Martinez, M., 2012. "Communication, Technology, Temporality."
communication +1, vol 1, iss 1,
DOI: 10.7275/R56H4FBZ

Communication, Technology, Temporality

Mark A. Martinez, University of Minnesota - Twin Cities, mart1938@umn.edu

This paper proposes a media studies that foregrounds technological objects as communicative and historical agents. Specifically, I take the digital computer as a powerful catalyst of crises in communication theories and certain key features of modernity. Finally, the computer is the motor of "New Media" which is at once a set of technologies, a historical epoch, and a field of knowledge. As such the computer shapes "the new" and "the future" as History pushes its origins further in the past and its convergent quality pushes its future as a predominate medium. As treatment of information and interface suggest, communication theories observe computers, and technologies generally, for the mediated languages they either afford or foreclose to us. My project describes the figures information and interface for the different ways they can be thought of as aspects of communication. I treat information not as semantic meaning, formal or discursive language, but rather as a physical organism. Similarly an interface is not a relationship between a screen and a human visual intelligence, but is instead a reciprocal, affective and physical process of contact. I illustrate that historically there have been conceptions of information and interface complimentary to mine, fleeting as they have been in the face of a dominant temporality of mediation. I begin with a theoretically informed approach to media history, and extend it to a new theory of communication. In doing so I discuss a model of time common to popular, scientific, and critical conceptions of media technologies especially in theories of computer technology. This is a predominate model with particular rules of temporal change and causality for thinking about mediation, and limits the conditions of possibility for knowledge production about communication. I suggest a new model of time as integral to any event of observation and analysis, and that human mediation does not exhaust the possibilities within this temporality.

In attempting to think past a merely human scale of time, my project interfaces with other non-totalizing, anti-anthropocentric philosophies, but begins from modernist and humanist understandings of temporality as opposed to subjectivity. Methodologically, my theory of temporality provides a shift in historical narrative, one that eschews famous inventors, threads of technological or epistemological progress, or other teleological constructions. Epistemologically, this temporality indicates that mediation is an event that occurs among various types of organisms of multiple temporalities. This allows precise

interrogation of human notions inflected with time: duration, suspension, desire, fear, and imagination.

Ethically, scaling time beyond the human gives a novel form of alterity articulated as the different ways in which we use time to capture the other within theories of communication and history.

Keywords: Historiography, Philosophy, Nonhuman

Media Technologies and Theorizing the Nonhuman

The field of scholarship theorizing the nonhuman continues to increase in scope and complexity. Philosophies of species-being conceive of new productivities by simple and microscopic life forms and their resulting interactions, symbioses, and delimitations of human life. Environmental philosophy shifts the notion of interaction to feedback that humans engage in with object-space and resources both agents that act and react to one another. This is reflected in new political philosophy that, again, concern our interactions with new political actor-networks that act upon us[1], down to the litter or stem cells that produce our laws and policies.[2] Finally, new media theory and philosophy of science and technology bring interactive technologies, digital information, and virtual place to bear on human sensation and subjectivity.

Whether explicit or implicitly, these philosophies of the nonhuman theorize the nonhuman through its communicative capabilities and, as a result, indicate that one future for critical communication theory is nonhuman communication—providing new methodological, epistemological and ethical vantage points of meaningful encounters with otherness.

It is within the latter group of nonhuman philosophy, of new media and science and technology studies (STS) that the communicative link between things, namely media technologies, and humans is most prevalent as a foundational problematic. In fact, mediation—with and through technological objects—is here the fundamental concept as the process defining human experience, comprehension, and sociality.

Media histories in human terms

Historically, mediation has worked through media studies as a quite bodily consideration of experience, where the human subjectivity is considered as a body more and more removed by technological mediation from traditional, unmediated political and social forms of interaction—those that are physical, local, and face to face—within the scale of a body's sensorium. Two epistemological articulations of this form of mediation become visible through media histories, one, through instrumental and positivist social-scientific approaches, which, concurrent with

---

[1] Callon, Michel and Bruno Latour, 1981, "Unscrewing the Big Leviathans: how do actors macrostructure reality", in Social Theory and Methodology: toward an integration of micro and macro sociologies, ed. K. Knorr and A. Cicourel Advances, London: Routledge.

[2] Bennett, Jane, 2010. Vibrant Matter: a political ecology of things. Duke University Press.

the beginnings of the field of communication research in America at mid century, take unproblematically the empirical relationship between psychology and media messages or content.

The second articulation, deriving from European literary and sociological traditions, and concurrent with the critical Marxist turn in social science, through its approach to history and technological development, showed mass media to be a novel form that had corrupted the communicative ability of the print medium, and television was specifically theorized as an instrumentalized, illusory communication to mass society. The technology itself was pinpointed as an apparatus that imaged and materialized the illusory experience of the culture industry it served, of stereotypes, and an imagined free American subject.

Theo Adorno and Max Horkeimer were very specific, adding that a technological rationale, "was the rationale of domination itself."[3] In a more recent addendum to political economic treatments of mediation, new media or computing technologies have, since at least the early 1980's been theorized as marking the shift to late stage post-Fordist or flexibly accumulating capitalism[4] where information is a commodity[5], and technologies participate in globalizing communicative networks of domination.[6] The phenomena of "new media" based on the continued ubiquity of computing technologies, is tied to a larger postmodernization of time and place by critical theory. A theory of new media can be seen, for example, through its perpetuation of a techno-collective consciousness: "The intervention of the machine, the mechanization of culture, and the mediation of culture by the consciousness Industry are now everywhere the case…"[7] Or also as a new theory of communication where traditional forms of human sociality, political forms, and meaningfulness are supplanted by the figure of information. The double mutation of digital information informationalizes and molecularizes biological life into DNA while it molecularizes and digitizes communication into bits of data.[8] What is needed then are new analytic and methodological frameworks based on technological change, how media have forced a new condition of communication as well as new modes of human life.

---

[3] Hardt, Hanno, 1992, Critical Communication Studies: essays on communication, history, and theory in America, New York: Routledge. 109.

[4] Harvey, David, 2000,The Condition of Postmodernity, Cambridge: Blackwell.

[5] Mosco, Vincent, 1989, The Pay-Per Society: computers and communication in the information age, New Jersey: Ablex Publishing Company.

[6] Negri, Antonio and Michael Hardt, 2000, Empire, Harvard University Press.

[7] Jameson, Fredric, 2005, Postmodernism: or, the cultural logic of late capitalism, Duke University Press.

[8] Dillon, Michael and Luis Lobo Guerrero, The Biopolitical Imaginary of Species-Being, *Theory, Culture & Society* (2009) 26(1): 1–23.

Radical historiography and another time

On the other hand, radical historiography, as an attempt to push beyond its own epistemology, has opened up the possibility of a new style of thought and a reconfiguration of how technologies interact with human bodies and what mediated communication means to experience. Gilles Deleuze wrote that Michel Foucault "used history for the sake of something beyond it."[9]

> For what appears to be the present day or the new according to Foucault is what Nietzsche called the unseasonable, the uncontemporary, the becoming which bifurcates with history, the diagnostic which relays analysis with other roads. This is not to predict but to be attentive to the unknown.[10]

This project takes seriously the continual process of revision and radical revision in his historico-epistemological method. While recognizing his close relationship to the analytic objects of both the human and the natural sciences, I push Foucault's theory of historiography by removing it from the structures of discourse and grounding it in a theory of physical media. As Friedrich Kittler observed of Foucault, "the last historian and first archaeologist,"

> It is for this reason that all his analyses end immediately before that point in time at which other media penetrated the library's stacks. Discourse analysis cannot be applied to sound archives or towers of film rolls.[11]

It is an opening up of the historical itself to the possibility of producing philosophical knowledge beyond historical narrative. The subjective impulse to foreground persons of fame and infamy and historical moments correlating to the calendar, what Hayden White identifies as "evental histories," was eschewed in radical historiography for the longue duree, or the "deep time" of media technologies.[12]

Deep time is, perhaps, the most explicit foray into another temporality of media based on historiographic perspective. Siegfried Zielinski contributes this term in order to problematize the progress narrative within both political and technocratic ideologies, that humanity leads itself and the Earth, through history to democratization and diversity of forms of life. Rather than using history to find

---

[9] Deleuze, Gilles, What is a Dispotiff? In Michel Foucault: Philosopher, Edited by Timothy Armstrong, New York: Routledge, 1992.

[10] Deleuze, "What is a Dispotiff?" 64

[11] Kittler, Friedrich, 1999, Gramophone, Film, Typewriter. Translated by with introduction by Geoffrey Winthrop Young and Michael Kutz.

[12] Zielinski, Siegfried, 2006, Deep Time of Media: toward an archaeology of hearing and seeing by technical means. Cambridge: MIT Press.

"the old in the new" he seeks to unearth the new in the very old and thereby showing a "variantology" of media forms and practices in the past that have been foreclosed on by the march of human "progress."[13]

However, there is another even more radical philosophical notion of media's time implicit in Zielinski's concept, and it will be productive to dwell on the implications of a deep time of media as that which does not belong to humans. Deep time is borrowed from the field of Geological and Paleontological sciences which, since the 18th century have created object domains that exist entirely outside of human scale of duration. As Zielinski notes, naturalist and geologist James Hutton's "concept of Earth as a cyclic self-renewing machine, without beginning or end, is in stark contrast to the time reckoning instituted by humans."[14] Beginning with the secularizing or modernizing effect of deep time on the anthropocentric chronologies/cosmologies of religious human origins, deep time unhinges human time precisely without replacing it with certain mechanical and instrumentalist constructions. Human scientific, political, and economic constructions from enlightenment and industrialization, either of perfect timekeeping, international time zones, or Taylorist efficiency of labor time—make human time uniform while disconnecting it from "nature."

Similarly, deep time does not function to show the alienation or disunity of the category of human. Unlike Nietzsche's philosophical death of God, or Freud's traumatically split psyche, looking to temporality instead bypasses another epistemologico-ethical thread of progress, the one that has attempted to erase the figure of the human subject, "like a face drawn in the sand at the edge of the sea."[15]

The figure of nature is extremely important to the current status of media technologies as it is determined by a longstanding philosophical dualism of human vs. nature. As media theorist David J. Gunkel (2007) has argued, dualistic thinking from the modern figure of "reason" in the west and through the critical bent of the dialectic, has maintained the most foundational of binaries that shift from an epistemological category thought to an ethical category valued. Avital Ronnell (1991) claims that technologies and the feminine have historically and continue to be evaluated by their conflation and being relegated to the category of nature.[16] Ian Bogost argues that "human culture is allowed to be multifarious and complex, but the natural or material world is only ever permitted to be singular."[17]

---

[13] Zielinski "Deep Time of Media" 7
[14] Ibid. 5
[15] Foucault, Michel, 2005, The Order of Things: an archaeology of the human sciences, New York: Routledge, 422.
[16] Ronell, Avital,1991,The Telephone Book: technology, schizophrenia, electric speech,

Against this epistemological and ethical grain, deep time does work to include human time into its much larger environment of things, that directly being the earth, which has existed with life prior to humanity or its perception of time before it. And Since the Earth is not the measure or end to deep time, nor is there any strict end to deep time, what this temporality invites humanity into is an awareness and participation in cosmic time. Deep time as variation in duration and life means that human categories cease to make meaning, begin to dissolve all together, in a "reentry into a singular existential domain, one no longer broken down into crass hemispheres of nature and culture."[18]

The longue duree of media

Such a radical historical-epistemological break in the study of media can be seen seen in the work of Harold Innis, radical in the scope of his working through both the deep time and global space of communication, an "attempt to model changes of the medial and communicational structures on such a historical scale."[19] Innis' lasting philosophical contribution to media historiography was his insight that media technologies express fundamental communicative forms and have developed epoch-ally—the distinction between ancient and modern wanes in favor of large scale temporal movements of predominate mediums across human civilizations. Presaging the archaeological work of Michel Foucault, Innis posits that because media technologies express the fundamental register of how humans communicate, that the possibility of observation itself, is delimited by its particular era of predominate media form, in Foucault's terms, the media episteme. Again, like Foucault, Innis responded that it was the historical form of observation that could lessen the effects of the bias in observation that was inevitable based on the communication medium it was immersed in.[20] As Foucault developed his method based on his notion of the episteme which delimited the very conditions of possibility of what could be thought at any particular moment, there was still the "historical apriori", that which indicated the foundations of thought. A field could be observed that,

> makes manifest the modes of being of order, can be posited as the most fundamental of all: anterior to words, perceptions, and gestures, which are then taken to be more or less exact, more or less happy, expressions of it … more solid, more archaic, less dubious, always more 'true' than the theories that attempt to give

---

University of Nebraska Press.

[17] Bogost, Ian, 2012, Alien Phenomenology: or what its like to be a thing. Minneapolis: University of Minnesota Press, 4.

[18] Bogost "Alien Phenomenology," 38

[19] Winthrop-Young, Geoffrey, 2011, Kittler and the Media, Massachusetts: Polity Press, 144.

[20] Innis, Harold, 1951, Bias of Communication, Canada: University of Torronto Press.

> those expressions explicit form, exhaustive application, or philosophical foundation.[21]

This "region" of the "pure experience of order and its mode of being," was precisely the aim and epistemic capability of the historical in the structuralist register of archaeology.

Astonishingly, Innis' historical a priori is not linked to discourse but rather to the physicality of media technologies—charted in his analysis through a bias of movement either through space or time. In beginning a thread of radical historiography Innis also begins a nascent radical theory of communication that is not contingent on the actions of human agents or the power of discourse. Key to its theorization is that physical technologies mobilize either over great distances of geography or great distances of time on earth, and that these material mobilizations account for the foundational mediation of human communication, which then are productive of political and cultural formations.

However, the thesis Innis would extrapolate from his historiographic work would inherit an all too common feature of western epistemology, a dualistic form of thought that begins classification and even naming of phenomena within the binary of human vs. nature.

A Historiographic field

Marshall McLuhan, a young colleague and admirer of Innis, continued to diagram media's deep time, fundamental communicative agency, and, translated Innis' implicit material, and non-discursive historiography into an explicit dictum that "the medium is the message." Behind this seeming hyperbole was the serious imperative for an analytic need to conceive of media technologies for their extra-discursive, and non-hermeneutic powers.

Crucial to McLuhan's medium as message construct was its historical resonance with new knowledges being produced by a burgeoning medium at the same time, computing technology. New communication theories within cybernetics and information theory had been deploying similar conceptions as seen in founding cybernetician Norbert Weiner's "organization" or "organism as message." Here neither medium nor organism stand in as metaphors for communicative figures such as message, content, or information, but rather are identical to them and do the same work. Thus, anthropologist Gregory Bateson's definition that information, not linked to language, is merely a "difference that

[21] Foucault "Order," xxiii

makes a difference."[22] It is no coincidence, given this resonance with scientific knowledges at mid century, that McLuhan would coin "new media" as a distinction between electronic media and informational media—while writing about Innis' historical innovation in the early 1950's.[23] Finally, it was McLuhan's innovative historical approach, what he called a "mosaic or field approach" to historiography, that most fully expresses a new sense of temporality in historical writing.

> Such a mosaic image of numerous data and quotations in evidence offers the only practical means of revealing causal operations in history. The alternative procedure would be to offer a series of views of fixed relationships in pictorial space. Thus the galaxy or constellation of events upon which the present study concentrates is itself a mosaic of perpetually interacting forms that have undergone kaleidoscopic transformation particularly in our own time.[24]

The purpose of this alternative approach is to attempt in historiographic perspective both a synchronic time-slice of "our own time," as well as an exploded-view that, expanding and disjointing our present, shows lines to a diachronic, far reaching continuum to the past. We again see affinities with Foucault's route to a "history of the present," with two important additions. One, McLuhan pushed beyond his literary oeuvre (and away as well from what Foucault describes in the epoch of literature as literature addressing itself to itself as a "writing subjectivity") into the object domain of technological things used to produce and circulate language. Second, and deriving from this epistemological push, he took up the models and perceived reality of experimental science.

It is no accident that for McLuhan a field approach is synonomous with a mosaic. As N. Katherine Hayles (1984) commented, there were profound changes in the models and metaphors of scientific thought, based on the shifting from the observation of a Newtonian physical universe of perfection and identity, to that of an Einsteinian relativistic field of chaos and probabilities. The epistemological shift revolved around the new precarious position of the observer, the very possibility for observing phenomena, in such a universe. In it self-referentiality comes, not, as in a modernist universe, from an interiorized intention of self-knowing or ethical imperative, but, rather, from an exteriority that impinges on

---

[22] Bateson, Gregory, 1972, Steps to an Ecology of Mind: selected essays in anthropology, evolution, psychiatry, and epistemology. San Francisco: Chandler Pub. Co.

[23] Peters, Benjamin, And lead us not into thinking the new is new: a bibliographic case for new media history, New Media Society 2009, 11:13, 13-30

[24] McLuhan, Marshall, 1962, The Gutenberg Galaxy: the making of typographic man. Canada: University of Toronto Press, Preface.

the observer. Positioned within a continually transforming constellation of smaller patterns—a relationship of whole to parts that is itself always stochastic given the physical principle of probabilistic location and identity—the observer is faced with two problems from the outside.

The incompleteness of observation begins in the space that the observer occupies herself that can never be seen at all. Changing positionality is not a corrective because moving oneself only means changing the pattern one is in and beginning observation anew. In this sense, the patterns are constantly in states of change since nothing, observer included, can help but move. Though description is by and large limited to spatial figures and measurement of object form—Hayles crucially keys in, not on the necessary identity of a subject's new identity within this constellation, but on the significance of temporality writ large in this new state of affairs.

> As one configuration shifts to another and as "particles" appear or disappear in response to the field as a whole, the usual distinction between cause and effect breaks down because linear sequences of causality depend upon being able to define a one-way interaction between the event…but when the interaction is multidirectional—when every cause is simultaneously an effect…the language of cause and effect is inadequate…[25]

This opening up of a historical time to a field free of linear cause and effect upends two interrelated obsessions based on teleological time: on the most contemporary register, analysis and critique of media and technologies, as expressed most clearly by the inception of "new media studies" is obsessed with the concept of "the new," as indicated by the search to identify technological change and social disruption or crises. The second obsession derives from the practice of History as a form of knowledge production that is inherently future oriented. The historical field approach gleaned in McLuhan lays bare the monolithic proportions of historical time and the unidirectionality that observers then internalize in the desire for a vision into the future as the power of historical knowledge.

Against the grain, McLuhan's history folds the field of history onto itself to provide another vantage point. In this fold is contained the simultaneity of present with the past and a momentary, if fleeting de-emphasis on the future of media.

---

[25] Hayles, N. Katherine, 1984, The Cosmic Web: scientific field models and literary strategies in the twentieth century, New York: Cornell University Press.

The epistemological-historical opening in McLuhan and its possibility for another temporality close up again as he accentuates the primacy of the human senses as the starting point for analyzing media, and asserts that technology is defined as an appendage, either to physical sense organs on the one hand, or to the immaterial organ of the mind in the mediation of thought.[26] The emergence of a non-teleological, non-anthropocentric time is fleeting compared with the repetition and persistence of monolithic historical time in both Innis and McLuhan, based seemingly on the same epistemological dualism of human (sensorium and body, culture) vs. nature (mediated senses, non-sentient technological objects). However, when considering the relationality between the human body and its technological prosthetics as an implicit theory of communication, we begin to see that the category of the human is constituted by basic elements of time, cause and effect and a desire for futurity. The human subject is constructed by its sense of temporality just as much as temporality is constructed by that subject.

Historical and technoscientific synergies

Another step is required in historiographic thought on media technologies (as presented above) in order to more fully realize another temporality. In thinking through media's time, one must be able to scale back and forth the scope of analysis between the very large and the very small. This is analytic difference between micro-histories that can describe the minutia of objects, bodies, and lives, versus longue duree that may place them within deep time. Too close to the former and historical thought repeats the mistake of marking famous subjects in history, too much of the latter and the dynamic processes of the movements, the recognition of temporalities beyond the observer, become lost. Hans-Jorg Rheinberger argues that the synergy of historiography and the natural sciences, leading to the History of Science field, produced a historical epistemology. Epistemology is,

> Not a theory of knowledge but rather… following the French practice, used for reflecting on the historical conditions under which, and the means with which, things are made into objects of knowledge.[27]

---

[26] McLuhan, Marshall, 1964, Understanding Media: the extensions of man, New York: McGraw-Hill Book Company.

[27] Rheinberger, Hans-Jorg. 2010. *Historicizing Epistemology: an essay. Stanford: Stanford University Press, 2.*

Likewise the subject of historical knowledge, through historical epistemology is problematized and does not resemble a "natural history" but rather "understands its own knowledge production as a process of historical change."[28]

> Historicization of epistemology thus also means subjecting the theory of knowledge to an empirical-historical regime, grasping its object as itself historically variable, not based in some transcendental presupposition or a priori norm.[29]

The upshot of historical epistemology was that historical thought, when foregrounding the experimental objects of the sciences, was forced to reflect on the affective qualities of those objects, and the part that objects in general play in the production of knowledge. The synthesis of historiography as a humanistic endeavor, not only with the objects, but with the techniques and knowledge production of sciences puts in place the ability to scale between micro and macro historical time.

Articulated to technologies, media history may become a mode of technoscientific thought, defined by Don Ihde as "the hybrid output of science and technology, now bound inextricably into a compound."[30] The hybrid is for Ihde a synthesis of histories, "that of technologies that go back as far as all human origins, and that of science," seen as a modern history.[31] A radically historical media studies does not merely produce histories of technological objects, but participates in a recursion, a reflexive turning in on itself in order to articulate the history of media technologies it attempts to know, with a history of the field of knowledge itself.

Scaling beyond human timekeeping

Gilles Deleuze, whose most famous foray into philosophy of technology/media was the cautionary tale, a "Postscript to a Control Society"—expressed another historical opening up of critical thought to the highly technical and scientific at a moment when the electronic revolution was giving way to the information society. Deleuze borrowed heavily from the observations and figures of experimental sciences, seeing complexity/chaos theories, black holes, singularities as resonating with his immantist philosophy. Deleuze reconfigured

---

[28] Rheinberger, Hans-Jorg. 1997. *Toward a History of Epistemic Things: Synthesizing Proteins in the Test Tube*. Stanford, CA: Stanford University Press, 2.
[29] Rheinberger "Historicizing Epistemology," 3
[30] Ihde, Don. 2009. Postphenomenology and Technoscience: The Peking University lectures. NY: SUNY Press, 41.
[31] Ihde, "Postphenomenology," 45

art, science, and philosophy as the three fundamental threads of human creative endeavor, all engaged with the figure of chaos.

> What I'm interested in are the relations between the arts, science, and philosophy. There's no order of priority among these disciplines. Each is creative.[32]

Each epistemological thread with distinct objects of knowledge, come into "relations of mutual resonance and exchange"[33] at moments of emergence of a type of material organization with purpose, what Deleuze and Felix Guattari theorize as a machinic assemblage.[34] Manuel DeLanda would take from this the philosophical notion of machinic phylum, "the overall set of self organizing processes in the universe," and reproduce it as a historical figure for describing the emergence of highly specific organizations in a given particular moment.[35]

The crux of this position is to emphasize, and this is especially because of our technological abilities, that humans can scale beyond their bodily senses—to the infinitesimally small and the cosmically immense—of all systems. From this perspective it is of the utmost importance that molecular sciences, for example, have discovered autopoiesis, or self-organizing systems and processes from chaos. These microscopic discoveries can tell us much about organization of much larger and more complex systems, as matter (what should be the object of all materialist concerns) runs the gamut from atoms to galaxies.

Human civilization is a perfect example of such self-organization, and we humans will take this as proof of the exemplary nature of our agency—but a certain empirical sensibility shows that humanity is hardly the only or even the most unique form of self-organization. DeLanda borrows another of Deleuze's hollistic but non-totalizing concepts that attempt rather to perform within the working system that it both names and is a part of. In using the "machinic phylum" as reference "to the overall set of self-organizing processes in the universe",[36] De Landa imagines an artificial intelligence to be its own historical guide through the book that it writes. The robot historian would be privy to non-human factors of development and change within systems such as computing technologies "as if"

---

[32] Deleuze, Gilles, 1990. Negotiations, 1972-1990, Translated by Martin Joughin, New York: Columbia University Press.
[33] Deleuze, "Negotiations," 123
[34] Deleuze, Gilles and Felix Guattari, 1987, A Thousand Plateaus: Capitalism and Schizophrenia, Trans. Brian Massumi. Minneapolis, MN: University of Minnesota Press.
[35] DeLanda, Manuel, 1991, War in the Age of Intelligent Machines, New York: Serve, 6
[36] DeLanda, "War in the Age," 7

computers constituted non-organic life.[37] In addition, this history-bot would have neither inclination nor the programming to privilege its own "kind."

> This conclusion, that behind self-organization there is a "machinic phylum," . . . would hardly escape the notice of our hypothetical robot historian. After all, the emergence of "robot consciousness" could have been the result of such a process of self-organization . . .[38]

The theory of communication produced by a radical history, and what is proposed in this paper, has three key epistemological features. One, it proposes that encounters or interactions take place in scales of time that do not belong strictly to human beings. Two, it conceives of the movements of human and nonhuman bodies generally through the figure of emergence and self-organization, that is, without prior cause or intention of a human subject. As a result, communicative encounters with nonhuman agents generally and technological objects specifically will show them to have tendencies or purposes beyond human design or intention. Three, bodies, organisms, and energies manifesting physically and affectively will stand in for symbols, texts, and meaning. It is in this sense that we can begin to recognize an empirical nature to History (as the expression of time and objects in time as we experience them) while recognizing that there are never historical facts that we can prove, collect, or write—only the brute facts of things that affect how we produce knowledge.

Once the nonhuman becomes a primarily communicative problematic, the humanist figures of Western knowledge seemingly in crisis: representation, correlationism[39], hermeneutics, and social construction may be assessed as fundamental communicative forms that have both an epistemological and ontological register. Thinking through media technologies with nonhuman purpose and capability is one among numerous forms of knowing that addresses the fundamentally ethical nature of nonhuman otherness. While technology as subject presents no primacy over other nonhuman subjects, species or animal beings, organic non-sentient life, general inorganic objects, for instance—it resonates with them all and contributes to a critical mass of pushing humanity/humanism into the plentitude of their universe. What becomes visible between the seeming extremes of nonhuman agency writ large and the dualistic thinking of human tradition, is the in between of ethical other centric stances.

---

[37] Ibid. 7

[38] Ibid. 8

[39] Quentin Meillassoux defines correlationism as any philosophy that presumes that neither mind (subject) nor being (object) can be grasped independently of one another. "Consequently, it becomes possible to say that every philosophy which disavows naive realism has become a variant of correlationism." (Meillassoux 2008, 5)

Critical race, Feminist, and queer positions are benefited by the nonhuman push and the knowledge that the current sorry state of political and social power structures are not corrected by the selection of a revolutionary class, race, gender, or sexuality identity. Rather, such structures are stripped bare of their foundational epistemological and ethical faults when entered into the last bastion of otherness—where even the statement of the most radical democratic theory measures little relative to the duration of interacting bodies—the cosmos.

Bibliography

Bateson, Gregory. 1972. Steps to an Ecology of Mind: selected essays in anthropology, evolution, psychiatry, and epistemology. San Francisco: Chandler Pub. Co.

Bennett, Jane. 2010. Vibrant Matter: a political ecology of things. Duke University Press.

Bogost, Ian. 2012. Alien Phenomenology: or what its like to be a thing. Minneapolis: University of Minnesota Press.

Callon, M. and Latour, B. 1981. "Unscrewing the Big Leviathans: how do actors macrostructure reality", in K. Knorr and A. Cicourel eds. Advances in Social Theory and Methodology: toward an integration of micro and macro sociologies, London: Routledge.

DeLanda, Manuel. 2010 Deleuze History and Science. New York: Atropos Press.

--1991 War in the Age of Intelligent Machines. New York: Serve

Deleuze, Gilles. What is a Dispotiff? In Michel Foucault: Philosopher. Edited by Timothy Armstrong. New York: Routledge, 1992.

--- 1990. Negotiations, 1972-1990. Translated by Martin Joughin. New York: Columbia University Press.

Deleuze, Gilles and Felix Guattari. 1987, A Thousand Plateaus: Capitalism and

Schizophrenia. Translated by Brian Massumi. Minneapolis, MN: University of Minnesota Press.

--- What is Philosophy? NY: Columbia University Press, 199

Dillon, Michael and Luis Lobo Guerrero. The Biopolitical Imaginary of Species-Being. Theory, Culture & Society (2009) 26(1): 1–23.

Foucault, Michel. 2005. The Order of Things: an archaeology of the human sciences. New York: Routledge.

Galloway, Alexander R. 2004, Protocol: how control exists after decentralization. Cambridge: MIT Press.

Gunkel, David K. 2011. Thinking Otherwise: Philosophy, Communication, Technology. Indiana: Purdue University Press.

Hardt, Hanno. 1992. Critical Communication Studies: essays on communication, history, and theory in America. New York: Routledge.

Hardt, Michael and Antonio Negri. 2000. Empire. Harvard University Press.

Harvey, David. 2000. The Condition of Postmodernity. Cambridge: Blackwell.

Hayles, N. Katherine. 1984. The Cosmic Web: scientific field models and literary strategies in the twentieth century. New York: Cornell University Press.

Ihde, Don. 2009. Postphenomenology and Technoscience: The Peking University lectures. NY: SUNY Press.

Innis, Harold. 1951. Bias of Communication. Canada: University of Torronto Press.

Jameson, Fredric. 2005. Postmodernism: or, the cultural logic of late capitalism. Duke University Press.

Kittler, Friedrich. 1999. Gramophone, Film, Typewriter. Translated by with introduction by Geoffrey Winthrop Young and Michael Kutz.

McLuhan, Marshall. 1962. The Gutenberg Galaxy: the making of typographic man. Canada: University of Toronto Press.

-- 1964. Understanding Media: the extensions of man, New York: McGraw-Hill Book Company.

Meillassoux, Quentin. 2008. After Finitude: an essay on the necessity of contingency. New York: Continuum.

Mosco, Vincent. 1989. The Pay-Per Society: computers and communication in the information age. New Jersey: Ablex Publishing Company.

Peters, Benjamin, And lead us not into thinking the new is new: a bibliographic case for new media history, New Media Society 2009 11(13): 13-30

Rheinberger, Hans Jorg. 1997. *Toward a History of Epistemic Things: Synthesizing Proteins in the Test Tube*. Stanford, CA: Stanford University Press.

Ronell, Avital.1991.The Telephone Book: technology, schizophrenia, electric speech. University of Nebraska Press.

Wiener, Norbert. 1954. The Human Use of Human Beings: Cybernetics and society. Boston: De Capo books.

Winthrop-Young, Geoffrey. 2011. Kittler and the Media, Massachusetts: Polity Press.

Zielinski, Siegfried. 2006. Deep Time of Media: toward an archaeology of hearing and seeing by technical means. Cambridge: MIT Press.