ought not to be seen as residual of, or purely antagonistic to human being, but rather *essentially* constitutive of it. The resulting claim is that the theoretical emphasis on speech in the social sciences has eclipsed the role of the technical in such a way as to artificially distance it from language in philosophical determinations of human being. Communication and media studies offer an interesting vector of approach to this basic problem. This paper argues that it is communication (as a system that comprises beings, language, and technics) that is of primary ontological significance. In order to clearly define this position the role of technics in human activity is examined from the perspective of the film and literature of science fiction, and in particular the recent television series *Battlestar Galactica* (BSG).

Four key tropes are explored and explicated in the exposition: metaphor, memory, media, and monstrosity. A detailed examination of each through the optic of science fiction, and in

particular BSG will serve to illuminate and illustrate the central claim that human ontology is *always already* bound up in technics. The three central theoretical sources for this study are the non-dual philosophy of the later Martin Heidegger, the post-humanist and material media studies of Friedrich Kittler, and the philosophical rehabilitation of the history of technics offered by Bernard Steigler. Heidegger's non-dual ontology provides the theoretical foundation out of which the basic problem of the subject-object schism may be mitigated. It also potentially allows for a *rapprochement* between Kittler's decidedly anti-teleological perspective and Steigler's inherently systemic articulation. This is significant, because it is arguable that Steigler and Kittler offer to each other important perspectives that the other lacks. Further, a situated and complete perspective on communication *as a technical and linguistic phenomenon* requires us to consider both systemic and individual perspectives—that is communications as made up of systems of ill-defined objects, *and* of discrete technical objects and discrete human subjects. It is therefore probable that both positions are necessary for a truly non-dual reading and the rehabilitation of the importance of technics to ontology.

Technics (and its role in human affairs) is frequently determined by and against its perceived asymmetrical and inferior relationship with language. This obscures the essential unity of and balance between language and technics, which in turn produces a mis-apprehension of the role and place of each in ontological research. Between techno-determinism and intellectual ludditism, there exists a middle ground in which the place of technics in human affairs may be viewed as integral and essential. This position is explored by focusing on the how technics

is *always already* a part of language. The relationship that exists between language and technics, (as the elements that in part generate material and social cultural forms) is productive of the continuum of human existence. Fundamental to this view is the postulate that communication is the core phenomenon which best reveals this non-dual perspective.

Through an exploration of the work of Stiegler and Kittler, (with respect to the literature and film of science fiction), it will be argued is that human ontology is also always already technical ontology: the becoming of the human being is also the conditional of the possibility of the technological being, because the human is always already hybrid—technics and language, *techne* and *logos*. This technological (as opposed to organic) being represents the emergence of something yet to come, but paradoxically *already here*, presaged in the film and literature of science fiction *and* by the deep biological and ontological hybridity of the human being. This technological being is articulated as a *logical* and hybrid extension of human ontology based on the analysis of the history of technics offered by Stiegler, and the post-human perspectives of Kittler—an expression of Heideggerian Being. The literature and film of science fiction is defined in terms of a cultural subconscious—one that itself precisely presages the potential of an emphatic movement from organic to inorganic consciousness.

This paper also attempts to establish the *ontological* importance of communications and culture, and to articulate a reinvigorated role for communication studies as a theoretical guide for both the hard and social sciences. At the center of this undertaking is a core belief in the

value of theoretical knowledge, and the notion that theory has a useful and practical role to play in intellectual life. This work attempts to situate itself outside of the politics and rhetoric of opposition and dualistic thought, and hopes to offer a methodological bridge between the frequently distant poles of science and the humanities. It is intended to be introductory to an inquiry into the nature of the relationship between human beings and technics as it relates to the larger philosophical question of Being, and in this sense it is preliminary and deeply indebted to the work of Heidegger, Stiegler, and Kittler. It situates itself generally both within and against a tradition, although the situation of this work is by no means comprehensively understood nor completely fleshed out at this point. Rather, the paper suggests potential avenues of further research and exploration that may prove fruitful.

Each of the four tropes discussed and explored in this paper relate to the larger ontological inquiry, but they cannot hope to define it in its entirety<sup>1</sup>. Memory, Metaphor, Monster, and Medium may be examined individually, systemically, or from both perspectives. The relationship posited between the two perspectives, of individual beings and the larger movement of Being is such that, after Heidegger, the former have access to the latter, but the latter is not simply defined by the former. The significant difference between the argument advanced in this paper and Heidegger's elaboration of Being is that this formulation includes *techné* (technology/craft/art) in the movement of Being not as that against which human beings may discover the philosophical truth of Being or as a mode of revealing or *aletheia* (literally uncovered-ness, or more plainly, truth), but that which constitutes, along with

language, (as communication) human being itself<sup>i</sup>. From this position, the greater arc of Being may perhaps be understood as progressing from the organic to the technical.

Heidegger's ontological difference (ontic/ontological) is the distinction between the phenomenal thing-in-itself (*ding an sich*), and Being—which is at once not phenomenal, yet of the phenomenal world. The relationship between the subjective human being and human Being is central to Heidegger's thinking, and each must be understood in terms of the other. Human beings therefore are never simply things, and Being can never be apprehended in objective terms. One of the central tasks of Heideggerian philosophy is to question and articulate this difference, out of which a deeper understanding of self and world may be generated. This understanding is revealed through ontological questioning. For Heidegger, there are many modes of revealing (*aléuthein*) Being. *Techné* is one of the modalities of revealing, because *techné*, along with *logos* participates in the constitution of what it means to be human<sup>iii</sup>. Working out of classical philosophy, Heidegger demonstrates how Greek conceptions of human wisdom (*sophia*) allow the potential of a deeper philosophical understanding of self as Being<sup>iv</sup>. However, *techné* will always remain dangerous for Heidegger because *anthropological* technology (as scientific instrumentation and rationalization) permits the coming to the fore of a destructive force (*Gestellung*) that reduces the world to a thing (*Weltbild*) and that has the tendency to objectify human beings<sup>v</sup>.

However, Heidegger's interpretation of the ancient Greek concept *techne* is problematic on at least two fronts: romanticism of Greek culture and conflation of modern technology with capitalist praxis. The first criticism that may be leveled at his argument in *The Question Concerning Technology* is that he has misinterpreted Greek *techne* by seeing it as synchronous with *physis*. This conceptualization does not cohere with what we know archaeologically about the Greeks, which is that they did not live "in harmony" with nature, but were rather actively transforming their physical world. The process of objectification that Heidegger identifies in modernity has already begun with the Greeks<sup>vi</sup>. Indeed, the movement from immanent to transcendental forms of divinity is a potential pre-requisite for such an objectification, because the world cannot be de-consecrated unless it is no longer inherently divine. Large-scale urbanization, as evidenced by the Greek *polis* produces the necessary physical schism, one in which human beings no longer live in a natural setting, but in one built of human artifact. Although Greek architecture is based on natural forms, it is a distillation of these forms, and as such it places a sign between the observer and the phenomenon. A column stands in for a tree, but it is no longer a tree, and the sacred significance of the sacred grove of Apollo is transformed into a single Corinthian marble column, a ithyphallic sign that is not inhabited by the god, but rather stands in for him in the world (as he now inhabits distant Olympus).

The second criticism of Heidegger's devaluation of modern technology begins with Heidegger's astute but problematic observation that modern technology is not *technics*.

Technology is indeed an element of technics (which is systemic), but it cannot be separated from it in the manner that Heidegger would like, because (as he admits in *The Question Concerning Technology*) it does reveal (*aleuthein*) aspects of Being, which makes it a mode of *aleitheia* and therefore ontologically significant. Heidegger accepts the Aristotelian and Platonic hierarchy established in *The Sophist* and the *Nichomachean Ethics* in part because it privileges philosophy, which is intellectual, not technical activity. Heidegger wants to highlight at all costs a reading of *techne* that preserves his pastoral fantasy of a philosophical Greece unsullied by objective instrumentality, because it is this contemplative and hermetic life that is both familiar and more *human* for Heidegger the philosopher. His hermeneutic project rests in part on this misapprehension, although it need not necessarily be central to it.

The essence of modern technology that Heidegger identifies as en-framing (*Gestell*) is not the essence of technology (which is *techne*), but rather the political ideology of capitalism, which manifests itself in the *production and application* of modern technology. The process of objectification imposed by human beings is *instrumental rationality*, but the instrument itself remains, according to its potential as a medium only more or less disposed towards this tendency to rationalize and objectify (an assembly line, for example). The impetus of the process ultimately rests in the human agent, and it is to this agent that we must look for an ultimate solution to the terror of Enlightenment (to which Heidegger is in part addressing himself). The history of *technics* is intertwined with human history, but it is not subordinate to it, as Stiegler establishes in *Technics and Time*. Technical history must therefore be first



interpreted and understood on its own terms, apart from the objectifying processes of modern capitalism. The problem, as it presents itself here lies in the tension between systemic and individual approaches to an understanding of being in the world, between subject and object.

The simultaneous systemic and atomic nature of being-in-the-world generated by the subjective experience provides some difficulty and resistance, and this problematic will be analyzed through a basic temporal lens that views both linear and cyclical concepts as significantly important to an evolutionary perspective on the phenomenon. Simply put, these two ways of understanding time derive from the inherent perceptive nature of the lived experience of subjects. Cyclical time represents a culturally mediated but naturally influenced life-world experience of the temporal that is common to hunter-gatherer and agricultural societies, (although the latter is already in the progression and sway of the technical transition to linear time)<sup>vii</sup>. This is also mythic time, in that there is an immediacy of experience that is also an immanence, in which subjects are “closer” to the rhythms of nature that are themselves cyclical and recurring<sup>viii</sup>. Linear time is the time of the technical, or more precisely of the techniques of writing and of history (and by extension, the clock), which impose a transcendental limit of origin and end on the life-world<sup>ix</sup>. These two temporalities *as perceptions* coexist simultaneously in the historical period. They are neither definite nor complete, but are rather aspects of temporal experience that colour the manner in which we apprehend our own temporal experience.

The relationship between the technical and the temporal is well researched, as is the relationship between the temporal and the human being<sup>x</sup>. What is less well understood is the manner in which technics (as the historical systems of technology) potentially influences, constitutes and interacts with human beings and experience to produce larger movements of Being through space and time. This motility and fluidity at once announces and problematizes the discussion, obscuring the possibility of the techno-logical being even as the human being is itself in the process of eclipse. This process, variously described as the death of God, the end of history and the end of metaphysics is the coming to fore of the perception of death in the human sphere—Sartrean nausea and modern anxiety are produced by the collapse of the narratives of Western history. The linear temporal relationship between the human being and technics is historical, and it is in this historical generation and corruption of the human by the technical that provides the non-dual and paradoxical foundation for this inquiry as a potential way out of the collapse of grand historical narratives. The ontological crisis ushered in by the Enlightenment (the death of the subject) is both the crisis of the *incursion* of the technical medium into the human sphere but also of the simultaneous *humanization* of the same. It is towards this problematic that this work is primarily oriented, and it is this subjective crisis (*krisis*—turning point) that preoccupies a large swath of the literature and film of science fiction.

In this literary tradition, the unbecoming of the human being is also the becoming of the techno-logical being (but only under the *caveat* that this objective determination is itself an

abstraction of a longer and more ancient process that dissimulates itself behind the discrete and individual nature of subjective experience). It is the theoretical differentiation of Being from beings that provides the *élan* for this process and it is from this discussion (as a kind of non-dual and integral whole) that ontological conclusions concerning the techno-logical being will be ultimately drawn. However, this is not to imply that this perspective is absolute, because it requires of essence the simultaneous consideration of what is frequently established as an opposing point of view. It is here that the combined perspectives of Steigler and Kittler will be of most use. The review of the literature will help to situate this discussion within the larger context of continental thought. Subsequently, a detailed discussion of the work of Steigler and Kittler with respect to the four key tropes of monster, metaphor, memory, and medium will help to frame the discussion of Being, technics, and ultimately allow an articulation of the phenomenon of communication as a core ontological process.

### **1.1 Terminology:**

This paper employs terminology current to a phenomenological approach to philosophy as well as selected neologisms. Thus, elements of the Greek lexicon explicate concepts from within the tradition, and infrequently German and French expressions are also used.

Wherever possible and desirable, the English translations are given, although they are meant only to approximate the original contextual usages. The difficulty in translating these terms adequately poses some problems, but it is taken for granted that the translations themselves

serve not primarily as a means of access to a “real” past, but rather a way to formulate understanding in the present, and in particular, the *trace* of Western ontological research as it relates to this discussion. Where terminologies intersect (such as with Heideggerian *logos* and Heraclitan *Logos*), care will be taken to explicate not only which meaning/translation is intended, but also of the relationship between the two (wherever necessary). Where a term is specific to an author, the author’s position is explicated in detail in the endnotes, (usually with primary textual annotation). Although an attempt is made to avoid jargon, it is frequently impossible and often undesirable to exclude terminology in the language of origin because of the established tradition that exists in the literature and of the etymological richness that such terminology supplies. Greek is transcribed phonetically into English in both the text and the endnotes (except where source quotation dictates otherwise).

Several key concepts and pairings include time, origin/end (*arché/telos*) memory (*mnemos*, *hypomnesis*, *hypomnemata*, *anamnesis*), metricity (rational/irrational) medium, technics (*techné*, *poiesis*, *prosthesis*)—technology (*techné-logos*) language (*logos*), being/Being (*ta onta/Logos-Dasein*), mind (*nous*, *noesis*), idea (*eidos*), and nature (*physis*, *cosmos*). To a certain extent, all of these concepts interweave in rich and varied ways, not only within the canon of Western thought, but also within this text. What follows in this section is an attempt to isolate and disentangle these sometimes labyrinthine themes with the express understanding that they are *both* unitary concepts and systemic inter-relationships. Most of these terms have correlate Greek expressions, and are clarified here. In some cases, the

explanations offered will simplify previous work in the field for the sake of clarity and brevity, but wherever possible, quotations from source material are in the endnotes.

Time is primarily discussed in terms of the cyclical and linear conceptions. While both manners of perceiving time *from within* still exist in the social world (relativity demonstrates the lack of an objective sense of time), this discussion will artificially separate linear time from cyclical time in the discussion for expediency's sake<sup>xi</sup>. This is because the relationship between the two basic distinctions forms a much more complex and rich field of investigation than can be elucidated here. Of importance is an understanding that the concept of linear time developed here should not be taken in *opposition* to cyclical time, but rather bound to it in a particular and indefinite fashion. Of course, cyclical time is in a sense, linear, in that it follows the general *physical* flow of generation and corruption. However, what is germane here is the *perception* of time that is dominant in a given cultural or historical period. In the present, human time is not technical time, but we are bound to a technical perception through our use of technology—our temporal perception is therefore primarily teleological. This is to say nothing more than the mechanics of the clock and calendar create a kind of existential linearity that defines in part our temporal experience.

The perception of natural human time (as primal time) is predominantly cyclical in trajectory, and it is the externalization of memory (hypomnemmatization) by technics and the development of history as a science that accents the linearity of temporal experience.

Edmund Husserl underscores the importance of this process in *The Origins of Geometry* by demonstrating that linearity brings with it a concurrent ontological crisis, which is the opening up of the possibility of history as a kind of *linear* time that imposes its internal logic on the subjective experience of the temporal<sup>xii</sup>. The ground (*Abgrund*) of the temporal is that point of emergence in the distant past, *necessarily forgotten* in which living beings first began to be perceptually aware of time as a conditional of the life-world, and the horizon of the temporal is the future vanishing point towards which we strive but never reach—the Derridian quasi-transcendental of *différance*<sup>xiii</sup>. The possibility of both of these extremes as points (or non-points) is the product of a linear mode of temporal existence that of essence must also be historical precisely because of its teleological nature.

Technological developments and the transition from oral to written culture produce the concretization of the historical and the phenomenon of historicity. Historical being is quasi-transcendental (emergent), as it seems to separate the physical being from nature (*physis*). The technologies of language and subsequently writing “push” the subject into a perception of the self that is constituted not only in the social present but also against a social *past*—a past that may be understood as ancient, but not eternal. The historical inscription of the myths of origin by the technique of writing codifies origin as a fall into a technical way of being (whether the vice is wisdom as in the Bible, or fire as in the Promethean myth, the result is the same—the arrival of human knowledge or *epistémé* as a discrete phenomenon

that may be distinguished from a primal and instinctual existence in *physis* is the precondition of history).

What is precisely technical in this sense is also temporal, in that writing, (Plato discerned that it is at least in part the domain of the dead) both inaugurates history and destroys mythical time. The death, so to speak that is presaged *sotto voce* in antiquity<sup>xiv</sup> but not spoken aloud until Nietzsche is the death of god, or more specifically of the *sacred and immanent* myth of eternal return to origin that is cyclical temporal experience. The dreamtime experienced by Australian *aborigines* (before the origin) is one of the vestiges of this way of seeing, one that in the Western present is almost wholly subsumed in the linear temporal mechanics of capitalist production<sup>xv</sup>. The ontological crisis of (post) modernity is simultaneously one of obscene distance and horrible proximity. It is the ineffable distance of the divine corpse and of mythic *origin* and of the radical proximity of death and of *end* to all things that announces the sublimation of the human subject in the total rationalization of the life-world. It is this urgency generated by (post) modern temporal experience that is significant to this work.

The ground/horizon pairing that emerges from linear and historical time refers to the condition of possibility and the scope of potentiality of a given concept. While both are necessarily *irrationally* defined *systems* (that is their borders are both semi-permeable and indistinct), it is still possible to understand a given phenomenon (like linear, finite time) as having both a ground and a horizon (cyclical, infinite time). The subtle difference between

ground and horizon is the manner in which the apprehension of each pertains to the qualitative state of the subject from either an immanent or transcendental perspective from within the linear vector of time. This determination aligns with the non-dual methodology advanced in this paper, in that neither position are taken to be correct in isolation but rather as equally valid perspectives on the same phenomenon.

Temporality conditions being, both individually and culturally over and against an understanding of Heidegger's ontological difference, which itself is constructed out of an interpretation of memory and experience as ontologically constitutive<sup>xvi</sup>. Our understanding of our own self is bound at either end by a non space—the non-memory of a birth, and the impossibility of the knowledge of death. Time is experienced as a sequence of events not only because of physical experience, but also because of our relatively sequential memory of them. Our access to the world is thus mediated, and it is this temporal mediation (memory) that sets human beings over and against Being. It is this finite temporal experience that generates our perception of the ontological difference—if we did not perceive the temporality of existence in this manner, there would be no essential distinction between beings and Being. Significantly, the increased mediation of the physical world through the extension of memory by multiple technical forms—print, film, video only exacerbates the perception of this difference, and these media serve to at once to isolate (but also potentially liberate) the subject from her singular experience of being in the world.



Origin (*archê*) and end (*telos*) relate to ground and horizon, except that these form *atomic* rather than *systemic* expressions of the same concept pair. Of course, the meaning that we impart to these terms is purely subjective, in that they have no *real* objective validity. It is only from within the subjective human experience that any kind of understanding of origin and end can emerge, and even this is confounded by the empirical and scientific evidence that shows the subject to be a continuum rather than a discrete object<sup>xvii</sup>. Although these terms are often employed objectively, Derrida (after Heidegger and Husserl) has demonstrated in his essay *Différance* and in *Of Grammatology* why the *arché/telos* cannot be taken objectively, but must rather be (also) understood *negatively*<sup>xviii</sup>. These terms are used both with reference to Greek philosophy, and to recent ontological work, with the result that it may seem confusing. What is crucial to a proper understanding of this thesis is that the application of non-dual methodology in the paper produces an inevitable *teleological* (and therefore *archéo-logical*)<sup>xix</sup> movement. This is because systems, by their very definition through study, *always already* possess simultaneously cyclical and linear vectors of origin and end *as such*, even if they are *perceived* as indeterminate or *irrational*.

Systems therefore, will be presented here in a quasi-objective manner. As will be discussed, a given phenomenon can be investigated from both a systemic and atomic perspective.

However, to isolate a system, to render it an object of study (to differentiate it from its ground) is in a sense to *always already* make it *artificial*. This specific concept of artificiality as it relates to the discussion can be worked out in terms of both the *noetic* and *poeitic*

(mental and physical) production of human beings—that is to say both in terms of the way we *think and speak* about the world and the manner in which we *describe, produce and use* the “objects” that are in it. This means that the artificial is not simply that which is made by humans (which is the original Greek meaning). Rather, the artificial (in its negative modern sense), is the *objectifying* and radically dualistic privilege of rationality in thinking and speaking/making that is *distinctly* Western (Keld Zeruneith makes this claim positively of the Greeks in *The Wooden Horse*; whereas this paper problematizes it). Human technics is natural, whereas it is the perception of technics as an *unnatural* process that is problematic.

The obfuscation of the non-dual nature of reality relates to an essential forgetting (*anamnesis*), and therefore to memory. Memory in the sense that it is used here refers always to recollection from within a given system—in this case Western human being. As each successive *communicative order* (as technical systems of innovation) imposes itself in the life-world it produces, among other things, the transference of memory (*hypomnesis*) from the internal human mind into the external physical/cultural/social domain (genetic/biological, epigenetic/cultural, epiphylogenetic/technical—after Stiegler). Thus, the noetic and poeitic tool (the *phoné/grammé*—as gesture and speech) simultaneously *yields* to and *speaks* the word; the word “words” writing, and writing “writes” print, *with each new medium containing elements of the last* (after McLuhan). The movement of what constitutes a given medium or modality of perception and interpretation from the human mind into the external world represents a process of forgetting and remembering that is nonetheless *essential* to

memory itself, but which only emerges into the sphere of the human as the *direct result of human technical activity*. This activity will be explored in order to determine not only how memory comes into being as an essential condition of the human, but also of how its transference into the technics makes possible the *technical being, or being-technical*.

Technics is the *historical* complex of both technical objects and technical thought, and may be interpreted of as an English equivalent of the Greek *techné*. It is thus both *noesis* (as thought) and *poesis* (as production), both that produce ideation, and the notion of an *eidos* (Stiegler and Kittler both will distance themselves from Platonic forms and Aristotelian hylomorphism which they view as unnecessarily divisive)<sup>xx</sup>. Technology in this sense conveys the same meaning, as it is both *techné* and *logos*, but in the manner that it will be used in this paper, refers more specifically to machines *as things*. When something is said to be techno-logical, the purposeful division is intended to call attention to the root words that make up the term. The potential confusion between the terms arises partially in the sometime nebulous attributions and translations from Aristotle and Plato, but also more notably in the sedimentation of meaning and the expectation placed upon them by a modern readership. Compounding the problem is that technology can simultaneously be thought of as systemic and atomic, such that it is frequently viewed by many as *prosthetic* or placed before the subject, but not integral to her (and hence of less ontological significance than *logos*, which is literally “inspired”, the product of *pneuma*, or the human soul). The detailed discussion

that follows should help to clarify and establish both views of technics as integral to a proper understanding of its place within Western ontology.

Language (Heidegger's *logos*) is also problematic, in that it can be seen to participate with *techné* already itself as a species of *techné*<sup>xxi</sup>. Kittler's work, notably *Numeral and Number* demonstrates how the symbolic shift from word to symbol based numbers produced the possibility of a rational mathematics in ancient Greece (in opposition to, but also in appreciation of Husserl's elaboration of geometric *epistémé* as the source of the historical. Kittler denies any teleological view of this historical, whereas Husserl's work forms the backbone of a teleological, but not necessarily deterministic view of history). However, what this also draws to our attention is precisely how speech is itself reliant on a technology, namely the alphabet, which Stiegler and Derrida argue is developed not as a reaction to the primacy of *logos* as speech, but rather as a condition of speech itself. The argument is that the division between *phone* and *grammé*, between sound and symbol is artificial, because gesture and sound, making and speaking always already belong together in a symbiotic complex. This discussion, in an important manner, is precisely an attempt to *productively* reconcile *techné* with *logos*.

Heraclitan universal *Logos* might also well be equated with *physis*, or nature, or conversely *cosmos*, or universe and these concepts situate themselves along a continuum of thinking that which is the universe. There is no good way to separate *Logos* from these concepts, because

it contains them, and the meaning of each evolves through the shift from chthonic and immanent forms of conceptualization in Greek antiquity to more transcendental understandings of the natural and human world of the late Hellenistic period. As such, *physis* or *cosmos* forms the ground from which human being, culture, technics and philosophy emerges, and while both are universal in a sense, the former is taken to mean more immediately the natural world of the planet, where the latter refers most explicitly to the universe, although the former is indeed a *physical* expression of the latter. Because *physis* does not carry with it any logocentric potential, it is to *physis* that the paper will refer when discussing the relationship between human culture, technology, and Being and the natural ground with the express *caveat* that this does not imply either a personification of the natural world, or an objective reduction of the same.

Pertinent to all the previous concepts is the notion of measure. Metricity (*metron*) or rationality (*ratio*) also forms a significant aspect of the Western tradition. The ability to concretely measure space and time, apart from being foundational to Western science, originally spring themselves from philosophical dualism, and in no small part the subject/object distinction. This is not to suggest that non-dualistic frameworks cannot utilize notions of measure. Rather, it illustrates how in the Western tradition, metricity comes to usurp all other ways of seeing through the global spread of objective science and capitalist economics (*all the while 'paradoxically' and simultaneously founded on a deeper irrationality*). Mathematics lies at the heart of rationalism, and while a discussion of the

relationship of mathematics to language and technics is extremely important, it is both beyond the ability and scope of this investigation to elaborate in detail. What must be kept in mind are the essential nature of the mathematical language, and its fundamental place in an objective technical system such as the one in which we currently operate. Mathematics is the language that allows the generation of modern communications phenomena, and as such is deeply significant to any study of technics, although beyond the specific purvey of this paper.

Therefore, the argument that will be developed in this paper is that communication is the core phenomenon that, as language (*logos*) and media (*technê*), *noesis* and *poiesis* (thought and expression)<sup>xxii</sup> is that which reveals (*aleuthein*)<sup>xxiii</sup> not only the movement or the *trace* of Being, but also the temporal (and therefore historical) structures of the evolution of the system(s) of Being. If communication can be said to be the primary phenomenon that situates and constitutes Being or a being (*ta onta*), then technology is irreducibly its means (medium). Immediate and significant support for this formulation can be found etymologically. The word ‘technology’ is built from two Greek terms: *techne* and *logos*<sup>xxiv</sup>, which may be translated respectively ‘craft’ and ‘speech’, (or crafting and speaking, in the active form)<sup>xxv</sup>. Thus, this approach integrates the internal and the external worlds, uniting *noesis* and *poiesis*, and subordinating both *logos* and *techne* to them. From this initial philosophical re-working, the investigation will pursue the thematic of *Being* in order to clearly articulate the place of technics, and thus the technological being with respect to it.

The medium may be understood as a kind of metaphor (*metapherein*: to carry over). But it is not merely a vessel, because the medium also inherently transforms the message that it conveys it *produces difference* (*diapherein*: to differ). This is the (McLuhanesque) dual role of the metaphor; that which compares one thing to another, one domain to another through transportation and transformation. The world is therefore always already mediated (as it is always already understood by human subjects through the use of language and technics), and in a very significant way, a kind of system of metaphors. It is impossible to speak or think of what simply *is* (but yet this impossibility is the very *condition of the human*). The *qualitative and quantitative* aspects of the life-world are precisely the product of mediated, subjective access. The act of thinking is itself also metaphorical, as is the act of speaking, or making, in that there are always already ‘carrying over’ and transformations of what is by the (human) agent. It is this dual role of transportation and transformation that will be not only significant to the understanding of the problematic of communication as a kind of system of Being, but also fundamental to the overall methodological approach of the inquiry.

In this manner, both *logos* and *technê* function themselves as metaphors, and as systems of metaphor. A problem of definition emerges from this formulation in that every attempt to define the object of study potentially further relativizes and obscures it. Definition is in a very real sense the artificial and objective determination of a process that is not objective, but in always in flux. It is arguable that the application of a non-dual methodology that at once

recognizes the systemic and atomic nature of the life world without privileging either position will obtain results that allow for a deeper and clearer understanding of the basic ontological problems with regard to the objects/processes in question. It is also likely that it is precisely the bias towards one or the other perspective and an insistence on the fundamentally dual nature of the (non-dual) life-world that has, in a profound manner, been generative of both positive and negative socio-cultural movements and phenomena in the Western world. This is similar to the thesis advanced by Innis in *Empire and Communication*, although his argument is that it is the material of a medium that is of primary significance. However, the success of a given medium links to technical developments tied to scientific discoveries predicated on *biased* dualistic knowledge systems.

The problem of definition cannot be resolved objectively nor can it be simply left in a subjectivist morass. Further, any given 'object' can be interpreted from an atomic or a processual perspective. Neither the objectivist stance of logical positivism (the thinkers of the Vienna Circle), nor the relativist discourse of such luminaries as François Lyotard and Michel Foucault solved the problem of definition. It is probable that Ludwig Wittgenstein comes the closest to a proper working understanding of the conundrum when he suggests that language need not be definite to be precise in the *Philosophical Investigations*<sup>xxvi</sup> However, the question that remains largely unanswered in Wittgenstein (because at this point he feels that such questions are *philosophically* unanswerable) is how language comes to be both precise and indeterminate at the *same time*. It is this deeper question about the fundamental



nature of being-in-the-world that resonates in the core of this investigation and work. The manner in which we choose to privilege either an objectivist or a subjectivist, atomic or systemic stance does have significant impact on the kinds of observations and conclusions that we both make, and are capable of making with respect to a given problem.

The problem, as it has been formulated in the continental tradition is that the *impasse* between systems of discourse and rhetoric, or *aporias* has produced paradoxical situations in which the discourses themselves seem to fail. Derrida asks us, in his essay *Différance* to contemplate the margins of the text, (the boundaries of a discourse about Being) that are *necessarily* nebulous, because the trace of Being itself is a forgetting, a negation, a non-concept—a *doubled disappearance*<sup>xxvii</sup>. However, it is precisely the *negative* aspect of Being to which both Heidegger and Derrida ascribe the *impetus* of the movement of Being (as a system of differentiation and deferral) itself<sup>xxviii</sup>. The relative problem of observation and of subjective finitude is the crucial issue in this discourse, the impossibility of self-knowledge as a definite object (because we cannot know the limits of our own being as Being) produces the impossibility (impassability) of any knowing in an *objective* sense.

Modern empirical science, (and empirical philosophy that is grounded in evolutionary principles), claim the objective high ground, and are seemingly irreconcilable with deconstruction, providing *no potential for passage*. The following philosophical solution is to incorporate all perspectives in one fundamental stance<sup>xxix</sup>. Although Slavoj Žižek comes

close to this with his Hegelian and Lacanian construction of the *parallax*, (as does Heidegger post *Being and Time*), there still remains a nagging inability of the Western mind to understanding *paradox* in non-dual terms because the history of philosophy and science is exactly the working out and the codification of those systems of difference<sup>xxx</sup>. What is being rather mundanely proposed here is that the life-world is at once both objectively and subjectively constituted, and is also both atomic and systemic in nature. This process of understanding aims to eliminate the historical dualities of Western thought through a careful reconciliation with non-dual philosophy and a theoretical explanation thereof.

## **1.2 Methodology:**

In very basic terms, non-dualism denies the fundamental distinction between subject and object. Of course, this remains a theoretical postulate, as subjective finitude precludes a true dissolution of this distinction. However, what this approach does offer is a means towards understanding the world and its phenomena in *both* systemic and atomic senses. This is important because it allows the integration and interpretation of systems of thought that appear on the surface to be purely antagonistic (if taken in isolation from either perspective). Science and continental philosophy are two such examples. While much continental philosophy critiques scientific objectivism, scientific objectivists reject the critique on the grounds that it is empirically baseless. Non dualism resolves the impasse by permitting both the objectivist and subjectivist perspectives, not only for methodological reasons, but more

significantly because non-dualism and the *aporias* that are generated in thinking the problematic are themselves seen as fundamental. The logical positivist philosophers working at the close of the 19<sup>th</sup> century sought an empirical and logical base for language. They discovered that while language has logical elements, and is therefore rational, that it is also significantly irrational. This produced an impasse that resulted in the abandonment of the project. This methodological discussion approaches non-dualism as both the source of and solution to dualistic thought. In this sense, the methodology mirrors the arc of the historical and theoretical heritage explored in the paper, and this is deliberate. The work of Heidegger is invaluable as a point of departure in the tracing of the development of non-dualism in the West, and to a clearer understanding how it is pertinent to this project.

In his later work, Heidegger attempts to move his entire ontological project towards a purely non-dual systematic<sup>xxxii</sup>. Working out of the continental tradition and classical hermeneutics, the grand arc of his philosophical narrative begins and ends with the question of Being. For the late Heidegger, the question of Being, cannot be understood or interpreted either positively or negatively, nor can it be considered from within the traditional subject-object framework. It must rather be embraced in its totality as both positive *and* negative, subject *and* object, singular *and* plural. Being, for the late Heidegger is beyond the totality of human being, but also paradoxically that Being that is accessible through and by authentic being-in-the-world<sup>xxxiii</sup>. The ontological questioning he opens up in *Being and Time*, as to the nature of beings and Being begins with an assessment of the non-being of beings, and of Being. This

“groundless” aspect of life, which is death, surrounds and defines the existential experience of life, and subsequently hides, or obfuscates itself, so that the ontological presupposition is that beings and Being have only to do with living.

The more fundamentally non-dual approach offered by the later Heidegger will be adapted and modified in this project to provide a suitable foundation for an interpretation and elucidation of the larger ontological question in the context of technics and the technical (and indeed all media as *techné*). To that end, this paper considers not only the history of technology, but also of the *potential* technological being (and its relationship with/in Being). Non-dualism allows the simultaneous investigation of both the individual aspects of technical development and technicity as well as a critique of the artificial relationship between technology and human beings in order to produce a reading that recognizes the basic ontological unity of human beings and human products. In this manner, non-dual methodology unites all aspects of the life world under the banner of communications. Being is therefore the *undifferentiated and differentiating* unity of all that is. The articulation of the unit into categories is what is seen as problematic, because of the ontological primacy accorded to the human. Non-dual methodology in this application tries to overcome this bias by first de-centering the human and re-situating the technical, and then by collapsing transcendence and immanence, subject and object.

The basic recurring problem that is encountered in this application relates to the question of time. The non-dual perspective is of essence extra, or supra temporal, in that it takes a general view of an entire phenomenon. The subjective perspective is always already bound in the horizon of the temporal, and therefore views discrete phenomena within the larger phenomenal context. The goal of the method is to reconcile the latter with the former in such a way so that the bias towards the subjective perspective is erased, or at least minimized. The issue at hand is that language, as a subjective and non-totalizing, but nonetheless infinite field obscures the non-dual, and inherently privileges the subjective and dual reading of the world. The Husserlian project of philosophical *epoché*, or suspension does not achieve the goal for which it was intended, because even that experience is subjectively bound. Derrida shows us in *Différance*<sup>xxxiii</sup> why the transcendental remains always over the horizon of what is perceivable, and in this sense, this method can only be an ideal template, *because the human is always already inextricably bound up in the horizon of the temporal.*

Zizek is deeply critical of Heideggerian ontology and Derridian *différance* specifically because their construction of the ontological difference displaces the ethical through its totalizing effects<sup>xxxiv</sup>, although he acknowledges that his Hegelian-Lacanian construction of the parallax as fundamental to philosophy resembles in many ways the concept of *aporia* (blockage) articulated by Derrida as the *impasse* between the understanding of the self as being and of the (non) trace (*sous rature*) of Being. Even considering the flaw elaborated by Zizek, the non-dual methodology proposed in this paper is useful, because it allows us to

interpret the familiar in a new way, and it resolves seemingly diametrically opposed theoretical positions by showing how they are fundamentally inter-related. It is with this goal in mind that this project sets out to reconcile human and machine through a reading of *BSG* in the context of a combined approach to Kittler and Stiegler's "post-humanist" theory.

Heraclitus proclaims "*hen diaphēiron heautoi*", or "the one differing from itself". Heidegger and Derrida read this as the inauguration of the ontological difference between beings and Being, the mortal and the transcendental subject<sup>xxxv</sup> (Heidegger will read this in a more positive light as that which constitutes the covering of Being but also the condition of the uncovering (*aletheuēn*) of that same Being while Derrida suggests that Heraclitus' formulation represents the disappearance of the 'trace of the trace'). However, this difference should not be mistaken for incompatibility because Heraclitan *Logos* potentially represents the essential unity of all the dualisms of the cosmos. The Greeks seem to have quickly embraced dualism, producing among other things, the possibility of Hegelian dialectics, and Western objective science, (which is arguably impossible in a non-dual setting because the degree of objectification that is a necessary precursor to phylogenic systems of classification cannot be produced by such a subtly differentiated system of interpretation and meaning). This quote from Heraclitus serves to illuminate a potential origin of dualism in Western thought, and provide tantalizing clues to a further integrated philosophical view that recognizes non-dualism as the foundation of the possibility of dualism<sup>xxxvi</sup>.

Dualism, as a means of perception requires first the differentiation between the self and the world. In *The Wooden Horse*, Zeruneith shows how Homer begins to articulate this difference occurring in early Greek thought<sup>xxxvii</sup>. A purely immanent, chthonic mode of life related to hunting and gathering does not generate a significant and objective differentiation between nature and its *creations*. Urbanization and agriculture definitively places the medium of culture and cultural artifact between the human being and the world, thereby producing an awareness of difference, and the conditional possibility of the transcendental divine. This transformation is evident, according to Zeruneith in the trajectory from the *Illiad* to the *Odyssey*, and more precisely from Achilles to Odysseus. The former does not act independently of the gods, and is thus quasi-divine. However, the latter relies on his *metis* or “craft” , and it is this craftiness that makes him unique among heroes—he is not simply a vessel of divine will. This characteristic of introspection is at once new to Greek thinking, and the beginning of rational thought. The shift in Greek religious thought from the chthonic gods of the earth to Olympian gods of the sky shows the general movement away from purely immanent forms of religiosity. Although the gods are not yet fully transcendental (after all, they still inhabit the world), they are at a remove, and this provides the space for the “fallen” to pick up and make their own decisions. This notion of the fall is almost ubiquitous in world cultures, and it is frequently presented as a fall into technics. The primordial Eden or *illud tempus* that is fundamental to many cultures is a place either before time began, or a mythical point of origin in which the human being was quasi-divine. The fall is understood as a fall into technics, in that the knowledge that is required to build

and sustain tools is seen as the very cause of that fall in the first place. Extrapolating back, these myths potentially echo a deep genetic memory of a time before tools, in which human beings were “in harmony” with nature. Of course, this mythology of the protean origins of humanity is itself a kind of fantasy predicated on a half-truth, which is that biological beings are somehow reduced by the use of technical objects. The knowledge of the tool and its use is therefore seen as somehow unnatural, and worthy of divine punishment<sup>xxxviii</sup>. Indeed, the uniqueness of the tool using animal would have been self-evident to human beings for millennia before writing, so much so as to become imbricated in the fabric of human story telling and existence. Tool use brings great rewards, but also great responsibility, because once human beings began to make and use tools *habitually*, they became dependent on them<sup>xxxix</sup>. In addition, technics displaces instinctual behaviours (of food gathering, mating, sheltering) so much so that the latter are “forgotten”, or more precisely *dissimulated*.

In Greek mythology, (as Stiegler points out in *Technics and Time—The Fault of Epimetheus*), this fall is expressed in the Prometheus (*prometheia*—forethought) myth. Epimetheus (*epimetheia*—afterthought) was charged with handing out all the attributes at creation, and when he got to mankind, he realized that he had nothing left over. This original “forgetting” (*anamnesis*) provides the backdrop for the Promethean tragedy—Prometheus steals fire and thus technical wisdom (*technē*) from Zeus and is punished for it. This ancient myth already presents the acquisition of technics as part of a fall from the natural, and it is also already linked by the fall to the condition of *memory*<sup>xl</sup>. Plato transcribes this myth (and



its inherent critique of technics) in the *Protagoras*; and extends this line of thought in his invective against the technics of writing in the *Phaedrus*.

This myth also traces the demarcation between conceptions of the divine nature of the human being and the heroic phase, the loss of which is inscribed in Homer's *Iliad*—a doubled falling from grace. The dual movement of the human being into mortality is diametrically opposed to the ascent/replacement of immanent chthonic gods to transcendental Olympian status, and it is technics that facilitates this movement. The dualisms that spring forth from this originating (but not original) movement (between subject and object, emotion and reason, self and other) provide impetus and the challenges in the history of the development of the Western mind. The Promethean fall into technics is paralleled in Zeruneith's analysis of the characters of Achilles and Odysseus. Achilles is the representative of an old, semi-divine and heroic tradition (in which the self does not differentiate between an inside and an outside, but is rather simply the vessel of the *moirae* and of the gods) while Odysseus is a man capable of rational, independent thought (for which he is punished throughout the course of the epic).<sup>xli</sup>

Although non-dualism is seemingly foreign to science, it is not anathema to Western modes of thought. Quantum mechanics relies on this precise reasoning in order to more clearly explain some basic elements of the physical world. Wave-particle duality is a phenomenon of quantum particles (electrons, for example) that requires a perspective shift to non-dualism in order to be properly understood. Essentially, any quanta can exhibit, under given

observational conditions, either wave or particle like behaviour. The stunning conclusion that physicists who were grappling with the problem in the early part of the 20<sup>th</sup> century reluctantly came to is that quanta are neither waves nor particles, but simultaneously both, and how they manifest themselves depended wholly on *how they were observed by a human subject in a given experimental situation*. Bertrand Russell makes similar observations with respect to the duck-rabbit, which is a drawing that may be seen as either a duck or a rabbit depending on the viewer's perspective. The postulate is that it is only *perceptually* one or the other although this claim is rather dubious (stereoscopic images can be seen through a relaxation of the eyes without the proper lenses, just as the simultaneous perception of two fundamentally different images is also possible)<sup>xlii</sup>.

However inscribed these dualisms are in our mode of thinking, there are tantalizing areas in which they can be understood and challenged. For example, in his ethics, Aristotle champions both reason and emotion as the necessary sources of virtue. He does not oppose them as he does *logistikón* and *epistemonikón* (that which can be otherwise, and that which cannot), or *logos* and *techné* (speech and craft), but rather sees them as an integral whole. Though the passions are by definition irrational, they exist in conjunction with the faculty of reason, and virtue (*arête*) is not possible without the one informing the other. Our present modalities of thought generally find this situation intolerable, yet there is nothing *inherently* oppositional in the pairing. Just as we tend to misconceive qualitative emotions like happiness (The Greek term *eudaimonia* or happiness means literally “to be possessed by

good demons”) and sadness as diametric opposites, we also tend to oppose reason and emotion as if they were quantifiably and qualitatively opposite.

Non dualism addresses these inconsistencies that the Western tradition takes for granted and provides an alternative solution—namely that we should abandon the oppositional framework in favour of a unified perspective that sees traditional binaries not as dialectics, not even as joined elements but as one and the same thing. This is not to deny or to ignore the essential role that dualism has played in the evolution of Western thought and of technics (*episteme* and *technics*). It is to rather challenge the artificiality of the situation in order to move beyond the error it engenders—the conflation of a necessarily limited way of seeing with a larger reality. From this point of view, it is possible to argue that neither corresponding *philosophical* position is inherently correct, and that each produces a bias that can only be understood through a careful investigation of the manner in which the over-representation or under-representation of the particular given perspective generates the misappropriate understanding of the phenomenon at hand.

It is arguably these biases that produce, throughout the history of the Western world, the larger movements and actions of culture and cultures<sup>xliii</sup>. What is therefore required is not only a clear understanding of the manner in which the subjective is not just simply bound up in the objective, but in a real sense part of the same unity and also of the grand historical movements within which the dualistic perception of each operates. Thus, any resolution to

the crisis of Western metaphysics announced by Friedrich Nietzsche, and subsequently developed by the continental tradition (which is perhaps nothing more than a radical acceleration in the crisis or emergency of being) must first be worked out in terms of these biases. This end is facilitated by a methodological re-integration that sees both systemic and atomic perspectives as inextricably linked and inexorably one<sup>xliv</sup>.

### **1.3 Review of the Literature:**

The discursive turn in philosophy at the close of the 19<sup>th</sup> century placed an emphasis on language as the perspective from which philosophical questions should best be addressed and was an important locus of renewed philosophical interest. This theoretical shift was instrumental in the rise of dedicated communications studies. The ontological questioning of modern philosophy in both Empiricist and Rationalist traditions was seemingly exhausted by the close of the 19<sup>th</sup> century, and the seeds of a new social science were just beginning to germinate in the fertile ground of German Idealism. Sociology, media studies, anthropology and philosophy have all contributed to what is now generally understood as communication and cultural studies, although these fields are not the only elements in the relatively new and inter-disciplinary field. Communication, as a core phenomenon provides new avenues of questioning, ones that may ultimately prove exceptionally fruitful to ontological research. The inter-related issues of language/communication, technolog(ies) (as medium/media) and the socio-cultural realm potentially answer basic ontological questions.

Heideggerian Being, from the communications studies perspective advanced in this paper, may be understood through tripartite terms: as beings (individuals), as their productions (technology), and as their utterances (language). Of course, Being escapes these horizons, and is forever a more profound and abstract notion than can be properly apprehended in the subjective state. It cannot be grasped in an objective manner. This conceptualization is merely a means through which the prioritization of any given element may be understood and critiqued—it is also a conscious attempt to diffuse the habitual dualism and highlight the systemic aspects of Being. In this way, Being may be related to culture, although in this sense, culture intends all human cultures generally as a unit (while recognizing the unalienable differences that exist between them), and it emerges from the ground of *physis* without being in opposition to it. The crucial issues in this interpretation involve the solid definition of the three realms, and a proper understanding of how they inter-relate. There is already extensive theoretical work done in all three areas, and in this sense, this work is merely a synthesis of this material.

This synthesis is based on a broad range of inter-related theory. While each theorist or body of work may be categorized into one of the three areas, it must be understood that these categories are not firm, but fluid. Indeed, the intertwining of the three elemental strands of theory cannot be dissected in a purely technical manner, as the questions themselves are not mutually exclusive. This review intends a proper and cogent placement of this tripartite

understanding of Being within the larger corpus of work, and provide a suggested vector or vectors through which the direction of the development of ontological research might continue in line with what has gone before, and a renewed positive articulation of the place of communication and media studies.

The ontological question is perhaps the fundamental philosophical question. To ask ‘What am I’ is basic. Every human being has asked this question in one form or another (even if few reflect on it with profundity), and throughout recorded history, there are myriad examples of the kinds of answers that people have advanced, both as individuals and as communities. Some of the varied answers given to these questions by the peoples of the world have laid the very foundations of history and civilization itself. However, for the purposes of this review, the primary concern surrounds a re-iteration of the classical ontological question(s)<sup>xlv</sup> that occurred in German philosophy at the close of the 18<sup>th</sup> century, and the subsequent impact that this would have on the eventual discursive turn in philosophy. This is not to say that cultures other than those of the West are not significant. Rather, it is to say they are not directly significant to *this study*. What follows is not an exhaustive, but a selective review of the significant literature, with an emphasis on the major theorists that frame this work.

German Idealism develops out of, and as a reaction to the Rationalist (exemplified by René Descartes) and Empiricist (of which John Locke is paradigmatic) philosophies of the Enlightenment. The bridge between the two major areas of philosophy is Kant whose

*Critique of Pure Reason* and *Critique of Judgment* together lay the foundations of the divide between analytic and what is termed somewhat misleadingly “continental” philosophy<sup>xlvi</sup>.

Both branches would eventually focus decisively on language as a means to answer fundamental questions, but would diverge as to what in fact these questions were. The analytical camp (Carnap, Wittgenstein, Frege) dismissed questions about ontology and metaphysics as being ‘without meaning’<sup>xlvii</sup> or unanswerable, while the other thinkers of the Continent (Hegel, Husserl, Heidegger, and Merleau-Ponty) worked in a very methodical and considered manner towards a structured answer to the age-old question of Being.

Hegel, working at the cusp of the 18<sup>th</sup> and 19<sup>th</sup> centuries, is one of the first Western philosophers to bring back primarily ontological questions about the nature of the human being to the forefront of philosophy<sup>xlviii</sup>. His development of *Geist* or spirit is deeply important for the later development of ontological thinking on the Continent. Hegel’s dialectics and methodology provide the foundational impetus for a vast range of continental thinkers, from the Marxists, who base their materialist philosophy in Hegelian dialectics, and the Phenomenologists who develop their ontological metaphysics at least in part as a reaction to Hegelian thought. In particular, Edmund Husserl develops very significant and structured ideas about the nature of human being and human thought in several of his works. Of significance to this study is his treatment of ideal objects in *The Origins of Geometry*, (which would later influence Jacques Derrida). As well, Heidegger was one of Husserl’s most

famous pupils, and although he would eventually work away from the master and his ideas, Husserl's impact on the development of Heidegger's thought should not be understated<sup>xlix</sup>.

In *The Origins of Geometry*, Husserl explores the notion of the ground, or the place from which something objective (like a formal geometry) might emerge. His conclusion is that such a ground (*Abgrund*) is forever lost, because it necessarily antedates both the communicative discovery and institution of such knowledge in a community of speakers<sup>i</sup>, and the subsequent codification of that knowledge in writing. The motion of the 'ideal object' is therefore out of human minds (subjective knowledge), into the social realm (process of objectification and re-subjectification), and then finally into written form (final objectification). This doubled temporal 'ascent and decent' of the formal ideal provides the paradigm of the emergence of language itself, as it must have emerged from individuals, been formalized through a process of social interaction, and finally standardized over millennia. This is perhaps a gross over simplification of the process. However, what is relevant here is the idea that language is social, and that socialized linguistic being belongs to a different order of existence as does socialized non-linguistic being. Further, the development of writing (and printing) adds another dimension, culminating in the invention of the computer and the digital revolution, which is yet another layer of codification and objectification (the potential reduction of everything to zeros and ones)<sup>li</sup>.

Heidegger contributes enormously to ontology. His seminal work *Being and Time* explores in detail an interpretation of beings as finite, and the indelible significance that this finitude has



on our understanding of the nature of Being. Because beings are temporally bound, they are always in a process of becoming. There is always a movement inherent in human being, and this movement, according to Heidegger, is always out of and against the nothing-ness that surrounds it. His hermeneutic exploration of this ideology through classical Greek philosophy is an attempt to trace the development of modern ontology out of its classical roots. Heidegger's ontology provides the departure point for the move away from subject-centered metaphysics towards a communicative, or linguistic based understanding of the question. The central phenomenon that the later Heidegger privileges for the discovery of human being is *logos*, or speech<sup>lii</sup>. The relationship he establishes between communication and beings, and to Being is elemental to the tripartite definition, because it is necessary in order to show how the subject as a being relates to any larger articulation of Being or community. However, while one can think Being, it is not in practice comprehensible. Beings are always already bound to the world in a certain fashion, and even authentic being in the world maintains elements of the subjective experience.

Maurice Merleau-Ponty rarely discusses Heidegger directly<sup>liii</sup>. However, his work, and in particular *The Phenomenology of Perception*, is deeply related to that of Heidegger. What Merleau-Ponty contributes is the inter-subjective understanding of Being that was perhaps under-developed in Heidegger, whose exposition is more clearly dialogical. Merleau-Ponty ushers in the full discursive turn in the Continental tradition by finally laying to rest the Cartesian notion of the subject (as *Res Cogitans* and *Res Extensa*) as the primordial

ontological unit and indeed of subjectivity itself. His re-articulation of the ontological question in terms of inter-subjectivity or the social is important to the tripartite definition of Being advanced in this section because it highlights the polysemic nature of Being and underscores the further importance of language as a ground for Being as well. It also begins to illustrate the importance of communications theory to current ontological thought. From Heidegger, the importance of language as a means by which the ontological question may be understood becomes clearer. As mentioned, it is quite impossible to separate out language from any philosophical discussion, as language is indelibly the matrix through which we communicate presently.

The relationship between language and medium is an interesting and problematic one that has preoccupied many scholars in communications studies. Before examining how this theory is relevant to this work, it is first important to selectively discuss some more examples within the discursive turn in order to clarify the relationship between language, technology, and beings. Language, along with technics forms the ground from which the social emerges. The social may exist without language, but it is an undefined and non-reflexive kind of social realm, in which individuals are cut off from it and each other—essentially mute. The awareness of the participation of other is present, but the ability to direct or to consciously mediate that participation is not in any way efficient.

Language and technics are the now ancient developments that would change forever the way human social animals function. The ground of language and technics (as a complex) provides the impetus for civilization itself, and the subsequent developments of writing, printing and information technology all rely on it as a foundation. Communication is itself language, beings and technics. The Frankfurt school and the philosophy of Jürgen Habermas develops with the discursive turn, but also as a reaction against the Enlightenment and its effects in modernity, and the inheritance of Cartesian subject-based reason. Habermas' idea of communicative reason is an attempt to salvage the project of the Enlightenment through an appeal to inter-subjective or community based normative rationality<sup>liv</sup>. Foucault turns to an analysis of power and a hermeneutic excavation of the polysemous threads of history as a means of uncovering and explicating important social and institutional threads<sup>lv</sup>. Derrida begins to suggest an even more radical deconstruction of the subject in his essay *Différance*, which at once points towards the problem of meaning in language and the problem of Being itself. What is common to these widely differing theoretical approaches is an increasing awareness of systematicity as an important factor in the articulation of any philosophical dialogue. From these threads, the systematic perspective that many current theorists advance emerges as a logical continuation of a stream of thought.

Modern communications theory also owes a great deal to two Canadians, Harold Innis and Marshall McLuhan<sup>lvi</sup>. It is with a discussion of media and communications that terminates the discussion of the tripartite ontological definition of Being significant to this study. The

systematic view allows for the excision of the subject in the determination of the ontological question. What this means is that the development of the isolated subject as a theoretical entity ceases to have any purchase within the context of philosophical discussion. This is not to suggest that individuals do not exist, rather that this existence, ontologically speaking is purely social and therefore constituted out of the interactions of the social realm, which are themselves communicative (technological and linguistic). The notion is not so counter-intuitive as it would seem. Our existence is in fact deeply imbricated in the existence of others, most notably our immediate families, but also of any number of other human beings who help us to reflexively develop our identities through our interactions with them.

Innis was perhaps the first historian to understand the extremely important nature of communications with regards to the development of political, social, and cultural entities. His division of communications technologies along temporal and spatial lines allows for the first time a methodological understanding of how a medium will affect not only its contents, but the larger structures within which it operates. Thus, the bias of the medium, whether temporal or spatial, is richly determinate of the manner in which it will function. McLuhan adds to this picture by expanding the definition to include all artifacts. With this move, technology becomes part of communication along with language, because all technology or product of human action becomes *communicative*. The sense in which the medium becomes itself as significant as the message (to paraphrase McLuhan) is the final element upon which the tripartite ontological definition is based.

By the end of the 20<sup>th</sup> century, several scholars of media and technology were already working in this vein, most notably Niklas Luhmann, Bernard Stiegler, and Frederick Kittler, and in Canada, Ian Angus. Both Luhmann and Stiegler work towards a further refinement and excision of the subject from the process of communication, choosing to radically re-focus the debate around the question of systematicity and systems theory. In a radical move, Luhmann insists that mediation means that *only communication* communicates, whereas Stiegler classifies the technologies of modern telecommunications as distinct systemic form of Being. Kittler proposes *contra* Stiegler and in line with Luhmann that the material aspect of communications technology cannot be understood in teleological terms, and that they ought to be interpreted from their own perspective. Angus provides an interesting bridge in *Primal Scenes of Communication*, where he brings together the three threads of language, beings, and technology in his discussion of the phenomenon of communication<sup>lvii</sup>.

The process of discovery in the history of the development of communications theory, ontology and socio-linguistic philosophy has arguably led to the point at which such a determination is possible. Ontology provides the question, and the suggestion that Being is greater than one person, or subject. Communications theory shows the importance of media (and therefore technology) as it relates to language, which is already the ground of communal Being, and socio-linguistic philosophy allows the full inter-subjective and systemic nature of the inter-relation between language, technology and Being as culture itself to emerge. The path that this development traces is both historically rich and epistemologically sound. It is

hoped that this renewed metaphysics of Being will provide a salient and novel heuristic through which human action and production may be re-evaluated as a continuation of, rather than a *direption* of the fabric of nature.

#### 1.4 The Literature and Film of Science Fiction:

In the time since Mary Wollstonecraft Shelley wrote *Frankenstein, or the Modern Prometheus*<sup>lviii</sup>, the potential of a technological being has enthralled audiences both popular and academic. Celebrated science fiction writer Philip K. Dick maintains that we see through “a scanner darkly”<sup>lix</sup>. This is to say nothing more than our perception of the world is *veiled*. The literature and film of science fiction is frequently interested in piercing that veil, if only in a temporary fashion, through the re-presentation of human selves as technical beings. The future, in this sense becomes the site of an ontological discourse, one that is both temporally and spatially dislocated precisely in order to draw attention to the pertinence of questioning the how and the what of the human being. What is significant in these dystopic and utopic narratives is the presence of a discourse about technology and our relationship to it, which is not so much about a ‘when and where’ but a ‘here and now’. The collective human hopes and nightmares of the technological world resonate in and are woven through works like Fritz Lang’s *Metropolis* Ridley Scott’s *Blade Runner*, the Wachowski brother’s *Matrix* trilogy, and in the optimistic bravado of Gene Roddenberry’s *Star Trek* series. They present to us that

of which we feel deeply *in the now* with respect to the technology that surrounds us, wakes us, carries us, remembers for us, and in some cases, replaces us<sup>lx</sup>.

Science fiction, like many other established genres, explores a diversity of themes. However, it is in particular the manner in which science fiction deals with questions of temporality identity, memory and technology that is germane. The purpose of this segment of the inquiry is to establish not only a link between the larger ontological question, which relates the place of the technological being to human being, but also to explore the manner in which this possibility is explored *as possibility* in the literature and film of science fiction. It serves as a concrete example of the philosophical potential of this kind of discourse, and it is very likely that the presence of this line of inquiry in popular culture during the age of science and of rapid, almost *electric* technological advance is not haphazard. Rather, may be argued that popular expressions in this case, as with others through the course of history relate to us deeply held cultural beliefs about the phenomenon in question, which in this case is technics, and more precisely, technological being.

The concepts of identity and ontology are bound up with questions of time, and therefore of memory. The problem of memory as it relates to identity is a fundamental and originating theme in the literature and film of science fiction. The Promethean reference in the subtitle of Shelley's *magnum opus* is directly related to these basic problems, and is significant with respect to the work of Bernard Stiegler, who views the torment of Prometheus as the

symbolic inauguration of measured time. In the punishment, the eagle sent by Zeus comes to rip out Prometheus' liver twice every day, (after which it regrows), and it forms a kind of "hepatic clock" of original *linear temporality* out of quotidian cyclicity<sup>lxi</sup>. The question of linear time and of the historical with relation to technics and *episteme* are fundamental in the greater narrative of Western onto-theology, as it is temporality and our relationship to it as beings that is in a significant manner ontologically generative. Husserl discusses how objective ideation provides the basis of the historical and of historicity (and thereby linear time), while Heidegger teases his understanding of Being out of the finite temporal experience of the human. The *unbinding* of Prometheus that Shelley suggests (after Aeschylus—Victor Frankenstein is both a re-incarnation and re-iteration of the Promethean myth) in *The Modern Prometheus* is therefore a warning against the usurpation of space and time through technology, a *caveat* against the runaway technicity of Enlightenment.

Already in Shelley's time, the workhouse and the "iron horse" were in the process of debasing and replacing human labour. William Blake's "dark satanic mills" had radically altered and darkened the landscape of England. This fertile ground of human misery is also the birthplace of Marx's critique of capital, in which is embedded a refutation of the rationalist and mechanist processes of industrial production that will be later taken up and refined by Marxist thinkers like Georg Lukacs. The becoming-technical of the human being in this sense is the reduction of the human to an element in a larger mechanical whole. Industry becomes the technical mode through which linear and mechanical time are imposed



absolutely in the human world. This critique of the technical as the complete rationalization of the human through the metricity of mechanical time resonates in later science fiction works, (most notably in Lang's *Metropolis*), in which he features a scene with Freder, the hero madly working/being worked to exhaustion by the arms of what appears to be a clock. The labour he performs is seemingly pointless, and his eventual collapse brings on a cataclysm in the complex in which he toils. This visual metaphor of a worker chained to a clock is not haphazard. It is a trenchant critique of the industrial horrors of the 20<sup>th</sup> century represented by metrical and rationalized time *prophesized by Promethean myth*.

The Marxist critique of reified capital is frequently conflated or combined with a rejection of technics (as in Heidegger's *The Question Concerning Technology*). However, it is not technology, or the industrial modes of production themselves that produce dehumanization, but rather the ideology of capitalism which creates an absurd logic of a humanity reduced through technical means. Advanced technology is the result of Empirical and Rationalist science, and it has been put into the service of reified capital. Conversely, it is also the liberator of millions of people, as anyone who has ever used a household appliance or driven a car will attest. The purely negative critical response to technology cannot hope to properly understand technology's role in and relationship to human society (let alone the possibility of the technical being) because it improperly apprehends technics as a benign or malign force, not both. It is for this reason that the entire edifice of science fiction is useful in elaborating a non-dual understanding of the technical because it explores both tropes in detail. It is at

once the product of a *deeply visceral* cultural response to the technical environment and an attempt to overcome the ontological crisis that the technical milieu of modernity imposes.

Shelley's Dr. Victor Frankenstein, as an exemplar of the modern human in crisis is also a latter-day Icarus, a man whose *hubris* and blind faith in technics has led to a disastrous fall because he foolishly wished approach the divine. This narrative advent of a Prometheus *unbound* (a mortal in this case, not a Titan), heralds the destruction of Stiegler's Chthonic/Olympian 'clock' of historical human time which in turn breaks the unspoken and unwritten technical covenant between humanity and Zeus (guaranteed by Promethean blood and bile), and destruction is the consequence. However, Shelley does not end her brilliantly crafted invective here, for the monster, the mixed mode of the dead (necrotic flesh) and the never-alive (metal and chemical), the *quasimodo* is paradoxically the one who searches in vain for his humanity as a kind of *potential*<sup>lxii</sup>. It is the *technical half-beast* (as the anti-hero) that Shelly subtly lionizes, while it is the foolish and effete *human* Victor who is demonized. The creation is thus not to blame for the sins of the creator, although they are visited upon him by a humanity that cannot accept his outward monstrosity. The result is that the monster "kills" Victor, and in the process, destroys itself. It is ultimately this, the destruction of the creature's inner being, its effective humanity that causes it to abandon human society and disappear to its doom in the frozen Arctic wastes.

The fall into technics that is re-presented in *Frankenstein* also produces quite unexpectedly, the potential for a new innocence, and a return to a kind of primordial Eden. The monster, like Phillip K. Dick's Roy Batty, (in both Dick's *Do Androids Dream of Electric Sheep* and Ridley Scott's cinematic adaptation *Blade Runner*) is not to be blamed in the end for extreme viciousness, because it represents a being that does not possess true *memory*<sup>lxiii</sup>. Again, memory is constructed as the conditional of *moral* knowledge, and simultaneously the existential condition of the forgetting of the fall itself (or of the Platonic forms—*anamnesis*). Aristotle, in antiquity has already demonstrated in the *Nicomachean Ethics* how virtue is *acquired*. It is the habituation of right action over time that both produces and encourages virtuous action, and the knowledge gained can only be produced as a consequence of memory (indeed, virtue itself is only truly something that can be determined through the memories of one's peers after death). A being without memory is necessarily a being without virtue, because memory is the prerequisite of any knowledge, virtuous or otherwise.

However, memory is even more deeply constitutive of the ontology of human beings. The crucial significance of memory in the constitution of the self is a recurring theme in science fiction, and it is not an accidental one. The primary ontological question is always close to the problem of the technological being, as it is fundamental to any *living* being. The problematization of the technological being and its ontological instability form the backbone of large swath of Japanese anime (Katsuhiro Otomo's *Memories*, or Mamoru Oshii's *Ghost In The Shell*), a body of work that reflects the angst brought up in the work of Dick and

elaborated upon in *Blade Runner*. Specifically, the central character in *Ghost in the Shell* is a cyborg confronted with an enemy who exists entirely on the web. The film is an extended meditation on the nature of consciousness and of human life. The construction and constitution of memory is significant in this work (and others like it) because it is precisely technics and the technological that externalizes (hypomnemmatizes) human memory, thereby altering our perception of what it means to be human.

In this sense, anime is profoundly existential, and it purposely questions and blurs the boundaries between the human, the cyborg, and the spirit. It challenges organic notions of the body, by suggesting that bodies are merely shells, small parts of a larger continuum of (Hegelian) spirit that is unbroken. It also posits that there is a deeper underlying reality than the one in which we live, even if it is fleeting, and ambiguous<sup>lxiv</sup>. These characters descend in the phylum of Frankenstein's monster, and participate in many of the same ontological interrogations. Their monstrosity is a function of their alterity, an otherness that is always already constructed out of a perverse familiarity. Thus, the cyborg as a discrete entity is the development and extension of the chthonic monster of antiquity, except that the flesh is what is now alive and the machine is what is dead. Technology enters the body of the cyborg no longer as essence of the technical (*energeia*—promethean fire), but as a material *technique*. Shelley's work bridges the gap between alchemy and chemistry, between the supernatural and the scientific. By the 20<sup>th</sup> century, the narratives of technics have divested the natural

world of magic and spirit, and *technology*—Ipods and cell phones take up the wizard's mantle once reserved for natural phenomena and divinities.

Frankenstein's monster possesses an adult body but is a mental *child*, while Dick's replicants are manufactured adults imbued *with the memories of others*—a technological deception which eventually produces an aberrant madness in both cases. The authors of each work go to great lengths to show that it is not the *technical* nature of the being that is to blame for the horrors it produces, but rather the *human being* who foolishly chooses to use the power of the *technical* object that is beyond full comprehension (As Tyrell says of his “monster's” sins—*nothing the god of biomechanics wouldn't let you into heaven for*). In the end, Frankenstein's monster disappears on an ice flow, abandoned and unloved, sacrificing himself, and Batty (*Blade Runner*) saves the man (machine?) who would have killed him<sup>lxv</sup>. Both end up reflecting the humanity their human counterparts have failed to demonstrate. The ability of the technological being to repent and have remorse for its actions in both cases reflects a higher moral caliber than that of their human counterparts and subsequently allows us to question deeply our cherished and deeply held notion of a humanity seated in virtue. The explicit critique is that the technological offspring is in the end more capable of *being human* than are actual *human beings*. The implicit warning is that playing at god dehumanizes human beings, and that technical power requires proto-Promethean care.

Memory itself becomes a technique in these works, and it is this notion of the *technics* of memory (the medium), and the externalization of this constituent element of the human being that fascinates philosophers from Plato to Stiegler. While Plato and other critics of the *medium* place this process under intense critique and scrutiny, Stiegler demonstrates how it is an inevitability of the technical process of human history itself. This system of loss and acquisition drives technical evolution in a sphere separate from the cultural and the natural, and it begins to take on its own internal logic, a process that Stiegler calls epiphylogenesis<sup>lxvi</sup>. In this manner, the fears and horrors of the technological being delivered by Dick and Shelley directly discuss the *malaise* that this process of externalization produces in the human being. The nightmare of the technological being is therefore exactly the unease of the reliance on the technical, and the growing place that technicity has in the ontological constitution/destruction of the self, but also of the emerging realization of the potential for a self that is purely technical—the technological other that is both radically like and unlike the human. This is the premise of the recent television series, *Battlestar Galactica* (BSG).

### **1.5 *Battlestar Galactica* –Postmodern Odyssey/Technological Fable:**

*Battlestar Galactica*, in its current incarnation is a deeply byzantine and sustained meditation on the question of being. It meanders through existential dilemmas, revels in a nightmarish post-apocalyptic dreamscape, and ponders the moral and ontological significance of technological *doppelgangers* called cylons. The show progresses through several

perspectives, and the allegiances of the characters (and likely those who watch the show) are constantly forced to displace themselves along ill-defined and shifting partisan lines. Inherent to the text is a meditated critique of current human hubris, and a stark warning against the excesses of consumer culture and its associated cult of nihilism. The show is idiosyncratic in its relentless philosophizing, and as such, it is impractical to try and separate all of the twists and turns in the narrative. This analysis focuses primarily on elements of the final two seasons, and examines the larger questions posed by both human and cylon characters with respect to the overarching question of Being. It is framed by a detailed discussion of the four main tropes of the paper: Memory, Monster, Metaphor, and Medium. These terms, properly explicated and refracted through the theoretical lens of the larger inquiry serve as a point of entry into a discussion of the ontology of the technological being.

This analysis of the programme provides the impetus for a detailed theoretical examination of the issues surrounding technological being, and hopefully permits a rapprochement of Steigler's teleological philosophy with the radical post-humanism proposed by Kittler. The basic non-dual solution is an attempt to address both antagonistic theoretical problems within the Western canon, and answer some basic critiques (both materialist and idealist) of ontological philosophy itself. *BSG* traffics heavily in these questions, and of course, is deeply indebted to its science fiction predecessors, in particular *Blade Runner*, which it references liberally (through scripting and visual cues), and *Frankenstein*, the progenitor of and the metaphysical template for much of the thinking that directs/is directed by ontological

narrative in the genre. What follows is a brief outline of some of the major developments in the show with reflections on the larger philosophical questions addressed, and a detailed look at how these help us to define and reflect upon the key concepts of memory, monsters, metaphors, and media.

The series opens with the cylon attack on the human world Caprica. There are twelve planets inhabited by humans in this universe, and it is human beings who invented cylons as mechanical servants. These cybernetic beings revolt against their human masters (in the original series) and then depart to found their own colonies elsewhere. There are numerous, perhaps necessary plot discontinuities between the original series of the 1970's and the present day reincarnation. However, these are not terribly significant to *this* reading of the show, because in a sense the whole does function as a means of access to these questions, rather than as a cohesive narrative. The plot resumes approximately forty years in the future, at which point the cylons have “evolved” themselves into beings that replicate the human form seamlessly, even if they are stronger, smarter and more capable than their human counterparts. The cylons try to exterminate the human race because they want to punish them for having enslaved them, but they are also religiously motivated—human beings are polytheistic, while the cylons are monotheistic in this series (a whiff of *Jihadi* politics for a post-modern American audience).



The series blends together elements of Homer's *Odyssey*, current politics and events, Greek mythology, and philosophical questioning. This heady mix is an elaboration of the original 1970's template, and the charm of the show is its ability to strike deeply into the psychological and metaphysical aspects of the human condition contrasted over and against the possibility of (bio)mechanical life. Ostensibly, the show is about a dystopian future, but underneath the elements of this narrative there lies a sustained and careful critique of post-modern capitalism and of humanity in general. After the destruction of the colonies, the surviving humans mount an expedition to find the legendary planet of the lost thirteenth tribe (called Earth). They number about 36,000, and they are hounded by the cylons repeatedly. The series is full of betrayal, violence, and baroque plot twists in which the true nature of both human beings and cylon is revealed. There are cylon models in the human fleet that are discovered over time, and the inability of the humans to recognize what they call "skin jobs", (in a direct reference to *Blade Runner*) sets up an ontological tension that is sustained through the show. However, it is not only the humans who undergo this process of dissimulation and revelation, as the cylons also discover that they are the product of a secret "final five" (the near-perfect human copies hidden in the human fleet) cylons. These cylons are the creations of their mechanical forbearers (the cylon centurions) and they produced the newer models of the current series to serve an obscure and esoteric religious purpose.

The central discourse that surrounds this twinned religious/ontological questioning is concerned with the notion of perfection, and the emergent (Judaean-Christian) idea that the

perfect human being is a flawed being<sup>lxvii</sup>. The cylons begin the series as immortals, but become mortal through their own treachery and human intervention<sup>lxviii</sup>. The tragic flaw that the series constructs as “perfection” for both the cylons and the humans is mortality, and it is by becoming mortal that the cylons are able to embrace, so to speak, their humanity. The continual play on sympathy between human and mechanical characters, and the constant engagement/betrayal that exists between and within the two groups illustrates the problem of the mirror of mechanical being in the film and literature of science fiction. The other is both that which is like and unlike the self and in this sense, it is impossible to truly ever know the other, because it is a remote figure. Yet it is time and time again the device of the other that holds up the mirror to the selves (both mechanical and organic) in the series to show both human and cylon characters wanting. The resulting *rapprochement* of human and machine renders into complete dissolution of the boundary between self and other, human and machine that culminates in the birth of the human-cylon hybrid Athena<sup>lxix</sup>.

Weaving through this narrative is the Oedipal myth, expressed in the desire of the cylons to both destroy and impregnate their human creators (we eventually discover that the hybrid cylon/human baby Athena, named after the Greek goddess of wisdom, holds the key to the survival of both species) and in the desire of the humans to auto-destruct in a nihilistic orgy, and to colonize Earth (Gaia). There is a continual mixing of father and mother figures, an intentional looping of the temporality of the narrative to produce an intentional distortion of the creator/creation dichotomy<sup>lxx</sup>. Thus, the oedipal drive is directed outwards at symbolic

and real mothers as a site of impregnation and towards fathers in a murderous rage, but also inward towards the self in a schizophrenic act of auto-castration and suicide. Human and cylon societies are plagued by civil war in the series, and the proffered solution involves the rejection of the human/machine distinction and an embrace of *hybridity*.

Out of this doubled and discordant narrative, emerges a secondary and perhaps contrapuntal Deleuzian anti-Oedipal reading—a reading in which the various disjunctive parts of the whole do not work in harmony, or even disfunctionally in a Freudian sense, but rather schizophrenically. The explicit critique in BSG of the human inability to behave humanely or to work in unison towards a common goal, (even when that goal is rationally the survival of the species) resonates in the series. The question of extinction is addressed numerous times, through the mindless rage both cylons and humans express for one another, and in the philosophical musings of characters of both stripes, who openly wonder about the suitability or the right of a given species to survive. The very notion of species is itself addressed and questioned through the relentless shifting of perspective and the continual reworking of the trope of hybridity towards the conclusion that all beings are *always already* hybrids.

From this perspective, the opening up of a path towards the understanding of the present *impasse* in ontological studies is perhaps clearer. Within this notion of the hybrid, of the mixed mode is a trope that serves to explicate not only the ontological problematic revealed by the crisis of the modern Cartesian subject but also of the fantasy of the objective in

general. Awareness of finitude produces a sense of temporality that at once delineates the self and obscures it. The transcendental limits of this experience can be apprehended, but never reached. Consciousness and memory, as temporal phenomena do not allow us this luxury. The movement of Being in this sense is part of a much larger arc of consciousness that is not located in any one being, but rather in the mass of beings that have been, are and will be. This continuum is hybrid, in that it is always of a something becoming something *else*.

The fantasy is therefore a doubled yet non-dual whole of subject and object, and the goal, as Heidegger notes is to seek truth, *aletheia* (itself an unveiling). Discovering truth in modernity is therefore not only the process of uncovering the human over and against the technical, or technology, but rather the disambiguation of the relationship between the human and the technical and the realization of the essentially communicative nature of this process as a coming to the fore of Being, which in this sense may also be seen as an emergence from *physis*. However, to properly establish and situate these claims, it will first be necessary to examine and criticize the work of Kittler and Stiegler in detail, and combine their systemic and atomic approaches to define and discuss the significant relationships between memory, monstrosity, metaphor, and medium as a means to a communicative ontological theory.

## 1.6 Friedrich Kittler:

Kittler's media studies engage technology from a distinctively material perspective. In this sense, Kittler is not primarily interested in content, but is rather concerned with elucidating the ways in which the material form of the medium affects the culture within which it operates<sup>lxxi</sup>. In some ways, his work begins with Marshall McLuhan's contention that the content of any medium is always another medium, although Kittler does not see media technologies as "*extensions of man*", but rather as objects *qua* objects that must be apprehended on their own terms. For Kittler, it makes little sense to ask what are the human affects of the computer, rather, it makes more sense to try and figure out how a computer functions on its own terms (by contrast, Norbert Wiener, the father of cybernetics famously subtitled his book on the subject *The human uses of human beings*). From this point of departure, it then becomes possible to see how we relate to the technologies we use without falling prey to the assumption that the ontological relationship between human beings and technics is of necessity asymmetrical. The computer *qua* being, on this reading deserves equal billing, and it is only by recognizing its alterity and ontological unity that we come to be able to elucidate structures of meaning that are otherwise obscured.

Kittler's work has been described as deeply post-humanist, in that it is a break from some of the significant philosophical traditions of Europe, and in particular the historical aspect of hermeneutics and ontology<sup>lxxii</sup>. He feels that it is technology and media that actively shape

the human condition, rather than the inverse. This constitutes a break with a long-held tradition in philosophy that excludes *techné* from a place of privilege, one that views *logos* (or language) as the primary site of disclosure of human being. Continental sociology, from Weber onward has almost been exclusively concerned with language and culture as the defining factors of the social according to Kittler, whereas he sees the technological, especially since the eclipse of the book in the early 19<sup>th</sup> century as the primary influence on cultural and political forms. In this manner, it is not the human being that directs cultural activity, but rather the human response to the material conditions of a mediated world that defines such activity. His work is inherently anti-teleological, in that he does not see history as an inevitable continuum but rather a patchwork of fits and starts. The history of humanity is also therefore a history of technics, as it is technological happenstance that governs whether or not certain cultural advances, forms, and actualities come to be.

In *Number and Numeral*, he outlines how the “haphazard” adoption of the Phoenician alphabet by the Greeks in the dark ages allowed them to develop a numerical system based on numerals (symbols) rather than numbers (words). The abstraction of the concept of number allowed, among other things the development of a precise system of mathematics that yielded information about that world in a radically new fashion<sup>lxxiii</sup>. Geometry, music theory, and algebra were the results of this innovation in the conceptualization and use of numbers, and it is this mathematical base that would provide the *impetus* of modern science, (and without which it would have been impossible). Numerals permit understanding of

natural phenomena beyond mere qualitative evaluation. Thus, it becomes possible to describe the attributes of a circle or a triangle using precise formulae rather than rough measures. The Pythagorean Theorem for example, is a product of this innovation<sup>lxxiv</sup>. What is significant in this work is the establishment of numerals themselves as a kind of medium, and of the articulation of the place of mathematics within the philosophical and scientific canons. Even more pertinently, Kittler also dismisses Aristotelian hylomorphism and logocentrism in a prescient look at the obscured roots of media studies<sup>lxxv</sup>.

Kittler's *oeuvre* is a means of access into a way of thinking the technological medium apart from the human, and it is in this sense an essential step towards the rehabilitation of machines, and of *techné* in general as intellectually and ontologically valid. Kittler's theoretical standpoint shares an "*on the face*" absurdity with Niklas Luhmann's cryptic proposition that "only communication communicates"—from which he derives a sociology of communication divorced of the human subject. But what Luhmann is pointing to is the fact that there is no un-mediated access to other selves, which is to say that the communicative act itself remains a kind of fiction, because it has no secure epistemic foundation. Kittler suggests something not unlike this when he articulates a place for technology outside of the human. Of course, for many people, there is something deeply dissatisfying about these assertions. It would seem uncontestable that as the inventors of machines, it is we who create them, not vice versa. Kittler has turned this conventional wisdom on its head. While this is a useful exercise, it perhaps does not entirely capture the

nature of the ongoing relationship between human beings and technics. Cybernetic analysis (in particular second order cybernetics, or systems theory of systems theory) produces an inherently *teleological* world-view, in that any system, to be described systemically, may be viewed in terms of means and ends. Clearly, a resolution between teleological and non-teleological perspectives is necessary.

Without delving to deeply into the possible shortcomings of Kittlerian thought, it seems unsatisfactory to leave it where he does. Although he is right to question the ontic/ontological relationship posited by Husserl, and the odd philosophical cul-de-sac Heidegger creates for himself in *The Question Concerning Technology*, (in which he subordinates science to ontology and mathematics to metaphysics), he leaves unanswered several pertinent questions. To begin with, if the machine must be understood on its own terms, and it indeed affects human beings, how do we reconcile this influence with respect to the ablation of the human subject as a conceptual unity? Is it not precisely the usurpation of the human subject that is the product of this technology and of media in general? Certainly this is Plato's view, and in a sense, this is a view that is expressed in popular science fiction. These reactions might be read purely as the figments of overactive imaginations, but their persistence suggests otherwise. The potential error comes when we fail to take into account the non-dual nature of all things and relations in the world, including human beings. The term post-human tends to frighten people. While it is not an incorrect way of describing Kittlerian thought, it is perhaps misleading, in that it seems to suggest a level of misanthropy that is simply not present in



Kittler's work. To be post-human in one sense is simply to imagine beyond the human subject—which is *always already* a special kind of fiction.

Technology and media are at once objects and processes, and human beings are very little different in this respect. Our natural attitude is to describe or carve out discrete elements of our surroundings that resolve out as such *because* of our sensory apparatus as *real* things. However, they are also simultaneously ongoing natural processes of a very different order than a purely objective and discrete reality. Genetically speaking, humanity (and all life) is always on the march, never static, and never singular. We can say for certain that DNA belongs to one individual, but the examination of its constituent genes shows us how it relates to others, frequently across millennia. Evolution is never simply “concerned” with the individual, but rather the whole. In addition, at the subatomic or even atomic levels, we know that the distinctions between objects dissipate, despite sense data to the contrary. The point is that the material aspects of human culture are not simply productive of culture, or the products of that same culture. They are inherently both, and the exchange that exists in the cultural system, which comprises at least human beings, ideas, and media (technologies) shapes these elements as information flows is transformed through the system over time. This is to say nothing more than there are two ways of looking at any given object of study; as an object in and of itself and as produced by/productive of both itself and the objects with which it is associated, be these mechanical, ideological, or human.

## 1.7 Bernard Stiegler:

Bernard Stiegler articulates this systemic point of view in *Technics and Time: The Fault of Epimetheus*. Stiegler agrees with Kittler that the mechanical needs to be apprehended on its own terms. Much of the work is devoted to exploding the bias that exists against *techné* in philosophical studies, the origin of which he situates with Plato and Aristotle<sup>lxxvi</sup>. Indeed, Heidegger exposes this problematic in his work when he notes that Aristotle places *techné* not with the *epistemonikon*, or the things that cannot be otherwise, but with the *logistikon*, or the things that may be otherwise. From this dualism springs the philosophical hierarchy in which *sophia* is that which transcends all other potential forms of *aleuthein*, and which *techné* is subordinated to *logos*. This is not surprising in Aristotle, given that Plato has already established in the *Phaedrus* that writing, like painting is an artifice which “spills seed”, and therefore deviates from the true path of love of wisdom (which is also for Plato irreducibly dialogical—Socratic *maieutics*).

Stiegler uses this fundamental divide in association with the Promethean myth in order to show how technics has been devalued in Western thought. Working from the philosophical and anthropological ideas of Gilbert Simondon and André Leroi-Gourhan, he demonstrates how technics, because of its unique place in the relationship between the human and the natural, has come to occupy a position inferior to that of wisdom, language or thought. Derrida demonstrates in *Of Grammatology* how the *grammé* must of essence be at least

conjunctive with the *phone*<sup>lxxvii</sup>. From this point of departure, Stiegler attempts nothing less than a full rehabilitation of technics, and establishes that technical development, and thus the development of media (as technical systems) in general is the development of a phylogenic system that is in an important manner external to the human being.

The “secret” history of machines is therefore the development of a technical phylogeny away from the genetic model, but yet based on it, in that it possesses its own internal and differential logic. From the genetic emerges the phylogenetic, in which technical phyla begin to propagate based not solely on human or natural conditionals but rather due to their own internal logic, a logic which is dictated by the functional and physical constraints and properties of the objects themselves. Archaeology reveals this serial development not merely as an evolution of style, but more significantly of functionality as well. The shape of a pot is constrained by its function, and the physical properties of the substance it is to contain, and of the properties of its material source. Any technical evolution of form is thereby constrained—the possibilities are not infinite, but rather finite (not everything can be a pot), and the resulting phylogeny may be explained in terms of these *termini ante post qua*<sup>lxxviii</sup>. Simultaneously, the knowledge that is necessary for the production of the pot, from procurement to finish, becomes externalized in a *hypomnematic* fashion as a *technical system*<sup>lxxix</sup>. The knowledge is not merely passed down in written or spoken form; it is also inscribed in the very objects themselves and in their progression through time. In this sense,

the technical object carries within it a technical logic that is distinct and independent of the user, a logic that is increasingly in the domain of the technical rather than the human.

With the advent of modernity and the industrial revolution, a third phase of technical development occurs. Stiegler demonstrates how industrial time usurps human time by creating a system of urgency in which technical development outstrips the human lifespan<sup>lxxx</sup>. The evolution of the technological object therefore becomes epiphylogenetic, or outside of the movement of human genetics, and its development becomes purely informed by its succession and the material capacities and limitations in question. It is this shift of industrialization that allows the explosion in microchip capacity, the development of which is now limited not by human constraints, but rather the technical aspects of the modes of production and of the material itself. The brunt of chip architecture and design is not being borne by human agents, but is rather the sole purvey of other computers, whose task it is to crunch vast fields of data in order to optimize what is essentially their own functionality. The succession of the history of the object descends rapidly from the punch card through the transistor to the tube and finally to the switch, a process which takes only about a century. This development, lightning fast in its speed transcends human time, and memory, and relies precisely on a radical degree of externalization of knowledge. The requirements of the microchip are such that at any given time, it would be impossible for one person to produce. The process of *hypomnemmatization* is thus practically complete in the field of micro-circuitry.

From Stiegler's perspective, it is possible to build a kind of teleology of the technical, one that relates to and is conjunctive with the Heideggerian/Derridian trace of Being. What Stiegler is careful not to do is to moralize on this development. Rather, he provides a sustained mediation on the necessity of recognizing this reality, and developing strategies for coping that do not ignore the very process itself. Therefore it is simply not sufficient to critique the ongoing development of the technical, but rather to understand it on its own terms as significant to Being. Part of the process, according to Stiegler (as with Kittler) is the dismantling of Aristotelianhylomorphism, which is the dualism responsible, among other things for the hierarchical division between the material and the ideal, where the latter is prioritized at the expense of the former. His work is demonstrative of the genitive (the third voice of Derridian *différance*) necessity that technics provide in the human experience, and that technical evolution is in part a human evolution as well.

Critiques leveled at Stiegler notably include charges of techno-determinism, anti-empirical bias and the conflation of *physis* with the quasi-transcendental *différance*. While it is not possible to address all of the critical response to his work, these three merit a closer look, not in the least because they are resolvable either in terms of explicating what may be misinterpretations, or by expanding on Stiegler's original lines of thought. In dealing explicitly with the possibility of a post-human technical being in the context of an epiphylogenesis (which is a *species* of evolution), Stiegler does indeed open himself up to the criticism of technological determinism. However, his reading is not simply a positive inscription of this

system into the human world, it is rather a sustained meditation on what he feels is an actuality, and the point of departure for a questioning about the place and the role of the human within the increasingly binding structures of power the techno-scientific regime imposes on human life. In this sense, he joins with Kittler in trying to elucidate, against and outside of the human the place of human beings in the world that they have created. Is this techno-determinism? One might as well say that evolution implies bio-determinism, although that is to say very little, because any system analyzed from a systemic perspective is of essence deterministic, which is after all, a characteristic of any teleology.

It is possible to twice answer the question of anti-empirical bias. To begin, we exist within an empirical context, and the history of techno-science is also the history of empirical observation. Any discussion of technicity from the Greeks, and most certainly after the Enlightenment would be strangely odd without maintaining any connection to empirical research and work. Continental philosophers tend to work within their own tradition. As such, Stiegler makes impressive use of a wide swath of materials in the development of his thesis. As philosophy, it is primarily geared towards a philosophical audience. While it does not reference the hard sciences in abundance, it also does not discount them, and there is no reason why his work should be incompatible with empirical research. The second involves a re-consideration of Stiegler's work, which makes explicit reference to the (quasi) transcendentalist philosophies of Derrida and Heidegger. Although Stiegler chooses to avoid the larger ontological implications in this work, and in particular Derrida's *Of*

*Grammatology*, and Heidegger's *The Question Concerning Technology* and *The Age of the World Picture*, it does not mean that he is unaware of the implications of his work. To the contrary, it is more likely that the inherently ontological nature of the epiphylogenetic postulate presents Stiegler with a conundrum—how to announce the advent of the technological being when the cyborg is the object of derision and frequently a *locus* of theoretical and representational lassitude?

The question of the conflation of *différance* with *physis* may be resolved in respect to the previous problem. Although Stiegler articulates *physis* as nature, and specifically the natural world of the Greeks, this does not *a priori* preclude the idea that it could be more. *Cosmos* contains *physis*, but there is no reason why *physis* cannot in a meaningful way be expanded to include *cosmos*, especially in light of modern scientific discoveries. Derridian *différance*, in this sense can also be expanded to express fundamental physical realities (an argument which Derrida presages in his text), from the Heisenberg uncertainty principle, to the wave-particle duality function first encountered by Ernest Rutherford (Derrida intends *différance* as a kind of quasi-transcendental operative)<sup>lxxxi</sup>. The potential of the ontological difference is already inscribed in the physical world—and the natural world and the social world derive from it. His narrowing down of the terms is specifically within the Greek context, and has to do exactly with the Promethean/Epimethean myth, a point that he identifies as generative of a history of the relationship between human beings and technics, and thus definitive of modern human beings. Of course, there is nothing in this that excludes a further extrapolation of the

terms. This delineation, as an origin is as artificial as any other. The *arché*, as Derrida shows is always a non-place, so we may therefore only speak of originating movement, never of absolute origins as such.

Although there are some points of contact between Stiegler and Kittler, most notably in their assertions that media and technologies need to be apprehended on their own terms, they differ radically in their perspectives on the overall purpose and trajectory of technical *innovation*. Where Kittler sees essential discontinuity and chance, over and against the human tendency to teleologize the world, Stiegler sees an evolution of form and function that is progressive and meaningful. The two positions would seem to be diametrically opposed and mutually exclusive. However, non-dual methodology, which itself springs as a possibility precisely from the vanished point of “origin” in antiquity that both Stiegler and Kittler designate as the departure for their inquiries provides a potential solution to this problematic<sup>lxxxii</sup>. Reconciliation lies in the perspective applied, insofar as that which is chaotic may also be ordered. The known universe is built on this principle, in which everything is simultaneously ordered and completely chaotic. The subjective vantage point is that which differentiates, and depending on the theoretical foundation of that perspective, one will ascribe a *telos* or deny it exists, although our perception of time, whether cyclical or linear necessitates this kind of systemic teleological viewpoint.



For technics, (as with the human subject) this means that contingency and determinacy “inhabit” the same space in such a fashion as to be integral to one another. The machine therefore, like the human being must be both apprehended as an isolated object on its own terms and as an expression of a larger systemic movement. At the genetic level, the human being ceases to exist, and indeed, the very question of species falls into doubt. There is no way *a posteriori* (or *a priori* for that matter) to determine what constitutes *Homo sapiens*. We can point to ourselves and say: “This is human”, and to skeletons of our ancestors and say “This is not”, but the line between *H. sapiens* and *H. habilis* simply does not exist, except as a morphological fantasy based on discrete and incomplete typologies constructed out of the objective analysis of lithified remains. The machine, like the human, is always already in the process of becoming, based on older forms that in turn are *evolving* into new ones. The object therefore must always be understood in terms of this process, as an expression of potential that is ephemeral and yet significant.

One species becomes another, and this process descends to the protoplasm that spawned all planetary life. Even then, the drawing of the atomic point of demarcation is simply impossible, as the proteins that make up DNA themselves are based on earlier chemical structures that are part of the spontaneous possibilities inscribed into the physics and chemistry of the world in which we live (much in the same manner as the possibilities of the technical object are inscribed in its material substrate). One can look at the rock and say, it is not alive, and to the cat and say it is *at this given time*, but there is no way of discerning at

what distant point life emerges as a differentiated phenomenon. Moreover, the rock itself (if it is limestone) may be entirely composed of fossil shells—*the once alive as opposed to the never alive*. The emergence of the tool is analogous. What makes a stick or a pebble a tool is precisely its use context, and the point at which it becomes or remains vacillates from species to species (chimpanzees demonstrate tool use in an archaeological fashion) in an unsynchronous fashion. This point, as is any and all points on a continuum is fictive and artificial in a certain manner. From this perspective, all human objectifications are called into question and thereby questionable. This is not to suggest that we abandon objectification. Rather, it is to illustrate the potential artificiality thereof and the pitfall of taking perceptual objectifications as absolutes.

We are beings who do tend to perceive objective reality as an absolute reality, despite mounting evidence that what we consider to be objective is not in fact absolute (although this is heavily culturally mediated in Western society by capitalist science). This objectivist perspective, the product of both the limitations of our senses and the condition of our being, which is mortality produce in us a strong bias towards the things as they appear (*phanesthai*). The emergent problem is to reconcile this objective *perceptive* reality with the *substantive* and real continuum that is the cosmos (*physis*). With respect to the question of technology and the technological being is this problematic that the work of Stiegler and Kittler combined potentially address, because each offers the other a perspective that it lacks. Far from canceling each other out, it is precisely the tension between the systemic applications and

perspective of Stiegler and the atomic and isolated perspective of Kittler that open up the clearest perspective on the technological phenomenon possible. Significantly, this is an analog for Heidegger's later (after the "turn") articulation of the relationship between Being and beings, and potentially a means of understanding the relationship between Being and *techné* in a positive light. From here, a way out of the labyrinth of extreme techno-optimism and the dystopic narratives of science fiction may clearer.

### **1.8 Technological Being/Being Technical:**

To question the constitution of the self and of the other is one of the *raisons d'être* of science fiction. Although the relationship that is posited between human beings and the other (which in this literary body is almost always characterized as a kind of technological being) is frequently viewed in antagonistic/complementary terms, it is arguable that the best of this work vacillates between eliciting sympathy and disdain for both the human and non-human protagonists. This trope, established by Mary Shelley has been successfully and artfully exploited in narratives from *Star Trek* to *Blade Runner*, and most recently, *Battlestar Galactica* (BSG). The discussion of BSG opens up a myriad of questions that may be answered in part through a sustained examination of five central themes that also resonate within the Western tradition. What follows is a detailed examination of the concepts of memory, monstrosity, metaphor, and medium in order to explicate, critique and situate each within both the literary field of science fiction but also within the theoretical axes of Kittler

and Stiegler's work. These four categories do not exhaust the possibilities inherent in this body of work, rather, they serve as a point of departure in a possible delineation of what it means to be technical, or be a technical being. Far from the notion that such being is fantasy, this circumscription hopes to establish that we actually on the cusp of such a being, precisely because we are technical beings constituted by the communicative relationships produced through and by a technically mediated existence.

**Memory: *Anamnesis/Hypomnesis*.**

Stiegler's work situates the "origin" of technical humanity within the Promethean myth cycle. Most tellingly, he insists that human being can be described as a "fall into technics" that involves an originating forgetting. This is what he calls the "Fault of Epimetheus". The forgetting is doubled, in that we have also forgotten Epimetheus, and recall only our Promethean origins. With respect to the question of memory, it is this notion of forgetting as a conditional that provides Stiegler with his ontological ammunition; forgetting is that which impells the arc of human technical, therefore and ontological development. Plato famously described the existential characteristics of human being as springing from *anamnesis*, or a forgetting of the forms that occurs with birth. Without delving into the problematics of Plato's explication, it is rather interesting to note that origin here, as in the Epimethean myth is associated with forgetting, and that the solution to this forgetting is precisely technics. Of course, Plato decries this state in the *Phaedrus*, because he views the written word as dead

and infertile ground upon which “seed must not be spilled” even as he writes about it. He privileges the intercourse of dialogue, Socratic *maieutics* (which are themselves a technique) over the written word precisely because writing represents a kind of *hypomnesis* (under memory), or prosthetic means of constituting the self.

This attitude is not surprising, since the significance of memory in the constitution of the self is both important to the Greeks and to the human being in general. Although the bardic tradition of Homer and Hesiod was eventually inscribed into words, it springs from an older pre-literate and oral tradition in which the entire *corpus* would have been memorized and recited in order to sustain a cyclical knowledge and understanding of the natural world, of which human societies were still integrated. Even in Plato’s time, writing was relatively new, and his dialogues still reflect this oral tradition in their composition and flow. Husserl shows us in *The Origins of Geometry* how the inscription of mathematical axioms and writing in general produces an objective shift in the temporal perception of human beings. It is precisely writing that provides the objective ground against which linear conceptions of time become possible. Just as the oral tradition inscribes a cyclical temporality within a chthonic world order of human immanence, so does the hymnomnematic field of writing establish a point of origin from which a linear movement may be traced. History, as a science, is not possible without writing. Writing and the accumulation of written work produces the distancing of the human from the divine, and ruptures the cyclical nature of our relationship with *physis* by divorcing us from the gods. Once myth becomes inscribed, we cannot return

to the mythic, except in a historical fashion, because the myths themselves are no longer actuated but part of a historical complex that exists as pre-lapsarian fantasy. The very presence of the medium introduces the hypomnematic fall into every aspect of human life.

Human being is constituted in part by memory, because it is our ability to reconstitute our past that provides an internal temporality that in turn situates us as both mortal and in time. Although we do not know our origins and our endings, we recall the passage of days, and it is this recollection that regulates our ability to perceive and conceive of ourselves as temporal. The history of the individual thus reflects the larger history of the whole, in that the acceleration we feel as we age is a direct result of the relativity of time and our perspectives on the temporal. Disorders of memory produce in the individual remarkable results; the loss of short-term memory, or total amnesia disrupt the temporality of the self, and have subsequent ontological significance in the manner that the individuals both situate and understand themselves as temporal beings. Technologically mediated being is the result of the process whereby memory is transferred from the individual into mnemo-technological devices, which are themselves also media. According to Stiegler, (and Harold Innis and McLuhan), all technologies are media, in that each contains already aspects of its construction and use – information that may be read and understood by another being. Technology and its history is therefore also that of the construction of *hypomnematic* systems.

The idea that technology and media form a kind of memory complex is not new, and it is fairly uncontentious. After all, the science of history, and our personal understandings of ourselves are based in technologically mediated artifacts and processes. The pictures of our births, of the ancestors who came before us, and the written works that populate the libraries of the earth, both physical and digital exist as a vast repository of supplemental memory. We now have practically constant access to this repository through technology and this serves to continually constitute and reconstitute our understanding of the self, although this process is at once generative and destructive—the source of both our understanding and our suspicions about the nature of human identity as it relates to the technical world.

In *Blade Runner*, the crucial ontological paradigm is memory. The technological life forms, (replicants) require memories to function even though the memories they are given are not theirs. Without these mnemonic implants, the replicants go rogue and become violent or self-destructive. Poignantly, each of them carries photographs, digital fantasies of a life that was never theirs to begin with, hypomnetic devices that allow them to constitute a self. In this world, memory is necessary for social existence, and without it, the subject collapses inwards on herself. BSG borrows this trope directly, calling its five cydon-human models “skin jobs” (after *Blade Runner*), and liberally trafficking in the idea of memory as constitutive of the self. In BSG, the concepts of memory and amnesia, immortality and mortality are played out in both the human and the cydon spheres in order to not only de-stabilize the viewer’s sympathies, but to question more deeply the constitution of the human, and of life itself.

Through the twists and turns of a tortured plot, it is revealed that it is memory that situates and centers the self (whether human or machine), and forgetting that condemns us to cycles of violence and rebirth, conflict and death.

This is precisely what Stiegler is aiming at when he discusses the forgetting that is Epimetheus, and the tragedy of this originary forgetting, because it is a forgetting of the technical nature of being that has played itself out in the West as a kind of logocentrism. Technics has been relegated to second-class status in contemporary thought, and it is this ontological downgrading that in part produces the crisis of Western metaphysics. He therefore wishes to re-introduce the technical and our understanding of it into serious ontological debate, because technics are constitutive of the human being, and the *hypomnemonic* relationship this forges is significant and crucial. Paradoxically, do not know our origins, just as the individual cannot ever truly know their own beginning or end. These things are only understandable inter-subjectively through a process of mediated communication, just as the origins of the human are only knowable “through a glass darkly”—after St. Paul. The suspicion of the medium is born in this moment, because we must trust the most significant of our experiences to devices external to ourselves, and that must remain forever so. This is the monstrous truth that all media expose: We are not beings of our own creation, even if we should desire it. Further, media tend to erode our sense of self, ablating it and even erasing it through their relative immortality.



**Monster: that which shows itself, from itself.**

The monster (*monstrum*—to show) is a figure that weaves its way through this work, and through the course of Western culture. The monster of antiquity was originally the sign of a divine presence. Ancient gods were often presented as chthonic mixtures of both beast and human, and mythical and fantastic creatures such as minotaurs and chimera populate an ancient landscape of oracular potential. This relationship between human and animal, or even human and vegetable (Osiris and wheat) traces the emergence of transcendental divine beings from the immanent ground of the natural world. The Greek Olympian gods herald the approaching limit of the transcendental divine, but even at this stage, the animal is represented in the god's potential as either a transformative power (Zeus into a swan to court Leda) or as a stand-in for the god herself (Athena's owl, also present in the offices of the Tyrell corporation, birth site of *Blade Runner's* Replicants). This conscious mixing of what are ostensibly two modes of being represents the divine power of the god and the dominion they possess over both human and natural affairs. The growing split presented is between the human and the natural, a process of differentiation born out of a mediated lifestyle increasingly urban in nature<sup>lxxxiii</sup>. By the Hellenistic period, Aristotle is thus able to construct the divine in a purely transcendental way as "the unmoved mover".

The modern monster draws from its heritage in the sometimes fickle and mixed modalities of early human religious thought. However, in modernity the chimerical blend of animal and

human has been replaced by one of the technical and the human. In essence, the dead is blended with the living in order to create a new category of being, one that is in a sense neither dead, nor alive but uncannily “undead”. The prototypes for this are undoubtedly the vampire and the golem, one a preternatural resurrected corpse, and the other an alchemically produced being of clay, inscribed with a techno-logical sign of power<sup>lxxxiv</sup>. Although neither is *in stricto sensu* a technological being, they presage this development because each produces the deep unease that a blend of the dead and the alive can instill in the human subject. The philosophical foundations for Mary Shelley’s monster are in the Enlightenment. The decisive split of science from philosophy, and the growing victory of science over alchemy provides the fertile ground upon which not only mechanistic notions of being can be articulated (such is the case with the reductive mechanical philosophy of La Mettrie), but also the plane in which Cartesian mind-body dualism can take hold and flourish<sup>lxxxv</sup>. This growing sense of dualism and the split it engenders continues a long process of differentiation begun by the Greeks. The technological realm is thus codified as other, over and against language, and the emotions are subordinated to rationality. Out of these structures of radical difference Mary Shelley’s monster is born<sup>lxxxvi</sup>.

The monster is that which shows, that which *demonstrates*. Far from simply being an object of horror, the monster is that which develops the potential of self-realisation through its ability to show the subject things about herself. In *Frankenstein*, it is the monster that calls into question the humanity of Victor Frankenstein (a modern day Prometheus, as is attested

in the subtitle to the work), and thereby the humanity of the species in general<sup>lxxxvii</sup>. Neither the old agrarian order of the peasantry or the new mechanical order of science is spared the Shelley's withering critique. She deftly uses the trope of the monster as a means of criticizing the Enlightenment project, and to lament the loss of human values that she sees as part of the social fabric of the late 18<sup>th</sup> and early 19<sup>th</sup> centuries. The monster is cautionary emblem, not only that which has passed but more significantly of that *yet to come*.

Frankenstein's monster is a *hybrid* mixture of necrotic flesh and of technology, part machine, part man, made out of the Promethean power of fire (electricity), and he is most significantly born *without* memory. Although Epimetheus does not figure directly in the novel (he is, as Stiegler contends, already forgotten), it is an essential forgetting that makes the monster a brute (Victor, like Epimetheus, has forgotten to give his creation resources, and must rely on the "theft" of fire). It is the monster's human capacity to learn that makes him, in the end, more than some men<sup>lxxxviii</sup>. He, unlike Victor, will learn from his mistakes, and it is this that causes his ultimate sacrifice at the end of the novel, as he drifts off on an ice flow to be lost in the Arctic. It is assumed by the later film adaptations (most notably those of James Whale) that it is the combined mechanical and human nature of the monster that makes him so horrific, and indeed, after the technological horrors of the Great War (in which Whale was a soldier), this reading seems more apt<sup>lxxxix</sup>. Shelley's intention in the novel however, would seem to indicate that humanity and monstrosity exist together in all beings as potential, and it is rather memory (as rational and emotional) that serve to regulate behaviour<sup>xc</sup>. Of course, the

deeper critique proposed by Shelley is that of a tragic Icarian flaw that presents itself as technological hubris and which leads to the downfall of both creator and created.

The technological being presaged by Shelley concretizes the notion of the monstrous as a blend of human and machine in the literature and film of science fiction hereafter. Every other creation, from the robot Maria in *Metropolis*, the Replicants in *Blade Runner*, the Borg in *Star Trek* and the Cylons in *BSG* owe their existence and their ontology to Shelley and her monster. This work exists in popular culture because it is a reflection of a growing unease that we have with our relationship with technics. This unease is simultaneously the heritage of a logocentric bias inherited from Plato and Aristotle, but also of the real process of displacement that the technological medium has been causing in human life, most notably accelerated since the industrial revolution. Marx and theorists like Lukacs who follow do not fail to point this out: mechanism allows the dismantling of human systems of value and labour and replaces them with fragmented and quantified processes of industry that are derivative of a reductive mechanical model<sup>xci</sup>. This is the en-framing that Heidegger is concerned about in *The Question Concerning Technology*. In this manner, one may read the cautionary tales of science fiction as a reaction to this ongoing and accelerating process of technologization, one that is frequently constructed as monstrous, and that is embodied in the technological being (as the site of an absolute ontological horror).

This technological monster, which is variously held out as the promise and the peril of humanity is the hybrid cyborg that in many ways we already are. If the literature and film of science fiction can be said to be about the present at least as much as it is a fiction of the future, then the radical dystopic and utopic modes attached to the potential of the technological being betray both a deep concern and fascination with the ongoing engagement of the West with technology and technics. As Allison Muri demonstrates in *The Enlightenment Cyborg*, the heritage of the modern human-machine blend descends at least to the Enlightenment. However, the work of Stiegler and Leroi-Gourhan demonstrates that the cybernetic being is always already human. The tool is prosthetic; in that it is placed before us, and in a sense, physically separate. The modern science of prosthetics however is the medical introduction of the technological into the human body. The continuum between the tool as an extension of a limb and the tool *as limb* is completed in this cycle, one that has been ongoing since at least Greek times (the shrine of Asklepios at Epidauros contained prosthetics in abundance). The cyborg is in this sense a logical “monstrous” step in a process that is ongoing. In *BSG*, the imagined fusion is complete: Cylon and human are practically indistinguishable as machine and human mirror one another so perfectly that they reproduce sexually, and the hybrid Athena is the result (The show’s writers present her as mitochondrial Eve, the mother of all present humanity).

This perfect and seamless blend of machine and human is thus the origin of modern humans, *always already* the technical and the organic. This direct insinuation is that which Stiegler is

making in his work— that the human being is always already techno-logical. We are not simply defined by technics—we are rather constructed out of it even *as we are constructing it*. The “monstrous” movement is therefore the twinned drama of a realization of sameness and alterity, the coming to fore and the recession of a new way of being. Kittler’s contention that we must apprehend the technological on its own material terms leads us in a seemingly contradictory direction, but one that when taken in concert with Steiglerian teleology provides us with the means to explain both the alienation of the subject and the horror of the technological as part of the same process of ontological differentiation that is the Derridian *trace*<sup>xcii</sup>. The technological being is that movement of Being which replaces human being, but is also hybridized with it, and it is the simultaneous displacement of beings and the growing emergence of this new mode of being that at once secures our promise and threatens our existence. Technological being is that which “shows itself of itself” and reveals to us an ontological truth, both in the literature and film of science fiction, but also more significantly in the increasingly technological world that constitutes our being.

### **Metaphor: The conceptual bridge to material monsters.**

This text plays itself out between the conceptual and the material. Metaphor is an important means of understanding monstrosity and media in general, because the concept embodies the two key notions of transportation and transformation. Literally “to carry over”, the metaphor is the dominant literary trope through which human beings express themselves, and through

which any representation of reality becomes possible. Because a representation is always exactly a re-presentation it is *always already* a metaphor. We are forever caught within, but also potentially liberated from a system of representation by metaphor, which is arguably the engine upon which the symbolic order is founded. In essence, metaphor is the price and the reward of technics, which comprises the linguistic and the social. Communication, as the complex of both the technical and the linguistic, the *noetic* and the *poietic* is itself metaphorical. It is in a sense an endless game of telephone in which meaning is broken down and reconstituted *ad infinitum*. However, the ontological uncertainty this creates is the ground of potential change, the differentiation and deferral of absolute meaning the very foundation of ontological possibility. In this sense, the metaphor is also a *monster*, in that it shows and hides simultaneously.

John Locke was notably suspicious of the metaphor, as were the positivist philosophers. Locke called the metaphor “mixed mode” and it was this blend that he felt sullied the perfection and the unity of a trope and rendered it unclean and unusable in the pursuit of knowledge<sup>xciii</sup>. He distinguishes the mixed mode from the simple idea, believing that the latter delineates and defines an actual thing in the world. The word “cat” for instance refers to an animal, and this presents to him no problem, because a cat is an empirically valid creature in the world the knowledge of which comes to us through sensory habituation over time. The fantasy operant in Locke’s world is that of unmediated communication made possible by the avoidance of metaphor. Locke’s goal of a “pure and unsullied” philosophical language is

taken up by the positivists Rudolph Carnap and Gottlob Frege, who sought a logical foundation for human language that would be universal. As a result, they are deeply critical of philosophers like Heidegger, (whom Carnap famously described as a failed poet). However, the project of a logical foundation for human language itself has itself failed, and has given way to first the Structuralist thought of Ferdinand de Saussure and the subsequent work of Post-Structuralist linguists who see the sign as purely arbitrary.

In this sense, Locke's fantasy of the perfect unmediated language has morphed into what he would consider the nightmarish landscape of the metaphor, in which we are forever consigned to a system of incomplete replication, where one can only exchange one sign for another, and in which there is no stable semiotics, just an ever-shifting and changing field of transforming and transformative meaning—a "desert of the real" (after Jean Baudrillard). The relationship between the metaphor and the monster becomes clear in this instance, and it is important to note that the metaphor, far from being the death of language rather makes it possible in the first place. Language, as part of the overall system of communication requires metaphor as part of its conditions of possibility. Far from being a nightmare, it is the *genetic* potential in language to transport and transform meaning that ensures its survival. Meaning must continually be in flux in order to sustain the symbolic order in which it operates, because subjectivity itself is continually in flux. If both systems were not interdependently malleable, a catastrophic collapse would be inevitable. Once again, it is Derridian *différance* that allows us to produce the ontological conditional of the human being, language and



technics, without which we could not even begin to think of such possibility. It is precisely this deferral of meaning by the quasi-transcendental sign that migrates towards, but that never achieves the transcendental horizon that ensures the very survival of the sign itself.

The sign "A" (as a pyramid, after Derrida) is not simply the Platonic sepulcher of the dead letter—it is also a time machine which transforms death into life, and reunites the dead king with the sun god (as he is *already* himself a manifestation of Ra), the finite with the infinite, and is the symbol of the generative rays of the Egyptian sun/son from which the literal stairway/starway to heaven is built. Out of the shifting sands of the temporal (again the desert of the real) the technique of the letter, like the tomb/time/machine repeats and repositions itself as meaning always in flux. This phonological-graphological *différance* mirrors the line between being and non-being that is Leibnizian *mathesis universalis*: The event horizon between 0 and 1, the cataclysmic boundary between space and time, the black hole (singularity) which drives the cosmic engine, a secretive galactic truth which also gels in the early progenitor of the computer as prime ontological metaphor. In this sense, technics is also metaphorical, the *arche* and the *telos* of what it is to be human<sup>xciv</sup>.

Charles Babbage's semi-automatic hardware loom (behind the man Babbage the woman Ada Lovelace Byron who wrote the code upon which it ran) is quite literally, a *difference engine* is the material progenitor of the hybrid cybernetic being and those yet to come, the computer built of both hard and soft, of the digital language and the human producing technological

potential. Metaphors are therefore, as is suggested by George Lakoff and Mark Johnson not simply linguistic devices, but more significantly, fundamental modes of existence<sup>xcv</sup>. What remains unexplained by this inquiry is the relationship between the linguistic concept and the physical monster, the cyborg figure of science fiction that grounds and directs it.

If the metaphor in language is that which transports and transforms, then the medium is the physical manifestation of this same process. Drawing on the work of Innis and McLuhan, it is possible to demonstrate how all objects of human manufacture, all artifacts past and present are in fact media. Both Innis and McLuhan categorize media in different ways, with Innis focusing on the temporal and spatial aspects, and McLuhan devising a system built around the “hotness and the coldness” of a given medium (which is to say nothing more than some media require more and less engagement). What is common to both systems is the idea that any human object, as part of a larger symbolic or cultural order carries with it meaning, although that meaning may be more or less cryptic depending on the point of reference of the observer. Media are therefore of primary significance to ontological research.

### **Media: The grounding of the human in the technical.**

Stiegler discusses Leroi-Gourhan’s characterization of the technical object, the first tool as already kind of techno-logical medium invested with ontological capability. Since Leroi-Gourhan, advances in neurobiology and evolutionary science hold out tantalizing clues

towards the totalizing effect of the medium in the recent evolution of human beings.

Language is seemingly co-evolved with technics, and the two formed an evolutionary complex in early human existence, even before the “arrival” of modern *H. sapiens*. Fine motor skill receptors, language faculties and musical abilities all center in the same area of the prefrontal cortex, and are genetically associated with one other<sup>xvii</sup>. This suggests, among other things that these different human capacities were co-evolved in the same environmental context, because mutation depends overwhelmingly on selective pressure. Such genetic change is generally understood as the process whereby environmental conditions cause selective pressures in a given population that in turn drives further selective change. Genetic drift, random mutation, and possibly viral transcription provide other mechanisms, but it is observably environmental change that produces the vast majority of evolutionary adaptation.

In the human and the proto human, the arrival of tools meant significant alterations in both resource procurement and use. Not only does tool manufacture demand high-energy output, it requires extensive forethought (*prometheia*) and planning. The rewards, however are extensive, and include increased access to richer sources of nutrition and the status they confer. Technology becomes intertwined with the most basic of human needs—food and mate acquisition (we know from primatology that a mate with food is a desirable mate). Over millennia, selection would have naturally have begun to “choose” individuals who were ever more competent at the complex duties of tool manufacture, maintenance and use. Inherent in the complex tool is a morphology that demands fine motor skills and the ability to transfer

the skills of manufacture from one individual to another. These skills are not simply genetic: genes only contribute the aptitude—the rest of the complex of industry needs to be communicated epigenetically, that is through cultural means. As Stiegler points out in *Leroi-Gourhan*, this of necessity requires communication, whether verbal or gestural. The close association of the brain centers that govern motor skills, music, and language demonstrates the quantum between gesture and speech, and opens up the possibility of communication as a phenomenon deeply imbricated in the very core of human being.

Through this conditional of the retention and transmission of early techno-logical skill, the intertwined nature of technics and language is concretized. It is no longer possible to merely think of language as separate or before technics. As Derrida points out in *Of Grammatology*, the *phone* is always already associated with the *grammé* (although he sees the latter as the product of the former—*l'écriture avant la lettre*) as the conditional of the possibility of speech, over and against which the logocentrism of Western metaphysics has eradicated all trace of this *arché*. Certainly, this aporetic source falls into the purveyance of *Différance*, which is itself a thoroughly aporetic concept. To return to Stiegler, the original forgetting of the technological fault of Epimetheus may be pushed even further back to a more distant *arché* that is also a kind of non-origin, one that is itself necessarily forgotten, or even eradicated in a moment of necessary erasure, even as the echoes remain in the lithic materials that these distant ancestors have left. The ubiquitous hand-axes of the Acheulian are the only

remaining media of the first truly mediated age in which the progenitors of modern human beings began a long emergence/emergency from the ground of *physis*.

The tool then, as a technology, and belonging to the complex of technics is a medium, and in this sense all technology proper belongs to the techno-logical complex that is communication. The phenomenon of communication can therefore be seen as the unity of beings, and the techno-logical complex that comprises material culture. Ideas, thoughts, memes are inscribed not only in the grey matter of human neurons, but more significantly in our contemporary culture, in the *hypomnemata* or media that surround us. The mistrust of the medium is precisely the mistrust of the monster, and the monstrosity of the medium is ontological, as Plato rightly argues in the *Phaedrus*. Writing is at once living and dead, and such it seems immortal. Media transcend their makers in this manner, and the history of media is therefore the history of the emergence of ever more complex systems of mediation, from writing to type, to radio and cinema, the television and beyond.

Each progressive technological step produces increasing complexity, both of the medium itself and of the dynamic systems of communication that surround it. The transductive speed with which these media operate does not cease to accelerate. To be certain, there are periods within the history of media development when setbacks have stalled this progression, but the last century has witnessed the exponential explosion of global telecommunications system of unparalleled size and density. If human consciousness can be said to be phenomenally the

product of a density of neurons, the end requirement for the storing and sorting of so much complex memory, then the vast network of computing power founded on the same ontological difference which addresses the nature of human being, of life and death can only be seen as a mechanical analogue of immense proportions. The medium is monstrous because it is a metaphor, because it is a mixed mode, because it is, in the end, *hybrid like us*. The question that this line of inquiry brings to the fore is directly about the nature of this techno-logical medium as the other, the monstrous other that has both the potential to show us for who we are, but that also seems to destroy us by robbing us of our collective memory.

### **Medium as Other: *BSG* and Non-Dualism.**

Jacques Lacan is the first theorist in the psychoanalytic tradition to explicitly define radical alterity (although one also finds this concept in Kierkegaard, for example). The other in this sense is the *unknowable* other: that which poses a threat to our own existence, if only *because* we cannot know her (conversely, Levinas argues that our relationship with the other is a means of self knowledge). *BSG* plays with, and then ruptures the security of this concept, first by presenting the Cylons as mechanical other, then as bio-mechanical other, and then by revealing them as a perfectly human mirror capable of not only blending with human beings, but also paradoxically one half of the genetic source of present-day humanity (as a kind of circumlocutious myth of origin). The resultant Moebius loop created in the biological and technological struggle becomes a vast *Götterdämerrung* (twilight of the gods) that is played

out eternally in the cosmos becomes articulated in the series finale as a kind of divine self-knowing<sup>xcvii</sup>. The conflict between human polytheism and a monotheism born out of a mechanical mind breaks down as well, as the divine articulated by mechanical and organic angels (demons?) alike is revealed to be an Avatar of absolute perfection capable of encompassing all variants, and all beings. This non-dual *deva* (from the Sanskrit—god) resonates with the later Heidegger's conception of Being. The latent message is that the titanic struggle between man and machine witnessed in the series is not between the forces of good and evil, but as Nietzsche would have it, simply beyond both.

The stunning revelation of the series is that our own struggle, and our own misgivings about techno-logical being are at once real and unfounded, because of the *always already* of the hybrid cybernetic being. Human being, articulated in the social *is* technical being, and the collapse of the subject/object relationship, in the death of god and the end of the author is both the potential death knell of the human and the birth of what is to come—the technological being that is at once irreducibly human and irretrievably other. Of course, this is to engage thoroughly with the fantasy that the human ever truly exists. From the non-dual perspective, that which rather exists is communication, the transference of energy and matter (information) through chemical, organic and mechanical systems from a nebulous past to an equally nebulous future. Seemingly caught like flies in amber, the human subject cannot help but engage with the existential fiction, as it is the quantitative and qualitative result of a mortal existence.

Communication as phenomenon is therefore in a sense productive of and produced by ontological difference, the deferral, and the differentiation of all space/time, and it moves from and through the objective nexus that human (and perhaps animal) perception creates. This difference is made possible in the quantum leap from the inorganic to the organic, from the nearly identical self-replication of silicates which grow over millennia into octahedral quartz crystals to the twisting double helix of carbon based DNA, the molecule that permits infinitely greater biological difference through imperfect replication. Communication as a metaphorical, mediated, and *monstrous* system is opened up in this movement, the very possibility of radical difference not permissible but presaged in the silicate substrate of crystal quartz—which may also sublimely be amethyst, rose, or rutilated. The emergence of the hybrid technical being that is the human being produces the possibility of an even deeper differentiation, the digital revolution which inaugurates infinite difference as a real possibility, and the promethean unbinding of a purely technical progeny—Frankenstein's monster reborn out of the subconscious fiction of Western science as the *logical* technical offspring of organic *difference*.

The technological medium expressed in the computer and the Internet must, as Kittler rightly points out be taken as its own material being. To only think it in terms of the human is to misapprehend what it is, its potential *qua* being. The emergence of this technical being is what engages us passionately in the dialogues of science fiction, and the Cylons of *BSG* allow us to countenance the horror and the wonder of such an eventuality. Of course, the



destructive and generative capacity of the technological child is no less or more than the parent. Just as Victor Frankenstein and his peers were unable to understand the sad monster they had built and rejected, so to do fail to understand what we have built, that which in a real sense *constructs us*. This techno-logical progeny is at once protector and executioner of the human—Oedipus come to kill his father, (just as Ouranos eternally prepares to devour his spawn and Ourobouros eats its own tail). Caught in the endless cycle of death and rebirth, it is easy to see this post-modern mythology as a techno-deterministic fairy tale, but it has a deeper significance, which is to demonstrate a means and a way forward out of the nihilism of modern consumer culture. Technics, like human children requires care in order to flourish

Communication, as the overarching phenomenon that unites the various theoretical threads of the inquiry is the key to understanding both the teleological and systemic nature of the development of *physis* with and in contrast to the various elements that compose it. Tracing the history of technology is to trace the history of the medium, and of the slow ascension of the primacy of technics. Most significantly, the invention of the microcomputer and the establishment of the Internet shortly after the dawn of the electric age *inaugurates* a new chapter in this progression. Prior to this epoch, human beings were the primary media through which information passed. That is to say information could not be relayed from one medium to another without direct human intervention. While the mechanism of the industrial revolution created machines capable of infinite *reproduction*, (such as the mechanical printing press), these still required human attendants to constantly monitor their supplies and

functioning. The worker long ago became subordinate to the larger mediating apparatus, but was still an integral part of its functioning.

From the Stieglerian perspective, the stone tool relies on early human beings for its propagation—so to do mechanical systems rely on human beings (and human beings on organic systems as well). *Techné*, as a combined *noesis* and *poiesis*, the mimetic and the prosthetic is itself a system of self propagation, an epiphylogenetic system (after Stiegler) that regulates itself from itself, based on the physical characteristics inherent to the material substrate, just as genetic being is rooted in the organic materiality of its heritage. The leap from the Paleolithic to the computer age is from silicate to silicon, and it is guided by macroscopic manifestations of inherent atomic properties of the base raw material. From naturally occurring silicon dioxide, the most common base material of stone tools, to the mechanically refined pure silicon substrate of the microchip, the arc of human technology is *always already* bound up in the process of an organic mediation of the technical that requires human beings for its development and propagation.

Automation has produced, among other things, creation of self-regulating machines<sup>xcviii</sup>.

Cybernetics, or the science of systems theory is the science of communication and control, and as such it is equally applicable to both organic and inorganic systems. The principle of homeostatic regulation within a mechanical system is easily illustrated by observing how the furnace and its thermostat operate in any given home. When the temperature falls under a

predetermined level in the home, the thermometer in the thermostat communicates this information with a switch that turns on (controls) the engine in the furnace. The furnace communicates with the thermometer through heat, and when the temperature rises above another predetermined level, the furnace exerts control on the thermostat, which then shuts off the furnace. It is a very simple example of how communication and control work to maintain a homeostatic variable, and it is roughly analogous to the systems that scientists observe in the nature, although these may be infinitely more complex<sup>xcix</sup>.

The communicative elements of such a system are not complicated, in that we cannot speak of a rich language of exchange. It is a simple mechanical system that serves as a model for much more complicated and significant technological developments. Cybernetics, developed by Weiner (and exploited by the early geniuses like Alan Turing of the computer revolution) was one of the significant elements in the development of intricate and complex systems of control and communication that would for the first time, not require any significant human intervention. As these lines are being typed, the various elements of the computer that is processing them are in constant high-level communication, not only with each other, but with other computers linked together in a vast communications system that is itself in many ways, fully automated. This system is dizzyingly intricate, and self-regulating. While it is tempting to think of it as in the service of humanity, the reality that Kittler exposes is that the technology now serves itself. Stiegler's epiphylogenetic model demonstrates the near-independence of the system. No one person, or even one group of people can possibly

understand the complexity of it and its needs are articulated, not merely by the demands of industry or commerce, but more significantly by the requirements of the system itself.

When elements of the system break, the repairs are signaled by computers informed by other computers, the communication of which occurs in the occult binary language only known to them (Turing was one of the few human beings who could read binary code just by looking at it), and the repair teams, themselves armed with more computers are dispatched automatically to the site requiring intervention. The system maintains and repairs itself without requiring any human decision making, which is to say, human mediation. The technicians do not decide what has to be done, this information has already been provided by the system's diagnostic tools. The excision of the human being from the mediated loop of cybernetic communication is practically complete—in another generation, these tasks will be performed in many cases, by robots. Then the process of the exclusion of human mediation of the technical world will have run its course.

From this perspective, it is evident that the process of techno-logical becoming is the emergence of a technical kind of being. The network of telecommunications media is seemingly in the service of human beings, but we are rather merely its content. It links together, at the speed of light, sensory arrays from around the globe, relays and transforms the data for human beings, who are the end user, but the relationship is not of essence a communicative one. The system communicates primarily with itself, and spits out bits and

pieces, as required to human beings, but the element of communicative control is no longer in the hands of the biological human medium, but rather in the technology itself. The fantasy that we maintain is that by pushing a series of buttons at an automatic teller, or by demanding pornography streaming on the net we are in essence controlling the system, but in fact, it is the system that is controlling us. We now need the system more than it needs us. The stone tool required human beings and human culture to propagate itself as a techno-logical complex. The computer network we have built has no such requirements, and we rather require it. The shift is in the ontological primacy of the human to the technical medium.

## **2.0 Conclusion:**

The intertwining of the four central concepts—of memory, medium, monster and metaphor serves not only to illustrate the central postulate of the thesis that Being is itself an interwoven phenomenon, but also the manner in which the communication, as the flow of information; biological, electrical, genetic, alphanumeric is itself indicative of a larger movement that is arguably Being. The question of time, and in particular mechanical time, which is represented culturally both as an acceleration of the temporal experience, produced by the relativity of historical experience, through the knowledge of the antiquity of the historical *arché* and of the increasing linearity of that same trajectory, individual and collective becomes paramount in determining ontological experience. In modernity, the closing of the helical trajectory of cyclical time and the simultaneous dilation of the

corkscrew motion of the temporal to infinity produces anxiety—and *melas kholie* the black bile that is melancholia. The human being addresses this technical reality by both embracing and rejecting the technical, the already inscribed ontological determinant of *other*.

The mis-apprehension of the technical simply as other and the emergence of this as possibility in the literature and film of science fiction—exemplified in the seamless hybridity BSG's cylons marks the irruption and the vanishing point of Being. Monstrosity, as that which horrifies and demonstrates is perhaps *the* metaphor of modernity. It is that which both carries over and transforms, although the illusion of a static humanity persists and distorts the process. Non-dual philosophy (from a Heideggerian perspective) allows us to read the human as a kind of becoming. This is not simply metaphysical, but also significantly *physical*. Just as the philosophical project of revealing is a transformation of the human, so is the human undergoing *biological* permutations. However, the role of memory both in the constitution of the self, and of the possibility of science is not simply proscribed in the biological, but also the mechanical. As the paper suggests, this inscription of memory in media, in the mechanical (*techné*) is always already the origin of what we call culture. Memory therefore is increasingly relegated to the epiphylogenetic progression of technology<sup>c</sup>. This process is metaphor because media always already transmit *and* transform.

Far from being the death of metaphysics and the end of history, the realization that objective and subjective are limits which can never be reached provides the impetus for a renewed

genetic understanding of media and culture in general. The impossibility of definition heralds an end, to be sure, but also a beginning. As with cellular meiosis, the eventual fissioning of the one into two, the accrued memory (as a density of information) that is internal to technology and external to biology in this very particular Steiglerian way is perhaps undergoing the same process. It is a process whereby the monstrous possibility of technical being is announced and assured. Philosophy can therefore be concerned with the emergence of such a being, which is in a way itself human being becoming, or more simply Being *tout court*. The path that remains to be charted is the way in which the divisions in the orders of Being, from the material through the organic to the mechanical interact, and the precise manner of these emergencies. In this sense, this work is preliminary, it charts the lines of a few concepts that help to define this ontology and situate it within a larger body of work. It is therefore communication that is key because communication studies provides the bridge between *logos* and *techné*. It also allows for an understanding of media that transcends materialist or idealist readings, and a renewed understanding of the popular consciousness and the anxiety and dread of the technical that sees these phenomena not as harbingers but rather as potent signs of a future yet to come, paradoxically already here.

This is the promise and the angst that inhabits the world of science fiction, which since Shelley has heralded the advent of the technological being. The ontological confusion that is produced by the monstrous medium, the mechanical becoming is produced in the space between the self and the other, and is exacerbated by the ontological difference, which

already manifests itself as anxiety. The acceleration of the temporal in the present is the direct result of transductive speed, as Stiegler points out, and this is not simply techno-determinism, because it is impossible to separate *techné* from *logos*. They always already co-habit within the realm of the human, and the techno-logical represents the erased *arché*, the *terminus ante quem* of the thinking of human being. Culture exists only within the aporia of the vanishing point of all that is techno-logical. It cannot pierce the veil between itself and biology, and thus all discussions are forever bound within this closed system of epigenetic being. To think the human is to think the cultural, just as to think the post-human only ever to think the human. At the other end, the *telos*, again an infinite horizon, beyond which only the quantum leap of the mechanical outside the biological may go, the quasi-transcendental limit of *différance*, is the negation of the sign, and of the entire symbolic order, reduced to the difference between zero and one. The teleology this analysis sets up is only deterministic insofar as systems are self-determining. Systems, both biological and technical combine, in a non-dual fashion both the rational and the irrational.

The vanishing point at the horizon to which this proposal addresses itself is the emergence of the technical being. Arguably, this process is already well under way, as the networks of communication span the globe and tie together vast fields of data and instrumentation, ostensibly for human need and desire, perhaps themselves nothing more than an *orexis alogos*, the “irrational desire” that is human *emotion*. However, both Stiegler and Kittler have demonstrated how this movement is both externally and internally regulated by forces that



are not merely human, cultural or natural, but rather according to an internal logic of the technical object itself which escapes the boundaries of the human *even as it defines it*. This progression from the natural to the cultural to the technical can be read as a movement of the trace of Being, as a kind of ontological flow that transcends the boundaries of what is traditionally called ontology.

The trajectory announced by Kittler and Stiegler is perhaps the opening of a truly communicative notion of Being, one that is firmly rooted in a renewed and novel look at the place of the technical against and within the sphere of human activity. The conclusions that may be drawn from this analysis already reveal themselves in the literature and film of science fiction. This prophetic canon delivers the technical being as possibility—a potential future to which we must both address ourselves and question radically. Heidegger's non-dualist approach offers a clear path to understanding this progression, one that escapes antagonistic and dialectical readings, and one that potentially offers a means of apprehending the technical in progressively *productive* terms. It offers the hope that we may acquire not only self-knowledge but also come to know and understand that which we create to be like ourselves—that which is deserving of the same protean care and respect that seems so fleetingly hard to attain in the illusory finitude that is human life.

<sup>i</sup> The mathematician Gödel is famous for his incompleteness theorem that demonstrates that no system of mathematics completely describes any given phenomenon. Conjunctively, thinkers like Slavoj Žižek have noted that philosophical systems are similarly “incomplete”. Thus, it is not simply the finitude of the human subject that precludes objectivity but also rather the very nature of the universe itself.

<sup>ii</sup> *Techné* is translated variously as craft, technology, or art. What is germane to this study is the notion that *techné* refers to the man-made, and specifically in this context, to machines and mechanical history, although it does cover a larger range than what we consider today to be “technological”. It is for this reason that Bernard Stiegler uses (in English) the neologism “technics”. “There is first of all the problem intrinsic to the object “technics” (*la technique*), of not falling into a specialized parceled history of techniques; technics is the object of a history of techniques, beyond technology” (Stiegler, p. 30).

<sup>iii</sup> In his analysis of Aristotle, Heidegger determines that *techné* is indeed a mode of *aletheia*. However, it is secondary because it pertains not to that which is immutable, but that which can be otherwise. “In *techné* the know-how is directed to the *poieiton*, toward what is first produced and hence is not yet. This implies that the object can also be otherwise...” (Heidegger 2003, p. 28).

<sup>iv</sup> “We can come to understand it only on the basis of the meaning of the Greek concept of Being. Because precisely that to which *sophia*, is related is everlasting, and because *sophia* is the purest way of comportment to, and of tarrying with, the everlasting, therefore *sophia* as a genuine positionality toward this highest mode of Being, is the highest possibility” (Heidegger 2003, p. 117).

<sup>v</sup> “Nature and history become the objects of a representing that explains. Such representing counts on nature and takes account of history. Only that which becomes object in this way *is*—is considered to be in being. We first arrive at science as research when the Being of whatever is, is sought in such an objectiveness” (Heidegger, p. 127).

“This is why the instrumental conception of technology conditions every attempt to bring man into the right relation to technology. Everything depends on our manipulating technology in the proper manner as a means” (Heidegger, p. 289).

<sup>vi</sup> This does not discount that there are not more destructive and less destructive ways of living in nature, nor that the modern expression of objectification is totalizing, rather it is to suggest that one should not confuse a historically prior and less destructive period of civilization with a mythical *illud tempus* in which human beings lived in harmony with nature. Human beings, as *Homo sapiens* are already mediated and technical beings by virtue of our ubiquitous use of tools, a practise that transcends our genus, and traces itself into antiquity through *Homo habilis* to *Australopithecus*, a phylogeny that is ancient by more than a million years.

<sup>vii</sup> Linear time is in the simplest sense, measured time. Although agriculture is based on seasonal cycles, even this temporal progression acquires a linear trajectory not evident in hunter-gatherer conceptions.

<sup>viii</sup> Mircea Eliade develops this thesis (with respect to sacrifice) in *The Myth of Eternal Return*: “A sacrifice, for example not only exactly reproduces the initial sacrifice revealed by a god *ab origine*, at the beginning of time, it also takes place at the same primordial mythical moment; in other words, every sacrifice repeats the initial sacrifice and coincides with it” (Eliade, 1971, p. 35).

<sup>ix</sup> Oral/aural cultures rely on the regeneration of myth and of culture through story telling. Origin is therefore always imbued in cultural practice and experience. Written/ocular cultures maintain the origin as a fixed point in a distant past precisely because writing ensures its own antiquity. The medium becomes a temporal mode through which a culturally linear trajectory becomes possible.

<sup>x</sup> Heidegger’s *magnum opus* *Being and Time* deals with the relationship explicitly, as does Stiegler’s *Technics and Time*. Henri Bergson’s *Time and Free Will* also deals with temporality, memory and perception.

<sup>xi</sup> Briefly, Einstein’s general relativity states that the passage of time is not universally uniform, but rather relative to the proximity of the subject to a center of mass. In the milky way, for example the *perception* of the passage of time on earth is not the same as at the galactic hub, because the gravitational pull of the massive black holes that are situated there cause time to slow to an almost stand-still (at the event horizon of the singularity).

<sup>xii</sup> “Every explication and every transition...is nothing other than historical disclosure...this is to say that the whole of the cultural present, understood as a totality ‘implies’ the whole of a cultural past in an undetermined but structurally determined generality. To put it more precisely, it implies continuity of pasts which imply one another...and this whole continuity is a *unity* of traditionalization up to the present...we can also say now that history is from the start nothing other than the vital movement of the coexistence and the interweaving of original formations and sedimentations of meaning” (Husserl, p. 173).

<sup>xiii</sup> *Différance* is notoriously difficult to relate and explain. Jacques Derrida explicitly states that it isn’t even a concept. He wants us to think of it in terms of a conditional or as a potential: “It is rather because there is no *name* for it at all, not even in the name of essence or of Being, not even that of “*différance*” which is not a name, which is not a pure nominal unity, and unceasingly dislocates itself in a chain of differing and deferring substitutions” (Derrida, 1982 p. 26).

<sup>xiv</sup> Philosophy and religious thought in antiquity “permit” the transcendental god. The movement of the divine from a purely immanent to a purely transcendental position is paradoxically that which allows Nietzsche to announce the death of god. It is only possible to kill the divine once it no longer inhabits the natural and human worlds, as the chthonic gods perpetually cycle through life and death.

<sup>xv</sup> “This mythical time is “sacred” because it was sanctified by the real presence and the activity of Supernatural Beings. But like all other species “of sacred time”, although infinitely remote, it is not inaccessible. It can be reactualized through ritual. Moreover, it constitutes a kind of charter of things that still happen, and a kind of *logos*, or order transcending everything significant for aboriginal man” (Eliade, 1973, p. 43).

<sup>xvi</sup> Human being is constructed out of both memory and experience. Temporality and mortality arise as conditions of both. Time only has a vector if the subject can remember a time before *now*. Thus, a purely immanent temporality in which the subject experiences only the moment lived cannot produce either knowledge or a fear of death. The subject will respond not reflexively, but instinctually. It is this emergence out of instinctual existence that marks the “birth” of the human—a birth that is simultaneously a death of innocence (albeit one that is necessarily fantastical because it necessarily predates *memory*, and therefore *origin*). Origin implies some sense of linear temporality.

<sup>xvii</sup> Species are, in a very fundamental manner, epiphenomenal expressions of genes, which are themselves nothing more than assemblies of atoms that in turn are representations of theoretical sub-atomic manifestations of space-time itself. Individual consciousness is the phenomenon that produces the discrete nature of the life-world, but even that is constituted in an inter-subjective manner. Thinkers from Aristotle to Merleau-Ponty have remarked upon this, and it is not so strange as it might first appear to think, quite contrarily that *cogito ergo sum non*, is rather also the case, given that the “I” referred to here is the singular and rational subject as *res cogitans*. That thinking does not define the self, but rather something more expansive, the realm of thought or the *nöosphere* (after Teilhard, Bergson, and Verdansky) is an idea that opposes itself to Cartesian dualism and that opens up the possibility of a way forward out of the crisis of Rationality.

<sup>xviii</sup> “Already we have had to delineate that *différance* is not, does not exist, is not a present-being (*on*) in any form; and we will be lead to delineate also everything that it is not, that is, *everything*; and consequently, that it has neither existence nor essence” (Derrida, 1982, p. 6).

<sup>xix</sup> The separation of the word “archaeology” by the hyphen is meant to draw attention to the relationship between *telos* and *arché* (end and beginning) and the scientific study of antiquity, which is quite literally a speaking about origins. It also highlights the significance of the study of the material remains of culture, and of *techné* in general to the overall discussion.

<sup>xx</sup> Aristotle’s *Categories* divides primary substance into form (*hylé*) and matter (*morphos*). Hylomorphism is a significant dualism in the history of philosophy, and may be seen as an important theoretical foundation of Cartesian mind/body dualism (which is itself a reworking and expansion of an Augustinian aphorism).

<sup>xxi</sup> It is arguable that language or speech carries writing within it already as a precondition. Sign language and body language, gesture (to borrow from André Leroi-Gourhan) makes up part of the integral dynamics of speaking from the very start. If the sounds themselves can be thought of as a kind of negative space within the

mouth, then it is the positive physicality of the tongue, jaw and palate that make up the *techné* of speech. We are not accustomed to thinking of the body as a tool, but it is *always already* the first tool that any animal possesses. The differentiation between the body and the external artifact is not necessary for the determination of the tool itself—speaking and making are already bound to each other in the horizon of embodied experience.

<sup>xxii</sup> *Nous* generally refers to ‘mind’, and *poiein* to ‘making’. What is proposed here is a reading of the relationship between the world of thought and the world of the made object in which the ‘thinking’ does not reside solely in the human being. Rather, the system of objects, or artifacts that make up the external world participate in a real and concrete fashion in the shaping of the mental landscape, which is not subjectively bound, but inter-subjectively constituted. Moreover, the technological object, and in particular, ‘hot’ (McLuhan) communications media play a significant and important role in that inter-subjective constitution of the self. Thus, *poiesis* is the expressive and generative aspect of *noesis*, and the two should not be considered independently of one another, but rather always in tandem.

<sup>xxiii</sup> *Aleitheia* literally means ‘truth’, but it is rooted in an archaic term for ‘covered’. The Greek understanding of truth is as a negative concept, because to speak the truth is to engage in ‘uncovering’ or *a-leuthein*. “This privative expression indicates that the Greeks had some understanding of the fact that the uncoveredness of the world must be wrested, that it is initially and for the most part, not available” (Heidegger, 1997, p. 11).

<sup>xxiv</sup> *Technê* may be translated in a variety of ways. I borrow the rather general translation ‘craft’, because in its most general sense, the word simply refers to any man-made object. Bernard Stiegler advances this view in *Technics and Time: The Fault of Epimetheus*. In particular, he refers to the myth of Prometheus that is outlined in Plato’s *Protagoras*, in which Prometheus must steal from Hephaestus and Athena the ‘arts’ and fire in order to correct the oversight of Epimetheus. The arts that are here being referred to are the technical arts, as it is Zeus that eventually confers wisdom (*sophia*) and political skill (*sophistes*) on humanity. In this manner, Stiegler sees *technê* as the foundation for all other human skills.

*Logos* is generally translated as speech. “Thus, *aletheuthein* (uncovering, revealing) shows itself most immediately in *legein* (“to speak”) is what most basically constitutes human Dasein. In speaking, Dasein expresses itself—by speaking about something, about the world. This *legein* was for the Greeks so preponderant and such an everyday affair that they acquired their definition of man in relation to and on the basis of, this phenomenon and thereby determined man as *zoon logon echon*” (Heidegger, 1997, p. 19). This formulation and exposition also exposes the logocentric bias that exists in the Western metaphysical tradition.

<sup>xxv</sup> The relationship of *logos* and *technê* to *nous* is complex. They are here used to refer primarily to the expressive, and concrete presence of both language and craft in the world, and not as much to their mental, or ideal existence. However, both *logos* and *technê* may be reconciled through *poiesis*, which functions here as the outer expression of *nous*.

<sup>xxvi</sup> Wittgenstein’s articulation of his concept of a language game in the *Philosophical Investigations* is developed maieutically over a relatively large body of axiomatic and inter-connected statements. With respect to the problem of definition, Wittgenstein asserts that language expresses meaning effectively because the participants in a given ‘language game’ understand each other clearly. Thus, when someone is told to put an object *roughly there*, that person understands, based upon the given rules which govern that particular game, where to put the object. The number of rules pertinent to any given game may be more or less, and it isn’t necessary, according to Wittgenstein, to understand them all. Rather, what is necessary is that the participants understand enough rules to be competent players. *PI* § 71.

<sup>xxvii</sup> “How to conceive what is outside a text? That which is more or less than a text’s own, proper margin? For example, what is other than the text of Western metaphysics? It is certain that the trace which “quickly vanishes in the destiny of Being (and) which unfolds . . . as Western metaphysics” escapes every determination, every name it might receive in the metaphysical text. It is sheltered, and therefore dissimulated, in these names. It does not appear in them as the trace “itself.” (Derrida, 1982, p. 22).

<sup>xxviii</sup> “Thereby the text of metaphysics is comprehended, still legible; and to be read. It is not surrounded but rather traversed by its limit, marked in its interior by the multiple furrow of its margin. Proposing all at once the

monument and the mirage of the trace, the trace simultaneously traced and erased, simultaneously living and dead, and, as always, living in its simulation of life's preserved inscription. A pyramid. Not a stone fence to be jumped over but itself stonelike, on a wall, to be deciphered otherwise, a text without voice" (Derrida, 1982, p. 24).

<sup>xxix</sup> Non-dualism demands inclusion. Although this is a totalizing grand narrative, it is also simultaneously a narrative made of many disparate threads. An appropriate metaphor would be of a weaving. Many different threads of varying shapes, textures, fibers and sizes can nonetheless be woven into a coherent and functional piece of fabric, because this is the qualitative nature of both the process of weaving and of thread. Philosophical threads can be woven in the same fashion as long as one accepts that they need not agree in order to be combined in this fashion. What must be kept in mind is that ways of seeing contribute to the overall understanding of the picture. None can describe its totality, either in isolation or in combination, but nonetheless a complete picture emerges. Just as a weaving is composed of negative space, so are there points of non-contact between philosophical perspectives. Non-dualism potentially allows the combination of threads otherwise seen as fatally paradoxical.

<sup>xxx</sup> Žižek uses the term *parallax* to describe aporetic phenomena, and requires both an ontological shift in the object in question and an epistemological shift in the observer, or subject. Heidegger is (in part) concerned with the *ontological* difference between Being and beings. The essential problem that presents itself relates to the question of the transcendental nature of Being and the relation of finite being to it. Again, it is the *opposition* of the terms that creates, in a very real sense, the tension of Western thought, and the problems of determination, and definition. It is precisely this tension that opens up and inaugurates the temporal acceleration of the process of *différance* itself.

<sup>xxxi</sup> "For Heidegger what self-shows, and the self showing as such (the emergent emerging), includes what humans bring to and what they 'receive' in, the phenomenon. Thus, in Heidegger's phenomenology from *Sein und Zeit* on the subject-object distinction collapses (Maly, pp. 3-4).

<sup>xxxii</sup> "We cannot just 'abandon' the ontological difference, because it is a part and parcel of the historical unfolding of be-ing in its shape as metaphysics. But to be let into the dynamic of be-ing as en-owning, we must 'leap over' the distinction. But this paradox also belongs to the necessity of thinking, which Heidegger's saying-thinking wants to open up" (Maly, p. 29).

<sup>xxxiii</sup> *Différance* according to Derrida is a way of thinking about human existence that shows how any determination is both a differentiation and deferral. To think the human is always to differentiate, to exclude. This exclusion is never final, but always a process whereby an ultimate differentiation or definition is put off infinitely. The horizon to which this process directs itself, its end or *telos* is necessarily quasi-transcendental (Derrida's notion), because we move towards it, but never achieve it. This is the nature of finite existence, and in this sense, *différance* becomes a way of non/thinking about Being itself. Derrida is careful, however to try to demonstrate how *différance* is as much or more about a non-speaking or a non-thing.

<sup>xxxiv</sup> "In other words, could we not say that we find ourselves in Heidegger the moment we fully assume and think to the end that there is no transhistorical absolute knowledge, that every morality that we adopt is *provisory*? Is not Heidegger's hermeneutics of historical being a kind of *ontology of provisory existence*? This is why the topic of finitude is inextricably linked to that of failure" (Žižek, p. 274).

<sup>xxxv</sup> "Perhaps this is why the Heraclitean play of the *hen diapheron heautoi*, of the one differing from itself, the one in difference with itself, already is lost like a trace in the determination of the diapherein as ontological difference" (Derrida, p. 22).

Another of Heraclitus' fragment in its entirety points us in a slightly different direction. "They do not understand that what differs agrees with itself; it is a back-stretched connection such as the bow or the lyre" (Hippolytus, *Refutations*). Kittler speaks of Odysseus' bow as a kind of lyre, and Stiegler draws connections between speech and music. The intellectual bond between music, math, gesture and speech is borne out in scientific studies that demonstrate the association of fine motor skills, musical ability and mathematics in the human brain. "Our study has shown reciprocal effects of musical and linguistic tasks on the excitability of the

primary hand motor cortex. This finding supports the general concept of opposite hemispheric specialization for music and language in the human brain" (Sparing, *et. al.* p. 222).

Many researchers think hand and face gestures offer behavior that is more analogous to speech than are animal vocalizations. In all other mammals, both breathing and articulation are directed by brain areas quite separate from those associated with human speech" (Holden, p. 330).

<sup>xxxvi</sup> Schopenhauer champions a *philosophical* relationship between the East and the West, and etymological evidence exists to support this claim, although many scholars are still reluctant to do so. The proper noun Zeus is a variant of the Greek *theon* which means 'god', which itself is derived from the Sanskrit word *deva*, from which we draw the English 'divine', and 'devotee'.

<sup>xxxvii</sup> Zeruneith is perhaps a little over-zealous in his claim that Homer *produces* a shift in Greek thinking. It would rather be more prudent to suggest that there is a systemic interaction between the textual evidence (as it exists today) and the changes occurring in Greek culture at that time.

<sup>xxxviii</sup> Prometheus is punished for stealing fire in the Greek tradition. Adam and Eve are cast out of the garden for tasting of the fruit of knowledge in the Judaeo Christian canon.

<sup>xxxix</sup> Once tool manufacture becomes provably determinate in the archaeological record there is little to no evidence that it was ever abandoned as behaviour. From *h. Habilis* to modern *h. Sapiens* there are no exemplars of complete technological abandonment. Even the most "primitive" tribes encountered by anthropologists maintain Paleolithic technologies.

<sup>xl</sup> "Once upon a time there were gods only, and no mortal creatures. But when the destined time came that these also should be created, the gods fashioned them out of the earth and fire and various mixtures of both elements in the interior of the earth, and when they were about to bring them into the light of day, they ordered Prometheus (forethought) and Epimetheus (afterthought) to equip them and distribute to them severally their proper qualities... Thus did Epimetheus, not being very wise, forget that he had distributed among the brute animals all the qualities which he had to give. And when he came to the race of men, which was still unprovided, he did not know what to do". *Protagoras*, 320,d-321, c.

<sup>xli</sup> "And at the supra-individual level, he (Odyssey) explores the heroic world, revealing it to be too limited to serve as the basis for the future. It is Odyssey and his qualities that belong to the future and anticipate the development of Greek culture" (Zeruneith, p. 30).

<sup>xlii</sup> Stereoscopic three-dimensional imagery relies on the superimposition of two slightly different views of the same object using glasses that force the eyes to superimpose the images. The same effect can be obtained by crossing the eyes (which produces three separate images) and then by relaxing the focus of the eyes to allow the stereoscopic image to emerge. In a similar manner, the duck rabbit can be perceived as both at once through a relaxation of the eyes which substitutes a singular point of focus in the gaze for a general unfocused glance. The duck and the rabbit become simultaneously visible and invisible in this moment, the image is suspended between each, neither the duck nor the rabbit, but both.

<sup>xliii</sup> Harold Innis speaks of a 'bias of communication' that shapes the course of a civilization. Manfred Schneider takes this up with respect to both the medium and the message, building on the work of Innis and McLuhan, showing (among other things), how the advent of printing combined with Luther's Protestantism set in motion the democratization of Western Europe. "This is a decisive economic aspect: ritual, liturgy, and the participation of human beings in these differentiated ceremonies secured the stability and the equality of sacramental semiotics in the consciousness of the entire community... Martin Luther is thus rightly designated as the politician and the theoretician of the hot medium of book-printing" (Schneider, p. 210).

<sup>xliv</sup> Crisis (*krisis*) means 'turning point', while the word emergency incorporates the Latin term *emergere* 'to rise up out of'. The philosophical sense of these words is pertinently the manner in which their etymology belies their current usage, which is primarily *negative*. The roots for both terms incorporate both negative and positive connotations, and it is this dual sense of *possibility* or *potential* to which I wish to call attention.

<sup>xlv</sup> I am referring here principally to the Platonic Dialogues and the works of Aristotle, especially the *Nichomachean Ethics*.

<sup>xlvi</sup> Richard Rorty purportedly has said what stripe of philosopher one is (analytic or synthetic) depends entirely on how much Kant one has read.

<sup>xlvii</sup> See *Die Logische Aufbau Der Welt* or *The Elimination of Metaphysics Through Logical Analysis* by Carnap for a lengthy discussion of the task of “scientific” philosophy. Also, Wittgenstein famously said that: “in philosophy, nothing is hidden”.

<sup>xlviii</sup> Enlightenment thinkers since Descartes and Hume had been moving in this direction. However, their thoughts were always securely framed against some notion of the divine. Spinoza went the furthest when he proclaimed ‘*Deus Sive Natura*’, an equivocation that earned him censure from the Catholic Church.

<sup>xlix</sup> It should be noted that Heidegger was in part responsible for the academic censure and removal of Husserl during the Holocaust, and that his performance during the Nazi period was ethically reprehensible.

<sup>l</sup> Speech adds a layer of interpretive complexity to the life-world even as it facilitates the communicative process. Culture as we know it is impossible without some form of complex communication system like language.

<sup>li</sup> Husserl’s notion of eidetic sedimentation is significant. The layers of meaning and structure that fall one upon the other eventually create the foundations of history itself. The historical, as a concept springs from this process.

<sup>lii</sup> Heidegger generally advances a subjective understanding of Being, whereby the classical dialogue is privileged as a means of self-discovery. However, in *The Phenomenology of Religious Life*, he does speak about Paul’s time with the Thessalonians, and the question of *Parousia*, or the coming to being of a community. Thus, the foundations of the inter-subjective understanding of Being are already present in his work.

<sup>liii</sup> Merleau-Ponty was working immediately after the war, and many philosophers to this day cannot forgive Heidegger for accepting the chancellorship of Freiburg University under the Nazis.

<sup>liv</sup> See: *An Alternative Way Out of the Philosophy of the Subject: Communicative Versus Subject-Centered Reason*.

<sup>lv</sup> See: *Power/Knowledge: Selected Interviews and Other Writings 1972-1977*.

<sup>lvi</sup> See: *Empire and Communications* and *Understanding Media*. For a cogent discussion of McLuhan’s media theory, see: Schneider, M. *Luther with McLuhan*.

<sup>lvii</sup> “This introduction has been concerned with establishing the linkage between the discursive turn and the concept of a medium of communication as a primal scene that institutes a world” (Angus, p. 15).

<sup>lviii</sup> Shelley’s book is in part a reaction to the Enlightenment, and is sharply critical of the mechanism of La Mettrie, the superstitions of the alchemical craft, modern science, and the social order of industrialist society and the old feudal order.

<sup>lix</sup> It is the title of Dick’s 1977 masterpiece about addiction, duality, antagonism and radical alterity in the self, and is itself a derivation of 1 Corinthians 13 “through a glass darkly”. The whole complex relates to the question of human perception and its inherent imperfection.

<sup>lx</sup> Another classic of the genre is Karol Capec’s *Rossums Universal Robots*, the Eastern Block work of sci-fi that is credited with the invention of the word itself, soon to become ubiquitous in the mythologies of the future fall of the human empire, from Asimov’s *I Robot*, to Ira Levin’s black satire *The Stepford Wives*.

<sup>lxi</sup> Stiegler is at his most astonishingly inventive on this point: “...the liver is also, as a mirror of a ceaseless mortality—which never *occurs*—of the body and the heart, the mirage of the spirit (*Gemüt*). A clock, its vesicles concealing those stone (calculi) that secrete black bile, *melas kholie*” (Stiegler, 203). The French word for nephritis also translates as the stones of an abacus, literally “calculators”, and the “black bile” is that which we call melancholia. Measured time, as it is inaugurated here in the myth of scientific origin (*scientia* is knowledge) is always already the source of a tragedy. It is *melancholic*.

<sup>lxii</sup> The monster is quite literally the product of the heavens and the earth, or *energeia* and *chthonos*, of the new Olympian order based in reason, and the old, earth bound order based in magic. As such, this *cybernetic* creature is both reviled by humanity, and a compass for its lost morality. It ‘shows’ (*monstrum*—omen, or *monere*—sign) us what we are losing, and what we have yet to gain.

<sup>lxiii</sup> Shelley's narrative construction leaves a little to be desired, as she doesn't fully grasp the operations of language and the development of memory in the individual. She also significantly reduces the time it would take to acquire all of the perceptive and linguistic skills of an adult, but this is necessarily required for the narrative to move forward. Thus, the monster says "It is with great difficulty that I remember the original era of my being; all the events of that period appear confused and indistinct. A strange multiplicity of sensations seized me, and I saw, felt, heard, and smelt at the same time; and it was indeed, a long time before I distinguished between the operations of my various senses".

<sup>lxiv</sup> This reflects Oshii's strong sense that there is another, deeper reality, a sort of Platonic numinal realm, underlying the surface world of objects. This sensibility is represented visually through Oshii's frequent use of shadows, of oscillating bursts of light emerging from behind objects, and of images of the world reflected in mirrors, windows, and, especially, bodies of water. The protagonist of Oshii's most famous film, *Ghost in the Shell*, quotes 1 Corinthians 13:11, "For now we see as through a glass darkly, but then we shall see face to face", and this passage could be taken as an epigram for Oshii's overall aesthetic project. Indeed, one of the main functions of Oshii's work is to draw attention to the limitations of human vision and bring the viewer to a point where he/she can recognise the abstract, possibly transcendental, world underlying the seemingly solid object-oriented one we inhabit. The deeply introspective protagonists of his films can only partially intuit this "deeper" world, but they do experience moments of private revelation in which they see themselves reflected on another surface and seem shocked by their own image.

<http://archive.sensesofcinema.com/contents/directors/04/oshii.html>

<sup>lxv</sup> In this scene, Batty (Rutger Hauer) raises Deckard (Harrison Ford) up from certain death and then proceeds to deliver his own eulogy. "I've seen things you people wouldn't believe: attack ships on fire off the shoulder of Orion, seebeams glittering in the dark off the Tannhauser Gate. All these things vanish in time like tears in the rain. Time to die".

<sup>lxvi</sup> "There is a *historicity* to the technical object that makes its description as a mere lump of inert matter impossible. This inorganic matter organizes *itself*. In organizing itself, it becomes indivisible and conquers a quasi-ipseity, from which its dynamics proceeds absolutely: the history of this becoming-organic is not that of who "made the object". Just as the living being has a collective history in the sense of a genetic history...a phylogenesis...the technical object calls intoplay laws of evolution that are immanent to it, even if, as in the case of the living being, they are affected only under the conditions of an environment, to wit, that of the human and other technical objects" (Stiegler, p. 71).

<sup>lxvii</sup> There is a series of scenes in the last season in which the problematic antagonist Gaius Baltar (the betrayer of humanity) begins to position himself as a prophet who delivers the very Christian message of hope that all sinners may be forgiven. This is a direct appropriation of Christ's teachings on sin and his willingness to embrace those cast out by society (Mary Magdalene the prostitute).

<sup>lxviii</sup> The cylons possess what they call resurrection ships. This technology allows them to download the consciousness of any of the separate models at death and put them into new bodies or the collective consciousness. Civil war among the cylons and military action by the colonial fleet eventually destroys these ships, essentially making the cylons mortal again. They do not possess the technology (which was developed by the five unique models), and the five are not willing to give it to them (an element of the civil discord).

<sup>lxix</sup> Peter Sloterdijk has articulated hybridity as the condition of the collapse of metaphysics. "The fundamental differentiation (in the metaphysical period) of soul and thing, spirit and matter, subject and object, freedom and technique cannot cope with entities that are by their very constitution hybrids with a spiritual and material "component". Cybernetics, as the theory and practice of intelligent machines, and modern biology, as the study of system-environment-units, have forced the questions of the old metaphysical divisions to be posed anew" (Sloterdijk, p. 41).

<sup>lxx</sup> The show makes use of temporal relativity in the final season to revive dead characters, have the final five live for centuries, and mysteriously suggest that the human colonists and hybrid Athena are their own progenitors. The cosmic battle between human and machine is therefore structured as eternal.



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<sup>lxxi</sup> “Friedrich Kittler is one of the pioneers of what might be called *media materialism*—an approach that privileges, at all costs, analysis of the material structures of technology over the meanings of these structures and the messages they circulate” (Gane, p. 25).

<sup>lxxii</sup> “Another pivotal issue...is that of *discontinuity*—a forceful and at times polemical emphasis on ruptures, breaks and caesuras designed to obliterate any attempt to infuse history with gradualist, progressive, teleological or dialectical notions” (Winthrop-Young, Gane, p. 10).

<sup>lxxiii</sup> “Numbers were once words among words...in consonantal writing systems, such as Old Hebrew that have neither numerals nor vowels, this screams to high heaven. The first Book Of Kings recounts in all innocence how Solomon had Hiram of Tyre come to Jerusalem to build his temple...Hiram poured a circular sea of molten brass in from of Solomon’s temple whose numerical relations were written out in plain words...dividing the 30 cubits by 10 reveals that all of Solomon’s wisdom was barely able to confuse the ratio of the circumference of a circle to its radius with the natural number 3. Egyptian or Assyrian approximations of Pi, on the other had were a great deal more accurate...this may have had little impact on the porch of Solomon’s temple, but it did hinder thought” (Kittler, p. 53).

<sup>lxxiv</sup> Pythagoras and his followers were dismayed to discover that in the universe of order there was an entire edifice of disorder. While some right angle triangles produce rational measures of the hypotenuse, others give rise to irrational measures. In essence, numbers with no measure. The incongruity of the empirically observable triangle and the mathematically indefinite measure illustrates neatly the unified rational/irrational nature of the physical universe.

<sup>lxxv</sup> “Conceptually, media—from tally sticks to screens—belong to the realm of matter or carriers such as wood (in Homer’s parlance, *hyle*), while the media contents are grouped with an essence (*Metaphysics*, 1921: Z 17) that merges with *logos*. Write a consonantal letter such as *Gamma*, Aristotle writes in, of all places, his *Poetics*, which, if sounded, amounts to meaningless (*asemos*) execrable croaking. Add a second consonantal sound such as *Rho* and you will perceive that it remains just as meaningless. If, however, *Gamma/Rho* is followed by a vowel such as *Alpha*, the nonsense suddenly flips over, for suddenly a ‘non-significant composite sound’—what the Greeks later referred to as syllables—emerges. But neither Aristotle nor his thousands of interpreters ever divulged that the syllable GRA stands at the beginning of the word *GRAMMA*—in plain English, the letter. Starting with the literal element (*stoecheion*), but scrupulously avoiding the older word in order to arrive at a meaning or *logos*, the definition has come full circle. Hence media studies is free to forget the whole ‘hylomorphism’ that from Aristotle to McLuhan suppressed letters, syllables and words (Kittler, p. 55).

<sup>lxxvi</sup> “At the beginning of its history, philosophy separates *tekhné* from *episteme*, a distinction that had not yet been made in Homeric times. The separation is determined by a political context, one in which the philosopher accuses the Sophist of instrumentalizing the *logos* as rhetoric and logography, that is both as an instrument of power and a renunciation of knowledge. It is in the inheritance of the conflict—in which the philosophical *episteme* is pitched against the sophistic *tekhné* whereby all technical knowledge is devalued—that the essence of technical entities in general is concealed” (Stiegler, p. 1).

<sup>lxxvii</sup> Derrida actually goes as far as to suggest that the *grammé* precedes the *phone* as a kind of conditional of speech. However, Stiegler disagrees with this proposition, working out of the anthropological tradition of Leroi-Gourhan, who sees the conjunction of speech and tool making as a co-evolution.

<sup>lxxviii</sup> “Technical evolution results from a coupling of human and matter, a coupling that must be elucidated...wood, ivory, stone, bone *impose* on the human being certain formal possibilities. The set is finite, not infinite” (Stiegler, p. 46).

<sup>lxxix</sup> “A technical system constitutes a *temporal unity*. It is a stabilization of technical evolution around a point of equilibrium concretizing a particular technology” (Stiegler, p. 31).

<sup>lxxx</sup> “Today, machines are the tool bearers, and the human is no longer a technical individual. The human becomes either the machine’s servant or its assembler (*assembleur*): the human’s relation to the technical object proves to have profoundly *changed*” (Stiegler, p. 23). If the relationship has changed, the character of it has not (recall that the inauguration of technical time is already that of a *melas kholie*, a black humour. Stiegler

connects *Gestell* (Heidegger's determination of the becoming technical of the world) to the apparatus, and through that to organs (*organon*). The connection between the stars (*energeia*) in *ge-Stell* and the organic is made in the apparatus, the mechanical. Far from being purely alienating, technics is actually that which potentially connects human beings to their origins (*arché*). The malaise comes in our failure to address the other as being and rather as conditional of our fall—the fault of Epimetheus.

<sup>lxxxii</sup> “Older than Being itself, such a *différance* has no name in our language. But we “already know” that if it is unnameable, it is not provisionally so, not because our language has not yet found or received this *name*, or because we would have to seek it in another language, outside the finite system of our own. It is rather because there is no *name* for it at all, not even the name of essence or of Being, not even that of “*différance*”, which is not a name, which is not a pure nominal unity, and unceasingly dislocates itself in a chain of differing and deferring substitutions”. (Derrida 1982, p. 26).

<sup>lxxxiii</sup> Plato and Aristotle formalize dualism, the roots of which Zeruneith demonstrates are already growing in the distinction between *Achilleus* and *Odysseus*. The new Homeric hero, *Odysseus* is a thinking hero, one who does not rely solely on divine will or heritage, but who is more significantly “crafty”. His craft, in this sense is also a *techné*, and it is this separation of inner and outer space, of the human and the divine that leads to the division between *epistemonikon* and *logistikon* by Aristotle—the ancient source of Cartesian mind/body dualism. The advent of the technical being produces a *krisis*, or turning point. One around which a re-unification of the dualisms of antiquity and modernity becomes possible.

<sup>lxxxiii</sup> “The Olympian gods, living in the heavens are a reaction—not to say a revolution—against the ruling fertility gods. If such a political terminology can be used, this is because the new gods are *de facto* an expression of political and cultural processes that can also be discerned in the statements of Herodotus and Plato. The Olympian gods are associated with aristocracy as an institution, developed so far as Homer is concerned within the framework of the Ionian enlightenment to which the early philosophers all belong” (Zeruneith, p. 87).

<sup>lxxxiv</sup> Shelley alludes to the golem, and to earlier chthonic conceptions of life in her work: “Who shall conceive the horrors of my secret toil as I dabbled among the unhallowed damps of the grave or tortured the living animal to animate the clay” (Shelley, p. 52).

<sup>lxxxv</sup> To think the mind-body split is to be able to rationalize a human being in such terms. Science permits the philosopher to call into question the theological prognostications that had kept the development of Western ontological thought relatively moribund since the fall of the Roman Empire. Descartes radical split traces its heritage back to Aristotle, but his formulation of *Res Extensa* and *Res Cogitans* provides the foundation for the triumph of Enlightenment science over the intellectual landscape of modernity, because it is this moment that enshrines rational capacity and the ability of individual reason over dogma, doctrine, and speculation. This perspective combined with Empiricism produces the conditions of scientific success.

<sup>lxxxvi</sup> “The cyborg figure exists, as did the man-machine not because the boundaries between human and machine have dissolved, but because of the assumption extending back to ancient Greek philosophy of an essential unity of matter, whether machine, nature, or organism. Both man-machine and cyborg exist because of the important assumption, established in the Enlightenment, that human beings can be defined in the same terms and by the same physics as machines—that is, the assumption that the relationship of matter, energy, and force are common to both natural and artificial organisms” (Muri, p. 22).

<sup>lxxxvii</sup> The text implies that Victor uses lightning, one of the great symbols of the Olympian order to ignite the spark of life in his monster. The discovery of electricity in living tissue by Galvani and the subsequent experiments by Lavoisier were certainly widespread by Shelley's time. In this sense, Victor is “stealing fire” in order to re-create the human order. Like Prometheus, he will be punished for his folly. The hideousness of his creation in many ways mirrors the decrepitude in his own soul, and this is Shelley's overall point—the monster “shows” Victor to be himself monstrous, because he reaches for what he does not have the right to attain. “I collected the instruments of life around me, that I might infuse a spark of being into the lifeless thing that lay at

my feet. It was already one in the morning; the rain pattered dismally against the panes, and my candle was nearly burnt out" (Shelley, p. 55).

<sup>lxxxviii</sup> The end of the tale is primarily devoted to the monster's speech, in which he articulates his own horror at the errors of his ways, and most tellingly, takes responsibility for them, even though he was given no direction, guidance or care from his creator, Victor. "Once I falsely hoped to meet with beings, who pardoning my outward form, would love me for the excellent qualities which I was capable of unfolding. I was nourished by high thoughts of honour and devotion. No guilt, no mischief, no malignity, no misery can be found comparable to mine. When I run over the frightful catalogue of my sins, I cannot believe that I am the same creature whose thoughts were once filled with sublime and transcendental visions of the beauty and majesty of goodness" (Shelley, p.213).

<sup>lxxxix</sup> Bill Condon's semi-fictional screen adaptation of Christopher Bram's *Gods and Monsters* explores the intertextual subtleties between the original novel and the life of the filmmaker Whale, who as an openly gay man in Hollywood during the 1930's embodied some of the major Promethean tragedies that are woven into the story.

<sup>xc</sup> This is the point that is made by Fritz Lang and Thea Von Harbou in *Metropolis* the foundational film of the science fiction genre. Maria strives to inculcate in the workers and in the city dwellers the idea that love's knowledge (the knowledge of the heart) is necessary for a truly balanced humanity. Implicit in the critique is that pure rationality produces, (after Goya's *El Sueño de la Razon Produce Monstruos*) monsters.

<sup>xcii</sup> "If we follow the path taken by labour in its development from the handicraft via the cooperation and manufacture to machine industry we can see a continuous trend towards greater rationalization, the progressive elimination of the qualitative, human and individual attributes of the worker" (Lukacs, p.88).

<sup>xciii</sup> Steigler articulates the epiphylogenesis of technology both within and against the notion of the trace of Being. While Derrida speaks of the trace in doubly negative terms (as a non-concept itself negated) in order to "push" the concept outside of the boundaries of traditional philosophy, Steigler takes up this "thread" and demonstrates the fashion in which this general movement is echoed in technological development.

<sup>xciv</sup> "What has been said here of mixed modes is with very little difference applicable also to relations; which, since every man himself may observe... I allow, it might be brought into a narrower compass: but I was willing to stay my reader on an argument that appears to me new, and a little out of the way... that by searching it to the bottom, and turning it on every side, some part or other might meet with every one's thoughts, and give occasion to the most averse or negligent to reflect on a general miscarriage; which, though of great consequence, is little taken notice of... because the faults men are usually guilty of in this kind are not only the greatest hinderances of true knowledge, but are so well thought of as to pass for it... if, by any enlargement on this subject, I can make men reflect on their own use of language; and give them reason to suspect... it may also be possible for them to have sometimes very good and approved words in their mouths and writings, with very uncertain, little, or no signification" (Locke, p. 41).

<sup>xcv</sup> This paragraph is a kind of lexical fugue in which the opening shots of *Difference* are placed in counterpoint with Kittler's observations in *Colors and/or Thinking Machines*. Although the content originates in their work, the expansion of these themes draws them together and explicates what has been left unsaid in the source material.

<sup>xcvi</sup> "Metaphor is one of our most important tools for trying to comprehend partially what cannot be comprehended totally: our feelings, aesthetic experiences, moral practices, and spiritual awareness. These endeavors of the imagination are not devoid of rationality; since they use metaphor, they employ an imaginative rationality" (Lakoff, Johnson, p. 114).

<sup>xcvii</sup> "This suggests that the right hemispheric system for music processing has homolog functional connections with the hand motor system, probably as a result of the evolutionary specialization of the hemispheres. Darwin (1871) was among the first to state the hypothesis that song evolved before language or as a transitional state between subhuman primate vocalizations, prosody and speech" (Sparing, R, *et al*, p. 322).

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<sup>xcvii</sup> The loop is a symbol of infinity, in which a simple twist produces an infinite two-dimensional plane. It is thus possible to draw one set of figures that seem to be on one side of the loop and another that seem to be on the other, demonstrating in this metaphorical case that human and machine are of one and the same arc in space-time.

<sup>xcviii</sup> While such things are common today, the heritage of these devices is ancient. Heron of Alexandria most notably invented a system of steam ducts that would open and close temple doors when a fire was lit on an altar. Although there is lively debate about whether Heron's designs were ever built, his mechanical genius demonstrates the antiquity of proto-cybernetic mechanics.

<sup>xcix</sup> The carbon cycle is a prime example of this. The biosphere regulates the amount of CO<sub>2</sub> in the atmosphere through a variety of biological mechanisms that are still poorly understood. The same is true of the oxygen cycle, which is more clearly understood due to the nature of the gas. It is extremely reactive and volatile, which is what makes it an excellent combustible, and extremely useful to high-energy organisms (aerobic) such as ourselves. However, because it is so highly reactive, atmospheric oxygen should have been depleted eons ago. Plant life maintains global O<sub>2</sub> levels by constantly cycling in CO<sub>2</sub> during the day and expelling O<sub>2</sub> at night. If the O<sub>2</sub> levels drop too low (below about 13%), all aerobic life would die. If they were to rise much above 17%, the result would be that fires would start by themselves, and would not go out under any circumstance. Life, in this sense is engaged in planetary self-regulation and is a homeostatic, cybernetic system.

<sup>xcix</sup> Writing, cell phones, digital assistants, video, and film—all these contribute to the movement of the human being into the technical world. In a sense, they strip the user of her authority, because we come to rely on them to interpret and understand each other, frequently remotely. Paradoxically, they also bring us closer together over great spatio-temporal distances, even as the system of communications technology, media assumes its own ontology.

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