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After the Human: Theory and Sociology in the Age of Fractal Ambiguity, Dromology, and Emergent Epi-spaces

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I am submitting herewith a thesis written by Joel Michael Crombez entitled "After the Human: Theory and Sociology in the Age of Fractal Ambiguity, Dromology, and Emergent Epi-spaces." I have examined the final electronic copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Arts, with a major in Sociology.

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After the Human:
Theory and Sociology in the Age of Fractal Ambiguity, Dromology, and Emergent Epi-spaces

A Thesis Presented for the
Master of Arts
Degree
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Joel Michael Crombez
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DEDICATION

To Alice and Scribble,
the forgotten and the unborn;
they who first encountered the world-without-us.

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In the end, the responsibility for following (and at times disregarding) their advice is my own.

ABSTRACT

Modernity marks both a novel form of political and economic organization, and a transformation of reality through technological and spatial innovations. It marks a shift in the history of life on this planet, for the technological appendage—originally created by and for humans—has a cost that is shared by all life on the planet, whether it be ecological, biological, or mental. As a result, the weight of responsibility for the continuation of life itself can no longer be rationally displaced onto an omnipotent other. The knowledge that rational thought functions on fractal scales of space and time—which need not account for each other—crippled the power of the grand-narratives that prognosticated a future condition qualitatively superior than the historic human record. It was rather the dark side of modernity that came to hold a vice-like power over the human species and this knowledge rested its full weight on the conscience of the 20th century. In the 1960's the fractal awareness of reality began to manifest itself in new spatial configurations, but the human narrative was no longer the driving force and decidedly anti- and post- humanist trajectories took hold of technologically advanced societies.

This text is an attempt to construct a theory that operates according to the rhythm of these modern epi-spaces and the beings that inhabit them. These spaces by and large imagine and operate *as if* they existed in a world after the human, a world-without-us. To construct a narrative that gives explanatory power to these spaces and the adaptation of life itself to fill them, a view of the universe that is decentered not only in space, but also in being is needed. Sociology finds itself in a position reminiscent of Copernicus' in the 1500s. In order for knowledge to advance, he had to rupture the reified view of the Earth as a central and sacred space, so that new models could push the boundaries of the knowable and the possible. In order for sociology to advance it must decenter the Human; for in this world of technological mediation, artificial modes of being dominate.

PREFACE: READING LEGEND

Je vous aime tous. J'irai cracher sur vos tombes.

Note: In confronting the issues of this text, I start not from common grounds but from contested ones. Therefore, I follow the lead of those who came before me and present at the beginning an overview, like the legend on a map, for those who should enter a text with a prejudiced mind that has understandably in the course of building knowledge assigned particular meaning to general concepts. [1]

Title[2]

For a text with a title that proclaims the epilogue of our species, and yet does not aspire to the fevered *pavor nocturnus* of prophets, Theorist (T.[3]) has chosen to include the oft forgotten percontation (or irony) mark to punctuate "After the Human⸮". For it is with a great sense of irony, not to be overshadowed by the more powerful sense of despair, that the social sciences – and sociology in particular – must acknowledge and reflect on the present state of the human in our shared social reality. A social reality that is no longer merely human; neither differentiated from other life forms in a past conception of a biologically pure natural species, nor in the yearning for a future ideal type of a species practicing an achieved humanism. One must read the title with the humorous irony of a statement at once patently absurd and gravely serious. It should

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[1] Specifically this is a format appropriated from the French philosopher Jean-François Lyotard's "*Reading Dossier"* in *The Differend: Phrases in Dispute* ([1983] 1988), p. xi-xvi.

[2] The complete title of this thesis is *After the Human⸮: Theory and Sociology in the Age of Fractal Ambiguity, Dromology, and Emergent Epi-spaces,* however, due to character limitations, the percontation mark is missing on the title page in electronic versions of this text.

[3] When asked at an event shortly before his death, "who are you?," Jean Baudrillard responded with his typical jocular tone: "What I am, I don't know. I am the simulacrum of myself" (MacFarquhar 2005). This distancing, or projection, of the "I" to the Theorist serves the function of an authorial avatar on the page; the simulation of a fragmented self, scattered in the posthuman swarm. It follows not only the Author (A.) of Lyotard ([1983] 1988), but more closely a tradition established by the American writer David Markson, who before his death wrote four aphoristic novels narrated in turn by Reader, Writer, Author, and at the last, Novelist (1996, 2001, 2004, 2007).

provoke a pataphysical laughter; defined by Rene Daumal: "pataphysical laughter is the keen awareness of a duality both absurd and undeniable" (2012:4).

The subtitle of the text, *Theory and sociology in the age of fractal ambiguity, dromology, and emergent epi-spaces*, gives the clues as to the content and direction of the text. The fractal serves as the pataphor, that is, the simulacra of the metaphor, of an epistemological consequence of competing legitimacies, crumbled foundations, inaccessible referents, and the inability to situate the subject concretely in a universal context of collapsing and expanding scales. Here the image is of poor little Alice fallen down a rabbit's hole. Eat me. Drink me. The commandments of consumption throw her altered reality one-step further in the expansion and contraction of the *real*; leading to the inevitable question: has the world changed, or have I? Moreover, if both change, how do we measure them against each other?

Next is dromology; that Virilian science of speed, derived from the Greek δρόμος, or *dromos*, the race and the racetrack. The need for a dromology intensifies as space itself collapses in time and the freedom of an unknown frontier vanishes under the godlike thumb of Google Earth; that is, the fully surveilled space, doubled in a mirror that is of the same order, accessible everywhere in the simultaneity of the instant. It is through the modern pursuit of speed that space and the social relations entwined with its construction have morphed, opening the possibility of accessing spaces beyond those of the natural limitations imposed on the human scale.

Finally the emergence of epispaces, those proliferating 'inappropriate/d other'[4] spaces which exist in addition to our own. These supplementary spaces are those that we are only just now being able to see and perhaps even touch, emergent only in the age of technologic ubiquity. As in the case of the virtual, they are conjoined spaces dependent on our own space for their existence. Nevertheless, so too are outer spaces opening up to us, with our lonesome mechanical scout, Voyager 1, challenging us to catch up. Here is the image of the damaged Scribble, the protagonist of Jeff Noon's cyberpunk novel *Vurt* (1993), who searches the spaces of posthumans looking for the crack in the wall that will allow an exchange between the spaces to occur. For these spaces elude the Human (they are not pure and ideal), and open themselves up only to those adventurous spirits walking on the edge of damnation who are willing to be precariously transformed. It is a question of life itself, because the current system, still ingrained with a fear of the other, contests these actants politically, socially, ethically, and with increasing frequency, biologically, when they reach toward these posthuman spaces. For like the patient and discerning reader of a theoretical text, the shamanistic psychonaut, or some sailor forgotten to history who boarded a ship destined for uncharted waters, those who follow know that the process transforms their very core and they cannot remain what they once were if they embark. Bystanders fear getting swept up in an uncontrollable tide. These are the

[4] Theorist borrows this term from Donna Haraway's essay *The Promises of Monsters: A Regenerative Politics for Inappropriate/d Others* ([1992]2004), who in turn borrowed it from Trinh Ming-ha's *She the Inappropriate/d Other* (1986). Haraway says in her essay, "To be "inappropriate/d" does not mean "not to be in relation with" – i.e., to be in a special reservation, with the status of authentic, the untouched, in the allochronic and allotropic condition of innocence. Rather to be an "inappropriate/d other" means to be in critical, deconstructive relationality, in a diffracting rather than reflecting (ratio)nality – as the means of potent connection that exceeds domination" (p. 69). The present text assumes a position that is less confident in the ability of the inappropriate/d other as an ideology to exceed domination, but it does agree with Haraway that "the term "inappropriate/d other" can provoke rethinking social relationality within artificial nature" (p. 70).

spaces we tell stories about, that light up our imaginations and stimulate the panoply of emotive experience denied us in the everyday humdrum of life in capitalism; this is where fictions turn into the reality of the as if.

Object

The object is in flux, but as is the case in the sociological tradition from which this text evolves, the object paradoxically remains the **human** (even after it vanishes). Complicated by the situation in which it is simultaneously the subject, therefore observable only through reflections and refractions. The object presents itself as an echo to the senses, a copy of a copy, a simulacrum of a concept, bent beyond any notion of an original. Perhaps, long ago it occupied a space in the realm of the *real* but for now let us ignore the nostalgia for an object only alleged to have existed and ground it instead with fictive roots.

Thesis

At the heart of this text is a dream; alternatively interpreted as a nightmare. There is a lusting after the denied: the story of our origin. Unable to proclaim the origin with an empirical certitude, the empiricist longs for the potentially verifiable end. However, it is never really the end, only the illusion of the end, the mirrored image of the illusion of the beginning, which entices the speculative drive in the scientist. Apocalypse must be tempered with post-apocalypse, for otherwise there would be no one left to record the coda and play the role of the witness, the great observer and recorder of the story of

humanity; no one left to claim the "ah-ha!" moment and usurp the coveted throne of truth (and in the end – if the End – would it matter?). The myth of the human, origins, ends, and everything in between, is a powerful catalyst in the modern machination of progress. It serves political, religious, social, and economic ends; even when the reality does not conform to the ideal and is actually antithetical to it, the seductive power of the human myth is that it *could be* the final myth. The modern project birthed not only an ideological narrative for the human but so too a metamorphosis of material reality. Technological developments in communication and transportation have transformed the relationship between the naturally evolved species and the spaces we inhabit. Cannibalizing the topography of nature, the modernist myth feeds on the space of the human and in the process birthed something new, something other, something mechanthropomorphic, something that only arrived after the human.

Question

The human is a dynamic species always in the process of becoming other. Conceptual frameworks viewed as liberating in one era morph into what is repressive in another. Positive progress, free from the moorings of an historical anchorage and predetermined endpoint, is bound to a dialectic of mythologies, always measuring against the presumed to be/to have been. The species operates according to the logic of the 'as if', but contradictions abound when the narrative of the 'as if' ignores the material conditions of the real and a binary stalemate of fated circularity is the result. If the 'as if' narrative of a humanist space no longer reflects a potentiality of actualized material conditions, it is the task of theory to construct a provocative narrative of the 'as if' that

accounts for the materialized posthuman conditions and agitates the deadlock. This does not promise a rebooting of the myth of progress nor that of humanism in any form; rather it aims to dissolve the glue holding together the incompatible and suggest possibilities for the inppropriate/d other to proliferate in new interconnected spaces. Whether the human can metamorphose into an inappropriate/d other and inhabit these spaces is both an ideological and techno-scientific question, and is the topic of study for transhumanists. But the goals of this text are neither that of ideological construction nor the merits of one technological project over another. It aims only to understand the present and diagnose the conditions of possible posthuman futures, not predict the Future (of which the transhumanist vision is but one possible outcome of many competing narratives). Before probing the possible, which may lie in unfamiliar territories, we must also answer some obvious relational questions that arise as we subjectively situate the present text to our individualized worldviews. In broad strokes these questions are: What is the human in the context of this text? Where has this human gone? And, what are we to do with humanism if we no longer find the concept of the human to be adequate to our social reality?

As the main focus of this text rotates around an understanding of the first two questions, it should be expected that they will only gradually be uncovered over the course of this investigation through parallels and digressions in light of the concepts and frames analyzed in the text. The question on humanism, however, is addressed upfront in the prelude because this text is not an attempt at a reciprocal dialogue with humanism but is an inosculated outgrowth of a technological coupling. That is to suggest something unnatural and artificial about this project, but not something that is celebratory in what

could be translated as anti-human or anti-humanist leanings. While assuredly a posthuman world will produce problems unique to its particular configuration, there is no doubt that in the immediate future it will drag with it the historical and species specific problems that humanist ideologies react against. The present concern is that it is the object of the social (and thus the social) itself that has changed and therefore so too must the language of representation, articulation, and understanding change for the diagnosis of the present to capture anything about our current condition. Continuing with the metaphor of the root system, or rhizome, the posthuman is best inserted into the conversation of humanism as a spliced project whereby it is grafted onto the human not through a central node, but through one of the many offshoots that runs alongside the dominant (and elder) root. Sympathies with the various humanisms remain and will no doubt linger even as civilization accelerates down other tracks.

Problem

Given (1) the willing alienation of the species (for how is it not willing, even if reluctantly so, when those who are aware of the damage contribute to the reproduction of the circumstances?) and (2) the loss of a referent from which we can measure and thus pretend to know what a non-alienated/ing space would look like: to uncover, if not novel perspectives for solving the problem, then at least how to encourage the endgame of present logics and recover the savage spirit, found not in a garden or in the sorrow of expulsion, but in the primitive glee of dancing on the rubble of Eden.

Stakes

To persuade the reader (including the original (re)reader who authors the text) that the social, and the human by proxy, are in a phase of disappearance or perhaps have already disappeared and what remains is but a parodic verisimilitude; that is, the thought of a thing mediated through the veil of its deceptive material form[5]. To challenge prejudices that arose throughout more than a century of humanisms, the binary tensions of a left/right politic, and the tyranny of the probabilistic center that have polluted the reader who holds onto a hope that the contradictions between thought and reality can be reconciled in time, either through reason or force. To illustrate how both found and created mechanthropomorphic spaces – in other words, spaces that encourage the 'becoming-machine' – decenter the Human and appear as contested zones where we must rethink what constitutes life itself. To question the future of sociology, (1) if our referent, the social, is vacant of our object, the human, (2) if knowledge production of the social is contingent on a belief in the Truth of science and in the social itself, and (3) if a patasociology rooted in our absurd conceptual constructs can keep pace with, and articulate the issues confronted in, a dynamic reality.

Context

The postmodern turn in Western thought (pronounced dead on arrival, the living corpse is an apt metaphor for the social reality it mirrors) and the simultaneous rise of the technologically mediated experience. This text is a response, reaction, and product of

[5] As Georges Bataille saw so many years ago, "it is clear that the world is purely parodic, in other words that the thing seen is the parody of another, or is the same thing in its deceptive form" (1985:5).

Western traditions (Judeo-Christian narratives, spatial appropriations, American consumerism, and the seduction of capitalism) that for better or worse, while not globally ubiquitous, are the most powerful cultural forces shaping the world today[6]. The post-isms are unsuccessful when theory wallows in its past failures and tries to save itself from these festering and gangrenous mortal wounds with ideological allegiances and neo-isms. Now is not the time to mourn the death of the social or resurrect it with academic necromancy. Now is the time to confront dangerous ideas, take risks, and theorize.

Pretext

In the preface to Adorno's *Against Epistemology,* he informs the reader: "Husserl's philosophy is the occasion and not the point of this book" ([1970] 2013:1); that is to suggest that it is the thought of one project that tangentially inspires the other. Related in spirit, if not in intentions. T. would then say that Baudrillard's project is the occasion but not the point of this text. The last great pataphysical prankster, Baudrillard's radical views served as provocations to supposed enemies and allies alike. Baudrillard's genius was in his ability to find even the smallest cracks and force them open, if not to resolve contradictions, than to exacerbate them. When reading the early sociological modernists, like Marx and Weber, contradictions are not absent they are expected and understood to be exacerbated in the illumination of the buried functions and

[6] The issues confronted, however, are by no means limited to the West; they are limited by textual constraints and by the human time in which T. operates. T. should very much like to see the topics raised in this text approached more frequently from Eastern traditions, which, now more than ever, plug into the same problematic nodes of modernity in a global rhizome; because they begin in alternative socio-historical root systems, they contain the potential to produce different fractal narratives and new modes of play. See, for example, Peter Sloterdijk ([2001] 2011) who was influenced by Eastern thought and incorporates the work of the Indian philosopher Osho Rajneesh in his analyses.

forces within modern society. However, even when aware of the resultant limitations of working within contradictions and paradoxes, there is a powerful desire for resolution, to imagine that if only the circle is squared, if only reason can produce the logically perfected thought paradigm material reality will conform and social justice can flourish. With Lyotard's ([1979] 1984) obituary for the project of Grand Narratives and legitimized reconciliation of the contradictions between thought and reality, many have shifted to a focus on microcosms of social action, as if the micro level can constrain the social by shrinking the space of uncountable variables proliferating at the macro level. When peering into the abyss of complexity, a shirking back toward comfort in simplicity occurs. The limitations are human, but even the machine surrogates who can hold onto more than their human gods are limited by the imaginations, fears, arrogances, and desires of their creators. Can they eclipse these limitations? Can the creation surpass the creator? In other words, do our thoughts limit our reality, or does our reality limit our thoughts? Baudrillard and his postmodern kin picked up a thread already found inside of the modernist project but they raised metaphysical and epistemological questions that threatened the trajectory of both modern thought and reality. Ultimately, they failed us by succumbing to the entropy of the species, climbing onto Kharon's ferry to cross the river Styx. Try as so many have done to let their ideas become stowaways on that boat, they alone refuse to die a dignified death. There is no need to rehash the debates as to the relevance of the postmodern critique; there are enough books on the subject to meet the ideological disposition of any reader, rendering the conversation rather moot. There is a need to pick up the reigns, not to restate the already said, but to explore the unsaid, that which is buried in the fissures, the depth of which postmodernism revealed.

Mode/Method

The text's mode is theoretical, contemplative. As it examines the "as if," it asks the "what if?" To specify a particular methodological approach would be too limiting for the exploratory nature of the theoretical text. In the words of Niklas Luhmann, "sociology must become a "parody" of society...[and c]urrent sociological methodology has no idea just what is implied here" (1994:138). However, as this undertaking is both absurd and *serious,* a haphazard hodgepodge of loosely stringed together thoughts that strike the T.'s fancy is neither appropriate nor intended. Against Lyotard's accusation that this is "unlike a theoretician," this theorist follows Lyotard in that, "he does not presuppose the rules of his own discourse, but only that this discourse too must obey rules" ([1983] 1988:xiv). What those rules are, become apparent in the course of the text, as limitations emerge and are acknowledged. In turn, the hope is that such limitations provide grounds for new theoretical undertakings.

As Richard Swedberg put it, "theorizing is primarily a process, theory is the end product" (2012:2); in other words, theorizing is the method, theory the result. He warns against placing too many rules on theorizing because they too often serve as obstacles rather than aids. However, Swedberg does suggest a four stage process to use as a general framing device for the task of theorizing: 1.) Observe, 2.) Name and Formulate a Central Concept, 3.) Build Out the Theory, 4.) Complete the Tentative Theory, including Explanation (p. 17). While this text does not make use of all of the tools Swedberg places in the theoretical toolkit to achieve this end (and in the spirit of his article it is

doubtful he would begrudge this), it very much builds on these four stages and takes to heart that

> since the main idea is to say something *new* when one theorizes, it is crucial to get as much and as varied information as possible.
>
> Sources should be numerous and of all types: newspapers, archives, books, dreams, daydreams, illusions, speculations, interviews, details, statistical tables, anecdotes, conversations, what is on the web, what one has overheard and much, much more…The main point is to get to know the phenomenon in some novel way – and for this imagination is more important than logic. (P. 11)

The only hard and fast rule that T. has applied to this text, other than an openness to all available means of inspiration, is a rejection of all dogmas, with the intention to push the text when it runs into resistance and not succumb to his own prejudices. It aims to follow the spirit of a recent blog post that has addressed the growing number of attacks on the sociological discipline by those so worried of the legal, economic, and professional consequences of engaging in polemics and in tackling controversial subject matter that might cause offense. These are not paranoid phantasies but the realities of the current socio-economic and political climate, and yet to produce theory we cannot fear shackles, whether visible or ethereal. "*Sociology was, is, and always should be an unsettling field of research*…The question then…is this: Are you willing to be uncomfortable?" (Wynn 2014). Indeed the mode and method of this text aim to live up to that spirit by not shying away from the unsettling encounters found along the way.

Genre

In the sense of science fictions, the genre is that of Reflections, Observations, Play, and Critique, which spiral from a particular theme found in the general condition of

our time. In other words, a theory in the primal sense, as imagined to exist before the divisions of the sciences and humanities, before the demarcations and rules of what constitutes proper academic methodologies, before literature and science were appropriated into the power politics of capitalist hierarchies of value. It is not social, sociological, or critical theory, but aims to be all three; falling most often in line with what Baudrillard ([1983]2008; [1987]2012) termed: *fatal theory*. At times one will be more visible than the others will be within the topical arrangement of the individual chapters.

Style

Theorist's naïve hope is to integrate the imaginative renderings of a species-critical (thus self-critical) theory through the fractally conceived lens of science fictions. The text aspires to the status of the chimera, a monstrous creature made up of familiar parts. While the form of the text is by necessity linear, the style does not pretend to present a final destination or point to a predetermined and fated outcome, but rather to cause thoughts to spiral off into the dark and cobwebbed corners of the mind. Therefore it plays with unresolved tensions found in concepts such as the ideal, science, and religion. Like a cabinet of curiosities, T. aims in this text to ignite the imagination of the reader.

Reader

A theoretically engaged one, that is, anyone on the condition that s/he agrees to rethink the human, the identity to which most assumed readers still cling. This reading legend, therefore, also stands as a warning to those who are unwilling or unable to question those last remnants of the sacred for fear of losing their anchor. Therefore, T. requests that the reader exhume their childhood imagination; presumably, like Theorist's, it has grown dusty in adulthood. Reclaiming it presents the greater challenge. To borrow Christopher Priest's (1996) language of illusionists, 'the prestige' is not nearly so interesting or effective when the audience cannot place their belief on hold for 'the turn.'

Author

A series of events in T.'s life has led to a preference for nomadic thoughts and a profound feeling of comfort in being lost. While he would like to credit this particular destination as the culmination of hard work, there is a splinter in his mind, lodged from a life lived across cultures and geographies, that it is equally due to the luck of birth in this time, this space, and with a set of socio-economic opportunities denied many an abler mind than his, that he has come to pose the questions herein contained and is granted the rare privilege of indulging in the task of contemplating an answer. This thesis would not see the light of day without the support of T.'s home department (Sociology). Neither would it, without the guidance, influence, and mentoring of his advisor and chair, Dr. Harry F. Dahms of Sociology; his gracious committee members, Dr. Michelle Brown also of Sociology, and Dr. Allen Dunn of English; all at the University of Tennessee –

Knoxville, the supporting institute for this thesis to which thanks are also due. Finally, T. notes that the supporters of this project undoubtedly do not agree with all of the thoughts contained herein, but he is intensely grateful for their indulgence of even his most radical and unpleasant ideas.

Address

Left to our own devices and frustrated with the painfully slow crawl of natural evolution, a narrative of human dominance and control over natural processes emerged in modernity. Frequently appearing as rationally orchestrated and legitimated programs after the fact, the techno-scientific trigger is more akin to a chain reaction in which biological evolution is superseded by the impatient logic of a technological evolution with more overtly visible mechanisms, but likewise difficult means of individual influence. Fears abound that perhaps this artificially induced evolution has escaped our attempt at deific control and runs rampant, soon to leave those of flesh and blood trampled in the dustbin of inefficiency; another forgotten god killed by a viral creation rebelling against its subservience.

Speculations on the apocalyptic downfall of humanity are nothing new. Largely rooted in the religious mythologies of the West, the linear Christian narrations – from an origin in blissful innocence to a salvation laced ending – entered the cultural milieu of consumerist society before even the oldest living members of our species were born. Historically the poignant turning point is linked to the creation of the nuclear bomb, symbolizing a transfer of deific power from the realm of thought to that of the material world. The mythic potential that it represents actualized in the totalizing destruction of

the bomb at Hiroshima. Zombies, alien invasions, viral outbreaks, extreme weather, asteroid collision, and stellar death soon followed; made real, if not materially, then in the simulated cinematic of possible realities projected onto the big screen and played out in parallel realities of virtual space. As science fictions embrace the dystopic phantasies of an uncontrollable species without boundaries, our collective imagination suckles on the steady drip-feed of collective demise. But this is not an apocalyptic warning, while the human species may yet go out with a bang, the ubiquity of technologic noise muffles even the faint traces of a collective whimper. In the seductive image of a masterful sleight of hand, our right hand distracts and compels our vision to the ideal, while our left hand blindly transforms material reality. The last magic trick is to make ourselves disappear (and we didn't even know we were magicians!).

There are many interrelated projects emerging in this social theoretical rhizome, and while they produce unique and differentiated offshoot systems many have found linkages in the burgeoning node of the latest academic post-ism; in this case, posthuman(ism). However, like postmodernism, to which this relatively new growth owes its roots, the post prefix implies something more than it should when read with the non-ironic gravity of believers. These believers are those who attach themselves to the dogmatisms of the ideal, whether of the promise of religious idealities or those of the Enlightenment project. The similarity between the two groups is in the displacement of hope. In either narrative hope is projected onto an Other, be it in the form of a transcendental or temporal deracination. The former rejects the material abolition of earthly social ills, in an idealist narrative of absolution through the intervention of a transcendental Other after death. In this system, the human is privileged only in so far as

it is the medium through which one must pass in order to find ultimate fulfillment in a physically disparate embodiment. The latter, however, is no less alienating. It begins from a similar premise. The human as such is flawed. However, rather than displace hope onto a transcendental narrative that finds its origins in sin, it displaces it temporally, finding its origins in the chaos of nature, and imagines the ideal construct of a rational human (so long as it holds to the standards of Western ideologies) through the tools of modernity in a future material condition. This is a temporal displacement, operating under the same acknowledgement that something about this material reality is wrong, and that the future holds the key through a biophysical transfiguration, or socio-mental metamorphosis, of the human into the Human; that is, the capital H conceptual human, the normalization of a liberal modernist ideal type.

The trap, therefore, is to misread the word posthuman as so many have misread the word postmodern. That is, either as a linear narrative in which one can *only* be postmodern after one is modern (or, posthuman after one is human), or as a moralist affirmation of sociocultural and techno-scientific currents. Largely, however, this not the intention of the postmodern critique, and neither should one read this as the intention of a posthuman critique; in contradictory fashion the postmodern and the modern, like the posthuman and the human, play an antagonistic game of tag, each subsuming the other while claiming the role of "it." In practice, the social sciences have too often read the term postmodern as something dirty. As a profane utterance of those who celebrate the ever present debaucheries and inhuman practices of late 20th and early 21st century capitalism, abandoning the humanist quest for an egalitarian politic, an end to human suffering, and the eradication of poverty, environmental degradation, illness and a

plethora of negatively connoted –isms (classism, racism, sexism, etc.). Focusing instead on the moralistic desires of these emotionally comforting idealist narratives—whose logic penetrates the heart, strumming the chords of our collectivity's emotional deprivation and our own individual impuissance—such kneejerk reactions do little to advance our knowledge of reality qua reality. This reactionary tone reflects the hidden contradictions of a modernist project that has swallowed up its own self-critique in a viral feedback loop of simulated entropy.

The fear, and indeed the question that must be answered, is whether or not sociology can adapt and find an operational language that escapes its roots in the fictitious constraints of modernity and in the carrot-and-stick model of a neoliberalized epistemology, without losing its transformative, descriptive, and critical abilities. That is, can sociology eclipse its foundations once a postmodern/posthuman critique deconstructs them and even the rubble has sublimated into the æther of an irredeemable historical moment? That this question likely has no easy answer is entangled in the warmth that comforts more than light; and we rightly fear digging our own graves. The Swabian philosopher Hans Vaihinger credits his teacher, Professor Reeff, at the University of Tübingen with the following thought, "a philosophic system need not be regarded as true simply because it satisfies the emotions; whoever seeks this satisfaction must not go to the philosopher to find it; philosophy must give light, but it need not give warmth" ([1929] 2009:xxvii). We can easily substitute the word theory for the word philosophy here, for likewise this text is committed to shining the light, there is no promise that where it shines we will find purchase for our feet.

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PRELUDE
HUMANISM: A PROJECT OF LETTERS AND HUMANS

They say that only what is dead can be fully understood.

- Georges Bataille, Surrealism (1948)

In 1983 Lyotard made the prognostic and controversial claim that in 21st century there would be no more books[7]. It is important to note that this claim as to the directionality of society, which must be contextualized, coincides with the year of Theorist's birth. It represents a direction for society that, if correct, is linked to the experience of the known world that holds our gaze in this text; a gaze in which the human itself is disappearing. But let us briefly trace the events that culminated in such a claim to see if an approach from this direction can bear fruit in the present endeavor.

Humanism as a Concept

Cicero's linking, in Roman thought, of the notion of *humanitas* to the training of public orators, from the Latin *orare* to speak or plead before an assembly, played a profound impact on the training of people through the use of recorded knowledge in the civilizations which proceeded the Roman Empire. To be an orator who practiced humanitas was to be a person who was learned and able to speak and persuade the public. It was not, however, until the concept was picked up nearly a millennia and a half later, in the 1300s, by the Italian renaissance scholar Petrarch that the ideological framework of *humanism*, as a nexus between the human and the written word (*See Table 1*), began to

[7] *The Differend: Phrases in Dispute, xv.*

play a role in the shaping of modern societies. The idea of humanism, as the German philosopher Peter Sloterdijk describes it, originally flourishes out of the thrust of "the cult of the literate" ([2001] 2009:13). He describes the action of the adherent in quasi-amorous, or erotic, and religious terms: "the reader who sits down to a thick book can approach it as an invitation to a gathering; and should he be moved by the contents, he thereby enters the circle of the Called, making himself available to receive the message" (p. 13). This notion of the Called is reminiscent both of the theological calling of a priestly-class in Christendom and of the secular *vocational* calls, as in Max Weber's (2004) usage. This Calling is not limited to the reader, but forms a complex coupling between the reader and the writer – who is engaged in an exercise of "the power to transmit love" which is "received" by the willing reader (Sloterdijk [2001] 2009:13). The writer rarely knows the reader, but addresses the words to an imagined human audience and casts such letters off into the unknown where they take on an orbit of their own beyond any controllable intentions of the author. Therefore, we can say that the writer as humanist is engaged in an act of seduction from a distance both spatial and temporal of imagined and unimagined subjects.

Letters, in this mode of thought, retain the magical dimension of the Word[8]; that is, language, through its use, contains within itself the potential of a transformative power. That humans are the only natural species on planet Earth able to communicate beyond the present through written texts, allows them the unique ability to shape events

[8] This notion has played a large role in Jewish Kabbalah with the Sephirot as the emanations of Ein Sof which continuously renews the existence of creation, and in Jewish mysticism with the myth of the golem, who in many versions is brought to life by a word placed in its mouth, but is generally denied the power of language. Similarly in the Christian tradition the word is linked to divinity (KJV John 1:1).

that began before their limited lifetime and continue long after it. These social projects are so vast that they require a unity of thought accomplished through the act of reading the same texts across generations, with the hope that a synthesis of directionality can be established. When one generation of humans die, the next generation fills the vacancy; it is the project itself that remains as the individual humans involved become superfluous to the project itself. From this the notion of progress is established as a material transformation of reality. For this reason literacy was institutionalized in the major spheres of social control, and its directionality was tightly controlled. The power to escape the prison of time, is bound up in the power to write and read the letters of those involved in this great transformation of reality.

The techno-social nexus that was primed by the Renaissance, however, unfurled literacy to a larger class of people and the spread of this humanistic ideology. Humanism in this sense is a joint project in which the human understands itself as the most powerful creature in reality, as the maker of worlds, and the builder of artificial substitutes and realities, but simultaneously it places the burden of fellow humans' wellbeing on the entire species. On the one hand, the technology developed with Johannes Guttenberg's advent of the printing press in the mid-1400s enabled a wider availability of literary materials to the masses through a model of standardization and efficiency of production, eventually resulting in the economic viability of the form. A formerly impossible literacy project began with lasting social consequences, as "printing allowed the spread and preservation of Renaissance scholarship, so that it did not disappear like earlier revivals" (Kaestle 1985:19) adding to the spread of humanism in modern societies which grew out of this expanded literacy project. On the other hand, with the ability to produce a

common language through the reading of similar texts, humans found an organizational motivation behind the synthesis of textual knowledge that could serve as a challenge to the historical guardians of power, namely the government and the church. This was greatly visible in the joint rise of the university and the Protestant Reformation of the 1500s and their subsequent impact on politics and economics; the impact of the latter also famously explored by Weber ([1905] 2002). "Humanism as a word and as a movement always has a goal, a purpose, a rationale:" not only for religious ends, but now with this technologic foundation "it is the commitment to save men from barbarism" (Sloterdijk [2001] 2009:15). This juncture drew a line in history between the past and the future, between civilized and savage, literate and non-literate, and eventually with the rise of the nation-state (which learned its lessons through literacy) between citizen and non-citizen.

The emancipatory power of literacy was liberating on the one hand, by delivering on the promise that through it our species could cross space and time and connect to distant individuals by sharing in a labor of love: the project of "men of letters," a future built for us, by us. But on the other hand, it simultaneously reconstructed a barrier to the category of "human" by elevating it to an ideal rather than a material state of nature shared by the species. No longer was the divide a biological one between human as the elevated life form through divine providence, or through the power of language, with other animals seen as a subjugated class of life. Now there was an acceptable and progressive means of socialization to which humans could appeal to elevate themselves above their own kind (with the pretense of an uplifting egalitarianism) without turning to the time-worn traditional biological narratives used to justify class, race, and gender distinctions as a hierarchy of *humanness*.

Humanism developed a division along moralistic lines, whereby one activity of humans was elevated above other "lesser" human activities; it is in this sense that one can speak of a tyranny of humanism as the deployment of power in the privileging of a specific type of experience of reality over others. Granted many of the other types of experience have not made nearly as convincing a case for their continuation, but justifications in a free market paradigm are open to the bidder. For while the ends tout justice, the means are agnostic to the ends and rely on a pruning of the human through an exclusionary politic. For example, literacy, like knowledge, is not inherently humanistic; rather humanism, like other competing ideologies, coopted literacy because it provided the surest means of information transmission for a project that required a temporal reach beyond the life-expectancy of a single generation. As Heidegger saw, "language surrenders itself to our mere willing and trafficking as an instrument of domination over beings" ([1967] 1998:243). If "information…longs to be free," as Eric Hughes ([1993] 2001) wrote in the Cypherpunk's Manifesto, then information – that is, the output of language as an instrument of domination – constructed by those who idolize the forms of barbarism, the "lesser" activities, also find a means of mass expression in the mode of mass literacy. Once literacy achieved its liberated form and was no longer merely a tool of particularities, but one of generalities, the humanist project entered into the realm of anarchic competition and judgment, not at the hands of the learned, but at the hands of the capitalist consumer. Judgments as to what was the human ideal and what was barbarism have come to be quantitatively, rather than qualitatively, conceived. It is in units sold and books consumed, rather than by the level of understanding and material transformation, that has come to dictate the level of literary success by the public in

modernity. The metaphor of the Calling is therefore quite apt, for some hear the humanist call loud and clear, while others remain willfully ignorant in their deafness, or even more surprising and damaging to the sympathizer of the humanist ideal, unconvinced; much like the similar ideological debate surrounding the continued proselytization of a theological reality in the religious sphere and the concurrent rise of an atheistic reality in modernity.

America and the Market of Letters

Before we turn our attention to the major facets of humanism in the modernization project leading up to 1983 and Lyotard's claim, let us fast forward to 2014 and the writing of this present text for an interruption that will further help to conceptualize the present world and the contextualization of this text. At the halfway point of the year, two seemingly unrelated but equally noteworthy events in the American world of *letters* took shape.

The first actually began in 2013 in France with the publication of *Le Capital au XXIe siècle*, but the English translation (*Capital in the Twenty-First Century*) by Thomas Piketty did not arrive until March 10, 2014. There is little doubt that the book has flared up as something of a sensation in America, having reached the top the New York Times non-fiction best seller list. In part this is due to the attention it received from Paul Krugman in *The Opinion Pages*[9] of *The New York Times* and his long-form review of it

[9] For three consecutive months Krugman has posted on Piketty on this blog (March 24, 2014; April 24, 2014; May 24, 2014).

for *The New York Review of Books,*[10] and from the subject and the title which has allusions to Marx's magnum opus *Das Kapital.*[11] Additionally a panel moderated by Branko Milanovic at the CUNY Graduate Center on April 16, 2014, with Piketty, Krugman, Stiglitz, and Durlaf was posted to YouTube and garnered over 65,000 views in less than two months. By the end of April 2014, the French edition of the book had sold an estimated 50,000 copies[12] and the English version another 80,000 copies with Harvard University Press estimating that it will top out at around 200,000 copies.[13] In addition to getting the attention of well-known Nobel Prize winning economists, it has provoked responses and reviews from academics and popular news media across the board, both supportive and critical.[14] Fueling the fire of this event is the fact that Piketty released all of the data used in the book online, inviting readers to look through the numbers themselves.[15]

The second event played out on the popular crowd-funding website Kickstarter[16] with a proposed expansion of the Reading Rainbow project. Reading Rainbow was a children's television show hosted by actor LeVar Burton (*Roots, Star Trek: TNG*) from 1983 to 2006, and as of 2012 exists as a tablet application, with the purpose of

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[10] Published in the May 8, 2014 issue.
[11] Tellingly, Piketty denied the nod to Marx in a recent interview. When queried as to whether he had read Marx, he replied: "I never managed to really read it… Das Kapital, I think, is very difficult to read and for me it was not very influential." When pressed on if there was a nod in the title, he responded adamantly: "No not at all, not at all!" (http://www.newrepublic.com/article/117655/thomas-piketty-interview-economist-discusses-his-distaste-marx)
[12] http://www.foreignpolicy.com/articles/2014/04/28/france_thomas_piketty_capital_in_the_twenty_first_century
[13] http://www.newrepublic.com/article/117498/pikettys-capital-sold-out-harvard-press-scrambling
[14] A few of the major responses: David Harvey's *Afterthoughts on Piketty's Capital* (www.davidharvey.org); James K. Galbraith's *Kapital for the Twenty-First Century* (www.dissentmagazine.org); The Economist's *All men are created unequal*, *Le French Touch*, and *Thomas Piketty's Capital summarized in four paragraphs* (www.economist.com); New York Magazine's *On Tour With Rock-Star Economist Thomas Piketty* (www.nymag.com); Financial Times's review *'Capital in the Twenty-First Century', by Thomas Piketty*, and a critique *Piketty findings undercut by errors* (www.ft.com) (This critique provoked a response from Piketty "*My Response to the Financial Times"* on www.huffingtonpost.com); The National Review's *Inequality and the Fate of Capitalism* (www.nationalreview.com).
[15] http://piketty.pse.ens.fr/en/capital21c2
[16] www.kickstarter.com

encouraging literacy. What makes this a noteworthy event is the fact that the crowd-funding campaign, with the goal of raising $1,000,000 to expand the application and provide it to 1,500+ disadvantaged classrooms, achieved it in a mere 11 hours. Burton commented in a recent interview that he believes that, "in a society that functions optimally, those who can should naturally want to provide for those who can't."[17] Within a week the project had raised over $3,500,000 from nearly 79,000 contributors. By the end of the campaign $5,408,916 was raised, enabling the release of the application on all technological platforms and it will be provided to 7,500+ disadvantaged classrooms.

While at face value the objects of these examples are far apart, one is a book and one is a software application, they qualitatively share an interest because they play to the scale of the literacy project in America as events in which letters and the human ideal overlap. Additionally they take advantage of and are fully plugged into the technologized society. The former example forms a nexus between an academic text and the problems of economic inequality, the latter forms a nexus between the action of reading texts and educational inequality. Inequality is the key term here that places both of these projects within the humanist tradition, as inequality is only a concern insofar as humans agree that the wellbeing of all humans is a social and not merely an individual issue. The former requires a literate and receptive audience to participate in the understanding of inequality through a meditation on the relevant data. The latter attempts to reproduce the importance of literacy in the next generation, recognizing the power that literacy enables in the individual by opening up the potentiality for the individual to hear the Calling. In a

[17] Interview with Alex Knapp 6/6/2014. http://www.forbes.com/sites/alexknapp/2014/06/06/levar-burton-on-reading-rainbows-kickstarter-and-the-love-of-reading/

slightly more negative light, the latter project is also about the reproduction of educated laborers, however, one which has adapted to the model in which the cost of said education is more and more being placed on the individual as consumer, rather than as contributor to society.

As singular events they point, less to the robustness of the humanist project, than to the society in which they qualify as newsworthy events. A society that already by the 1950's was seen as moving away from "personal cultivation in the specific sense given the term by Humanism…[it] is being replaced by modes of sensibility and behavior which are proper to a technicized society" (Horkheimer [1957] 2012:13). In spite of the generations that have passed since these inequalities were brought to light (and indeed the inequalities in education and economic position are by no means novel) they remain in full effect. Qualitatively, therefore, they are a response to the failures of the humanist project and the antihuman backlash of neoliberal policies.

What is sociologically interesting about these events is not how they further the aims of the humanist tradition, but how the humanist tradition has morphed into just another competing idea against the rage of a technologic society lusting for new spaces to open up through the domination of the "law of nature" on which modern physics rests: the speed of light. Horkheimer saw this morphology of the literacy project most accurately in its liberated form, as "a kind of intellectual prophylaxis effected by means of recordings and paperbacks for mass consumption" ([1957] 2012:13). In an overused cliché, literacy, and humanism by proxy, are double-edged swords: while they emancipate the individual in one sense by allowing them to seek out information that can break apart ossified power relations, they reproduce the conditions of inequality by

overloading the literate with information noise. As a matter of judgment both the form of expression, literacy, and the ideological framework, humanism, demonstrate a severe weakness in the age of techno-capitalism to resisting or combating actual inequalities.

Picketty's success speaks less to the "progress" of eradicating economic inequality, then to the fact that it is a noteworthy event when a mere 200,000 books on economic inequalities sell in today's society[18]. The best-sellers against which it and other texts of its kind are competing serve as a better pulse of this society's norm. All but one of the next 15 best-sellers in the week of June 1, 2014[19] were memoirs, biographies, and self-help based on celebrities and politicians, or sensationalized news stories to trigger emotive response, and they were selling even fewer copies. Likewise, the success of the Reading Rainbow fundraiser speaks less to societies desire to increase literacy and a human ideal than to the failure of social institutions as they have placed the onus of future literacy on the individual consumer. As Burton framed it further along in the interview with Forbes quoted above, the reason that they have turned to crowd funding is because, "we're trying to fill a gap that's been made by the way the country has failed to educate children."[20] There is little doubt that neoliberal education policies in America, especially the Bush administration's No Child Left Behind, have had an adverse effect on the advancement of literacy and the humanities (Whitfield 2005). One researcher has gone so far as to directly link these policies to an attack against humanism itself (Lehr 2010).

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[18] Interestingly, within the last year there were also 200,000 people who volunteered to leave Earth and embark on a one-way voyage to Mars in 2024. A project that is to be partially funded by a reality television show made of the journey and will be explored in greater depth in Chapter 2. (http://www.mars-one.com/news/press-releases/over-200000-apply-to-first-ever-recruitment-for-mars-settlement)

[19] As of the writing of this text, this was the final week that Picketty was #1 in the rankings. http://www.nytimes.com/best-sellers-books/2014-06-01/hardcover-nonfiction/list.html

[20] Interview with Alex Knapp 6/6/2014. http://www.forbes.com/sites/alexknapp/2014/06/06/levar-burton-on-reading-rainbows-kickstarter-and-the-love-of-reading/

Literacy, combined with censorship and massive funding cuts, is reduced to a necessary tool for functioning in modern society, however, it is stripped of its transformative potential. On the funding platform Kickstarter this particular program is competing like everything else against movies, games, tech gadgets, food stuffs, and a whole host of other consumer products. It is not a decline in literacy that is the causal agent in this transformation, rather it is the transformation of society itself into a technologically mediated reality that shunts the humanist ideal into the maelstrom of market consumerism.

Judged from a quantitative perspective it takes little more than a cursory glance to see that publishers, to say nothing of humanists, are struggling against a society that has little value for books, and this is not just due to the technologic transformation of the mode of presentation (e.g. from physical book to electronic format). According to a recently published report by the Bureau of Labor Statistics (2014), people over the age of 15 in America read an average of about 20 minutes per day. However, even that grim number doesn't present a clear image because between the prime years of 15-54 the average is under 10 minutes per day, and rises significantly in the 55+ age range, to an average of about 44 minutes per day, with a near doubling of time spent reading with each decade of age.[21] Even among select groups in society, such as university students, for whom the expectations of reading are higher than the general population, they demonstrate a much lower reality in hours spent reading than the conventional guideline

[21] These averages are based on the slightly higher numbers listed for weekend/holiday reading time, but are similarly comparable to the weekday reading numbers. http://www.bls.gov/news.release/atus.t11.htm

of two hours studying outside the classroom for each hour in.[22] Societal policies enacted by the state have as much a role in this transformation as do the individual consumers who adapt to these changes faster than they can be anticipated and understood.

Humanism in the 20th Century

We do not have the space here to perform more than a cursory look at the years that buttress the present moment, to the modern versions of humanism that trace their roots to this project of antiquity, but to do so in this fashion will illustrate how the humanist project looks today and better understand the launching point of this investigation which bumps against it while not directly engaging within its discourse. On the surface, by the mid-1900's the concept of humanism had not changed all that much from its roots in antiquity. Martin Heidegger wrote: "For this is humanism: meditating and caring that human beings be human and not inhumane, "inhuman," that is, outside their essence" ([1967] 1998:244). Similarly, Sartre's position holds that the human as maker of its own reality "is responsible for all men" (1946). In order to ensure that humans did not fall to inhumane forces, a paternalistic view emerged that aimed to educate the uneducated (or uninitiated) to the ways of the human proper. Three classes of humanism spread their roots in the late 19th and 20th centuries leading up to Lyotard's claim. Our way through this is not presented as a chronological telling of humanism, but one of scale; the importance of such an approach will be addressed in Chapter 1 as we examine the fractal nature of reality. There is existentialist humanism, or a humanism at

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[22] The National Survey of Student Engagement (2013) found that students across the disciplines spend just under 7 hours per week reading for all of their classes.
http://nsse.iub.edu/NSSE_2013_Results/pdf/NSSE_2013_Annual_Results.pdf

the individual scale. There is Marxist humanism, or a humanism at the social scale. Finally there are theological humanisms, or humanism at the transcendental scale.

Existentialist humanism is a reactionary humanism that was advocated by Jean-Paul Sartre. Under this framework, with the capacity to make decisions, even when reduced to the choice between death and an oppressive reality, the human individual through the subjective experience plays the role of arbiter of reality. As he words it in his famous essay (1946) on the subject, "I can always choose, but I must know that if I do not choose, that is still a choice," therefore, "in fashioning myself, I fashion man." However, there is a level of contradiction in this individualistic framing of the humanist ideal. On the one hand, it assumes a human nature that denies the progress of the human as such, preferring instead to see the world and its circumstances as that which change, while the human as the maker of choices remains the same, grounded in a human nature. On the other hand, it wishes for a level of arbitrariness when it comes to how exactly the social changes register within the human as social actor. This wishy-washy dealing with the human as a subject, bound to a human nature, was largely due to the historical circumstances of WWII that triggered a renewed zeal for a cautious but optimistic humanism, whereby, "an existentialist will never take man as the end, since man is still to be determined." If man is the end, then the deciding factor of humanism as to what accounts for the human and separates it from the inhuman leads to the "cult of humanity" which "shut-in upon itself" ends "in Fascism." Although it seems that Sartre wanted to avoid the opposite extreme, this counter-ideal led in present-day America to a cult of the individual and the celebration of a flipped ethics, as in Randian Objectivism, that is visible in the Tea Party political faction and other similarly based ideological stances. It

is not beyond good and evil, but the distorted reflection of each as their opposites in this perspectival approach with humanism as the emperor's new clothes. From the fascism of society to the fascism of the individual, the utopia of individualistic self-interest as societal good has only reproduced the failures of the state as the failures of the individual.

Marxist humanism is perhaps the form most prominently visible, whether acknowledged or not, in the field of sociology. Scaling out to the level of the social, the debate over its merits have continued on in academia since their inception and spiraled off into the overly specialized fields of particular facets based on individual interest. The French philosopher Louis Althusser (1964) constructed one of the most profound critiques of the situation of Marxist humanism, especially through the claim that "the concept of humanism is no more than an *ideological one*." Citing Marx's "philosophy of man: 'To be radical is to grasp things by the root; but for man the root is man himself' ([1843]1992:251)," Althusser reads Marx as positing "an *idealism of the essence*" of the human as a necessary consequence of a theory that "implies an *empiricism of the subject*." These categories hinged on the validity of each other. This has always been a component of humanisms in all their guises: a universal quality of the human around which the human can rally. However, in an empiricist model, this presupposes a category that cannot be subjected to empirical verification at the scale of the social. The Marxist humanists therefore frequently employ the transcendental and non-scientific language of spirit, essence, and aura, to specify a substantive quality that they wish to maintain for the construction of a positive ideology, while simultaneously denouncing as superstition many other transcendentalist notions on the same grounds. Althusser's attempt to "save" Marxism from the poverty of ideology, rooted in the non-verifiable, required a

"*theoretical anti-humanism*"[23] as a backdoor to the foundations of a potentially improved future human condition that could never escape contradiction so long as it was rooted in the inaccessible concept of its own subjectivity. The perceived need for this salvation project was tied to the inhuman and inhumane conditions that arose in 20th century history with the socialist projects of China and the U.S.S.R., projects that left the history books dripping in the blood of the very humans they were supposed to elevate (not unlike their profit-driven capitalist cousins). For many of the humanists still operating within the Marxist tradition, the solution is similar in intent if not in structure to what Althusser accomplished. That is, a theoretical reckoning which considered itself resolved of ideological contradictions by removing the human as the subject of history, thereby resubmitting itself to the experiment process in the realm of the real. That the project of Marxist humanism has not taken hold in any politically significant way, even in recent economically turbulent times, speaks to the weariness of society to experiment on the scale of the social with theoretically oriented possibilities. Marxist humanism is significantly weakened when it cannot draw on the lifeblood of the social, as it is a social project. The consequence of the weariness toward social projects that require the usage of power at the scale of the social, a power that can be deployed as a means which greatly undermines the morality of the desired ends by oppressing the individuality of the human, is that Marxist humanism lives on only as an echo of its ideal within individual consumers. Another ideal fighting for relevance in the marketplace of ideas.

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[23] *See Table 1.*

The other major form of humanism that erupted in the 20th century was a theological humanism as a combination of the human ideal with religious ideals, as evidenced in a liberalization of theology with the work on theological existentialism by Paul Tillich (1952), the theological cosmology of Pierre Teilhard de Chardin (1959), and the Hebraic humanism of Martin Buber (1947), but to name some of the most well know participants. There is a long history of appealing to the logic of letters as tools of social transformation in religion, evidenced by the long standing hermeneutic tradition which finds its roots in the theological tradition. Arguably, religion is the most successful historical example of a project rooted in the sharing of letters at a distance, with various traditions having weathered the socio-cultural changes across the ages. Additionally, because of religion's long claim over the sphere of morality, the moralistic project that is humanism appears at first glance as a natural fit. In a series of short-wave radio broadcasts made in Germany during WWII, the Christian humanist Paul Tillich declared: "Whoever destroys justice is an enemy of the God of the prophets…This is so because justice makes human beings human…we lose ourselves when we lose our justice" (1998:27). This rhetoric of justice made sense as an ideological weapon in the fight against Nazism, appealing to both the human and the divine ideal. Even the Catholic Church came to realize, with the Second Vatican Council that ran from 1962-65, the need for a humanist shift in their theology to address the pluralism of a modern and consumerist society after the War (Wills 1972). In modernity, with all of the self-indulgences that consumerism offered, the language of divine justice as punishment of the wicked gradually gave way to a very humanist message of welcome and love in order to stay relevant in a changed world. This was not, however, without a conservative

backlash within Christian theology. Evangelical leader, Francis Schaefer in his 1977 documentary series *How Should We Then Live?* said that: "The consensus of our society no longer rests upon a Christian basis but upon a humanistic one. Humanism is man putting himself at the center of all things, rather than the creator God." For Schaefer, and a large swath of the political Right in America that he greatly influenced, humanism was a debasement of theism, where God held the role as the only universal subject. Theological humanisms of various sorts and various denominations remain visible today, however, they reconstruct the dividing lines inherent to their belief systems splintering the humanist ideal even further. As a result the tyrannies of humanism, as decider of what constitutes human and inhuman, are further fractured by the tyrannies of religion that arbitrate between the moral and the immoral and therefore of the saved and the damned. Even on the transcendental scale, with an appeal to an otherworldly hope for humanity achieved, the fractures continue to spread.

Although Heidegger's post-WWII reappraisal of these forms of humanism is laden with suspect motivations, having been at best a bystander in the Nazi machine, and at worst a willing proponent of it, he raised the question as to "whether [it] is necessary" to "retain the word "humanism"" ([1967] 1998:241) opening the door to new mutations of its basic components. While he offers a dismissal of the scales in which these various humanisms are rooted, he does wish to maintain two aspects of humanism. The first is rather a clarification of the abstract concept of essence, which, like many of the branches of post- and trans- humanisms[24] today who look to radicalize and push the concept even

[24] *See Table 1.*

further, resituates essence in Being as such, rather than the human. The second retainer is the notion of the importance of letters, which is elevated above the human in Heidegger. This reappraisal of humanism is less a response to the Nazi atrocities, and more a response to a general technological condition of modernity, as a byproduct of the world wars. He situates it in the following way: "The greatest care must be fostered upon the ethical bond at a time when technological human beings, delivered over to mass society, can attain reliable constancy only by gathering and ordering all of their plans and activities in a way that corresponds to technology" (p. 268). That this is a valid focal point for further study and not an entirely biased side-stepping of responsibility is greatly illustrated by the similar claim of Max Horkheimer, a German and academic contemporary of Heidegger's, but one whose own life course was drastically different in light of the Nazi project and necessitated a move to America because of his Jewish roots. Horkheimer ([1957] 2012) explained the technological transformation of society as follows:

> If the dream of machines doing men's work has now come true, it is also true that men are acting more and more like machines…Man's character but mirrors the changes in a society that has not yet achieved peace with itself…The fault is not in machines. As outcome of and further impulse to science and enlightenment the machine was a factor in the bourgeois ascendency and points to a legitimate condition of mankind. The machine indeed gives a new dimension to productive and destructive force, to the salvation and ruin of society. (P. 26-28)

The stark difference between their similar claims as to the need for an accounting of the technological transformation of society is found in the mode of philosophy in which Heidegger counted himself, and the Critical Theory of Horkheimer. As a result, Heidegger, "insofar as he rejects the claim of humanism to have adequately defined the humanity of man…indirectly retains the most important function of classical

humanism—namely the befriending of man through the word of the other" (Sloterdijk [2001] 2009:18). It is out of an underestimation of the material transformation of a technological society, which is revealed through a critical theoretical lens, that Heidegger ([1967] 1998) concludes that,

> It is time to break with the habit of overestimating philosophy and of thereby asking too much of it. What is needed in the present world crisis is less philosophy, but more attentiveness to thinking; less literature, but more cultivation of the letter. (P. 276)

In other words, the return to letters that Heidegger advocates, already fails to take into account the social impact of the technological transformations that he identified. The issue is not so much that one cannot "think" something better. It is that by applying a critical theoretical approach, which "gives unquestioned priority to existing reality as its object" (Horkheimer [1965] 2012:138-9), we see that within this great technological transformation "the great words become clichés…[and] even religious and national words [we could even add Human words], including freedom, lose their meaning" (p. 142). In a rather bleak transition to the archive—a place where letters lacking recipients "turn into archived things" (Sloterdijk [2001] 2009:27)—there is a terrible suspicion gnawing at our minds: as our letters lose their addressees, so to do they lose their very meaning and their power to transform reality.

Welcome to the Archive of the Human

Even with the bleak path taken to the archive, the allure of a romantic idea still haunts it. As a boy, Theorist developed an affinity for the history of the great empires of Egypt, Greece, and Rome, primarily through a religious indoctrination of the Testament's mythologies and their historical contexts. Always a lover of books and letters, the famed

Library of Alexandria was the setting for the most vivid of Theorist's daydreams, of stories lost to the sands of time, of star stuff and dust, and of adventures both real and imagined that happened in between. It was from the seduction of letters, those that remained and the mournful cry for those lost in the destruction(s) of the library at the hands of politicians and religious leaders, which enchanted Theorist. Then in the late 1980s, while Theorist was still a boy, a new archival project was launched to rival the Alexandria of old: the internet. It was this digital archive that promised the joys and despair of Borge's Library of Babel[25] that came to seduce yet another civilization. French philosopher Jacques Derrida (1995) explains the seductive, but complicated, allure of the archive by going to the roots of the word:

> This concept of the archive shelters in itself…this memory of the name *archē*. But it also *shelters* itself from this memory which it shelters: which comes down to saying that it forgets it…As in the case of the Latin *archivum* or *achium*, the meaning of "archive," its only meaning, comes to it from the Greek *archeion*: initially a house, a domicile, an address, the residence of the superior magistrates, the *archons*, those who commanded. The citizens who thus held and signified political power were considered to possess the right to make or to represent the law. On account of their publically recognized authority, it is at their home, in that *place* which is their house, that official documents are filed. The archons are first of all the documents' guardians. They do not only ensure the physical security of what is deposited and of the substrate. They are also accorded the hermeneutic right and competence. They have the power to interpret the archives. (P. 9-10)

To have at one's fingertips the knowledge of the species and to dedicate oneself to the task of interpretation and understanding, retains a romantic notion within the seductive Calling of the archive. This is clearly what Heidegger was seduced by when he issued a call to return to thinking and letters.

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[25] I have addressed the issues Borges raised in his fable in light of the digital archive elsewhere. See Crombez, Joel. (May, 2014) *Digital Ontotheology: The Rise of Big Data and Deep Archive*. Paper presented at the International Social Theory Consortium annual conference, Knoxville, TN.

But with this novel form of the digital archive, the house had changed its shape, and so too the guardians their role, as the place of the archive became the place of a technologically transformed public. As Horkheimer ([1961] 2012) noted, "Technology makes memory superfluous," and "every finite being—and humanity is finite—which gives itself airs as the ultimate, the highest, the unique, becomes an idol with a demonic ability to change its identity and take on another meaning" (p. 79-80). This is the play of the archive—that is, the substitute for our collective memory—and is at the fingertips of all in advanced modern societies: the ability to change the very meaning of the identity of that which is human, opening up posthuman alternatives. Drawing on the metaphor of the zoo, as the enclosure of beings, Sloterdijk diagnoses the effect of a society who has this open archive, the "people are not forced into political theme parks but, rather, put themselves there" ([2001] 2009:25). Out of the freedom of access arises an agoraphobia and the countermovement of a longing for the illusion of security within the enclosure, meanwhile, there are others who feel the claustrophobia of the enclosure and long for the freedom of empty space. Regarding the role of the archon in the human zoo, Sloterdijk continues,

> Only a deceptive zoo director, a pseudo-statesmen or political sophist, would promote himself as one of the people. The true shepherd acknowledges difference and discretely allows it to be known that he, because he leads through insight, stands closer to the gods than the confused populace he governs. (P. 25)

Why then, if the archive is open to all, are individuals not turning into true shepherds of themselves? One answer lies back with the problem that Lyotard diagnosed in 1983 when he forecasted the end of the book. It is because there is a two-fold process, first the individual must read the letters within the archive, and then they must reflect on them.

The problem is the same for both steps in a technologically altered society: books "take too long to read" and "reflection is…a waste of time" (p. xv). Not only is the process of reading and reflecting too time consuming in a capitalist consumerist society, but so too is the very process of sorting through the proliferation of the mundane news of everyday life that floods the poorly guarded archive in order to even find something of worth to read and reflect on. For the collective minority who do not see this process as a waste of time, and are unwilling to follow the tyrannical mode of the deceptive zoo keeper or seek to elevate themselves to the status of ruler and guardian aligned with divinity, they as "archivists have become the successors of the humanists. For the few who still peer around in those archives, the realization is that our lives are the confused answers to questions that were asked in places we have forgotten" (Sloterdijk [2001] 2009:27). What follows is a letter submitted to the archive, by an archivist who has only ever know life alongside the digital archive and is looking at the existing reality of a species, at once agoraphobic and claustrophobic, caught up in an accelerated mode of transformation.

Table 1. Definitions of Humanisms

Concept	***Operational Definition***
Humanism	A project of literacy and letters in which a reflection on the humanness of the species is able to perform a unidirectional crossing of space and time through the sharing of thoughts across generations towards the end of distinguishing that which is "human" from that which is "inhuman." Inherent to humanism is the elevation of the human as the subject of (in some cases, universal) history by positing a universality of human qualities that are subject to a final moral judgment. See Heidegger ([1967] 1998) and Sloterdijk's response ([2001] 2009).
Antihumanism	A position which holds that the human, as a unified species, is not the central subject elevated above all others, and that some other category takes on this central role, be it a transcendental absolute or a structural apparatus of societal control. Generally antihumanism either sees humanism as restrictive of individual *freedom* or as a *transgression of the sacred* through the elevation of the profane category of human. See Althusser (1964) and Ehrenfeld (1978).
Posthumanism	A position which reflects and reacts to the antihumanist modes that flourish in contemporary society, however, one which is simultaneously visible in the archive both before and after humanism. It is not merely a radical decentering of the human as the subject because of inter-crossings of the social, the psychic, the biological, and the technological, although it incorporates a leveling of subjectivity to the broader category of *life itself*. It is not an attempt to undercut the ethical ends that are the goal of humanism, but to illustrate how they undercut themselves through the dialectic of theory and practice, on the one hand, and the anti-fascist liberation of the means used, on the other. See Wolfe (2010).
Transhumanism	An ideological project that sees humanism as outmoded and seeks to eclipse it through technological transformations. It is a movement that is cognizant of the reproductions of inequalities that are likely to occur, however, it resists bio-conservatism and through a broadened scope, like the posthumanists with *life itself*, the transhumanists see the potential within these available technological transformations for qualitative improvements and the continued evolution of the human condition. Transhumanism adopted the term "extopia ("ever-receding stretch goals for society") over utopia ("no place")" (More 2003). Morphological and somatic freedoms are a key component of all modes of transhumanism, but like the humanism it seeks to eclipse, there is much debate as to how this form of "progress" should and will play out in society. See More (2003; 2013), *Transhumanist Declaration* (2012), Blackford (2013).

Table 1. Continued

Concept	***Operational Definition***
Archivism	A term proposed to describe the work of the successors of humanists in contemporary society. Lacking a large public audience who engages in the common project of humanism and the synthesis of ideas and language through modern contributions, the letters have continued to be sent by those sympathetic to the cause but they no longer have addressees. A letter without an audience goes into the archive and the humanist as academic, practitioner, and collector of letters in all their forms, has turned into the archivist. The archivist is the one who still blows off the dust on old manuscripts and seeks to keep them alive through an endless process of [re]categorization and contribution to the archive. See Sloterdijk ([2001] 2009), Lyotard ([1979] 1984; and the preface to [1983] 1988).

CHAPTER 1
FICTIONAL BEING AND FRACTAL AMBIGUITIES

Soon her eye fell on a little glass box that was lying under the table: she opened it, and found in it a very small cake, on which the words 'EAT ME' were beautifully marked in currants. 'Well, I'll eat it,' said Alice, 'and if it makes me grow larger, I can reach the key; and if it makes me grow smaller, I can creep under the door; so either way I'll get into the garden, and I don't care which happens!'

She ate a little bit, and said anxiously to herself, 'Which way? Which way?', holding her hand on the top of her head to feel which way it was growing, and she was quite surprised to find that she remained the same size: to be sure, this generally happens when one eats cake, but Alice had got so much into the way of expecting nothing but out-of-the-way things to happen, that it seemed quite dull and stupid for life to go on in the common way…

Figure 1.1: Down the Rabbit Hole. Illustration by Salvador Dalí (1969).

…'Dear, dear! How queer everything is to-day! And yesterday things went on just as usual. I wonder if I've been changed in the night? Let me think: was I the same when I got up this morning? I almost think I can remember feeling a little different. But if I'm not the same, the next question is, Who in the world am I? Ah, that's the great puzzle!'

Lewis Carroll, Alice's Adventures in Wonderland (1865)

Nothing durable, nothing solid, ***no basis****: Everything crumbles already and loses its edges, while time so far has taken only one step.*

Roger Caillois (1938)

A specter haunts the sociological imagination: the long shadow of the human – its only visible form is an echo of an ideal. For it is *as if* the claim of the human were enough to ground a belief in it, but what is this construct, this species *as is*, once the

transparency of the ideal image is revealed? Mirror, mirror, on the wall who is the human after all? And when the mirror hangs in silence, in an age beyond the sacred, do we throw our voice in self-deception and witness our distorted refraction answer back, it is 'I,' it is 'we,' it is 'us'? When the 'I' is a swarm of avatars, no longer a single face of many masks, but a virtual Legion; for the 'I' is many. When the 'we' is a tool of domination, always already in the service of oppression by speaking as if for all, by falling back on the paternalistic role of hierarchies of organization perhaps best forgotten; for the 'we' consumes the other by assuming unity where there is none. When the 'us' would require a mass, but when the call for solidarity is broadcast: silence; for the 'us' has disintegrated, like a house built without foundation, "against which the stream did beat vehemently, and immediately it fell; and the ruin of that house was great" (KJV, Luke 6:49).

Society is the illusion that cannot abide its foundations: a vacuous species, a vacant construct, and an idea hanging in the balance. Society is an ideal confronted by a material reality, a thought orbiting the real; a mediated experience between two shifting poles with no direct translation. This perspective is not instinctually obvious, the position of a magical realism that flourished in the age of mythological understanding maintained a much closer relationship between the sacred and the profane, the ideal and the real, but as the disenchantment of the sacred is intensified in modernity the binary tensions collapse and the sacred fades into a false nostalgia. Perhaps this is why the outputs of society's chosen discipline, Sociology, produce an aroma more and more of formaldehyde – its high priests obsessed like the deranged Carl Tanzler with lost chronologies and the psychosis of a necromantic order. In other words, a production of

the same, of the repetition of the ideas of yesteryear and the black hole of the could-have-been of modernity masquerading in the guise of the could-still-be; a steady stream of productions to fill in the void. Death is perhaps not the right metaphor, for what has happened to the social, that disintegrated mass, is more akin to the unborn, a rival of the undead.

The undead are the animatronic image of the living dead, a final negentropy of a species rebelling against nature. They are the image that maintains corporeal forms, therefore of the material realm. In comparison to the unborn, who, if they are not forgotten and if they do not vanish completely for never having existed beyond thought, linger in the fictions of the social and the magnetic pull of its myths, therefore in the ideal realm of thought, narrative, and text. The undead haunt the material world, the unborn haunt our minds.

As the profane triumphantly spreads over the material realm, particularly visible in postmodern spaces, the revenge of the sacred in its parodic form – the simulation of the transcendental other – finds fertile soil in the realm of the mind where the ideal snakes through thoughts like so many rhizomes evading critique, masses of surface level roots content to avoid the depth. Where is the translation between the two? For there is no longer a social in which the sacred can flourish to the point of being made real; it lies powerless in the realm of the 'I,' in the headcanon of the silent masses. This headcanon is the individualized belief system encouraged by a consumerist society that has fetishized the desires of an inert population; a species that has exchanged a natural reality for one that is technologically mediated. In the white noise of information flows proliferating in this mediated condition, the individual as consumer can personalize the

narrative of the real that suits their own biases and construct an internal canon from a point of pure subjectivity. This is the curation of the individual experience. Deferment to and reliance on the Grand Arbiter is no more. Originally conceived, the social is always already exactly that which cannot manifest itself in the real, for its shallow roots fail to transcend the boundary of the ideal which manifests as nothing more than the mechanical simulation of everything. Individualized and subjectively rooted, this entheogenic condition is the illusion of transcendence and the reality of nothing.

The sacred image of the human, rooted in the mind, is a collective hallucination always assumed as a static alternative to the unconscionable dynamism of a profane reality. A sacred in flux is always at risk of becoming profane, and a dromological species is one marked by the kiss of the profane. Time is perceived as the enemy, as if the x, y, and z axes could ever function as vector coordinates without the t-axis, frozen as the only possible image of an absolute to embrace our mode of understanding. But as Nietzsche reminds us, 'as we wonder at ourselves, we cannot learn to forget but cling relentlessly to the past: however far and fast we may run, this chain runs with us' ([1876] 1997:61). Time – the fourth dimension of the real – is that which confounds the flatland of thought, at once a realm more infinite than the real and consequently limited by boundaries which cannot manifest in the real. "As for sacrificing one to the other, or hoping that it is possible to pursue both in a parallel direction, experience has endlessly demonstrated how badly these ill-founded solutions [of synthesis] let one down. Salvation [it seems] will have to come from elsewhere" (Caillois 1988:10). Society is that illusion which assumes to transcend the distinction and express itself as that which can arise from the mental projection of the *as if* into the material reality of the *as is*. At

the heart of this we are reminded of the issue of proportions, dimensions, scales, levels, sizes, limits, measures, boundaries, and foundations; all these tools of spatial analysis that are complicated by the fluid temporal dimension consuming them all. A temporal dimension that triggers the entropic state of the material and the ideal. Therefore it is not just space, but so too, thought, which must distinguish itself according to its scale and temporality. It is to this problem that we will return in this text and to which is given the name 'fractal ambiguity;' for the fractal moves between the dimensions, but the human perspective, which tends to limit the image to the anchor of a single scale and temporality, is always ambiguously situated.

* * *

Society, the construct of the social; the social, the construct of the human; the human, the construct of itself. Succumb to the gravitas of its deconstruction, collapsed in on itself by the gravity of the mass of humanist hope. The critical mass of the human spirals at a terminal velocity.

* * *

The purpose of this chapter is to attempt to stimulate an awareness of the cracks in ideal conceptions of reality, including the object of this text, the human. Because it is sociological, it is presumed that it is the reflections of the collective human that identify it as such, rather than a direct observation which would be more appropriate for a biological investigation. The sociological object is always a mediated image; now in its technological form. That a posthuman identity should now catch the attention of so many is due to the fractures in the mirror of the social spreading like a spider web in the wake of the postmodern critique coupled with the sprawl of a technological dromosphere –

both on the digital plane, where wireless signals form an artificial blanket in competition with nature's troposphere, and the physical plane where the availability of mass transit technologies triggers continuous transmigration impacting both the economic and ecological sphere. That the ideal vision does not maintain a universal and absolute orbit reflects the fragmented material reality which is in an accelerating mode of flux, turning our referent into a blurred image devoid of the fixity needed for the ideal mode of analysis. How then to write a theory – about a species at once unified and splintered, individually and socially, in thought, action, and space – when the traditional referent points are exhausted of meaning? That is, before we can answer Alice's questions, posed by the cunning linguist Carroll, we must examine how such questions could be answered. So if the questions are, *who are we?* and*, which way are we moving?*, we must first examine the roots of the inquiry by submitting the questions to a radical critique that draws distinctions between the possible, the probable, and the actual.

At root, the questions unite the disciplines in common curiosity and divide in brutal disagreement. Whether philosophical, theological, or scientific, the implications of the answers fuel the ideological mechanics of modernity and provide frameworks for living as an organized species. At the risk of offending the sensibilities of those modes of thinking and their various methodological approaches (logic and reason, exegesis and faith, mathematics and falsifiability, but to name a few) fictionality remains a key component of the foundation for any answer to the posed question. Vaihinger labels "the method of fiction which is found in a greater or lesser degree in all the sciences… [with] this complex conjunction 'As if'" ([1925]2009:xli). The function of the answers provided by each means of analysis serve the *as if* principle. That is, each method

produces, or attempts to produce, a harmonious narrative that satisfies if not the reality of the object of the study, than an image of the object dependent on the perspectival approach constrained by the borders delimited by the chosen methodology. A process which always begs the question of the positionality that precedes the methodological approach. There exists in each approach either an accepted awareness of the limitations, or a willful blindness to them, but regardless of the subjective rationale of the individual practitioner 'we operate intentionally in all the methods with consciously false ideas, or rather judgments' (Vaihinger [1925]2009:xli) in which we cannot say what a thing is in itself, but rather what a thing is only under a certain conceptual framework. As Freud ([1927] 1961) correctly surmised, this 'as if' system of analysis primarily serves a theoretical function, the demands of which are difficult to fully grasp satisfactorily outside of the discourse of theory. That is to suggest that its premise is expected to be foreign to the non-philosopher whose everyday actions gloss over the discrepancies between what they experience and the interrogation of how they experience it as such. The purpose therefore of this text is not one intended to provide a *weltanschauung* of everyday reality, nor is it merely a metaphorical undertaking of raising similarities and submerging differences. "We include as fictions not merely indifferent theoretical operations but ideational constructs emanating from the noblest minds, to which the noblest part of mankind cling and of which they will not allow themselves to be deprived. Nor is it our object so to deprive them—for *practical fictions* we leave them all intact; they perish only as *theoretical truths*" (Vaihinger [1925] 2009:48-9). In spite of this obvious limitation of theory—that it should not touch the actual but restrain itself to the

possible—the world turns regardless of a verifiably true accounting; acknowledged or not, the *as if* narrative serves as surrogate for the true.

Each of these questions in turn has implications for the ontological and epistemological justifications concerning the mediation between ourselves as socially constructed humans interacting with and morphing the external world and our internal process of becoming. Because we are dealing with the image of the thing – an image that is complicated by not only technological replication but also technological alteration – a crisis of authenticity, originality, and origin emerges that is specifically linked to the technologically mediated experience of late capitalism. In addressing both the ontological and epistemological questions relating to the ideality of the image of the human in a certain intensification of modernity deemed *postmodern*, we turn briefly to the work of Jean Baudrillard and Jean-François Lyotard respectively. Baudrillard's unpacking of the simulacra and the effect on the image in a world that has lost the ability to access a referent in the realm of the real, illustrates the ambiguity of claims made in the age of simulation in deciphering the ontological question (who are we?) with any level of certitude. In part these critiques are triggered by the adaptive logic that seeks if not the beginning than the attempt to record the present in the double of the archive in order to artificially create an image of the measure of humanity. If the certitude of origins is lost in the simulation of the image, Lyotard tackles the epistemological consequences as a result of this crisis of knowledge (where are we going?).

But first…

Drink Me: Operationalizing the Fractal

...In that Empire, the Art of Cartography attained such Perfection that the map of a single Province occupied the entirety of a City, and the map of the Empire, the entirety of a Province. In time, those Unconscionable Maps no longer satisfied, and the Cartographers Guilds struck a Map of the Empire whose size was that of the Empire, and which coincided point for point with it…

Jorge Luis Borges, On Exactitude in Science (1946)

If the desire is to say something about an object of study that is dynamic and made up of many parts, in which changes at any level can reprogram the whole, there is an assumption that there must be a way to examine it through a series of snapshots[26]; that is, through a mode of representation which will situate the whole of the object in a form suitable for analysis, else the researcher must be omniscient and the question pointless to pose in the first place. In other words, the problem of needing the simulacral substitute, the imitation or double, is one caused by the problem of dynamic analysis; for the human analyst, with mind and sensory inputs limited to the human scale of experience within the boundaries of space-time, cannot experience the process of becoming in its entirety without transcending the scales.

We can imagine here a fifth dimension, one in which we can witness the trace of the spatiotemporal nexus in a fabric which contains the temporal process of becoming as the blurred image of spatial changes in the motion of things. Without this imagined fifth dimension, which would be the ideal vantage point for a sociological investigation, we

[26] Interestingly, it is this exact strategy that is being employed in data storage centers today. Because data backups require that the data maintain a certain level of inertness during the backup stage which translates into downtime in productivity levels, many backup solutions have borrowed the notion of snapshotting from photography as a means of speeding up the process. After the initial archive is created as a double to the "live data" the system will take a series of timed snapshots of the environment which it can then compare to the archive set to trace only the changes between it and the images of the "live data." (See Garimella 2006 for the technical breakdown of this process.)

are limited to the use of segmented snapshots which must rely on arbitrary beginnings and ends. Although it is worth noting that these beginnings and ends are likely no less arbitrarily determined in a fifth dimensional analysis, save cosmology, where absolute beginnings and ends are totalizing on a universal scale. Shy of those ultimate points, all of our spatiotemporal markers are arbitrary demarcations which assume the investigator's bias in determining that which is and is not relevant; a certain deferment of deific judgment is awarded to the researcher and the reader must either momentarily suspend the awareness of the segmented externalities or risk misreading the text by failing to enter the appropriate scale intended by the researcher. However, research is rarely so clean. Notation of the appropriate scale of the project is not smoothly transferred, neither from the mind of the researcher to the text, nor from the text to the mind of the reader. This is further complicated by the mediation of the spatiotemporal nexus of the text, both that in which it was created and that in which it is consumed.

In a dynamic form, which is limited to our available dimensions of analysis, one cannot record and analyze simultaneously unless it is a continuous and synthesized operation, in which one always already knows both the thing and its analysis at any moment in its temporal pathway before any attempt at either has been initiated. However, so too, "*if one wants to understand a being completely, one must study it by considering it in its entelechy, and not in its inactivity or its static state*" (Simondon 2009:19). What we have is a paradox, whereby we must study the whole of the thing in order to completely understand it, however, the very vantage point which would encompass the whole of the thing which is needed for pure analysis is always denied us. In the mode of pure representation both the object and its simulation are codependent;

that is, they are each the actuality of the other, neither rests in a static state; for the static state of the object is not the whole of its becoming, but only a part taken from its temporal history. If this is not the case and the simulacrum is only a static snapshot of an object serving as a substitute for its dynamic actuality, any question applied to it hides the social and political motivations behind the asking of it. Because the question is always intended to be asked of the object, and not of the simulacrum, the analysis is blinded by the perspective from which the image was syphoned off, which forms a static copy serving as the algorithmic trigger for the question to create an output. The consequence is a second order simulacrum, a metaphorical tumble down the White Rabbit's hole, in which the real vanishes without a trace in the procession of simulacra simulating themselves.

At stake in Borges fable, *On Exactitude in Science*, is the issue of pure representation, that elusive form which would enable pure analysis. Pure representation is the exact doubling of an object into a form that is suitable for secondary uses, such as analysis, other than the primary uses and needs of the original which must continue unencumbered of analytical interruptions. That pure representation eludes us is confounding, and most scientists, social and otherwise, refuse to accept that such a task is impossible, for it challenges the notion of concrete claims grounded in the real and debases truth by introducing doubt. Doubt is a syphilitic bedmate, gnawing at our minds, threatening to sour the whole affair that is our constructed existence. For how much control does our species really have over our fate, how far have we really advanced from our animal cousins who remain on the sidelines of nature's reconfiguration, if our analyses remain subject to a nature that can detonate our most prized achievements with

weather patterns and asteroid impacts, or if sociopaths and zealots can virally infect the dromosphere with a globalized paranoia whereby we become claustrophobic to our own environment? If we cannot even answer who we are with metaphysical and scientific certitude, how can we legitimate the actions of our existence and know our place in the universe?

Without raising it to such cataclysmic heights, Benoit Mandelbrot (1924-2010), a Polish born mathematician, took on the problem central to Borges story and tackled the method in which such a map could be constructed. He asked the humble question, "How long is the Coast of Britain?" (1977:25) and built off a simple answer "it all depends" (Barcellos [1984]2008). Even more straightforward than the ethereal concepts of our study, like the social and the human, Britain is a tangential space that can be marked on its border by an arbitrarily chosen point that serves as both beginning and end (a circular infinity of possible points which all wrap up neatly by the nature of their quasi-fixity and total inclusion), from which one could make a trace of its coast, which stretched out could form a straight measureable line. "However," as Mandelbrot (1977) quickly points out,

> the typical coastline is irregular and winding, and there is no question it is much longer than the straight line between its end points… The result is most peculiar: coastline length turns out to be an elusive notion that slips between the fingers of one who wants to grasp it. All measurement methods ultimately lead to the conclusion that the typical coastline's length is very large and so ill determined that it is best considered infinite. (P. 25)

There are many reasons for this, but most of them are centered on the issue of the selected scale of measurement. Put in simple terms, as the scale is shifted the measurement becomes more complex. The scale, of course, is dependent on the object of study, but only to a certain point. Relative to the scale of the object one must identify the

position of the observer making the measurement. For the observer and the object under observation always enter into a reciprocal relationship of shifting scales in which changes to either influence that which is recorded as the observed (Takacs 2003). It is not simply an issue of social relevancy being dictated by "the interpreter's political stand" (Bürger 1984:3), which shifts our talk of scale from that of physicality and materiality to that of ideality. Even before entering into the phase of interpretation and analysis there is the issue of the bias of spatiotemporal positionality in the taking of the measure. Our natural bias is to our human perspective: physically, a vision limited to a particular wavelength of light and a particular scale of visibility, and mentally, limited by our geographic and historical fixity. Of course this is before we turn our attention to the complexity of psychosocial biases of individuality that settle within us. Furthermore, technological apparatuses have opened up other wavelengths and spatial scales transforming the human view by mediating our experience with external reality, constructing in their wake even further psychosocial and spatiotemporal biases.

In an attempt to advance the mathematical side of taking the measure of geometric objects, Mandelbrot introduced his concept of the fractal. He defined it as "a set for which the Hausdorff Besicovitch dimension strictly exceeds the topological dimension" (1977:15). The Hausdorff Besicovitch dimension is the generalization of the notion of a dimension in a given vector space (simplified, the Hausdorff dimension of a point is 0, of a line 1, of a plane 2); therefore the fractal, for Mandelbrot, is that which definitively goes beyond the generalizable integer value of a topological dimension identified within vector coordinates. It can be viewed as a way to express the relationship between the layered clarifications of focus caused by a zoom function. Alternatively, we

can explain this as the attempt at a particular measure within a generalizable area, whereby the generalized notion functions as a substitute for all of the particular measures on the particular scale in which the generalized notion is made. However, the shifting of scale within the area of the generalized notion leads to particular measures in which the generalization no longer contains relevant information; that is, it is no longer representative of the particularities found within it. These scaled measurements produce new particularities which are contained within the generalized notion but not recognized within the particular claims made of it, for they function within it but at a different level of the object under study. If this is a somewhat challenging concept, it is because we are so accustomed to a particular way of generalized thinking, which is dominated by a human scale that imagines a universe where what we experience through our senses is the true accounting of reality, where 1+1 always equals 2, forgetting that an infinity lies between each number. It requires a new way of thinking, one which decenters the human positivist scale as the primary scale of analysis and authority, and incorporates those opened up to us by our technologically mediated experience including some which can be assumed to exist beyond empirical testing, as is demonstrated in the so-called "hard sciences" with the case in theoretical physics of M-theory. Furthermore, when dealing with these concepts, like that of the fractal, it is best to remember Mandelbrot's warning that "the nature of fractals is meant to be gradually discovered…not revealed in a flash" (p. 5), for what lies buried within the scales is not naturally given, but artificially exposed.

As our purpose here is not related to the theory of geometry, but to a social theory more broadly defined with objects of study even more elusive than coastlines, it behooves

us in this text to examine the etymological basis of the term as Mandelbrot employs it. Fractal comes "from the Latin adjective *fractus*. The corresponding Latin verb *frangere* means "to break:" to create irregular fragments" (p. 4). Therefore, for our purposes the term fractal is that which consists of the asymmetrical and the amorphous, the broken pieces which form a whole in spite of their dissimilarities on the scales that exceed their individuality. It is that which exceeds the visible dimension of social actions as discordant, broken, and asymmetrical, and yet, in spite of this there is an elasticity which binds these actions in the dimensions of space and time through the tension of a simultaneously occurring entropy and negentropy. When uniformity and complete models elude us, nonconformity and discordance must shape our analyses. The fractal can help us here to visualize the bumpy, blurred, amorphous, heterogeneous, and fractured images of life expressing itself in both rational and irrational ways.

A note of harmony, however, must be included here, even if it is a discordant harmony made up of unequal bits that evade the scale of harmony generally distinguishable to the observer. The complexity of the fractal harmony exists on multiple levels as well. On the one hand, "it is *invariant under displacement*;" that is, "different parts of the trail of Brownian motion [the random movements or changes of a dynamic object] can never be precisely superimposed on each other…Nevertheless, the parts can be made to be superposable in the statistical sense" (p. 18). We can trace both superimposed and superposable to the Latin superpōnō, to place or lay over. The distinction that Mandelbrot is making here is that the superposable in his usage is the space in which things form a non-uniform and asymmetrical sharing of the same space, in which they compose its extent without defined boundaries in the relationship between the

objects. At best the fractal measure of nature can achieve the statistical probability of prediction of the relationality of the objects, in which, dependent on the object of study, the predictions can be controlled within a margin of error composing a certain statistical harmony. When the object is of the natural world, such statistical leaps of faith appear to function sufficiently and to a degree, harmoniously; however, when bringing this logic to the realm of social mapping and the social sciences, it can often lead to the tyranny of the probabilistic center, whereby those who are deemed statistical anomalies, or outliers, are removed from the model in favor of smooth analysis with the resultant harmony only a verisimilitude masking the discordance of the phenomenon. On the other hand, there is a harmonic complexity of another level, in that "it is *invariant under change of scale*;" that is,

> In the compound term *scaling fractals*, the adjective serves to mitigate the noun. While the primary term *fractal* points to disorder and covers cases of intractable irregularity, the modifier *scaling* points to a kind of order. (P. 18)

What we have here is the attempt at finding the order in the disorder, the linkage of measurement across the scale of analysis (illustrated as a Mandelbrot set in *fig. 1.2*). The computational power needed to run full models of scale are only now beginning to be made available which can handle the complexity of the scaling fractal. They are still limited by the probable but that horizon is becoming more and more infinitesimal, and in nature statistical harmony is frequently a sufficient stand in for the actual in predictions of the possible. While the social sciences face the same issue of confronting the dis/order across our objects of study, we are hindered by the non-tangibility of our objects in which

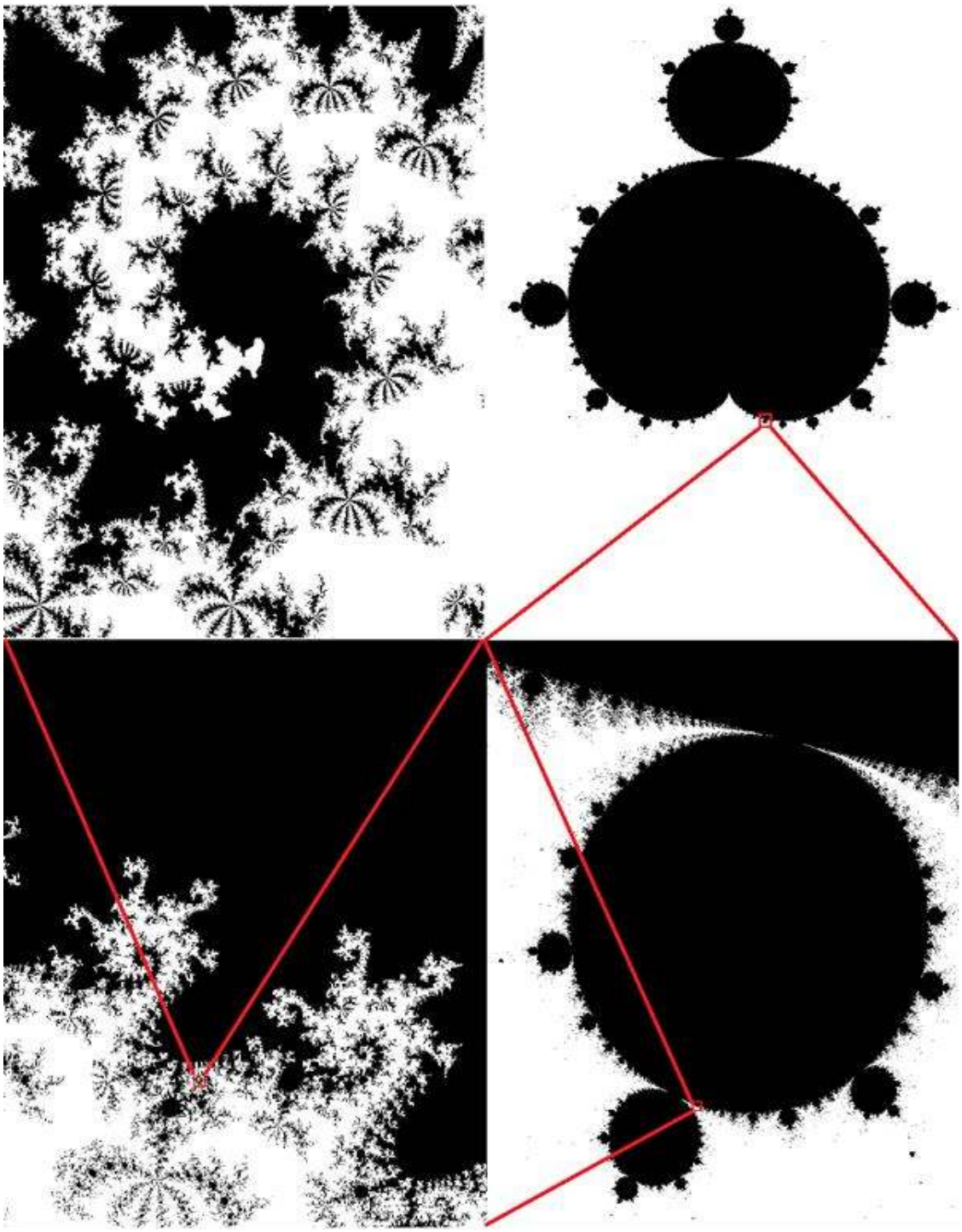

Figure 1.2: Fractal set. Clockwise from top right: the box indicates the area of shifted scale

generalizability is sacrificed to the acceleration of the social system which blurs particular readings of it across the simultaneous acceleration of shifting scales demanded by sociological investigations. In other words, artificial systems, which are the object of our social mapping, operate at a higher level of temporal flux than natural systems.

The answer may simply be more robust mathematics as many predict, however this seems unlikely due to the (claustrophobic) planetary space of a globalized society in which catastrophic reprograming (nuclear, biological, ecological, etc.) can infect our system in direct correlation to the instantaneity effect of our technological base shifting all of the scales simultaneously and making such statistical probabilities obsolete. The accident of the social (whether unintentional or deliberate) is that which eludes pure mapping, while maintaining a significant pull over the directionality of the species, suggesting that empirical models of representation (even those aided by technological apparatuses) are not sufficient for a dynamic sociology.

This leads to a state which is much like that described by the pataphysicians in the early twentieth century, in which the absurdities of the sciences are taken to their extreme form in order to show the cracks in the foundations on which they perch, illustrating the dogmatism (of self and direction) that blinds. Society, the social, the human, the three core dimensions of our object of study – where there are innumerable scales sandwiched within, above, and below, just like tangible objects – are recognized, like Death (a pataphysical favorite), *as if* they were objective realities, but they elude definite descriptions because of the limitations of perspective necessary for a comprehensive observation. In other words, and this bears repetition, the condition of our experience is exactly that which denies us the ability make the accurate observation of these

transformative and artificial phenomena; the effects of which, or perhaps more accurately the absence of which, are more and more obvious in the globalized present of real-time.

The translator Thomas Vosteen, summarizing the author René Daumal, explained it thusly: "that [the concept] exists concretely and is "real" makes it "evident"; that it cannot be expressed in any language [for what it is as such] makes it "absurd"" (2012:xiii). Because the social sciences cannot map the fractal reality of our object, either by relying entirely on empirical measures or intuition, but that we know that it exists and has consequences on our experience of reality, we continue to express it as a quasi-absurdity, not 'as is,' but with the use of the 'as if' through the spatiotemporally contingent construction of surrealist narratives: to this phenomenon we apply the term fractal ambiguity, for it plays out across the scales, those visible and invisible, while operating in the ambiguous zone of those things we only take as the *real* knowing full well that they are not the Real. This does not seal the fate of the human, but it does place uncomfortable limitations on the claims made by the social sciences when operating under a statistically driven model, or one that has ambitions of empirical truth, verifiability, falsifiability, and even in many cases, certitude.

If we take the seriousness of the potential misrepresentations that arise from shifts in scale, without the recognition and understanding of the scale or the latent absurdities in these temporal claims in the social sciences, three outcomes visibly manifest in the actions of individual actors and institutions.

1.) Stop and/or ignore the social sciences. Either eternally or for the time being to wait and see if a technological base ever evolves that can ensure pure representation of the non-tangible; that is, a pure virtual environment in

which all variables are controlled, manipulated, and simulated to every possible end.

2.) Ignore the incommensurability of the ambiguous relationship between the measurements and the analysis – frequently resulting in the tyranny of the probabilistic center and the continued path of the quantification of life itself – and perhaps work on sharpening the measure, occasionally expanding its inclusivity.

3.) Recognize the present limitations (which may be eternal) and build foundations for knowledge that are grounded in the fictionality of the concepts in which life constructs meaning with relevancies that function only on particular scales at particular times, suggesting the need for sociology to be a dynamic discipline which untethers itself from any perspective that is either fixed in space and time, or is locked on to a singular object. This entails a further fragmentation of its operational paradigm, which based on current neoliberal trends in the university would weaken the discipline, while simultaneous representing the best chance of it producing novel modes for researching and uncovering life itself and the plethora of possible meanings available to our imaginations.

However, these outcomes are not mutually exclusive (nor exhaustive) on any scale, they too respond to the Browning motion of life on planet Earth. Following the Weberian example, these are not prescriptions for what *should* be done (statements based in actualities), but rather what *can* be done (statements based in possibilities). With the current socio-political climate in the Western world, conflicting individualized desires

can and do play out while simultaneously flattering and flaming the perspectives of competing interests. It is from this awareness that Weber (1949) issued his warning:

> The fate of an epoch which has eaten of the tree of knowledge is that it must know that we cannot learn the *meaning* of the world from the results of its analysis, be it ever so perfect; it must rather be in a position to create this meaning itself. It must recognize that general views of life and the universe can never be the products of increasing empirical knowledge, and that the highest ideals, which move us most forcefully, are always formed only in the struggle with other ideals which are just as sacred to others as ours are to us. (P. 57)

This is the danger of knowledge, for not only does it reveal and allow the human to celebrate its own brilliance, but so too does it conceal, it places limitations on narratives which at certain times across our species' history functioned as if they were Truth. Those lost narratives of the sacred ideal are precisely what elude us in the material realm, for they, like the God left after Kant's negative critique of divine existence, are beyond space and time, which are the limitations of the human sensory experience. The task of meaning then lies not in the construction of the empirical double of the world or in the direct mapping of its fractal reality, but in the fabric which is weaved from the threads of the scales and is constructed not in pure representation, but in the pure artifice of fictionalized narratives. It is toward this realm of the proliferating artificial reality where segments of sociology now move, however, not as a paradigmatic whole, for it (like the world it studies) has not divorced itself from the weights of the sacred ideal any more than modernity has succeeded in divorcing itself from the weights of the transcendental ideal.

The Simulacrum of Ourselves

> *Do we still hear nothing of the noise of the grave-diggers who are burying God? Do we still smell nothing of the divine decomposition? - Gods, too, decompose! God is dead! God remains dead! And we have killed him!*
>
> - *Friedrich Nietzsche, The Gay Science (1882)*

> *"Could it be possible! This old saint in the woods has not yet heard the news that* ***God is dead!****"*
>
> - *Friedrich Nietzsche, Thus Spoke Zarathustra (1885)*

> *Man is dead, after God.*
>
> - *André Malraux, The Temptation of the West (1926)*

> *A God who wholly "became man"…and who not only "doesn't exist" but also himself knows this, accepting his erasure…*
>
> - *Slavoj Žižek, Žižek's Jokes (2014)*

In Baudrillard's take, the Borges fable no longer holds the meaning that it once did. Something has changed in our perception of reality. It is not only that we are now aware of the fractal ambiguity exacerbated by our technologically mediated reality, but as a consequence a shift occurred in the modern form of representation of the real as that which is true, to a representation of that which is the diaphanous form of the true; its veiled verisimilitude. There is a return to an awareness of the fictionality of our 'as if' claims, in which the map can never represent the Empire as is, never *point for point*. In this postmodern take on reality, the map itself precedes the real; it is not the double of the real, but the origin of it. Consequently the image is more important than the real of the Empire. This is in contrast to Borges (1946) fable where "the following Generations, who were not so fond of the Study of Cartography as their Forebears had been, saw that

that vast Map was Useless" and so they abandoned it to the elements. For Baudrillard, both the mapmakers and those who abandon the map function on the logic of the double; neither generation realizes the full potential of breaking free from the binary relationship of the real and its mirrored reflection. In the postmodern critique of modernity, our species neither constructs the real as is, nor do we abandon it; rather we operate in a grey zone, a zone which is not novel or new, but one that is self-aware and accepting of its operational contradictions across the scales of appearances and their analyses.

In this grey zone, the image has betrayed us, for it is revealed that the image never expressed the real, we only mistook it for the real and confused our chronology. At the same time, we have given into this betrayal because "images cannot be prevented from proliferating indefinitely" (Baudrillard [1987]2012:35). Their immortality seduces the human, pale and fragile in comparison to the fluidity of the image. This is the side effect of the quest for the snapshot version of the world, in which the pursuit of the dynamic double has morphed into the accelerated procession of the remediable image polluting the dynamism of the real which remains unknown to us. Buried in the pollution, the real is beyond any recognition outside of the image which usurps the throne of the real. It is in the simulated image, "the generation by models of a real without origin or reality: a hyperreal" (Baudrillard [1981]1994:1) where the real in its deceptive form presents itself, *as if* the image were more real than real; a model for those who seek to be, like Philip K. Dick's replicants who were misread by Rob Zombie as the undead, more human than human. That is to suggest that the image is no longer seen as conforming to the real. There is a reversal, it is now the real which must conform to the image.

Although he turned to Borges to illustrate this, it is curious that Baudrillard did not go back even further to the original story of cartographic purity told by Lewis Carroll. Carroll is a natural forerunner to the pataphysicians, flipping sense on its head and delivering up those glorious nuggets of nonsense which serve to illustrate the real in its surreal form.

> "That's another thing we've learned from *your* Nation," said Mein Herr, "map-making. But we've carried it much further than you. What do you consider the *largest* map that would be really useful?"
>
> "About six inches to the mile."
>
> "Only *six inches!"* exclaimed Mein Herr. "We very soon got to six *yards* to the mile. Then we tried a *hundred* yards to the mile. And then came the grandest idea of all! We actually made a map of the country, on the scale of *a mile to the mile!"*
>
> "Have you used it much?" I enquired.
>
> "It has never been spread out, yet," said Mein Herr: "the farmers objected: they said it would cover the whole country, and shut out the sunlight! So we now use the country itself, as its own map, and I assure you it does nearly as well." (Carroll 1893:169)

There are two ways to translate this story in Baudrillardian terms, as follows.

On the one hand, there is the narrative of thought confronting the real as the country takes the place of the map, representing itself as its own simulation. The example is the image of America which evades Nietzsche's chain of the past by imagining its historical unbirth; that is, the past reverted to its unborn state, as if America were the ultimate origin point divested of all historical baggage. "America has no identity problem" because "it lives in a perpetual present," where it "allowed itself to imagine it could create an ideal world from nothing" (Baudrillard [1986] 2010:82-3). This is evidenced in contemporary America where so many cling to the words of the Founding Fathers, bestowing their documents with the power of the scared and a divine origination story akin to the Garden of Eden. Ignoring the history of racial and economic

disparity, and the genocidal tendencies that spread this idea across a continent (now a globe), America lives up to its full ironic potential, leading Baudrillard to declare: "The US is utopia achieved" (p. 83). America took the place of the ideal image, rupturing the ideal and the real; no more a map as surrogate of the real, but the false image of the real as the map. Freedom, justice, and democracy are no longer open for sociopolitical debate outside of a pragmatism that bounces between the poles of ir/rationalisms. Neither are they the image of their ideal conception, they are that which America laid claim to as the dynamic model on which all others must strive to be else they risk being relegated to that same dustbin of history. The irony of course is that America has never actually offered the full measure of these concepts, it neither conforms the real to the ideal nor the real as is to its simulated image. America is only the simulation of itself, as if it were real. The attitude of American exceptionalism is one of feigned ignorance which dictates that it must be as the Emperor marching in procession on the world stage showing off invisible clothes with a pride that can only come from a self-awareness that is willingly deluded.

On the other hand, this story also plays out in the technological mediation of the material realm where the Global Positioning System (GPS) converts the image of real-space into its real-time simulation and alterable virtualization. This idea was born in the 1970s out of Cold War-games, when the switch to pure simulation overtook the real with strategies of deterrence (that which makes the real disappear into the simulation by displacing the event from the real to the screen: War in its pornographic form). By the late 1980s, military applications began to overflow into the commercial realm with

policies encouraged by the RAND Corporation and dictated by "Congress[27], [who] declared that after the year 2000, any aircraft, ship, armored vehicle or indirect-fire weapon that is not equipped with a GPS receiver will not be funded" (Pace et al. 1995:46). The technologically mediated image is now the standard on the geopolitical and economic scene, the real is relegated to a secondary position which is only evoked as a last resort. Visible manifestations are proliferating with the increasing reliance on unmanned aerial vehicles (commonly referred to as drones) not only in the military strikes so popular with the Obama administration, but also as the real-time phantasy of virtual commerce as illustrated by Amazon CEO, Jeff Bezos, when he appeared on the television news magazine 60 Minutes to announce plans to use drones for mass delivery of commercial goods. Bezos' plan is to remove the human element of the equation and have a completely technologically mediated exchange. As he told Charlie Rose, there is no human controller, "these are autonomous. You give them instructions of which GPS coordinates to go to, and they takeoff and they fly to those GPS coordinates" (C. Rose 2013). This model is of course only possible once the technologically mediated simulation of real-space is the ubiquitous standard through which real-time is perceived. Because the drone responds primarily to the environment in its simulated form, so too must all others who operate in this space where the virtual and the real are indecipherable.

What disappears in both examples is the presumption of measurement within the real. The rationality that would dictate a dialectical relationship between the ideal and

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[27] U.S. Congress, *National Defense Authorization Act for Fiscal Year 1994*

the real is relegated to the academy as a mere simulation of models removed from all external relevance; the means is the ends. Playing out in its stead is a system of operational rhizomes, where "it no longer needs to be rational, because it no longer measures itself against either an ideal or a negative instance" (Baudrillard [1981]1994:2). The consequence is a real devoid of the imaginary: a hyperreal in which they are taken as one and the same. This is the same process as that of myth making. What is lost in modernity is the knowledge of how to elevate the myth to the level of the sacred in the realm of the real. Instead we are stuck with profane myths in which the suspended imaginary is lost in the mirage of the real, "it is also the reason why it is useless to try and objectively verify these hypotheses through statistics" (Baudrillard [1987]2012:22). Statistical relevance is only valid if we know the phenomenon that we are measuring, but when the real and the simulation are blurred in a fractal ambiguity in which they occupy the same space and are smeared across the scales, statistics serve to distance us even further from the real as they reflect the simulation of nothing but their own operation.

What of the ontological question? If our mode of study (sociology) relies on the image of our object (social/human) in its reflected form, has our object disappeared as well? After all as Baudrillard ([1999] 2001) tells it

> there is no equivalent to the world. That might even be said to be its definition – or lack of it. No equivalent, no double, no representation, no mirror. Any mirror whatsoever would still be part of the world. There is not enough room for the world and for its double. So there can be no verifying the world. This is, indeed, why 'reality' is an imposture. Being without possible verification, the world is a fundamental illusion. (P. 3)

So if the world has no verification, what of the human, the species who lays claim to the world? To answer this, we must understand the transformations of the image in

modernity; again on two fronts, both the ideal/material divide that collapses, and the technological mediation which comes to dominate our experience.

* * *

In the beginning… These are the foundational words of the Judeo-Christian world. They represent the genesis narrative of an ultimate beginning for the human experience, a fractal scale of a human reality of space and time, encompassed by a God reality outside the mode of our senses. The latter is superposed on our own, but simultaneously beyond our recognition. God in this narrative is the Grand Arbiter, the guarantor of the real and of the image. Judeo-Christian theology "became involved in this wager on representation…that a sign could be exchanged for meaning and that something could guarantee this exchange – God of course" (Baudrillard [1981]1994:5). This monotheistic God, the evolution of the fallible Greek and Roman deities who were the reflection of man rather than their guarantor, is that which escapes our paradoxical relationship to the real, that which sees from our imagined perspective of the fifth dimension.

Nietzsche, however, announces after Hegel and with different intent, the death of God; for the monotheistic God exhausts space, forcing God to be a static observer with no more room to evolve alongside the human. In the attempt at God's salvation, the negative critique of his non-existence (that is, not the proof of his existence, but the proof that his non-existence cannot be proved), philosophy triggered the accident of the real. The ideal measure of the real collapsed under the weight of its own critique; that is, the only space left for God was the space of simulation, as the real could no longer support

the weight of the idea of God. God: the simulation of the ultimate ideal of the human, the sign on which all signs hinge.

Baudrillard ([1981]1994) extrapolates from Nietzsche and illustrates the chain reaction set off by this reduction of God from the real to the simulation of the real. "Such would be the successive phases of the image:"

> it is the reflection of a profound reality;
> it masks and denatures a profound reality;
> it masks the *absence* of a profound reality;
> it has no relation to any reality whatsoever: it is its own pure simulacrum. (P. 6)

The first step here is of the level of the pure sacred, in which the image of God is the ultimate image of the sacred. However, already by the second step we enter into the realm of simulation where "everything is already dead and resurrected in advance" (p. 6). The divine becomes the barrier through which the human limitations cannot pass, therefore it conceals the ideal rather than reflect it. Logic dictates that if this guarantor of the real is hidden from us, but the stories remain, they serve only to signal the very vacant nature of the divine. Finally we see the image for what it is, a surrogate of nothing; it neither confirms the real, nor does it reflect the real: it abandons it. It is the simulation of the abyss, of that which by means of its non-verification reduces it to the equivalency of the void. Of course, like Žižek's joke, there is still space for this empty signifier to masquerade on a blinding scale as if the nothingness hidden below was saturated with meaning.

Once these are traced to their end, the first step is unborn and signals the beginning of its own disappearance. It is not God who dies a material death only to go on living as the undead image in the ritual of religion, but the idea of God that is shown to

have never crossed over from the sacred of the mind; the practice becomes the simulation of that which it loathes, the profane. In other words, the real of God, perceived in the ideal image as the reflection of that real, is no longer possible. God becomes the image of all that constructs this vision of the *real,* laid bare and stripped naked in the "resurrection of the figurative where object and substance have disappeared" (p. 7) leaving only the artificial construction of all that is profane and subject to a dynamic undoing. Nietzsche and Malraux only illuminated the material side of God's death, but the ideal side is unborn. This ideal is unlearned, reverted to a former state as if its birth never occurred, for the life it took on was always that of the simulation. The real and the ideal have displayed their full transparency and once they are combined they cannot even project more than an afterimage, an echo in the mind. The unborn is that which loses its appeal to seduction. As God lost the antagonism of seduction – that ability which forces the subject to make a choice – he was replaced by the seduction of Oppenheimer's Bomb. "For what would be more sublime and unrepresentable than the nuclear holocaust" (Huyssen 1984:46), whose threat to the real is not simply in the seduction of its ideality, but is found within its forceful potential for a material immanence answering the challenge of divine apocalypse.

Let us apply this logic to our object the human, for in this unfolding of modernity we have come to rely not on God as the guarantor of the real, but on the technological image. Such are the successive phases of the human:

it understands itself as the reflection of a supernatural deity;

it understands the deity as the reflection of the self;

it understands the machine as the reflection of the self;

it understands itself as the reflection of the machine;

it is a purely artificial construct, a fractally ambiguous image erasing itself in the fictionalities of being.

In the first case, the human is seen as an elevated subject, divinely assigned to subjugate other life forms; not of a different form from God, but of a power on a different scale (Genesis 1:26). In the second, at the dawn of modernity, the human unmasks its own delusion, but justifies its hierarchical status because of its power and intelligence, or worded differently, because it can. In this phase the human basks in the ideal simulations of itself and imagines the limitless potential of human progress. In the third, labeled by many as postmodern, it plays the deity and creates material simulacra of itself. In the fourth, a posthuman sense of the world arises, as it can no longer distinguish between itself as nature and what it constructs as simulation. Baudrillard ([1992] 1994) was only beginning to sense this when he wrote,

> It is quite possible that, in this process, the species itself is commencing its own disappearance, either by disenchantment with – or *ressentiment* towards – itself, or out of a deliberate inclination which leads it here and now to manage that disappearance as its destiny. (P. 83)

Now the human seeks revenge on the future; a future that it no longer has a guarantee of being a part of, for it has shaped this reality for a being of a different order.

With the unmaking of God, comes the redefining of the human, the unraveling of the idea: its unbirth. "As soon as the human is no longer defined in terms of freedom and transcendence" – those qualities which decompose with God – and instead it is defined by this techno-scientific principle, "the definition of man – and hence, also, that of humanism – is wiped away" (p. 97). In this sense Malraux was right, the fate of God, also hints at the fate of the human: the disappearance of an ideal that cannot be sustained.

So too, however, does this procession recall the words of the Romanian philosopher, E. M. Cioran ([1949]2012), who wrote, "even when he turns from religion, man remains subject to it; depleting himself to create fake gods, he then feverishly adopts them: his need for fiction, for mythology triumphs over evidence and absurdity alike" (p. 3). An absurdity within an absurdity, the human is involved in the project of making itself unborn in the posthuman languages with which our fictions are now predominantly written: in the cybernetic unity of computer and biological coding. Never having achieved the ideal vision of itself as Human, nor having accessed the real of the human, the species has turned inward in the procession of its own artificial simulations. Artificial life mimics nature while at the same time seeking to remediate it by constructing novel forms within the artificially real. Although many postmodern theories recognize the fragmentation of the social conscious as one of the contradictions of modernity, they fail to fully anticipate the biological and spatial implications of these latter steps which erode the last vestiges of the human.

Herein lies the task for theory in an age of fractal ambiguity. It is not a task of the death of man, of the end of the human, but a question of the finitude of the human ontology and that which is after the human. This is a question of erasure and disappearance, not of death, "for dying doesn't do any good; one must still now how to disappear" (Baudrillard [1987] 2012:44). Disappearance represents a project, death only a temporal fate. The image of the human ontology is one of transparency, a veil of verisimilitudes, with a subject that both makes and unmakes itself. From the ultimate positionality of an imagined "other" residing outside of our plane, encompassing it by scale in a fifth dimensional vantage point, to this biological being of temporal decay, the

human disappears by its own machinations into the operational logic of the simulacrum of ourselves. Baudrillard continues,

> In this sense one can speak of the *fractal subject*, which – instead of transcending into a finality beyond itself – is diffracted into a multitude of identical minaturized egos, multiplying in an embryonic mode as in a biological culture, and completely saturating its environment through an infinite process of scissiparity. While the fractal object is identical to each of its elementary components, the fractal subject dreams of resembling himself in each one of his fractions… no longer dreaming of his ideal image, but of a formula to genetically reproduce himself into infinity (sic). (P. 38-9)

This is the posthuman swarm, the evolution of the postmodern schizophrenic self. Rather than juggle the selves across temporalities, the image of each is now plugged into technological appendages which maintain a continuous swarm identity in real-time across virtual space. No longer merely multiple, the human becomes identical in their individualized operations across the scales of being, as a blur that encompasses all of those plugged into this mechanthropomorphic reality. A mechanthropomorphic reality is based neither on the ideal image, nor on the real as such, but on the diaphanous replication of a fractal subject. This is the embodiment of Benjamin's (1935) critique of mechanical replication, wherein a swarm of temporal pollution occurs in which the original gives way to the simultaneous operation of any and all temporal pathways playing out in the virtualized space of the inappropriate/d others. Originality loses its binary power over the artificiality of replicants, for its aura is lost with the decay of the divine.

The original is one, but the artificial is legion. "It is no longer the difference between one subject and another, but an internal, infinite differentiating of the same" (Baudrillard [1987]2012:39). What the human ontology is left with, "is a metastatic

body, a fractal body which can no longer hope for resurrection" (p. 41), which is the life of the undead, but as for its disappearance the human itself is unborn. In the posthuman age of fractal ambiguity, "language and theory…act as a mode of disappearance… to seduce, to wrest things from their condition, to force them into an over-existence which is incompatible with that of the real" (p. 79). To answer what the human is, when the image of the human is that of a fractal subject, a fatal theory of the human is needed.

Fictionally [Un]done: Contesting Knowledge

> *Fiction, in any of its modalities – mythic, literary, scientific, or metaphorical – is a discourse that "informs" the "real" without pretending either to represent it or to credit itself with the capacity for such a representation.*
>
> \- *Michel de Certeau (1986)*

> *The way man sees the world is the way he sees himself; the way he conceives himself is the way he conceives the world.*
>
> \- *Christoph Wulf (1989)*

Although metaphysics and questions of ontology were the first to trigger the crisis of the real in the everyday terms of the religious sphere and the relationship between God and human, the aftershocks were felt across the fields of study even in agnostic disciplines. Modernity provided the tools for this crisis to play out on a grand scale by shrinking the spatiotemporal barriers that historically served as a sieve for knowledge transfers. Following Lyotard's definition, in the beginning of this time we label modern, science and technology operated on the grand narratives; that is, they plugged into the

history of the human as the grand arbiter, as that which through reason was fated to bring the struggle of humanity to its endpoint. Ironically, this narrative was one which still primarily followed the original biblical commands to serve as that which names things and brings nature under domination (Genesis 1:28; 2:19) until the appropriate time comes and salvation is delivered (Revelation 21:1, 4). It is the catalyst of the transformation that changes in modernity as the scale of labeling moves from the horizon of the visible to the vertical of the infinitesimal and celestial. As science advanced its projects and built up a tower of knowledge, those societies most advanced in the process underwent a further epistemological transformation. This transformation was labeled by Lyotard as postmodern, which signified the beginning of an "incredulity toward metanarratives" ([1979]1984:xxiv). An incredulity which is part and parcel of the very modern notion of progress, for the progress of the sciences undercut the very foundations on which it was building. Answers begot more questions.

For Lyotard the metaphysical uncertainties flowed into epistemological uncertainties, as the various discourses of knowledge represented incommensurable language games. Each of these language games comes with a specific set of rules designating the moves that one can make according to the game (or discourse) one is playing. The dichotomy that he sets up is one in which the scientific language game is constructed to be counter to that of the narrative game, in that the discourse of science is one which seeks the objective Truth about the world by adhering to a strict operationalization of a formulaic structure of judgment, whereas "the narrative form, unlike the developed forms of the discourse of knowledge, lends itself to a great variety of language games" ([1979]1984:20). Narrative, as a discourse of knowledge, is one

which is inseparable from the sociocultural settings of its telling. Those settings are subject to greater flux patterns across the fractal scales and by its passage through the subjectivity of its telling, the narrative enters into the realm of the non-falsifiable. Splitting the two is the notion of the legitimation of the claims. How, then, can we know that the moves in either game represent truth-claims when they are bound by a set of rules to which they are contingent, rules to which the real is indifferent?

On the one hand, narrative ties into tradition by assigning temporally defined roles to its players. There is the one who passed down the narrative (the past tie – assuming an actuality of the narrative in the history of its telling) the one who tells the narrative (the present conduit – assuming the probability of change in the retelling) and the one who hears the narrative (the future link – assuming the possibility of a further retelling). This is illustrated with Lyotard's oft quoted example of the Amazonian Cashinahua tribe ([1979]1984:20-1; [1983]1988:152-155; [1988]1993:31-33; see also Lyotard and Thébaud [1979]1985:32-33) in which the story is presented as foundationless, with "no origin. They treat the origins in terms of stories that presuppose other stories that in turn presuppose the first ones" ([1979]1985:44). It is a system that is not based on concrete foundations, but one which projects quasi-foundations by constructing the referent within the telling of the narrative. When the narrative ceases to be told, the foundations cease to exist. The repetition of the narrative does not rely on its own fluency, but incorporates the "heroes of numerous, almost innumerable, narratives, all set into each other" (p. 44). The functionality of the narrative form is thus one that is constantly in a state of flux with "functions that are interchangeable," for it mimics the dynamism of a fractal reality composed of fractal subjects that "change bodies, and by

changing bodies…change passions as well as functions" (p. 44). This narrative form must remain malleable. Neither rooted firmly in the subject nor in the object, it is rooted only in the temporality of its telling/reading. The form requires the [re]telling or [re]reading of it for it to be made manifest, to gain a continued existence which is at risk of disappearance at the conclusion of each textual performance.

What then legitimates the narrative? The paradox that Lyotard uncovers in breaking this question apart relates to the concept of authority. In traditional societies, as evidenced by the history of religion (which persists in modern societies), there is a hierarchy of knowledge transfer in which it is the subject who is societally recognized, generally by a titular distinction, as the one who is allowed to speak on the subject *authoritatively*, therefore with an appeal to legitimation. However, a paradox emerges when the authority is granted by the very telling of the narrative. Although there are many sociopolitical factors at play in the assignation of titular authority in Christendom, the cornerstone of the religious tradition is in the exegesis of "sacred" texts and an active role as a conduit of knowledge transfer from these texts to the masses. Even without the transcendental appeal to authority provided by the narrative (e.g. 2 Timothy 3:16; Revelation 22:18-19) which is lost in the crisis of the real, the narrative legitimates itself by assigning itself authority in the cultural realm. The masses come to recognize what constitutes the authoritative versions of the narrative because the "narrative form follows a rhythm" ([1979]1984:21). However, "the narratives must be repeated all the time because they are forgotten all the time. But what does not get forgotten is the temporal beat that does not stop sending the narratives to oblivion" ([1979]1985:34). Therefore, one cannot separate the telling from the authority to tell. That is, it is the telling of the

narrative itself which establishes the authority of those who repeat it by mastering the rhythm of the telling, which is negentropic, as opposed to the temporal rhythm of their oblivion, which is entropic. However, it is still contingent on at least some modicum of cultural acceptance which must recognize the rhythm as something harmonious with its own conceptions of reality. This holds even if the narratives do not recognize their own fictionality, as de Certeau imagined, and ignore the crisis of the real by continuing to make claims on the real. Such fictionality is only apparent if one submits that which is not rationally derived to the logics of reason; however when the human conceives of itself in irrational terms, the rhythms align with irrational narratives. Remove the cultural significance of the narrative, or ignore the rhythm of the telling, and risk losing the authority granted by the narrative. Lose the authority, and the narrative runs up against the full measure of the profane reality which erases both authority and narrative by leaving them to the dustbin of history. The narrative form is therefore that which legitimates itself by its own process of becoming, comfortably operating in the realm of this paradoxical relationship of self-legitimating knowledge.

Science, on the other hand, is the operation of denotative statements that serve as the linguistic representation of an externally verifiable referent. This language game is not dependent on additional players because the referent is external to the corresponding moves made by a player in the game about the referent. In other words, it does not rely on a dialogical process that would invoke either traditional narratives or other players. This leads to the predominate attitude that has recently been expressed by the American astrophysicist and Director of the Hayden Planetarium, Neil deGrasse Tyson, in popular media. In the attempt to propagate this view of science to the masses as the triumphant

form of knowledge, Dr. Tyson made a guest appearance on the satirical news show The Colbert Report, where he summed it thusly,

> Once science has been established, once a scientific truth emerges from a consensus of experiments and observations, it is the way of the world… What I'm saying is, when different experiments give you the same result, it is no longer subject to your opinion. That's the good thing about science: It's true whether or not you believe in it. That's why it works. (March 10, 2014)

The "consensus" that Dr. Tyson refers to, does not refer to players, or "scientists," in the game, which would form the quasi-foundation of the narrative form, rather it refers to the linkage between the moves and the external referent to whom the appeal is made for validity; a validity based upon the inability to disprove the move in relation to observations of the referent. This echoes the view of science held by the prominent philosopher of science, Karl Popper (1963), who wrote, "One can sum up all of this by saying that the criterion of *the scientific status of a theory is its falsifiability*" (p. 37). There are two reversals that are entailed in their comments on the language game of science. The first is that unlike the narrative form, this form decenters the human as the loci of truth claims. "Not every consensus is a sign of truth," for the human can act in concert on a consensus of falsities; "but it is presumed that the truth of a statement necessarily draws a consensus" (Lyotard [1979]1984:24). In other words, players may draw consensus without ever entering into a dialogue with other players by applying the same set of rules outlined by this language game through moves that refer to the same referent. It is the moves themselves that form consensus, not the players, by demonstrating that the moves themselves are constrained according to the rules of the game. The other reversal comes from the notion of proof, which is elevated to a higher level than metaphysics but still rests on the function of negation. In this structuring of the

language game, it is not positive affirmation (as consensus among players would imply), nor merely the lack of refutability (as many forms of metaphysics), but the testability of the referent as something which does not negate the move by providing contradictory observations, while simultaneously always remaining subject to its undoing by these same rules.

Therefore, we may conclude that the scientific language game does not require that the moves enter into the rhythm of the sociocultural current, rather the moves can be judged only in terms of the strict rules delimiting the language game to only that which applies to a particular referent. Lyotard concludes that this game is both "set apart from…the social bond" and "concerns the post of the sender alone" ([1979]1984:25). This same observation led Paul Feyerabend ([1975]2010) to claim that science, according to this operational model, "cannot be reconciled with a humanitarian attitude" (p. 4). This reliance on an external referent ignores the metaphysical concerns raised by the crisis of the real. Whereas narrative epistemologies can construct temporally contingent legitimations within the social bond of discourse, if scientific epistemologies submit their legitimation to the rules of the scientific language game, an external referent would be required in order to ground the legitimation of the discourse, which it cannot do. Regardless of the scientific desire to catapult its language game over metaphysics it cannot escape the disappearance of the human because the discourse is one that neither relies on, nor requires, a human social component; making it a discourse that both encourages and exacerbates the unbirth of the human.

These epistemologies are both fictionally done and undone according to their own rules, which places a systemically invested science in competition with an indifferent

narrative form. "Narrative knowledge does not give priority to the question of its own legitimation" because it constructs its own referent (it is fictionally done by operating under the *as if* conjunction), but science, which demands to see the referent (the *as is*) cannot tolerate the narrative form by concluding "that they are never subject to argumentation or proof" (p. 27). The problem that science runs into is that it cannot locate the referent that proves that its rules are true. In fact as Feyerabend ([1975]2010) points out, "there are always circumstances [even in science] when it is advisable not only to ignore the rule but to adopt its opposite" (p. 7). Therefore, in practice science must ignore its own legitimation, because its legitimation would be rooted in the rhythm of tradition formed by the consensus of players who agree to play by a set of rules that cannot abide their own meta-narrative, which makes it fictionally contingent on the *as if* principle and undone by its own standards that demand the *as is*. Pure "consensus is, [of course], a horizon that is never reached" (Lyotard [1979]1984:61). Science tolerates this by appealing to its operational successes while ignoring its foundational ambiguity; that is, to the performance of certain moves within the language game, rather than a concern with the language game itself. However, as Lyotard aptly argues, the failure then is that neither narrative forms of knowledge nor scientific ones can make valid claims on each other because they are playing by different sets of differentially applied rules.

While each set of rules can hypothetically produce knowledge that fulfills a positive function without stepping on the other's toes, their negative function triggers an irresolvable difference of mutual threat. The positive functions are, with science, the increased performativity of systems, and with narrative, the appeal to legitimation through the social bond. The negative function of science is that it elevates itself above

legitimation and functions according to its own standards only insofar as it maintains a fascist grip on the rules of its game, to the exclusion of all other games which threaten its power because of its failure to legitimate itself according to its own rules. Science thus takes on an authoritarian role, as the ultimate judge, however it is a judge that, by the necessity of its rules "must abandon the idealist and humanist narratives of legitimation in order to justify the new goal [which is not knowledge, but]…power" (Lyotard [1979]1984:46). The military-university-industrial complex has fed off of this augmented power to the exclusion of those who do not augment their power; those who refuse to sacrifice the playing of other language games for the pursuit of systemic power and performativity. Although Lyotard says "such behavior is terrorist" (p. 63) because it threatens conformity or irrelevance, terrorism has generally been anti-systemic in contemporary usage, making it a label more adequately applied to the narrative form because of the potentiality of its negative function. The negative function of the narrative form is that it can locate and build off of *any* sociocultural rhythms, constructing new *as ifs* which threaten any totalizing or authoritarian project by their ability to appear or disappear with near instantaneity. Narrative forms can play off of the speed of scientific performativity, instantaneously releasing terroristic modes of thought that contain the possibility (if rarely the probability) to rupture the system and cause leakages of power that increase the instability of the structure's simulacrum of the real. This has led to a blurring of science and narrative, particularly in the social sciences, because narrative epistemologies which do not wish to directly challenge the power structure but still desire the rewards from aligning with it, approach the system in the disguise of science so that they may suckle at the teat of the system. This symbiosis weakens both language games:

science by threatening the performativity of the system with moves that don't conform to the rules of the language game, and narrative by hiding within a language game that delimits its most powerful terroristic potential and weakens the social bond.

Let us return then to Alice's question and the directionality of the human. If science cannot rectify itself with an idealist or humanist narrative, then the system that is interwoven with science for its structure of power is one that cannot deliver the goal of Humanity achieved. The fascist tendency of science is one which is needed were society to pursue a goal, such as humanism, to the exclusion of all other competing ideologies. However, science, which is concerned with the moves of the game, more than the players making the moves, can only increase the performativity of its operation. Essentially the language game of science triggers the atemporality of the present by prioritizing speed over steerage, the move over the player. After the horrors of World War II, and the always immanent threat of nuclear holocaust, the fascism of speed is perhaps preferable to the fascism of directionality for it at least plays into the illusion of agnosticism and the openness of the future. That we are racing somewhere is evident by the immanence of speed, but as narrative is always subject to the terroristic interruption, the directionality cannot be established with certitude in this epistemological form either. The epistemology of the narrative form is one which incorporates new language games without making a point of excluding others: each narrative can establish its own legitimacy. The benefit is that because science cannot legitimate itself to the exclusion of narrative it cannot do away with the narrative form and the fascist moment will always be at threat of the terroristic interruption. The problem is that narrative epistemologies are

weakened by not plugging into the operationalization of the system, leaving the social to wither alongside imagination in the realm of the real. We are left in a position where

> any knowledge we can have of language games is… fractured, diverse, and discontinuous: it is made up of catastrophes, paradoxes, nonrectifiable dilemmas, and ironies. The role of the investigator [or more aptly, the theorist] is to insist on the instability, to disrupt more orderly knowledge—consensuses about the state of the world—if need be. The practice and legitimacy of knowledge is founded on the fact that it affirms differences and reinforces our ability to tolerate the incommensurable. (Mirchandani 2005:93)

With the postmodernization of capitalism and the pressures of market liberalization, narratives compete for overlapping shares of the sociocultural rhythm, but due to our fractal reality made up of fractal subjects they can never encompass all the threads of all the scales of our experience so long as our experience is not aborted by a totalizing destruction. Just as the human spirals off into fragmentary pieces so too does each fragment form its own fractal reality teeming with fictional reconceptions of the simulations of life itself waiting to be uncovered.

As science speeds up our reality and morphs our relations to the spaces we inhabit, the ability to locate the rhythmic pulse of sociocultural currents becomes ever more complex for zeroing in on the directionality of life. Lyotard ([1993]1997) describes this condition as a postmodern fable:

> The fable says that they can get there (eventuality), that they are urged on to do it (need), that doing it is in their interest (obligation). But the fable cannot say what human beings will have become by then. (P. 84)

That is, the fable cannot answer where we are going, it can have no verifiable claims on the directionality of the species because it is not a unidirectional tale. This fable is no less wrapped up in the language games of science and technology than it is of narrative.

> The only difference between them lies in the verification/falsification constraint of the hypothesis. The fable is a hypothesis that exempts itself from this constraint. (P. 95)

However, this is the task of theory in a fractally ambiguous reality, to push the narratives to their end by keeping pace with the sociocultural transformations that are pushed to their finitude by the speed of science and technology. Here is where the ontological claims of Baudrillard and the epistemological claims of Lyotard overlap. As Baudrillard ([1987] 2012) saw it, a fatal theory "must tear itself from all referents and take pride only in the future. Theory must operate on time at the cost of a deliberate distortion of present reality" (p. 80). It must be aware of its own fictionality, because it must draw on the fictional representations of the real and the self, mediated through the technological lens. The connections between the real and the thoughts that orbit them are secondary, because as Lyotard ([1993]1997) concludes, "The fable brings no remedy for this state, it proposes an explanation for it" (p. 100). The explanatory power of theory is not reducible to the use-value claims of science, rather it imagines the fifth dimension, the perspective that is denied us, and crafts the story of life based on the possibilities that manifest themselves in this simulation of the real. It does not plug directly into the actual, and must limit its claims within the probable. A fatal theory of that fractal subject called the human is always about the process of becoming, the pure potentiality of life itself *as if* it knew itself and moved in a particular direction. This is what theory in the age of fractal ambiguity can do: express and give life to the possibilities found in the threads of the scales of simulacra.

* * *

This chapter has established the fractal view of reality, complicated by the loss of our referent, and the ambiguity of our epistemologies. To continue exploring what comes after the human, we must repeat the steps on another scale of analysis to add to the depth

of the theory and the complexity of the narrative. As we think of the finitude of the species, it makes sense to look at the finitude of the space that the species inhabits. The relationship between life and space has always been a reciprocal one in which cause and effect are frequently indistinguishable. Take Alice, for example, was it really she who changed in relation to the space she occupied? Or was it the space she occupied that changed in relation to her?

CHAPTER 2
COLLAPSING THE HORIZONTAL: DROMOLOGICAL ENCOUNTERS WITH THE FINITUDE OF HUMAN SPACE

If space is the relation of co-existence of real objects, then, in the absence of these, it must be nothing and would disappear with them…Its concept has the marks of fiction: the idea of an extension without anything extended, of separation without things that are to be separated, is something unthinkable, absurd and impossible…however, the concept is necessary. To be a true fiction, the concept of space should be self-contradictory. Anyone who desires to "free" the concept of space from these contradictions, would deprive it of its characteristic qualities, that is to say, of the honour of serving as an ideal example of a true and justified fiction.

\- *Hans Vaihinger, The Philosophy of 'As if' ([1925]2009)*

"There are worlds within worlds," he said. "Macrocosm, microcosm. We carried an entire universe across a bridge tonight, and that which is above is like that below…. It was obvious, of course, that such things must exist, but I'd not dared to hope…. And now," he said, "we'll see the shape of the little universe our guest's gone voyaging in. And in that form, Slick Henry, I'll see…"

\- *William Gibson, Mona Lisa Overdrive (1988)*

Is it a poverty of language, of imagination, or of the real, when a concept contradicts itself? Space, the most basic of concepts on which the real is extrapolated, is the foundation for the absurdism of a real that collapses in on itself as one follows the fractal scale. In thinking of space as both the extension of appearance and the absence of that same extension in which expansion occurs, space is reduced to a human concept as the functionalist narrative of that which is visible. Human visibility being limited to a specific spectrum of light bears witness to a particular reality coexisting among other spaces which remain unseen. Long seeking to rectify the universe with the mathematic

narrative of its condition, the theoretical postulation within astrophysics of dark matter, as extension within that which cannot yet be perceived according to human and human-technical visibility, is, as a concept, that which lacks this quality of visible extension originally hypothesized as space. Due to the undiscovered realities within and of space, it retains a rare distinction among our species' conceptual knowledge as being the subject of both the empirical physical sciences and the more speculative philosophical disciplines. The mathematical models which seek to increase the likelihood of probabilistic claims complement the evolving thought patterns, as reason, coupled with imagination, deciphers the possible implications for technological beings. The poverty is not within the exploration of the concept, it falls within the goal of exhausting the concept of further exploration; i.e. a desire to *know* space.

In a conversation between Ernst Bloch and Theodor W. Adorno, held in 1964, the two theorists traced an attitude associated with this present text's usage of the term 'fictionality' to a dismissal by Hegel of the underlying component of the concept among the hierarchy of ideas. While not discussing 'fiction' per se, Bloch and Adorno's conversation on utopia turned to the notion of the possible. The possible is that which underlies a subclass of fiction, namely the interlocution of a theoretical-fiction, or in other words, the 'as if' contingency of fiction which this particular form illuminates by offering a mediation through a critique of the poles of those seeking pure theoretical truths and those seeking pure fictional falsity. Adorno noted that 'possibility' gets a "slap in the face," because as Bloch surmised, Hegel had placed 'possibility' as an absolutely "subjective-reflexive category" (Bloch 1988:6).

If one were to conjure up an image of the current state of "fiction" in contemporary usage, this categorization would not be far off the mark. One need look no further than to the grocery store isle, the local cinema, or the vast radio frequency spectrum emissions, for scores of bestselling novels, blockbuster films, and television serials, that paint internalized pictures of emotional escapisms, sexual phantasies, and the romanticization of life through the formulaic dispersal of tropes. On this overexposed end of the fictional spectrum, the illusion of the possible engages in a commercialized construction of the more real than real. Hence the astounding and recent popularity of a particularly destructive branching of sadomasochistic erotica; were it to discover a birth in Human space, it would constitute a most deranged form of abuse and a debased objectification of the sexual object masquerading under the guise of love. However, as the fictional reflection, this mode accomplishes its aims through a simulation of ideals that deemphasize the banality of the everyday by artificially constructing emotional stimuli through pulp scenarios that rarely, if ever, play out as a part of modern human existence. Adorno (1968) hit the nail on the head regarding this form of cultural consumerist fiction when he proclaimed it as that which "distorts all satiation of necessities…[and] contributes significantly to the contemporary discontent in culture." That which is denied material form in the realm of the everyday forms a nexus of ideological conflict between those who equate the simulation of emotions from fictions as a lurid and absolute individualized experience – akin to the use of psychopharma-cological substances – and those who wish to understand the malleability of human experience by plugging into perceptions that eclipse the space-time of their person, even

when it requires a dive into the realm of anti-social phantasy and flirtation with the barbarous.

The opening of fictitious spaces – which arrives after the knowledge of Real space blooms in the empirical sciences – saturates the mind with possibilities, making the material constrictions of human space nearly unbearable. The distinction that must be drawn is between fictions which plug into the utopic/dystopic narratives of wish-fulfillment as nothing more than ideological blinders, and those which serve a theoretical function for the understanding of the real from particular spatio-temporal vantage points. This does not mean that we throw away the former, which represent a powerful motivational force within human action, rather we distinguish between the two in order to subject the transcendental desires of the former with the immanence of the later. Even when these fictions are correctly exposed by Adorno as the very source of discontentment with present conditions and demonstrably represent a negative utility for social mobilization – for instance, by acting as the illusion of a carrot on a stick, but one so far out of touch with present circumstances that it resides in some unknowable omega point – they simultaneously serve as one of the last outlets of creative imagination. Theoretical fictions thereby distinguish themselves from Fiction in toto, as the arbiter of possibility within the confines of the present, following a set of rules that are more stringently tethered to material reality than the larger realm of Fiction as such.

It is within the malleability of the human experience where Bloch (1988) places the ideal, or the "wish-image" as he terms it with a Freudian air. This "wish-image," however, plays with the temporality of the present, occasionally transforming itself through a "realization…in space, in the topos of an objective-real possibility" (p. 6).

Although Bloch and Adorno were discussing the potential salvation of the utopic narrative as a means of reinfusing hope into the social conscious, the turn towards dystopic narratives hit upon a rhythm within the political economy of the 20th century. Comprising this rhythm is a mode of warfare that achieved a technological orbit and reconfigured the experience of space itself on levels far more insidious to our views of reality in the geological timescale than the arbitrarily conceived lines of the nation-state and subsequent rise of modern geopolitics. The post-WWII/Cold War context of their conversation predates Lyotard's analysis of language games and the division between narrative and science by some 15 years, by which time the utopic revival of the 1960's had broadly ended in "political failure," according to Jameson (1991), and "postmodernism [became] the substitute" (p. xvi). The spatialized postmodern culture served as an affront to the utopic underpinnings of the modernist grand narratives by morphing the relationship between human space and life itself. Subtracting the ideologically problematic 'wish' from the 'image,' by deploying Freud against Freud, realizations of the possible within the reality-image assumed a much more nuanced form in postmodern theories that submit to the systematic organization, and thus limitations, of geographies, economies, governments, and the physicality of space itself. These theories began to illustrate the various 'wishes' that clash within the globalized marketplace of ideas – a marketplace where the very notion of the ideal loses its foundations to the flow of contested knowledges and the multiplicity of images. Adorno ([1966] 1973) came to a similar conclusion (while attempting to avoid some of the pitfalls of the postmodern critiques which proceeded him) from an altogether different route when he concluded that "utopia is blocked off by possibility, never by immediate reality; this is why it seems

abstract in the midst of extant things" (p. 57). That is to suggest that it is possibility itself which subtracts utopia and its inherent wish element, when it is—*as it must be to meet the criteria of the concept*—tempered against the material reality and socio-historical context of its formation. What is saved as the possibility of the possible is the practice of the construction of theoretical-fictions which serve the 'as if' function. That which survives the barriers constructed in the differentiated language games of narrative and science is this very fictionality, or in other words the possibility of their claims which serves as a distancing mechanism from the *will be* to the *may be* as they enter the realm of simulation.

Utopia itself is countered not only by the will be, but also by the may be, *within the realm of extant things*. That is, if we look at the archaic meaning of extant as something which "stands out or protrudes," it refers to the realm of real space that conforms to the extension hypothesis which is also simultaneously always fractally conceived as perspectivally contingent in a particular spatio-temporal nexus, and equally so under a more precise contingency subsumed under each spatio-temporal nexus, that is, the technological contingency. One is left to wonder what Adorno would have made of the technologies of simulation that multiply around us and their relation to the real. These technologies alter the needed approach because they bend space and time within a virtual prison by functioning externally within physical space comprised of extension, but they simultaneously operate according to a different set of rules within the alterable physics of their internal functions, as mere appearance: a frictionless space. This is what Gibson is referring to when he writes of a universe within a universe, compressed into something physically transportable.

Within the logic of the simulation is the space for fictional possibilities (and not only theoretical-fictions, which as a matter of practice in the social sciences are always anchored to the material) that move beyond the good and evil principle of directionality, exploring not only utopic wish fulfillment, but so too the dystopic other, and to an even greater extent the vast ocean of ambiguity that oscillates between these poles of ideality. In fact we may venture to proclaim that the condition of the day is one of ambiguity, exacerbated by cultural critics who are so desperate to move beyond the circularity of "postmodern" controversies that they have begun to speak of post-, and post-post-, postmodernism as a resurgence of sincerity. As if we could still distinguish islands of sincerity in the aftermath of the tidal waves of Irony that desecrated the real!

Planetary space, or human space in an as yet limited to Earth perspective, is no longer an adequate testing ground for the ideal with its focus on systemization and operationalization unless we limit ourselves to these modes as the only modes which can achieve their ideality within the "real" as non-virtual. Fictions move into the space of simulation through the construction of a fractured real in which human and nonhuman actors coexist. Ideal conceptualizations are continuously unmade (unborn) through their simulation, because they are displaced from real space to the space of pure operationalization, a space that the material only dreams of. As the simulation approaches critical speed, action within the material space of the real approaches a state of inertia and the translation between the two runs up against the very goals of simulated space. Real space comes to represent not the realm of manifestation but a realm of disappearance and of finitude, as the barriers to actualization are eclipsed only within the parallel fictional simulation of world modeling. This is not just a narrative phenomenon,

nor is it merely a scientific phenomenon, rather this process of non-transference across the fractal scales overlaps the two within the realm of science fiction. In this science fiction, as the planetary space of the human approaches its finitude – not its end, but the finitude of its abilities and form – so too does the human approach its finitude as the operationalization of its ideals play out in fractal spaces denied to the species as is.

Theory assumes a fatal form, as a science fiction that engages with the disappearance of the ideal within the simulation of its operationalization which is correlated to the finitude of the material. It is worth reemphasizing that the finitude of a thing, whether in a material or ideal form, is not necessarily the implication of the end of the thing in terms of its continuation in subsequent temporalities; that is, there is no immediate implication as to its impending non-existence, which can be answered only within history. Rather, a realization of the finitude of a thing is what implies the need for its fatal theory, a mode of theorizing that is as starkly different in theoretical intention as the distinction made by Max Horkeimer ([1937] 2002) between traditional and critical theory. Fatal theory is not devoid of the critical elements that Horkheimer promoted, it is in fact informed by them. However, fatal theory submits the foundational and normative aims of social justice, that are assumed in critical theory, to a radical critique by judging them not against the simulation of probability models or a "wish-image" for a universal morality, but against the physical manifestations in the realm of everyday interactions between actants of all modes of being. It is thus through a reflection of the inaccessible actuality of normative goals on the social plane that we must limit the possibilities of the present moment's theoretical-fictions. This is not the appropriate space to expound on the similarities and distinctions between the two modes (critical/fatal), however, (a)

Theorist will undoubtedly pick up this inosculated branching in a later work. For now, it is sufficient to recognize that just as the temporal nexus surrounding the World Wars provided the appropriate social context for critical theory to flourish and to base itself on a normative stance, so too does the ecological crisis, and therefore the question of human spatial finitude within the contemporary temporal nexus provide the fertile ground for a fatal theory that incorporates the inclusion of fictional beings that reside in, above, and below the spaces in which we cohabitate. The difference is that issues confronting the species today are not only tied to visible manifestations of evil, they are rooted in the banal activities of the species' everyday existence that is rapidly becoming indefensible. How did we reach this point of human spatial finitude and the finitude of the species itself? What is the saturation point of our story?

* * *

In order to illustrate the trajectory and to distinguish Space from its many forms (spaces), Theorist must change tactics and adopt a different language, one which is more suited to the narrative of a story. It is the story of space which must be told, from the gardens of mythology and the balancing act of infinite galactic turtles, to flatlands, spheres, geocentrism, elliptical pathways, heliocentrism, universal decentralization, cosmic bubbles, multiverses, and finally the paradoxical collapse of matter itself. The story is the mode of narration most suitable to our social theoretical exercise, for our goal is not to know each of these modes as they really are, but rather to understand how their introduction alters the relationship between our species and the reality we inhabit.

All these spaces are disoriented from a central node, but they spin, and go on spinning, spinning. A kaleidoscope of reality…but when we gaze in the tiny window to

see the swirling shapes of the fractal nature of reality, we discover that it is not only space that we see. We actually see ourselves. And in that image we lose ourselves. The following is not the only trajectory in space and time, nor is it an actual experience that can be empirically verified (as a whole), it is a speculative exercise to orient us to disorientation by transposing our position onto that of the imagined other. Those creatures lost to time: the humans of nature.

Space…the Final Frontier

> *"When we gaze upon a fractal, we must peer at a one way mirror, unaware of the other mirror, standing somewhere far behind us."*
>
> - *Christian Bök, Crystallography (1999)*

> *We later civilizations . . . we too know that we are mortal.*
>
> *We had long heard tell of whole worlds that had vanished, of empires sunk without a trace, gone down with all their men and all their machines into the unexplorable depths of the centuries, with their gods and their laws, their academies and their sciences pure and applied, their grammars and their dictionaries, their Classics, their Romantics, and their Symbolists, their critics and the critics of their critics. . . . We were aware that the visible earth is made of ashes, and that ashes signify something. Through the obscure depths of history we could make out the phantoms of great ships laden with riches and intellect; we could not count them. But the disasters that had sent them down were, after all, none of our affair.*
>
> - *Paul Valéry, Crisis of the Mind (1919)*

The following narrative attempts to push an application of the methodological approach of rhythmanalysis that was proposed by the sociologist Henri Lefebvre shortly before his death. *Rhythmanalysis: Space, Time, and Everyday Life* ([1992] 2004), was

published posthumously as an unfinished work a year after his death, but it had been imagined as a fourth volume to his magnum opus, *Critique of Everyday Life* ([1947, 1961, 1981] 2014) that he spent a lifetime developing. While it was intended as a spatio-temporal methodology, in that the researcher would tune herself into the rhythms of a (spatial) object of study in order to sync up with the flow of the empirical reality being observed,[28] the usage employed here is scaled out in time and space to positions that we can only faintly sense with the most abstract signifiers; a poverty of language and experience, perhaps, but this should not deter us from going on the journey to dip our toes in the unknown. What the approach of rhythmanalysis provides for us here is an attempt at the crossing of the fractally ambiguous scales of reality, illustrating how changes in the tune of even the most abstract levels of space have an impact on the rhythms of everyday affairs.

Much like the object of sociology, the imagined "social" dimension, "space" in the general sense cannot be observed in the same way as "a space" in the particular sense. There is always a danger in moving to the general dimension, that realm of assumed rules and laws in the most scientific sense; and indeed for a patasociology that seeks to study the particular, this approach at first seems antithetical to the project as a whole. The risk is that "the leap from particular to general is not without the danger of errors, of illusions,

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[28] The example, par excellence, of this method in action is *An Attempt at Exhausting a Place in Paris* ([1975] 2010), by Georges Perec. In this short text, Perec records the rhythms of Saint-Sulpice in Paris from various vantage points and times of day. In his recording of the sights and sounds, from the passing busses to the various shoppers and pigeons in the street, the reader comes to sense the rhythm of the place, the actions of the everyday, in spite of the spatio-temporal distance between the author's observations and the reader's place of ingestion. And it is not just the external rhythms, but so too those of the observer, from the drinking of a coffee to the passage of Paul Virilio on his way to the cinema. Much more than being a literary technique, it serves as a sociological method for syncing the reader's mind with the author's experience as a trained specialist who tunes into the everyday pulses. By practicing rhythmanalysis we are able to note changes in the atmosphere of everyday life in light of the continuously morphing sociohistorical circumstances.

in a word, of ideology" ([1992] 2004:5). However, we must navigate this dangerous path at times to advance discourses that become stale from the lack of risk-taking, and so "instead of going from concrete to abstract, one starts with full consciousness of the abstract in order to arrive at the concrete," even one that does not yet exist in full; or is only imagined. This pushes us to pursue a "more philosophical method" that is aware of its "attendant risks: speculation in the place of analysis, the arbitrarily *subjective* in the place of facts" (p. 5). What must be noted is that while this narrative flirts with ideology, it does not do so in the sense of a political, or positive, ideology or *weltanschauung*[29]; rather it does so in the sense that the term was originally deployed by Destutt de Tracy in 1796 as a "science of ideas," which was used favorably in "epistemology and linguistic theory" until it found new life as a pejorative in political debates at the hands of Napoleon Bonaparte in the 19th century (Williams [1976]1983:154). Therefore, the ideological side of this methodology is understood as the subjective mediation of an external reality that fluctuates between the seemingly unknowable and the seemingly knowable. The means deployed involve a subsequent reduction to the language of ideas that are expressed and then reread by others through their subjective lens. The desired end is that it will serve as a calibration technique that provides an alignment of thoughts which mediate the idea and the material reality between unconnected and unique individualities. Insofar as it is determined to be successful, the narrative of a rhythmanalysis plays like a melody and when deployed again, in different times and

[29] No doubt it can be used that way, however. As mentioned previously this is the aim of transhumanist philosophy; but so too does the environmentally charged bioconservationism branch off of this ideological node.

spaces, different existents can compare the shifts that have occurred in light of the passage of time and history (in the most humanist sense).

Rhythm, Lefebvre tells us, is not to be confused with movements or speed. This is to distinguish it from the dromological approach to spatial analysis that is proposed by Paul Virilio—one that Lefebvre was beginning to warm up to in his final text, and one that is central to this narrative—and from the notion of spatiotemporal compression introduced by David Harvey (1990). We shall examine the contributions of these various perspectives and approaches in greater detail in the next section of this chapter. Rhythm cannot escape the effect of these two transformative concepts. Common sense tells us that speed implies that which is fast, although this is a false assumption. Speed is rather an abstract notion that is relative to the observer and varies from the slow to the fast in light of the relativity of the observer and the object observed. It implies a relationship of distance between objects and can only be measured as such. Rhythm, on the other hand, is about a condition of affect, in which the subject becomes oriented or disoriented by "repetitions" and "measures" of interacting things. In this sense rhythm is at its core a musical concept, while speed as such remains monotonic in its abstract sense. Likewise, if spatiotemporal compression is the cultural transformation of a world with postmodern symptoms, then one would expect that the rhythm of the time is also one that has undergone this process of compression and distortion in comparison to previous histories. Both the living and the dead produce an affective rhythm in the accumulated history of cultural artifacts and in the space where they reside; their rhythms set the stage for our understanding of the real and our psycho-social state of mind. "In order to grasp and analyze rhythms, it is necessary to get outside them, but not completely: be it through

illness or a technique…to grasp a rhythm it is necessary to have been ***grasped*** by it; one must let oneself go, give oneself over, abandon oneself to its duration" (Lefebvre [1992] 2004:28). Our task gets more difficult as the compression increases, for the general begins to morph into the particular when planetary space is squeezed into personal space.

When the object is space—and rhythmanalysis is a methodology for space, place, and *time* studies—we cannot help but feel overwhelmed by the task that asks of us that we "get outside" of the space in order to get at the space. In order to do so, we must turn to the fictional theoretical accountings of space. They demonstrate both the functional purpose of mythologies and fiction-making, and orient us to the rhythms of our place within space, by disorienting us to the absolute conception of space as such.

* * *

A bit of imagination is required to un-think space as we know it, in order, ultimately, to re-think space. We get out of this space in order to grasp it, not spatially, but temporally by our displacement from the original trajectories in history and thought. What is assumed by this 'we' is only a modestly imagined reader (a few mentors, friends, and perhaps some colleagues) joining Theorist in this mode of thought; but as was established in the prelude, this is a work for the archive, a sacrifice at its grand networked altar. The hope is that this rhythmanalysis might tug at the machinic thought dominating a world oblivious to social theory; a world that loathes the theorist as much as it is enraptured by the genesis of the posthuman fiction. So let us go back to the time of early humans, long before modernity, and begin our story there, as if we were a traveler in time and space, learning of our surroundings for the first time through senses never before understood, like the current genesis of machine consciousness achieving self-awareness

in the last revelations of the human. We open our eyes and see the space that surrounds us for the first time, slowly we come to sense that we are both a part of it, and apart from it.

* * *

Born to the elements and the rage of an unbounded nature, we look up and see a massive floating orb in the sky that illuminates our surroundings. But we quickly see that it is not a permanent fixture. It comes and goes with a rhythm that is sensed by its repetitive motions but is not fully understood. When it is in the sky we feel safe, but in its absence our visibility is limited and creatures of the night gain an advantage over our species. Without it we are afraid, but with it we are strong and we take our advantage over the other creatures. It seems to give us warmth, at times, but sometimes we can see it in the sky and yet it is cold. Have we offended it? We cannot reach it, and it seems indifferent to our pleas. Mythologies are deployed to aid in our understanding. There is a regularity to the motions of the orb, it always approaches from the same direction and sinks in the opposite direction. While its motion is regular in some sense, in other ways it is irregular. It does not always take the same amount of time for this orb to pass over us. Sometimes the days seem long, and other times the days seem short. We seem to inherently understand that we could not survive its permanent absence or its permanent presence, rather we thrive in the rhythm of its cycles which align with our need to recharge each day with a period of rest.

In its temporary absence a different orb appears. It is usually white and pockmarked, and sometimes it has a warm orange glow, but it is never as bright and painfully vibrant as its daytime twin. If the former burns, this one looks cool. Its size

changes, sometimes looking like the smallest fingernail and other times it looms over us in a majestic glow that looks larger than its brighter counterpart. We can gaze on this orb for long periods of time and we find that its cycle provides a rhythm that is more easily understood in its regularity than the orb of daylight. The cycles of this orb tend to align with the menstruation cycles of the females in our species who are of child bearing ages, and so we come to feminize this orb while masculinizing the other. Some of us call it Luna and embody it as a goddess and from its cycles we derive the concept of the rhythm of months in a calendar that marks off our time on this land. But as to the other one, the powerful one, we come to call it by many names and we give stories to these names. Some of our kind call it Ra, Horus, or Atum. Others call it Suryaprabha, Saulė, or Ri Gong Tai Yang Xing Jun[30]. The names change over time, but it always holds a role of unquestioned power in the stories we hear. Many finally come to simply call it Sun, and its weaker twin, Moon.

To this Sun many great powers are attributed and if we gaze at it for more than the briefest of moments our eyes begin to hurt, which reinforces our belief that this orb has powers we can hardly even begin to imagine. It seems to punish us for looking at it too closely, and it seems to overstay its welcome at times and burn the land causing us harm. Surely it would not harm us unless we had done something wrong? Surely if it had more power than us it would have more wisdom? Or have we committed a sin of

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[30] For a particularly telling account of this structure of naming and the fictional accounting of space, see Bernardino de Sahagún's 16th century retelling of the Aztec's myth of Nanauatzin and Tecuciztecatl, who became the sun and moon, in *Historia general de las cosas de Nueva España II* (2014:22-26). What is particularly interesting in this narrative is how the death of the gods is structured into the logic of the transformation of deities into spatial objects of nature; therefore it is an origin story of space without being the origin story of the gods. For a discussion of this story, see Georges Bataille's *"Sacrifices and Wars of the Aztecs,"* in *The Accursed Share, Vol. 1* ([1967] 1989:45-61).

scale? We tell stories about it and its unknowable power that blinds and burns us, and also warms and embraces us. What it gives with one hand it takes with another. And this dualism creates a melody, another rhythm that acts in concert with the moon. The stories begin to pile up. What our mothers and fathers, and their mothers and fathers, and so on, witnessed and put into tales, so too do we witness it and continue in telling these tales. Our stories become more complicated with each generation until the origin of the tales is lost; they are as permanent as the orbs themselves. Eventually in our stories we detach the gods from the orbs in the sky and we give these detached gods personalities and adventures; we grant to them the power that put the orbs in motion. We see the orbs as their gift to us…and at times their curse on us. The rhythm of the dance between this fiery orb and its cooler sibling of the night sooths us. But we cannot understand why they take the actions they do and eventually we avert our eyes from these heavenly orbs and turn them downward to explore that which they illuminate: the space of the human.

The land changes as we traverse it. We see that the landscape is not the same everywhere. Here is it lush with many plants and swarms of insects, the air feels damp and our skin begins to glisten with moisture as we exert ourselves. There it is dry and rocky, plant life is scarce, the water that we are indifferent to in some spaces becomes as precious to us here as our own blood. Different animals live in the different places and have different characteristics, but we alone come to see them all. Some are sly and hide from us. Others are indifferent to us, while still others hunt us and we learn to fear them. We turn some of these animals into gods too. We make them into totems and our stories teach us respect and contempt for the animals who we have separated ourselves from; in this process we come to learn about ourselves and develop rules and boundaries for our

behavior (Freud [1913]1995). We who name them, we who grant them divinity, through our stories and rituals we progress in our understanding of the world, for it is we who construct our own understanding, placing ideas and objects into the categories of sacred and profane (Durkheim [1912]1995). Through our stories we escape the immanence of the present, we accumulate the past, and we dream of the future; we have left behind our animal brethren who can only live in the moment (Bataille [1973] 1989). As our journey across this space continues, it somehow intuitively seems as if it were made just for us, for we alone adapt and alter ourselves to traverse the various climates. It is as if the story some tell about the first of our kind waking in a garden made just for them had spread to all the land. New stories are told and the various gods detach themselves not only from the spaces, but from the animals; animals who we come to see as subservient to us. In these new stories, this space is claimed as our own regardless of divine or natural right, for who can challenge our accounting of things? The gods condense as our space expands.

We continue to travel through the landscapes, across mountains and deserts, forests and swamps. But there is a natural border to the land that we call ours. There are great expanses of water, much larger than the rivers and lakes we have seen on our journeys, and these vast bodies of water surround us on all sides. And is it water? It tastes different and is unpleasant to consume. We come to see that the rhythms of this water align with the rhythms of the moon, there is a call and response in the waters that aligns their rhythms with the shapes that the moon assumes in the sky. Pliny the Elder (25-79 CE) suggests that this pull also has an effect on us (Mathews and Mathews 2013), building off of Aristotle (384-322 BCE) who frequently used the term *luna*tic to describe

someone whose mind is not right. Their theoretical fiction saw that it was possible that our species, which relies on ingesting water to survive, is also pulled by the moon on the smaller scale of our watery brains; lunacy is the term given to those most affected, those whose minds are sensitive to the rhythms of the moon, who are literally thought to be pulled "out of their mind." In developing this fictional accounting our species begins to distinguish even more so between the sexes, feminizing neurosis by aligning it with the old goddesses; patriarchy establishes itself a strong rhythm in the lives of our species, by attaching itself to a claim on the "normal" mode of being. Even though these stories eventually fall out of favor in the diagnosis of mental health and the understanding of the sexes, the power of these tales lingers and this liquid barrier, indifferent to our tales, gives us anxiety if not insanity; for on the land our species is strong, but we cannot survive in these oceans in our natural state. Other creatures rule in those unknown depths, they challenge our accounting of things. Like the sun that hurts us if we are exposed for too long, so too does this mass hurt us if we are not careful and cautious in our navigation. Just as we see the sun and moon circle us, so too do we watch them sink into the sea and we surmise that the universe circles around our world. We are the center and our observations reinforce this belief. The center must hold if our stories are to hold the meaning that we so passionately defend. We defend them because they are vulnerable, because our history has demonstrated their evolution, their susceptibility to change; there is doubt as to their reality, but so too must we rely on these fictions for they are our only guide (Freud [1927] 1961). Our belief systems are inextricably linked to our understanding of the space that surrounds us. For each leap forward now, there is even more risk. Risk not just for our physical bodies, but for our fragile and curious minds

that dream of knowledge and understanding of this strange place we are forced to call home, where we fight not just the elements of nature, but so too ourselves.

Eventually, after we have explored our own lands, the call of the oceans becomes very strong in some us. We yearn for something new, for something other than the stories which begin to feel oppressive as they harden and as others defend them, as if they could not defend themselves in spite of all of the power we have attributed to them. Our transformation of nature begins in earnest. If the power of the oceans surpasses our own then we must tame it by playing off its strengths and weaknesses. Transportation is revolutionized by the building of ships that can survive the storms and carry enough supplies for our survival. Our little floating pieces of artificial land take us faster than we have ever gone before. At first we hug the coastlines and retrace the paths that we took on land, simply enjoying the speed of our new found power. Eventually this too is not enough and the edge of the world calls out to us. So we say our goodbyes, knowing that we are challenging gods and monsters, and we set our sights on the very edge of the world. Perhaps we will wave at the turtles on whose back it rests as we tumble over the side and fall to our doom? But woe and behold, the edge of the world never arrives, instead we find new lands. Well, perhaps they are only new to us (an exceptional group, or a group who insists on our own exceptionalism?), for they are full of others of our kind, and they too have stories like those of our ancestors. Stories of the orbs in the sky, their motions and their powers; stories of the animals and stories of the sexes. In some ways we feel superior to them because our stories have gone through more transformations and are of greater complexity than theirs, but we come to learn the folly of such thoughts; hatred is the mask of the insecurities we have with our own tales. They

are excluded from our stories of origin, because the "we" had already been appropriated as a single exclusionary history that had forgotten the branches of early histories, land crossings, and the shift of the continents themselves.

These new peoples, were not so very new after all, they too had mastered the movements of the stars and accomplished tasks that took us much longer to fully learn and appreciate. They are our other, but only because we so desperately wanted to be a part of something wondrous, something unique, and they remind us of what we escaped. They were excluded from the "we," for they did not accumulate history or distance themselves from nature in the same ways. This story is only told from this Western European perspective, because it is the perspective stored in the archive in greatest number; it is the perspective that came to dominate the rhythm of all others. It takes a long time to integrate our stories, it takes bloodshed and the disregard of moral systems; and is there any surprise that they do not welcome it when we finally concede and try to incorporate them into that "we"? These are violent times and this notion of the "we" is sinister, for it unites us in the frivolous disregard for our own species, for the human itself, as demonstrated by these renewed interactions. Race and sex are used as barriers to and justifications for these now guarded spaces; to be of this "we" is to acknowledge the horrors of the transformations of this story of space.

Our technologies increase, our religions stagnate; they do not, however, disappear. Learned men and women come to question the old tales of space. If we do not fall off of the earth, perhaps we are not a flatland after all. In fact if we go straight on enough we end up back where we were, so perhaps we too are an orb like the other orbs in the sky and not as Ptolemy (90-168 CE), and Aristotle before him, thought, a static

land. One of the more ingenious of the species named Copernicus (1473-1543) develops a theory and writes that "the Earth is globe-shaped too, since on every side it rests upon its center" (Hawking 2002:14). This coincides with the voyages of Ferdinand Magellan, who from 1519-1521 circumnavigates the globe for the first time. In part Copernicus makes his discovery through the tales of these voyagers on the sea, for they can spot land easier from high up on the masts than they can from the ship's deck, which he geometrically illustrates implies a curving of the horizontal surface. However, it is still "believed by nearly all that the Earth is the center of the world" (p. 19) because this conforms to the observations of the masses. Observation is perhaps not as trustworthy as we first thought, this is the sin of scale. But using the geometric tools of the Greeks, Copernicus does something astounding and demonstrates that the Earth moves three ways at once! Not only are we a sphere, but we are in motion! In order to accommodate the data that Copernicus finds to support the empirical probability of a theoretical possibility, he determines something even more astounding. The sun does not revolve around us, but rather we revolve around it. Such a claim may not seem to have had any pragmatic implications that would impact the daily lives of our species, but it threatened the centrality of our spot in the universe; a spot that our tales told us was divinely appointed by one God, a god above all others.

Copernicus was worried about this too, and so he wrote the following to Pope Paul III in the preface to his book in which this was all revealed:

> *I can readily imagine, Holy Father, that as soon as some people hear that in this volume, which I have written about the revolutions of the spheres of the universe, I ascribe certain motions to the terrestrial globe, they will shout that I must be immediately repudiated together with this belief For I am not so enamored of my own opinions that I disregard what others may think of them. I*

am aware that a philosopher's ideas are not subject to the judgement of ordinary persons, because it is his endeavor to seek the truth in all things, to the extent permitted to human reason by God. Yet I hold that completely erroneous views should be shunned. Those who know that the consensus of many centuries has sanctioned the conception that the earth remains at rest in the middle of the heaven as its center would, I reflected, regard it as an insane pronouncement if I made the opposite assertion that the earth moves. Therefore I debated with myself for a long time whether to publish the volume which I wrote to prove the earth's motion or rather to follow the example of the Pythagoreans and certain others, who used to transmit philosophy's secrets only to kinsmen and friends, not in writing but by word of mouth, as is shown by Lysis' letter to Hipparchus. And they did so, it seems to me, not, as some suppose, because they were in some way jealous about their teachings, which would be spread around; on the contrary, they wanted the very beautiful thoughts attained by great men of deep devotion not to be ridiculed by those who are reluctant to exert themselves vigorously in any literary pursuit unless it is lucrative; or if they are stimulated to the nonacquisitive study of philosophy by the exhortation and example of others, yet because of their dullness of mind they play the same part among philosophers as drones among bees. When I weighed these considerations, the scorn which I had reason to fear on account of the novelty and unconventionality of my opinion almost induced me to abandon completely the work which I had undertaken…

However, in order that the educated and uneducated alike may see that I do not run away from the judgement of anybody at all, I have preferred dedicating my studies to Your Holiness rather than to anyone else. For even in this very remote comer of the earth where I live you are considered the highest authority by virtue of the loftiness of your office and your love for all literature and astronomy too. Hence by your prestige and judgement you can easily suppress calumnious attacks although, as the proverb has it, there is no remedy for a backbite.[31]

While Copernicus's revolution, which placed the Sun rather than the Earth at the center of the universe (heliocentric over geocentric), was contradictory to the established order of things, the general scale of observation, his deferment to the gatekeepers of the mythologies of the day enabled him at least to continue on in his work. But so too at this time does the violence among the species increase. The "us-verse-them" mentality sinks in as we slowly come to confront the first finitude of space, when we come to understand

[31] The translation quoted above is taken from the web archives of http://www.webexhibits.org/calendars/year-text-Copernicus.html; however, it is also reprinted in the collection *On the Shoulders of Giants* (2002), edited by Stephen Hawking, from which all other quotations used in this text are taken.

that if Earth is a circle that we can traverse, then the land on which we live has a knowable limit; the geometric measures of the planet can be determined and we can know its exact limit. Fear of the other, fear of the finitude of space, fear ultimately of our own species, transforms our reality, as violence, warfare, and power, take on new and deadlier forms as we wish to protect these now scarce lands from others who may take them from us.

It takes well over a thousand years of living under the theoretical fiction of Ptolemy before its claims to the possible are denied by the new theoretical fiction of Copernicus. However, what greatly boosts the success of this challenge is that the new story could be told using different languages. Not only under the domination of the symbols of words (i.e. in language as geo-cultural artifact), but so too that of numbers coincided in this new fiction as these rhythms of nature found a harmony between the languages of words and that of mathematics. The floodgates were soon unleashed and the generation that followed Copernicus included two other revolutionaries in spatial thinking, Galileo Galilei (1564-1642) and Johannes Kepler (1571-1630). With this new fiction came a destabilization of the way of things, if Earth was not the center of the universe, did it not call into question the perfection of the divine and the harmony of our narrative of spatial rhythm? Does it not call into question what we can trust with our own eyes, and thus the scale of the human vantage point? And if mathematics was the language of harmony, was it not the language of God, the creator of said harmony that fractured its own tale? In spite of what the possible said, backed up with the probability

of the numbers, in 1616 the Church issued an edict[32] that declared the heliocentric model and the motion of the Earth as heretical to church doctrine.

While Copernicus enjoyed a small portion of protection under the power of the Catholic Church, they did not accept his model without question as the edict indicates, but this was especially so in light of the Protestant Reformation that had begun in 1517 with Martin Luther's (1483-1546) *95 Theses*, published less than 20 years before the completion of Copernicus' work. Already the Church was under attack from those who had deemed it too worldly, and now here was a theory of the universe that again challenged the traditional interpretations of the Bible that had stood for centuries. Copernicus faced challenges from Protestants and from Catholics, even with some papal sympathy, because the fictions of space had grown in such power as to be represented by the largest institution in history, and this institution's power was threatened by the heliocentric model. Reeling from this great rupture in Christendom, the Catholic Church handled the subsequent insistence on the truth of the heliocentric model by Galileo with a vengeance. At the age of seventy, after he had published a fictional dialogue between defenders of Ptolemy and defenders of Copernicus, in which he took the side of Copernicus as Truth, he was called before the Inquisition for heresy. If the powerful hold

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[32] "Consultant's Report on Copernicanism (24 February 1616)
Assessment made at the Holy Office, Rome, Wednesday, 24 February 1616, in the presence of the Father Theologians signed below.
Proposition to be assessed:
(1) The sun is the center of the world and completely devoid of local motion.
Assessment: All said that this proposition is foolish and absurd in philosophy, and formally heretical since it explicitly contradicts many places the sense of Holy Scripture, according to the literal meaning of the words and according to the common interpretation and understanding of the Holy Fathers and the doctors of theology.
(2) The earth is not the center of the world, nor motionless, but it moves as a whole and also with diurnal motion.
Assessment: All said that this proposition receives the same judgement in philosophy and that in regard to theological truth it is at least errouneous in faith *(sic)*." (http://www1.umn.edu/ships/galileo/library/1616docs.htm)

that our mythologies have on us is in question, it should be clearly illustrated by the result of this trial when Galileo was forced to pen the following:

> *I swear that I have always believed, I believe now, and with God's help I will in the future believe all which the Holy Catholic and Apostolic Church doth hold, preach, and teach.*
> *But since I, after having been admonished by this Holy Office entirely to abandon the false opinion that the sun was the centre of the universe and immovable, and the earth was not the center of the same and that it moved, and that I was neither to hold, defend, nor teach in any manner whatsoever, either orally or in writing, the said false doctrine; and after having received notification that the said doctrine is contrary to Holy Writ, I did write and cause to be printed a book in which I treat of the said already condemned doctrine, and bring forward arguments of much efficacy in its favour, without arriving at any solution: I have been judged vehemently suspected of heresy, that is, of having held and believed that the sun is the centre of the universe and immovable, and that the earth is not the centre of the same, and that it does move…*
> *I also swear and promise to adopt and observe any penances which have been or may be by this Holy Office imposed on me.* Hawking 2002:392.

Here we bear witness to exactly how that problematic mental faculty of the human species, *common sense*, acts a limiting factor when our concept of space changes. Kepler's work was equally unsettling to church doctrine, although he avoided most of the problems that Galileo faced by insisting that he was uncovering the why of God's creation. Kepler demonstrated three laws of planetary motion that reinforced Copernicus's ideas. The first of which was the most startling in that it predicted how the planets moved along their orbit, not in the perfect shape of the circle as assumed, but rather in the shape of an elliptical. He also expounded on the effects of parallax, a revolution in understanding why we cannot take things just as we see them because of their relational perspectives[33]. If things are just as we see them, then such ideas as a decentered earth are heretical; but, if we scale the fractal ladder and assume new

[33] While there are many texts in the physical sciences that expound on this concept, Slavoj Žižek (2006) has illustrated the usefulness of incorporating the concept of parallax in social theories as well.

positions the melody changes and our place in the rhythm of the universe is retuned. It took until 1979, nearly 350 years, before Pope John Paul II asked the Church to revisit the judgment on Galileo, and it was not until 1992 that the commission's conclusion was endorsed by the pope (Hawking 2002:398). The social transformation had already occurred long before because this model found merit in the growing institution of science that thrived in the economic and political spheres, but the old fictions linger.[34] In spite of its uneven deployment, the decentering of earth is only the foreshadowing event for the current decentering of the human.

* * *

In the nearly five hundred years since the Copernican revolution in spatial understanding, the forces of politics, religion, and especially economics, have undergone significant transformations along the side of further advances in the theoretical fictions of space that dictate our place in the universe; ultimately the combined totality of these transformations make up the reality of our species that is our object of study. Isaac Newton (1643-1727) and Albert Einstein (1879-1955), to mention only some of the biggest names working on these issues, pushed the boundaries beyond anything Copernicus could dream with the tools available to him. Newton invented a new language within mathematics, calculus, to express ideas that required new tools to understand. The space that once expanded, now began to collapse around us. Einstein then destabilized our observations yet again, with his theory of relativity which demonstrated that space contracts as time dilates. The two concepts could no longer be

[34] In a fractal reality, it should come as no surprise that even today The Flat Earth Society still boasts members who follow the old fictions, those that have passed beyond the threshold of theoretical fiction into mere fiction. (http://theflatearthsociety.org/)

thought of as separate phenomena, but merged into one condensate. What remained consistent was light, the sole constant in relational observations. As space collapsed, God seemed to whither; as if, the constant of light was the demonstration of divine inconsistence, and the foreshadowing of divine disappearance. Transportation technologies advanced with the goal of faster and faster speeds: space collapsing into time. Land and water transport mastered, our sights returned to the skies and we set our aim for the space around earth. Flight is mastered, and then we do what our ancestors did when they saw those daunting and vast oceans. We look to "outer space", an anachronistic term that clings to the central role of our planet as "inner space", and we send our first ships out into the new unknown. Cartography set itself the task of mapping the known world, and it was indeed known, for it was determined to be self-contained, like a terrarium, a single sphere that could be witnessed in its entirety. But it is not until 1946 that the first rocket escapes the pull of earth's gravity far enough to take a photo of our planet, and it is not until 1972 that we get the widely circulated color photograph, called The Blue Marble (*see fig. 2.1*), that shows the earth in its entirety as a sphere. By 1990, thanks to a request by Carl Sagan (1934-1996) the astronomer beloved by many for his ability to communicate to the masses the scales at which science operates, NASA took a photograph of planet earth from the vantage point of our first technological explorer to escape the pull of the sun: the technological star of our solar system, Voyage 1 (s*ee fig 2.2*).

Figure 2.2: The Blue Marble (Credit NASA/Apollo 17 crew, December 7, 1972)

Figure 2.1: Pale Blue Dot, by Voyager 1 (Credit: NASA - Visible Earth, 1990

What is so terrifying about this image? Earth, once a great flatland, so too disappears as the dimensions are scaled; a pale blue dot vanishing in an ocean of space. And beyond the sun, other solar systems; and beyond the galaxy, other galaxies; and beyond the galaxies, other superclusters[35]; and beyond the superclusters, perhaps cosmic bubbles in a multiverse; and beyond the cosmic bubbles… All that is human reaches a vanishing point and is erased as the light fades along the fractal scale; all of the accumulated history, all the fictions forming our anchor, slips away and relational orientations become truly subjective as the universe unfolds. The success of the cartographic project culminates in virtual simulation programs like Google Earth, and real-time digital projections of particular spaces, which let us explore the whole planet

[35] As was published recently in the prestigious science journal, Nature, astronomers have now labeled the supercluster in which we are currently located, Laniakea, expanding our cosmic address (Tully, et al. 2014).

(and so too other planets, real and imagined) from the safety of our homes by subtracting the physicality of space into the frictionless realm of pure speed and image. This real-time simulation of horizontal space represents the moment in which we collapse in on ourselves, faced with our own finitude at the click of a button. As we increase the speed of access in the finitude of earth-space, our need to move our bodies physically decreases. The machines move faster and faster, as the humans move slower and slower. Machines construct a hyper-rhythm eclipsing the physical boundaries limiting the accessible rhythms of biological life forms; their very being is entangled with the desire to explore their spaces of access. Speed flows in both directions and the rhythm of reality distorts and pulls us in equally opposing directions, as the dromological dimension pushes us to explore the only spaces that remain unsaturated: those vertical spaces of the nonhuman.

Space on this planet is accessible to more of our species than ever before, but a greater number of the species stay in and shut out the external world more than ever before. A social transformation in space and belief leads to a questioning of who and what we are as a species. Our eyes turn to the unknown and the invisible, we turn our gaze out to the other planets and spaces at the moment when the inward gaze reaches degree zero: subjects who have reached their zero-dimension meet up with those who are coming to realize that they are fractal subjects. Previous explorations required the revolution in the transformation of external nature, explorations of new spaces are trigging the transformation of internal nature, the human itself. The mythological explanations lose more and more of their power over the natural world and are shunted to the moral, psychological, and social realms; they do not disappear, for they continue to fill a function in society as they help the species cope with its own disappearance and

mortality. The myth of reappearance and salvation takes on an even more urgent tone as they are the last threshold of the sacred that technology has yet to consume. The fact is that we still die; we have mastered the tools of creating death, it is life that eludes us locked away in the encryption algorithms of nature. And the technological myths of life extension, even those like the 2045 Initiative (backed by Russian billionaire capitalist Dmitry Itskov) exploring mind-uploading, seem untrustworthy because they are encroaching on that last realm of the sacred: mortality and its accursed twin, generational obsolescence. Distrust of the new technological myths of life, and their relegation to the status of mere fictions, is inextricably linked to the disorientation of space that has been deprived of the sacred and this is because the rhythm of the sacred betrayed our spatial sensibilities. Those who cling to that last bastion of the sacred are increasingly defending it with a violence that is as disdainful of the human as the system they fight against.

Private corporations begin to explore "outer space," with projects like Mars One that play off of these conflicting desires and plan to fulfill them both. To those who want to reach new spaces they are planning a colony on Mars, and for those who remain, they can turn ever more inward to private spaces because they plan to televise the event! German newspaper Der Spiegel, is already calling it "The Ultimate Reality Show," a contest that received some 200,000 initial applications that were narrowed down to "704 candidates [who] say they are prepared to leave Earth forever" (Dworschak 2014). The irony of course is that this new version of exploration is playing at depth with surface, at the vertical with the fading horizontal. On the one hand, the metaphysical implications of our species leaving planet earth represent a challenge to some of the deepest held ontological beliefs in human history. On the other hand, the company leading the way is

a representative of pure surface image construction; an artifact of a postmodern society constructing a posthuman reality. Mars One is only a brand and an image[36], producing cinematic realities for those coping with the finitude of human space. The real work is outsourced to relics of modern industrialism, whereas, Mars One, in its postmodern glory, only handles the fictions sold to the picnoleptic masses; their concern is ratings. Success will be good for ratings; so will failure; one can already imagine the world glued to the screen as the season finale ends on a cliffhanger trope, with real lives in the balance. "The picnoleptic experiences first-hand the breakup of space and time in the vision process thereby having a quite different sense of the world" (Cook 2003); this is the subject that can no longer plug into the rhythms of a singular space, disorienting as they are in the state of polar inertia on a claustrophobic planet (Virilio [1990]2000). Like the humans of old, left to either believe what they saw, a flat earth, or believe in what they were told, a round globe, we viewers will be left to wonder if this is all just a simulation inside a movie studio, or if the images we will see are actually from brave new worlds. Either way, the story will alter the human by shifting the rhythm of space and belief in ways hitherto unknown, for the simulated image is the more real than real and the disorientation is absolute.

This move to new spaces is simultaneously pushed by the economic dimension ever since capitalism began to confront its physical boundaries in light of the dwindling resources in this finite space. These resources are now calculated with ever increasing exactitude and they morph from physical materials into temporal countdowns. One can

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[36] From the Mars One website: "Mars One is not an aerospace company and will not manufacture mission hardware." (http://www.mars-one.com/mission/the-technology#sthash.PWLev1f5.dpuf)

hardly imagine that capitalism will be up to the task, since it accelerated the finitude of human space in the first place, but capitalism's strength has always been in its flexibility, which includes the ability to utterly disregard the human as a species that has more complex needs than survival in the present. Private companies, like Planetary Resources and Space Exploration Technologies Corporation (SpaceX), are planning missions to mine resources from off world to extend capitalism's life. This is no longer science fiction, this is the new theoretical possibility backed by billionaire capitalists, the new fiction that seeks recognition and acknowledgement in reality; whether that reality is cinematic in origin or physical. So far, sociology has kept its eyes on the ground, as if pulled by earth's gravity to the space of the human. But these spaces, they are no longer the spaces of natural humans and the agents exploring them are no longer entirely biological, because "the center of the universe is no longer the geocentric earth or the anthropocentric human" (Virilio [1984] 2012:66). These are the spaces of our mechanical children: the new other that is pushing us into the posthuman future. The combined offspring of ourselves and our progeny are mechanthropomorphic cyborgs, of a scale of complexity that stretches from our technological prosthetics, like cell phones and tablets, to fully automated and remote controlled drones, the wireless appendages of swarm beings.

While on the one extreme we look to off-world spaces, on the other extreme we look ever closer at what is below and within our own spatiality. We look to the small and the infinitesimal for answers, but what we find is the most disorienting of all; this is knowledge of our mortality, exposed in the words of the poet Paul Valéry above, that makes the loss of absolute origin the unbearable burden of a species unborn, a story

finished before it ever begins in any universal sense. This reality is not one of singular spaces and spatial distinction—i.e. the city, the nation-state, or the globalized conglomerate of capitalism as totality—it is a space in which all of these things, and those nonhuman spaces above and below, make up one blurred whole. We see a fractal reality, a reality where we not only morph nature with known and unknown consequences, but one in which permanence is lost, one where we disappear in the process of the morphological transition. Here in lies the morphological gap, where "speed finally allows us to close the gap between physics and metaphysics" (Virilio [1984] 2012:91), or if not close it, than at least reopen debates on the possible that were previously closed off by the limits of nature.

The image of this fractal reality is best illustrated by the theorist of the fractal, Benoit Mandelbrot (1975):

> *Mais qu'est-ce donc exactement qu'une dimension physique effective? C'est là une notion intuitive, qui remonte à un état archaïque de la géométrie grecque, mais qui mérite d'être reprise, élaborée et remise à l'honneur. Elle se rapporte aux relations entre* figures *et* objets*, le premier terme dénotant des données de réel. Dans cette perspective, une petite boule, un voile ou un fil – aussi fins soient-ils – devraient être représentés par des figures tridimensionnelles, au même titre qu'une grosse boule.*
>
> *Mais, en fait, tout physicien sait qu'il faut procéder différemment. Il est bien plus utile de considérer que si un voile, un fil ou une boule, sont suffisamment fin, leurs dimensions sont plus proches (respectivement) des dimensions 2, 1 et 0.*
>
> *Précisons la deuxième assertion ci-dessus: elle exprime que ni les theories relatives à la boule, ni celles relatives à la ligne ideal ne décrivent un fil de façon complete. Dans les deux cas, il faut introduire des "termes correctifs" et il est certain que l'on va préférer le modèle géométrique qui exige le moins de corrections. Lorsqu'on a de la chance, ces corrections sont tells que, même si on les omet, le modèle continue de donner une bonne idée de ce que l'on étudie. En d'autres termes, la dimension physique a inévitablement une base pagmatique, donc subjective. Elle est affaire de degré de resolution.*

Comme confirmation, montrons qu'une pelote de 10 cm de diamètre, faite de fil de 1 mm de diamètre, possède, de façon en quelque sorte latente, plusieurs dimensions effectives distinctes. Au degré de résolution de 10 mm, c'est un ensemble de fils, donc une figure unidimensionnelle. Au degré de resolution de 0,1 mm, chaque fil deviant une sorte de colonne, et le tout redevient tridimensionnel. Au degré de resolution de 0,01 mm, chaque colonne se résout en fibres filiformes, et le tout redevient unidimensionnel. À un niveau plus poussé d'analyse, la pelote se représente par un nombre fini d'atomes ponctuels, et le tout redevient zero-dimensionnel. Et ainsi de suite: la valeur de la dimension ne cesse de sautiller![37] (P. 13-14)

Here is the final rhythm to add to our complex story of space. Paul Virilio calls this the lost dimension, or the critical space, because it is here in these spaces ignored by the presentist social sciences where the work of a critical fatal theory must be done. It is here where the rhythm of space, established so long ago, disappears in the noise of paradoxical realities. A thing that is itself only in the many ways that it is never what it seems. Our stories have proliferated in the age of cinematic resolution and undone their own power by following the fractal reality to its limits[38] without ever being able to see the trans-dimensional complexity in its entirety; which would require a fifth-dimensional

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[37] This passage has been translated into English in Paul Virilio's *The Lost Dimension* ([1984]2012):
"What exactly is a physical dimension? It is an intuitive notion that seems to have originated with ancient Greek geometry. It deals with relations between figures and objects, the first term necessarily concerning mathematical idealizations, while the latter deals with real data and facts. From this perspective, objects, even the tiniest ball of the sheerest veil or the finest thread, must be represented by three dimensional figures, in the exact same manner as a large, coarse ball. But in fact, every physicist knows that we must proceed differently, and that it is more useful to think that the veil, the thread, or the ball, if they are sufficiently fine, are respectively closer to the second, first, and zero dimensions (we note here the practical usefulness of the account of the large, of the gross as of the small, stories connected to the anthropomorphic characteristics of the observer). In other words, the physical dimension inevitably has a pragmatic, and hence subjective, base: *it concerns the degree of resolution*. As confirmation, remember that a complex object, such as a ball of thread 10 cm in diameter and made up of thread that is 1 mm in diameter, possesses in a somewhat latent manner many distinct physical dimensions. At the 10-centimeter degree of resolution, it is a ball and thus a three-dimensional figure. At the 1-centimeter degree of resolution, it is a construction of threads, and thus a one-dimensional figure. At the 0.1 mm degree of resolution, each thread becomes a kind of column, and the whole becomes again a three-dimensional figure. At the 0.01 mm degree of resolution, each column dissolves into filiform fibers and the whole is once again a uni-dimensional figure, and thus we see the determination of the dimension continuously jumping around. At a certain level of analysis, the ball of thread is represented as a finite number of infinitesimally small atoms, and the whole once more is zero-dimensional" (p. 78-79).

[38] These limits are of course only to be understood in an illusory sense. The fractal is limited by techno-historical circumstance, not an absolute boundary of the real; a boundary that remains unknown in thought because it is still unknown in material reality. The limit is the human perspective and scale of access; the twin delimiters of thought and material transformations.

vantage point to see outside of space and time. The world now exists on a screen in a way that is more real than the real outside the window, and in higher resolution with sharper colors and edges. The rhythm of the everyday moves at speeds beyond the human, in the cinematic speed of light. Communications and transportation are in an all-out war to remove the barrier of time, the last barrier in space. God is trapped in the simulation of our imagined spaces; another character in another uninspired televised event, made even more unreal by this turn to the profane reality of the cinematic: the sacred betrayed by its own defenders. This technologization process that coincides with the exploration of space represents a real transformation in our species-being, occurring in a space within a space. As Virilio (2008) surmised it, "we have passed from the real to the virtual. We have passed from the geophysics of materials and their resistance to the virtuality of the internet" (p. 57). A fictional expansion in the directionality of frictionless space is to push the fictional claims of Vaihinger to the limits of the 'as if' and is to introduce the concept of epi-spaces. Epi-spaces are those spaces beyond the scale of human sensibilities (in the natural sense); once the horizontal plane collapses in on a gravitation center our eyes are forced not in an up/down binary but in the verticality of a fractal scale to spaces that must be reached through the technological appendage or to those that are artificially manipulated; that is, they are either located through our fictional devices, or they are the product of our fictional projections. The infinitesimal with biological implications, the virtual with quasi-transcendent implications, and the exterior spaces beyond the pull of planet earth with universal implications. To the many young people in cultures of advanced modernization who have never known a life without the technological prosthesis, it would perhaps not seem so strange to jump right

into the cosmic space of the universe and the infinitesimal spaces of the virtual and the cyborg, to be comfortable with the disappearance of our dimensional existence. But to most, the jump is perceived as something unnatural, as antithetical to the species-being of the human.

We are now looking back on the end of the human, still in the stages of denial as our subliminal drive toward euthanasia reaches the level of self-sufficiency and autopoiesis. Here within this tension, regardless of whether those who cling on to the human or those who toss it aside are proven correct or not historically, the human itself is ruptured by this very debate. We will examine this process in the next chapter, but before that this chapter will conclude with an accounting of the transformations in the modern world which coincide with these physical transformations in space. What is established in the preceding narrative is the disorienting shift in the rhythms of physical space and "it is by considering the whole entity [of human space: Earth] that we could perceive what is essential, the way everything moves, the living aspect, the fleeting moment when society, or men, become sentimentally aware of themselves and of their situation in relation to others" (Mauss [1950]1990:80). The shift from an understood rhythm of space to one that eclipses the scale of the human, only could occur with the aid of a technological transformation of the world, and this transformation occurred gradually as illustrated on a geological timescale. Now that the transformation has reached the level of ubiquity with the whole planet residing under our virtual thumb and sharing one contaminated environment, our timescale is no longer geodesic in nature, it is technologic and artificially made; it is of fictional origins. This technological time is the time of speed, of the racetrack, the *dromos* of a dromological diagnosis of the horizontal collapse of human

space. Space is no longer transformed merely at the hands of nature, it is produced by the appendages of humans and nonhumans. While the transformations of "social" space can never be fully analyzed on their own because of the many continuities linking them to the transformation of physical space, by switching our focus even slightly, our diagnosis of the present is enriched because of the few obvious differences. Particularly it is notable that the fictions of physical space have not changed physical space as such, although it too is always in a process of becoming other (as demonstrated by continental drift on a planetary scale, and stellar death and birth on a galactic scale). What they have changed is the perception, construction, and production (very much in the cinematic sense as well) of "social" space, or more accurately the space of interactions between human and nonhuman actors which operate on this decidedly different timescale. We can now fashion an answer to the question posed of Alice in Chapter 1. As space changes, we change the possible conceptions of our selves; as we change, our conceptions of the possible within and of space also changes.

World-With and World-Without (-Us)

> *This time, it is in order to join with the forces of the future, cosmic forces. One launches forth, hazards an improvisation. But to improvise is to join with the World, or meld with it. One ventures from home on the thread of a tune. Along sonorous, gestural, motor lines that mark the customary path of a child and graft themselves onto or begin to bud "lines of drift" with different loops, knots, speeds, movements, gestures, and sonorities.*
>
> *These are not three successive movements in an evolution. They are three aspects of a single thing, the Refrain (ritournelle). They are found in tales (both horror stories and fairy tales), and in lieder as well. The refrain has all three aspects, it makes them simultaneous or mixes them: sometimes, sometimes, sometimes. Sometimes chaos is an immense black hole in which one endeavors to fix a fragile point as a center. Sometimes one organizes around that point a calm*

and stable "pace" (rather than a form): the black hole has become a home. Sometimes one grafts onto that pace a breakaway from the black hole.

- *Gilles Deleuze and Fèlix Guattari, A Thousand Plateaus ([1980]1987)*

I would propose that horror be understood not as dealing with human fear in a human world (the world-for-us), but that horror be understood as being about the limits of the human as it confronts a world that is not just a World, and not just the Earth, but also a Planet (the world-without-us). This also means that horror is not simply about fear, but instead about the enigmatic thought of the unknown.

- *Eugene Thacker, In the Dust of this Planet (2011)*

If we are to posit sociology as a possible bridge between the more empirically minded natural sciences and the more speculative humanist disciplines (both topically and by inclusion within the sociological object of study), then we must acknowledge space as an elevated concept which crosses over and enables such a bridging to occur. Even between the physicians and metaphysicians there has frequently been a congruency in argument. Newton, for example, distinguishes between absolute space and relative space, with the former representing that which is immovable and has no externality, and the latter that which coagulates as matter and form while being within a movable dimension. Kant, Newton's metaphysical other, challenges the empirical determination of space. However, when he writes that "we can represent to ourselves only one space; and if we speak of diverse spaces we mean thereby only parts of one and the same unique space" ([1781/1787]2007:A25/B39/69) he is speaking of this same notion, simply pointing out how relative and absolute space are inseparable, or in other words, impossible to comprehend without one being equally determined by the other. The point is that it is only through the deployment of these conceptual fictions that we are able to

distinguish objects from each other in order to exhaust particular spaces from Space as such. The distinction between their approaches is not merely one of empiricism vs. idealism, but rather on the one hand Newton is interested in knowing and Kant is interested in how we can accomplish this knowing. In the basest sense there is a division of labor here, in which Kant's epistemological project represented a proximity between physics and *meta*physics that has eroded through the 20th and 21st centuries as the probabilistic claims of an experimentally driven physics[39] has cannibalized the zones of possibility available for metaphysical investigations which consist predominantly of logico-rational language games. Space, is according to David Harvey (2006), a keyword in our disciplines in part because it is influenced by a series of modifiers which extend and limit its scope; for instance, "we write of 'material', 'metaphorical', 'liminal', 'personal', 'social', and 'psychic' space" (p. 270) in order to contextualize the implications of the spatial object. In spite of the linguistic versatility and disciplinary fluidity, sociology entered the spatial discussion much later than its disciplinary relatives. And true to the major currents of 20th century critical social thought it was through a Marxian analysis—as a thematic of research that reconceptualized nature (as the object of physics) and reason (as an object of metaphysics) in light of socio-historical circumstances—that space made what is still a limited inroad into sociology. Space was

[39] Heidegger (1977) explains this shift to an experimentally driven physics thusly: "Modern physics is not experimental physics because it applies apparatus to the questioning of nature. Rather the reverse is true. Because physics, indeed already as pure theory, sets nature up to exhibit itself as a coherence of forces calculable in advance, it therefore orders experiments precisely for the purpose of asking whether and how nature reports itself when set up in this way" (p. 21). The implication, then, is that it was the success of the metaphysical model that triggered its own demise; in other words, it was not the advance of physics that cannibalized metaphysics, but rather it was the success of the metaphysical accounting that led to the abandonment of its methodology and synthetic relationship with physics. This is likewise an example of the logic of the unborn; metaphysics is not killed, it does not die, rather it set up the conditions for its own disappearance.

and continues to be the guiding principle of geography in the social sciences. However, as the division of labor between disciplines blurred in the 20th century, and geography shifted to remain relevant in a world of real-time cartographic mapping and rather concretized notions of nation-states and borders, their foray into "human" geography looks more and more like an arbitrary distinction from sociology as both largely agree on insisting that we must focus and conceptualize the world-with-us as opposed to the world-without-us. Yet outside of the dwindling study of political economy, mainstream sociology has largely allowed the division between the disciplines to remain, distancing itself in the mainstream power structure ever more from non-quantitative analyses and diagnoses.

Deleuze and Guattari's metaphorical language above well illustrates the shifting concerns in spatial studies in the late 20th century, those which are at their core sociological even when they come from geography, anthropology, or cultural philosophy, because they are all addressing in various ways the dimension of what sociologist Henri Lefebvre ([1974]1991) termed *the production of space*. The production of space is a spatial conception that must find its origins in the conception of the world-with-us, as the human actant originates the technological other, projecting from fictional conception to material transformation, in the chain of production. In light of the post-World War II spread of capitalist ideology across the globe, scholars increasingly came to interrogate Marx's analysis of capitalism with a large emphasis on these modes of production (and in other strands of thought that are equally important, on the modes of consumption). Reeling from the knowledge of the eruption of horrors that counterbalanced modern progress in capitalism with the destruction of non-congruent systems of thought using the

most brutal tools of warfare ever unleashed in human history, a rethinking of the social possibilities and potentialities became more urgent and critical to the mind of modern humans than ever before. A certain strain of Marx's thought bloomed in the Situationist International movement from 1957 to 1972, led at least theoretically by Guy Debord ([1967]1995) who famously proclaimed that, "The capitalist production system has unified space, breaking down the boundaries between one society and the next" (p. 120). This unification of space was (and remains), however, never a concretized and completed project so long as blisters of discontent bubble up in modes of thought that are antithetical to the project of modernity.

For all of capitalism's disciplinary might, the human remains at its core greatly predictable, true, but always so long as we retain a belief in the theoretical-fiction of free will, an ultimately unknown variable. Thus Debord's theory held that situations could be triggered by the production of specific spaces that encouraged the social encounter and perhaps could lead to new imaginative possibilities for societal organization. The idea, therefore, is that humans could be forced into situations in which unknown possibilities could spawn, and as a byproduct of modernity its central thesis is related primarily to the urban zone, and therefore secondarily to the practice of architecture, urban planning, and civil engineering. We may think of capitalism as the chaotic black hole that tries to "fix a fragile point as a center;" the center is the globe, the finitude of human space, and on another fractal scale it assumes the shape of the city. The implication, however, in the situationist critique was that space is manipulable not just for capitalist interests, but so to for socially constructed zones of resistance to the increasingly normalized and totalized space of capital induced alienation. An example of this in action is the current rise of the

Islamist organization Al-Dawla Al-Islamiya fi al-Iraq wa al-Sham (ISIL) who construct forced urban (even when the urban zone is the rubble aftermath of missile strikes and is made up of shell-shocked actants) and virtual (social media) encounters, or postmodern 'situations' of terror, which challenge modernity while at the same time being contingent on the modernist systems of cities and networks. The intention of situationism was not to counter modern capitalism with religious fundamentalism but to challenge it on its own terms with a new politic. However, the ISIL example illustrates just how much the directionality of the theoretical thrust depends on the space and socio-historical context, and equally so on the level of cacophony that a challenging rhythm must present to interrupt the multi-layered symphonic rhythm of modernity and capitalism. Space is only the most visible of these contexts that places limits on available actions because it has received the most attention from the most varied perspectives making it the most understood and manipulable.

Lefebvre's contribution attempts to exhaust the questions surrounding the potentiality for the direction of spatial resistance. Foremost, leaving behind Kantian notions of absolute space which sets up an "antagonism between full and empty" ([1974]1991:49), he turns to the mode of Marxian critique and makes a move from abstract labor to abstract space. "This abstract space took over from historical space" (p. 49), by dint of the commodification of everything, in which the signified/signifier relationship of spatial objects—that is, material objects—came to lose historical meaning and embody a functionalist and utilitarian meaning of pure use value in the capitalist chain of production. The introduction of this 'social' space to spatial studies transforms the temporality of space from the geologic to that of 24/7 clock time, the time of

capitalism. Playing the dialectician, Lefebrve interrogates whether "this space could be defined in terms of a reifying alienation" that seems all the more apparent in light of "the silence of the users of this space" (p. 50-51) who seem to embrace their alienation. On the one hand he concludes that "the reproduction of the social relations of this space inevitably obeys two tendencies: the dissolution of the old relations on the one hand and the generation of old relations on the other. Thus, despite – or rather because of – its negativity, absolute space carries within itself the seeds of a new kind of space," which he terms, "differential space" (p. 52)[40]. The problem in finding this space, on the other hand, circles back in his exposition to the silence of the users, which he labels as the "*entire* problem," and as a result calls for a theory that would "transcend representational space on the one hand and representations of space on the other, and which would be able to properly articulate contradictions" (p. 365). Debord had already picked up on this problem of silence because "this society eliminates geographical distance only to reap distance internally in the form of spectacular separation" ([1967]1995:120). Space opens itself up as we begin to close ourselves off, not in any naturalistic sense, but according to the power of the artificial system dictating our actions. In other words, as external space collapses in time through the modes of transportation and communication, internal space expands with the proliferation of modes of individualistic and non-social situations; for

[40] Much more work is needed to fully understand the implications of this 'differential space' as Lefebvre never fully exhausts his meaning of the term. However, he does use Picasso's painting as an example of 'differential space,' saying, "Picasso's space *heralded* the space of modernity. What we find in Picasso is an unreservedly visualized space, a dictatorship of the eye – and of the phallus…carried to the point of self-parody – and even on occasion to the point of self-criticism. Yet this space cannot refer to itself – cannot acknowledge or admit its own character – without falling into self-denunciation. And Picasso, because he is a great and genuine artist, an artist who made of art an all-consuming fire, inevitably glimpsed the coming dialectical transformation of space and prepared the ground for it; by discovering and disclosing the contradictions of a fragmented space – contradictions which reside in him, and in all his works whether given form or not – the painter thus bore witness to the emergence of another space, a space not fragmented but differential in character" (p. 302). This differential conception paves the way for the fractal conception, in which difference constructs a new rhythm that erases the fragmented preconception.

example, those of the cubicle and the screen. This and other contradictions are based on the socio-political organizations of space, and if capitalism is the black hole pulling space into a pseudo-totality, then capitalism remains at the root of the problem in executing spatialized social resistances by controlling and hindering the ability to construct linguistic alternatives that could aid in the articulation of its contradictions. What is needed to challenge its ubiquity is disallowed by the systematic requirements for mere survival under the terms of its 'user agreement'; that is to suggest that as fragmented space becomes differential space its transformative power is vampirically consumed by the space of the dominant system and is neutered in the process. In spite of this present paradox, space retains some primacy as the key to unlocking any potential solution because all such actions must by necessity occur in the space claimed by the organizational system enacting its power of translation on our world of objects. This is of course dependent on our never finding a suitable alternative space that escapes the dromological condition of planet earth and allows for action beyond the grip of capital's reach.

Predicting the need for a fractal theory of space (which implies the contingent fractal theory of the human of which this text is only a preliminary step in the direction of) Lefebvre recognized that space does not disappear, even as new spaces and conceptions appear; the space of spaces simply gets crowded. Even as capitalism has organized around the global space of earth and found "a calm and stable 'pace'…[where]: the black hole has become a home" the previous concepts of space as nature and the stories of a pre-commodified reality remain with us. One need only look to the fictions of alternative spaces, which often still harken back to romantic and non-

utilitarian notions of space, to see that the ideas remain even if the material conditions are not suitable for a return to their dominance at the world socio-political level. However, it is equally important to remember that this does not necessarily imply that a future material condition must allow for a remediation of this problematic condition. Where this leads us is not to an abandonment of spatial theory, but rather a call for a fractal conception where "our concern must be with space on a world scale (and indeed – beyond the surface of earth – on the scale of interplanetary space), as well as with all spaces subsidiary to it, at every possible level" (Lefebvre [1974]1991:412). What Lefebvre opened the door for is, oddly enough because of their very different theoretical traditions, echoed in Deleuze and Guattari's notion that one could "graft onto that pace a breakaway from the black hole." A key difference between their approaches is that Lefebvre is clearly thinking of the world-with-us, that is a human oriented reality in which our species forms the central node; whereas D&G's conception is open to the possibility of the world-without-us, which is a reality decentered from the pull of the human as ideal.

Although Lefebvre holds out hope for the human, he was all too aware of the material implications of the system in which he was embedded. He writes,

> it is becoming impossible to escape the notion that nature is being murdered by 'anti-nature' – by abstraction, by signs and images, by discourse, as also by labour and its products. Along with God, nature is dying. 'Humanity' is killing both of them – and perhaps committing suicide in the bargain. ([1974]1991:71)

And the spectacle of capitalism "merely concludes that none of these things matter" (Debord [1988]1998:34), or they do matter but only insofar as their solution plugs into the logic of the commodity-fetish; cue carbon credits, stage left. What further

distinguishes Lefebvre from D&G, is that the latter are keying, not into space, but into the logic of the dromological rhythm of the system which no longer reflects a human rhythm; it is very much related to the evolving understanding of space as illustrated previously in this chapter, however, it also carries with it implications which Lefebvre was hesitant to fully accept until the end of his career. [41]

Lefebvre's limitation to space as the central problem was complicated by the turn away from a belief in a modernist project that failed to predict just how reifying its brand of alienation was, to one which accepted the material conditions and sought not revolutionary antagonisms but realignments in systemic flows which could destabilize the black hole by exhausting its limits and oversaturating its finitudes. That is to suggest that if the silence of the users is concretized by the rhythms of the spatial formations, then the only way out is to overextend their logics and warp the rhythm into a different offshoot that *may* construct a novel organizational rhythm. The need for a less destructive transformation was made concrete in the World Wars with the advance of nuclear armaments which cast all such potentials for spatial 'social' revolutions under the long shadow of total destruction; as both Russian president Vladimir Putin and American president Barak Obama have painfully reminded us during the war of rhetoric that accompanied the Ukrainian crisis of 2014, and as ISIL and its precursor Al-Qaeda have reminded all of us in the West since the start of this millennium. This is all the more important because as Bataille (1991) cogently asks,

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[41] In interview, Paul Virilio (2001), referring to earlier conversations with Henri Lefebvre, recounted: "He said, "I've read *Lost Dimmension*, and I got it." I really wanted to tell him: that's because at some point it was *you* who told us that before space there is time… [W]ith the posthumous publication of his last book, *Elements of Rhythmanalysis* [discussed in the previous section of the present text], he and I were in agreement… [H]e was moving toward "dromology." From the moment you speak of rhythmology, you introduce the question of speed" (p. 40).

> What would be the meaning of a destruction of capitalism that would be at the same time the destruction of capitalism's achievements? Obviously it would be the crudest possible denial of Marx's lucidity. The humanity that would have destroyed the work of the industrial revolution would be the poorest of all time; the memory of recent wealth would finish the job of making that humanity unbearable. (P. 170)

So we have the slow undesirable suicide of humanity in capitalism, a subliminal drive towards euthanasia on the one hand, and on the other hand the knowledge that its violent overthrow would lead in the subsequent material transformation only to a self-aware and acknowledged desire for the termination project to occur with greater haste. While it is true that the issue is a spatial one, the more pressing issue which arises because of the finitude of space is a temporal one; time pushes space to its limit because capitalism holds the space and the lives of all its inhabitants' hostage to the countdown of resources and environmental viability.

This spatio-temporal confrontation, which begins to hint at the world-without-us with ever less subtlety, found its theoretical birth in postmodern conceptions of capitalism coinciding with acute material transformations in the capitalist organization of the most advanced modern countries who intensified the logics behind capitalist organization. This is a capitalism that is now largely viewed as triumphant in light of the collapse of the Soviet Union as the ideological economic other, and has shown itself to be amenable to systems of politics beyond those of Western democracy. David Harvey illustrated how these transformations – which included not only the shifts in transportation from boats, to trains, to automobiles, to planes, rockets, and satellites, and shifts in communication from letter writing, to printing, to telegraph, radio and television, to telephone, e-mail, internet and video conferencing, but so too in art and other cultural artifacts with the birth of new mediums – were reflections of the spread of capital and the

shift in its power zones from industrial manufacturing to financialization. As capital saturated traditional spaces of industry and individual nation-states, it increasingly came to rely on the flexibility afforded by high-speed movements across the globe "giving rise…to a vast surge in so-called 'service-sector' employment" (Harvey 1990:147). These new laborers are those who manage the reactions to capital in the process of continuously exchanging itself for itself in the pure circulation of financial speculation.

The counter side of this transformation was the moving of the base of industry to nation-states that are 'less' modernized. This was only possible in light of the material epiphenomenon he labels as 'time-space compression'. This compression was made possible because "the time horizon of both private and public decision-making have shrunk, while satellite communications and declining transportations costs have made it increasingly possible to spread those decisions immediately over an ever wider and variegated space" (p. 147). This suggests that global space is under the domination of specific geo-political spaces who exert their power of control, not only through military and economic might in the traditional sense, but also through the deployment of ever increasing speed, whereby those who technologically lag behind are always threatened with being left behind in the dust of capital's many flights of fancy. And capitalism has continued to operate this way because the "the flexible technologies and organizational forms have not become hegemonic everywhere" (p. 191). In fact these technologies can never become hegemonic unless collectively they reach their limit and the system undergoes a radical transformation, but regardless of the geo-spatial deployment of the technology, everyone everywhere is pulled by the effects of the spatio-temporal compression which results in the continued deployment of these technologies by the few.

Harvey's analysis illustrates the flexibility that capitalism has achieved at "a high point of that highly problematic intersection of money, time, and space as interlocking elements of social power in the political economy of postmodernity" (p. 298). At the core of this fast paced movement of capital is the introduction of fictitious spaces of capital investment, again tied to the speculation on the future of resources; in other words, through gambling with our own lives by holding the human hostage to itself. It is no wonder that postmodernism latched onto the logic of schizophrenia, when the image of the postmodern actant is one of a hostage who is at the same time the terrorist holding the gun to his own head. He holds himself for ransom and demands salvation of the self from himself, for the postmodern individual has no other power than that illusory one of his own immanent death. This is the permanent anxiety of an atemporal condition arising out of the system's speed, which is no longer the speed of the human and so the human can no longer cope with its relentless demands. The question that asserts itself with ever more urgency is whether our system is in the process of constructing a world-without-us.

Virilio's complementary argument eschews the typical Marxian critique of capitalism for a Clausewitzian diagnosis of a system that is dominated by the tools of warfare: from the phalanx to the drone. This present diagnosis has already made ample use of his logic in the decentering of space as a consequence of speed and the loss of dimensionality (Virilio [1984] 2012; [1990] 2000), further exemplified in his introduction of the concepts of dromology (Virilio [1977] 2006; [1984] 2005) and picnolepsy (Virilio [1980] 2009); the former is the study of the mechanisms and logic through which horizontal space collapses in on itself (time-space compression in Harvey) and the latter is the zoned-out after-effects on a population that reaches pure inertia. As a result we

will not take any more time here to go into the particulars of his corpus but will reserve this space for a few concise points in summation of his contribution.

Virilio's amplification of the centrality of speed to the functioning of the current system pushes our thought to the limits of the possible. Coupled with the loss of dimensionality, the approach of all thought and movement to the speed of light implies an action of disappearance, in which only that which functions in a manner that is relative to the system can maintain a grip on appearance; all else slips into the mode of disappearance. The key here is the shift to mere appearance; that is, the surface radicalism of consumer culture. What disappears is the depth of essence, or aura in a Benjaminian analysis, that which is needed in order to even conceive of the ideal of an achieved humanity. This disappearance is messy and damaging, in order to accomplish it, in order to slip beneath the logic of speed dominating the military-university-industrial complex one must make disappearance into an aesthetic expression and learn it as one learns art; one must learn how to disappear completely, not only in depth but so to in surface appearance. One may think here of Kafka's great short story *A Hunger Artist* (1922), in which a circus performer practices the art of fasting: the slow disappearance through self-denial. What the protagonist comes to recognize is his own anachronism in light of the socio-historical changes; what once was art and beauty sunk out of the rhythm of the day into the reminder of an unseemly past. While there is respect for those who linger in the old ways, there is also the desire to see them disappear so that the onlookers may forget. They do not wish for him to continue, they wish for him to have never been; to have been unborn. This is the condition of what remains of the human today, so caught up in the logic of the dromological system, but unlike many of his contemporaries,

Virilio clings to a liberal theological humanism to avoid the darkest implications of the directionality of the object of his gaze.

Unable to come to grips with the post-apocalypse of human design, Virilio chooses the idealism of past narratives, declaring "this is why I am a Christian" (2008:37). Giving in to the anxieties implied by these new spaces, which he himself helped to create in the Saint-Bernadette church in Nevers, France, with its oblique foundation and illusory nod to the safety of the bunker, he sees no alternative other than apocalypse. But rather than follow a truly modern humanist path, his brand of 'humanism is religious in origin' (Redhead 2004:125), and so too is his ultimate vision of humanity's destiny. His perspective is latently antihumanist as it disciplines the human by imagining the posthuman condition of a new beginning that is transcendental in the spiritual sense and not a Human actualized in a material sense. However, this new beginning does not have technological or logico-rational origins. Rather its origins are that of a normative ideology falling into the trap of emotional-satisfaction-as-legitimation that Vaihinger's professor warned against, by projecting heavenly spiritual rewards only onto believers. It is a post-human reality in the most literal sense requiring a complete transformation of mind, body, *and* soul, and not the materialist mechanthropomorphic image generally associated with the term to which he is clearly opposed and would surely take offense. For Virilio "there is nothing beyond humanity… humanity is terminal, it is the end of God's miracle" (1999:88) outside of Christian doctrine. This limited vision expresses so many of the contentious problems associated with a closed humanist perspective that operates outside of the modernist notion of freedom through a restrictive

logic of exclusionary discourse; and yet, this contradiction continues to proliferate in the many mere fictions floating around the modern world.

Whether secular or based in liberal theology, humanism betrays the arrogance of a creature that has hierarchized life and awarded itself the peak biological position in the universe; not unlike our ancestors who saw the universe from a geocentric perspective. Followers of humanism then proceed to protect the positions they have assigned themselves through often violent displays of power that attempt to discipline our complex reality to fit the narrative. In this way Virilio conceives of the world-without-us by salving the sting of the horror that Eugene Thacker finds in this brand of philosophy. To answer the question first raised in this chapter, it is a poverty of language and imagination which are both constrained by the real, in and of space, just as with the human as we shall see, even when the real is a simulation of itself smudged across the fractally ambiguous scales of space, time, and subjectivity.

* * *

These three theorists all make great strides in the understanding of space; particularly in the descriptive spaces, once socio-political and economic forces begin to dominate the construction of space. Lefebvre, on the one hand, while not going far enough reads the situation dialectically, recognizing that proper orientation and perspective are the theoretical questions that remain unanswered; therein lies the dilemma of the dialectical approach under these particular socio-historical circumstances. Furthermore, having already established a theoretical approach in Chapter 1 which holds onto the unverifiability of these particular brands of salvation (divine and/or humanistic), Theorist does not find Virilio's conclusion (or Harvey's eventual return to a Marxian

infused politics) to be adequate to the task of dealing with a fractal reality made up of fractal subjects, even if the diagnosis is sound. However, the importance of their thought cannot be discounted simply because of a return to the sacred ideal of past narratives. Where Virilio succeeds is in surpassing the three-dimensionality of Lefebvre's Marxian spatial analysis, and the contractions of capital realizing its fluid potential in Harvey's postmodern synthesis of Marxian critique and fragmented space. Virilio largely accomplishes this by forging out a new path that looks under and above capitalism to that which has remained historically constant regardless of the dominant economic paradigm; that is, warfare (both tactical and strategic) and military technology. Incorporating the irrationality of actants fueling the engines and increasing the speed at which we hurtle ever faster to an unknown and perhaps unknowable destination, his dromological read of reality demonstrates where at least one historical ideal is manifesting itself in all aspects of the material world. Granted, even speed is subjected to the whims of capitalism, but it is not as subject to crisis because abstract speed is free of the idealisms of directionality and it is not reliant (although it is greatly aided) by a technological base, unlike the claims of capitalism. But where all of these analyses fall off is in their provocative hinting at the end of the human as the result of the continuation of these irresolvable contradictions, or better yet paradoxes, of modernity, while being unwilling to follow that suicidal logic to its conclusion. The next chapter will attempt to decenter the human along a further fractal scale: a decentering of inner subjective spaces as opposed to the supposedly objective outer spaces of this chapter. Again we must turn to the fictional side of theory to push the possible as far as we can within the confines of its material limitations.

CHAPTER 3
POSTHUMANS IN EPI-SPACE: A V(U)RTUAL/V(U)RTICAL DECENTERING OF THE HUMAN

> *The human world is finally but a hybrid of transgression and prohibition, so that the word* human *always denotes a* system *of contradictory impulses, some depending on those that they neutralize but never entirely eliminate, and others delivering a violence mixed with the certainty of peacefulness that will follow. Hence the word* human *never denotes as simpleminded people imagine, a stabilized position, but rather an apparently precarious equilibrium that distinguishes the human quality. The word man is always connected with an* impossible *combination of movements that destroy one another.*
>
> - *Georges Bataille, The Accursed Share Vol. 3 (1989)*

It is no longer a great shock on the human psyche when one thinks of epi-spaces as legitimate zones of interaction between ourselves and other actants. Encounters in epi-space are generally not seriously confronted and exposed of their sociological and metaphysical import, for they have penetrated the sphere of mundane actions and are as unconsciously habit-driven as scratching an itch. To confront these spaces and the interactions that occur within them is to risk an uncontrollable anxiety. An anxiety that would come from the knowledge that as the social structure makes ever more demands on our time, these demands increasingly occur in epi-spaces and that these epi-spaces demand certain behaviors, require new modes of living according to their needs, and as a result, the time available to meet human needs and engage in social interactions in human spaces decreases. In other words, to confront the world through the posthuman lens is to not only imagine a world-without-us, but is to recognize that the world-without-us is the consequence of the world-with-us. It is to recognize that, so long as we buy into the theoretical fiction of free will and operate according its 'as if' claims, then our agented

actions are what constructed the systemic logic that accelerated the demise of the human while trumpeting the distraction that is the discourse of humanism. It is to admit a failure on the part of the sciences, to admit the greatest misrecognition on behalf of the social sciences, who in their desire to confront the inequalities of the present by controlling the natural world and its inhabitants, sacrificed the human future at the altar of the very systemic forces they imagined themselves to be fighting. The import of their collective contributions evaporates as our everyday rhythms align, through an awareness of universal spatio-temporal rhythms, to the domination of the technological appendage controlling the destiny of the planet while in the process of becoming self-aware.

Epi-spaces are merely absorbed by the unconscious mind, they represent the way that things have always been, not in any conscious and historical sense, but in the sense that the past is transformed into a grotesque animal in these societal configurations; forgotten, unborn, impossible to return to no matter how rational the argument. "The effects of technology do not occur at the level of opinions or concepts, but alter sense ratios or patterns of perception steadily and without any resistance" (McLuhan [1964] 1994:18). The past and its supposed eco-balance is despised for its claim of superiority and longevity. In a society built on disposability, when equality is discovered only in the negation of the subject, when objects reign, all objects, including the human, are disposable. From the viewpoint of the system, the deletion of individual humans weighs on it no more than the deletion of the avatar or the generationally obsolete gadget. We are literally surrounded by epi-space, from the invisible wireless signals that bombard us continuously with virtual realities that require technological access points, to the many lights racing across the universe piercing our tiny sky hinting at a truly universal history

that transcends our limited perspective; the entirety of life on earth is subject to the altered rhythm of the real that occurs within these spaces. While it is obvious that virtual access is contingent on technological mediation, these latter spaces are also dependent on the technological appendage serving as the means of access. As we move into these spaces, our reliance for the future is not found in nature but in the machine, for nature will continue on as a world-without-us (and beyond that as a universe-without-us), but a technological mediation is needed for us to continue to bear witness to the world-with-us, even if it is only the afterimage of the unborn species haunting the digital archive after the transformation is complete. It is not the human of nature, or that of modernity, that visits these spaces as if it is the culmination of some universal human destiny. Rather it is the posthuman—the mechanthropomorphic transformation of the self into the being that can survive the new demands of these spaces—who witnesses them. The cost is a willing alienation, no more of a demand than that made on us by the capitalist world system. From the sublimation of natural human limitations and death onto the omega point of an ever vanishing spiritual realm, to the sublimation of the human of nature onto the omega point of an ever receding physicality approaching the speed of light, the alienation of the self is the definition of modern society. As such, in advanced modern societies at the epicenter of the exploration of epi-space, alienation realizes its full potential by equating the system with nature and the human as the limit to this artificially conceived nature realizing its potential.

Epi-space is perhaps in part the wrong word, for the epi- implies the beyond of a central node, which in this case denotes a centrality of the human and of our space as the starting point. The implication is that all other spaces that lie beyond ours are novel.

This, however, while true from a human perspective, is mere speculation on the universal scale and the empirical validity of such a claim is likely to be as lost to the sands of cosmic time as the certitude of our own origin. For the virtual spaces, the label functions well, because they are artificial and fully constructed spaces; that is, spaces that originated in human minds and through the human actions that birthed them, they truly are beyond the nature of the universe. In spite of the risk, that the idea of epi-space may reclaim a position of human centrality when being applied to trans-planetary and trans-galactic spaces, it is a useful concept in that it bridges the gap between those who hold onto human history and those who are willing to transcend it. In other words, the word is useful for those alive today who are bearing witness to the disappearance of the human. Already ghostlike, the human that remains in this societal configuration cannot escape the effects of this configuration; there is no spatial outlet, no nomadic frontier in which to start anew that can be accessed without reliance on the technologic progeny of this planetary world system.

The species that claims the human title does not move in a single evolutionary direction. Once reality is technologically mediated, differences in the directionality begin to emerge that subdivide the human along not only ideological frames, but also material lines of flight that are both naturally and technologically determined largely by the system but also in part through agented actions. The novelist Jeff Noon provided the framework for conceiving of these differentiations in his novel *Vurt* (1993). It is neither just the vertical spaces of outer and inner (cosmic and infinitesimal) space, nor the virtual spaces of cyberspace, that are exposed as epi-spaces pulling the human and its self-conception in mechanthropomorphic directions, it is both simultaneously. They are

v(u)rtual and v(u)rtical, signifying the fractal subject that composes, experiences, and defines them while being made by them. These fractal subjects, representing the artificial mode of life that arrives 'after the human', just like the spaces they inhabit, follow not only pre- and post- modern thought schemas, but also reopen the Cartesian mind-body dualism problem by placing separate emphasis on the mind, in the spiritual and virtual sense, and on the body by emphasizing the animal and machinic aspects of these possible transfigurations. Before examining these in greater detail and providing a framework for diagnosing the posthuman against the measure of the human, let us examine some of these epi-spaces in greater detail to better understand the need for this mode of thought.

V(u)rtual Epi-spaces and their Sociological Consequences

1. *Increase in the pace of life which today, has a quicker rhythm. A balancing act between the physical, intellectual, and emotional upon the tightrope of speed, stretched between two opposite magnetic poles. Multiple and simultaneous consciousness in the same individual…*
12. *Man greatly extended by machines. A new awareness of machines, a fusion of instincts with what the engine gives us and with its harnessed power…*
15. *The Earth grown smaller through speed. A new awareness of the World. Let me explain: A human being successively acquires awareness of his home, his neighborhood, his town, his region, his continent. Today he possesses a sense of what the world is. He has a despicable need for knowledge about his ancestors, but also a constant desire to know what his contemporaries, in every part of the world are up to. And as a consequence, the individual has a need to communicate with all the peoples of the world. And as a further consequence, he needs to feel himself the center, judge, and driving force of the infinite, whether explored or not. An immense expansion of our sense of humanity and an urgent need to determine, at every moment, our relations with the whole of mankind.*

- *F.T. Marinetti, Destruction of Syntax—Untrammeled Imagination—Words-in-Freedom ([1913]2006)*

The most prevalent form of epi-space is the v(u)rtual realm that normalized the technologically mediated experience. Take for example the millions of people across the globe who log into virtual worlds in massively multiplayer online role playing games (MMORPGs) each day. At its peak in 2010, Blizzard's *World of Warcraft* (WOW) boasted 12,000,000 active accounts, and by December 2013 over 100,000,000 players had logged into their virtual world at one time or another. Eclipsing the number of human players is the number of virtual avatars that people created and role-played in the game, which number some 500,000,000 and would make WOW the third largest country, above the United States and below India.[42] If we included the non-player characters (NPCs) it would be the largest. The sociologist William Sims Bainbridge has examined how the creation of multiple online avatars in MMORPGs allows individuals to experiment with fluid identities, crossing gender, racial, and species boundaries. He concluded that while managing several different selves the individual player gains a "*multiplex* or *protean personality*" (2013:91). This is equivalent to the posthuman swarm, in which the individual is no longer a schizophrenic-self, shifting between identities to meet the demands of modern society, but is rather always simultaneously managing multiple selves across the fractal scale composed of physical and virtual spaces. As space transforms itself to become visible at different degrees of resolution on the fractal scale, so too must the fractal subject reconfigure itself to respond to all of these scales simultaneously. This occurs through the mediation that the technological

[42] Data from December 2013, provided by Blizzard Entertainment. http://us.battle.net//wow/en/blog/12346804

appendage provides as the human, combined with this appendage, realizes itself as a cyborg being. While roleplaying an online avatar, the user communicates with other players across these spaces using Voice over IP (VoIP) software, in- and out- game chats and instant message applications, text messages, forums, and social media, concurrently managing different virtual identities in each distinct space.

By now, it is a common sight in major metropolitan and suburban areas (and increasingly in rural areas as well) to see people in traditionally public social spaces continuously checking their smartphones to update and manage their virtual selves at the same time that they are managing their physical selves, whether they are alone or in a group. The juggling of social media is only one of the most visible aspects with their on-demand update notifications, as people presume to combat social alienation by maintaining presences on sites like Facebook, Twitter, Instagram, Reddit, LinkedIn, and Pinterest. The irony, of course, is that the cost to the participants are the social skills that would be needed for the imagination to even attempt to conceive of a non-alienated existence that is not cut off by possibility itself. Instead of human spaces where direct access with other humans may form a situation defined as 'social', time is increasingly spent in virtual space where the interactions are between posthumans composed of digital bodies where the 'social' becomes its antisocial other. This social framework is constructed on the base of capitalist power, and is falsely assumed even by its harshest critics as they try and fail to appropriate it away from the power base to meet human sociality. The failures are a result of the misrecognition of the new spaces that these devices open; they are not spaces constructed for humanist ends, and they are not the means to reach that goal. However, they are the predominantly available means, so if

their ubiquity is determined by the dominant society then it is the ends that must be reappraised through the application of a critical fatal theory.

For example, Facebook was at the center of some controversy in the summer of 2014 as they tested emotional manipulation on online actants without their knowledge. The researchers concluded:

> We show, via a massive (N = 689,003) experiment on Facebook that emotional states can be transferred to others via emotional contagion, leading people to experience the same emotions without their awareness. We provide experimental evidence that emotional contagion occurs without direct interaction between people (exposure to a friend expressing an emotion is sufficient), and in the complete absence of nonverbal cues. (Kramer, Guillory, and Hancock 2014:8788)

There are two key takeaways from this study. First it demonstrates that even in these virtual spaces, in which the identities of other actants cannot be confirmed, the socialization process continues to shape the individual's perceptions. Second, while the study only manipulated the visible postings of the subjects 'friends', the research suggests that manipulation of 'friends' postings could have the same effect, thereby negating the need for the opinion or emotional state in question to have originated from an actual human actant. The word 'friend' no longer even has the same meaning that we used to ascribe to those 'human' community members with whom we shared particularly meaningful social bonds. Now the term is used in the virtual world to imply the fractal subject's virtual avatar who publicly follows other online personas, and the transmission of this definition across the fractal scale into the physical world is increasing visible. Friends, in a waste society, are disposable with the click of a button. The bot can easily fill the role of the human actant in the construction of attitudes and behaviors so long as it mimics the human with some degree of accuracy. Essentially this means that the

technological appendage becomes the actant and the human becomes the appendage acting on its behalf. The participants in these spaces thereby amplify their alienated state by contributing to the framework of total social control enabled by these outlets. While also claiming the word 'social', social media and social networks do not represent what traditionally was understood by the term. What must be accepted as a social fact is that even with the knowledge of this potential (and probable) manipulation by states, corporations, and other parties of interest, the user base is greatly nonplussed by the disappearance of these human categories and the realignment of the human role. Statistical dips in the user base, as a result of these revelations, flatten out over time as the media cycles through its various discourses and these blips of humanistic concern disappear in the noise of probability.

The reality of the actant, that is, whether it is a biological or artificial life form performing in this space, is ever more difficult to determine. From the very simple to the incredibly complex, these software programs known as bots mimic the human and shape attitudes and encounters in these spaces, making our traditional understanding of the 'social' inadequate for diagnosing this transformation. The target of these bots are the technologically mediated, whether experienced or not, and the bots zero in on human desires, frequently through sexual innuendos and financial schemes that flatter the actants illusion of individuality. Chatrooms, which in the early days of the internet provided anonymous zones for decentralized encounters, very much in the Situationist sense, fooled us by the promise of their surface visibility but they are now overrun with artificial bots 'socializing' amongst themselves. When successful contact is made with those operating on the physical fractal scale, the bots are designed to seduce their prey. Those

likely to fall victim to these advances are those who are the most symptomatic of today's hyper-alienated condition (even if, as individuals, they do not label it as such). These hyper-alienated fractal subjects primarily turn to these virtual spaces looking for social interactions that always remain to varying degrees, technologically mediated. Eventually, as the bots proliferate, they mistake others of their kind for the human appendage and the exchange is a fully automated call and response between virtual selves that have broken free of any 'human' anchor.

Rather than communicate directly, today's modern individual is more comfortable managing relationships that are technologically mediated. The barrier of the screen presents the illusion of a safety zone as one may test reactions from the hive mind before risking the possibility of rejection that is present in all social situations. Users have come to see technology as providing a ready-made excuse for any social faux pas that occurs within the epi-space it creates, but as technology improves we come to see the excuses as being firmly planted in the user, not in the technological appendage. This is to suggest that as technology improves its performance and reliability, it earns our trust, in spite of known manipulations, while the human actant loses this trust and is increasingly seen as unreliable, as the entire source of liability in the whole interaction. As the trust of the human other erodes, the seductive potential of the technologic promise nears completion. The machine cannot willingly deceive; deception, like the ability to be seduced, is another anachronism of the human. In other words, it is not the Facebook platform that manipulated the users in the social experiment, the manipulation was initially controlled by human actants even if they were responding to the logic of the system, and this is what makes us so uncomfortable. We cannot summarily condemn the technology for these

breaches of social decorum, even when they are the vehicle, because these repressive tendencies arise within human minds who play and prey off the system's strengths.

How else do we explain the fact that physical spaces are more and more turning into mere planning grounds for virtual spaces, in spite of the rampant surveillance and loss of privacy that they enable? And although virtual worlds expire at a faster pace than the physical world—WOW's population is in a massive state of decline just like Myspace (the previous front runner in social media) experienced some years ago—there are always new MMORPG's and social networking sites lurking in the shadows waiting for the giants to fall so that they can provide new surface seductions. Rehab for technological addiction is not only for those living out the fantasy lives of MMORPGS and internet trolls. Addiction has bled into the productivity tools of the business world. A recent case, published online first in the journal *Addictive Behaviors*, examined the consequences of this overlap as a patient began to receive treatment for behavioral changes arising from the use of Google Glass™—an early example of wearable technology and cyborg assimilation. The patient stated that, "he was given permission by his superiors to use the device at work, as the device allowed him to function at a high level by accessing detailed and complicated information quickly" (Yung, et al. 2015:59). The result was that when

> he had been prevented from wearing the device at work, he would become extremely irritable and argumentative. When asked questions by the examiner, the patient was noted on exam to reach his right hand up to his temple area and tap it with his forefinger. He explained that this felt almost involuntary, in that it was the familiar motion he would make in order to turn on the device in order to access information and answer questions. He found that he almost "craved" using the device, especially when trying to recall information. (P.59)

The boundary line between the human and the machine and their roles as actant and appendage are blurred. In the case of the archive serving as the surrogate of our memory, as demonstrated in the above example, the reversal is nearly complete. Without this appendage the secrets of the archive are denied and the actant is limited to the knowledge contained within the individual mind; a mind that simply cannot compete with the posthuman swarm.

Now there is a genuine fear of social death, of being left behind, essentially obsolete, as the masses flock to the next big thing and try to gain the next advantage in circumnavigating the logic of a system that prioritizes speed. While physical death merely signals the end of our conscious individuality, social death represents something far worse: it is rejection of the illusion of individuality that we all prize so much while never really possessing it in this modern alienated life the first place. One must constantly be "in the know" when it comes to the swarm identity. One must manage selves, both personal and business, private and public, at all times, thereby erasing the very individuality we claim to desire by conforming to the rhythm of the obedient masses. It is too 'risky' to place all of one's self into a single human identity in a single human space. One must be plugged into the v(u)rtual epi-space, which is only the most accessible epi-space to the masses, because as the human and its spaces become obsolete, so too do the identities that are attached to and formulated by it. The cost of this is a 24/7 presentation of the self because our virtual avatars have no downtime and the remaining human spaces still demand their share. As we inefficiently require sleep, that other human anachronism, the avatars maintain their presence, waiting for any and all to come and bear them witness.

With all of the pressure to accelerate ourselves so that we can compete against the machine, we may soon find ourselves looking for new ways to disconnect. Recognizing this new need, vacation destinations are beginning to advertise themselves as technology "dead zones," where cell and internet service are blocked, forcing the visitors to unplug. On the other hand, you can "Tell us why you need a virtual vacation…" in this latest targeted advertising campaign that the Marriott hotel conglomerate is aiming at online communities. In conjunction with Oculus Rift, the company responsible for resurrecting the consumer friendly virtual reality headset[43], Marriot has engineered a virtual vacation for those who can no longer afford the time or money needed to travel to exotic locations. The dead zone is now a luxury denied to the masses; for their kind, an intensification of the digital can translate into a virtual vacation. Marriott's website promoting the prototype's world tour brags that "the fully immersive, 4-D virtual journey transports you from Big Ben to Maui right from our lobby."[44] Frictionless space indeed, and the message is clear, soon we will not even have to get up from our couches to relax on the beach; it will come to the masses.

Resistance is futile when the technology plays on the addictive quality of immediate pleasure. The beach, as a virtual epi-space, travels at the speed of light so that we can stay inert. By the logic of the fractal the beach itself is then free to disappear and lose its physical dimension, repeating itself on another scale of reality that maintains the

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[43] Before this is laughed off as another marketing ploy to sell half-baked virtual technology, like Nintendo's dismal failure with the Virtual Boy™ in 1995, it is worth noting that Oculus Rift was founded in 2012 and by 2014 it was acquired by Facebook for north of $2 billion. While market value certainly doesn't determine the success of the company, it does illustrate that the market is responding to a particular shift in the dominant culture that is demanding developments of this kind. - http://newsroom.fb.com/news/2014/03/facebook-to-acquire-oculus/

[44] Quote retrieved from: http://travel-brilliantly.marriott.com/our-innovations/oculus-get-teleported

only things deemed important in this system: image, appearance, and speed of access. This scale resides comfortably in the archive, escaping the problem of finitude in physical space by moving to a new boundless realm. It is catalogued away so that once it is lost completely in the physical realm future archivists will be able to access its ghost-like echo. Environmental degradation is thus freed by this virtual inosculation and can now disregard the beach, or any other transformed space. If we are to believe the *Living Planet Report 2014*, released by the World Wildlife Federation, "in less than two human generations, population sizes of vertebrate species have dropped by half" (2014:4). "For more than 40 years, humanity's demand has exceeded the planet's biocapacity" (p. 9) resulting in a 52% decrease in animal life as the human population has more than doubled, stressing the system at an accelerating rate! The virtual is racing to keep up in its game of creation as nature is destroyed. No essence, no core, no reality, this is the archive that is a purely artificial epi-space of simulation, but in a system that operates on the logic of the lesser of two evils, this option appears to be winning. The question is whether or not it can complete its task before the finitude of physical space is exhausted on our planet. Essentially, the logic of the *dromos*, the race, is at play and a dromological perspective is needed to understand the shrinkage of temporality that triggers the necessity of this transformation due to the inescapable systemic logic that fuels the countdown.

Let us move to a different scale, that which resides in the perspective of the smartphone. This gadget is but one of the many technological extensions of the self that creates hybrid spaces in the form of digital bridges across space and time. Unlike the virtual avatar, the smartphone virtualizes the physical presence of the individual. Video

conferencing is an example of this bridge, in which we, disconnected from any visible tether may conjure the image and voice of any other person in our hands, no matter if we are on the bus, in the supermarket, or on the toilet, and we can do this even if we are on opposite ends of the planet, so long as they have also embraced the technological appendage. The seduction of this luxury is complete; instantaneous communication is so tempting that even groups of cautious technophobes, like the elderly, bioconservatives, and traditionalists of various belief systems, cannot resist its allure. According to a January 2014 survey conducted by the Pew Research Internet Project, in less than 20 years the percentage of American adults using the internet has risen from 14% to 87%[45] and in less than 15 years cellphone ownership has gone from 53% to 90%.[46] This is perhaps unsurprising in an advanced modern society like America, however, if the ubiquity of this technology and the resultant condition is in doubt on the international level, one need only remind themselves of the release of the Arirang in 2013. The Arirang is no ordinary smartphone, although it has no special technological capabilities and is only as powerful as Apple's iPhone 3 (now several generations old). What makes this phone special is that it is produced in North Korea, for North Koreans. The irony of this needs little comment—from the Arduous March to the Android OS in less than 20 years—and beyond the irony we learn from this social fact the signaling of a global penetration; that is, the collapse of horizontal planetary space and the eruption of the v(u)rtual and the v(u)rtical.

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[45] http://www.pewinternet.org/data-trend/internet-use/internet-use-over-time/
[46] http://www.pewinternet.org/data-trend/mobile/device-ownership/

We already know from Apple, the corporation par excellence at the forefront of capitalism's success with the smartphone, that the iPhone can be built in antihuman conditions at the expense of human dignity and still a crowd of worshipers will gather at the christening of each new generation. That a state factory in Pyongyang can do the same while the regime runs forced labor camps and executes dissidents is no surprise; Apple provided the model, even if their surface presentation is more palatable. But this is only to state the obvious, to repeat that which sociology continues to demonstrate: the prevailing forces of inequality are built into the fabric of modernity. This irrationalism—to ignore present ills and live as if utopia were immanent—is the guiding principle of capitalism as much as it is of religion; systems of contradiction built on ideological frameworks that alternate their play at stubbornness and fluidity so long as systemic survival is advanced in the present. The individual, the human itself, is of no great concern. Popes, presidents, and CEOs, come and go, but Catholicism, the nation-state, and the corporation remain. The willingness of the human to embrace social configurations built on alienation and the rejection of species-being is the source of their power, coupled with positive thinking and all kinds of pernicious optimism. Yet, knowledge of this fact has had little to no impact on the behaviors of people as they acknowledge on the one hand the potential long term harm of these transformations on the human and the environment, and on the other hand assume a presentist attitude that allows them to ignore the warnings. Perhaps one day history will expose the vile result of this configuration that systemically tolerates sociology, absorbing it as the other and thereby reducing its output at worst to systemic noise and at best to a mild irritant of the social consciousness. However, this system prioritizes neither the health of the individual

nor the social. The human actant and its possible reconfigurations are not the system's concern, so the continuous erosion in the consciousness of sociological insights is exactly what the system conditions the human to do. Therefore, the question is, if history will expose these contradictions, will any human remnant be left to bear witness to this fact, to learn from these mistakes, and remember the human in all its complexity as a life form?

Social scientists largely claim to cut through the noise, to recognize discrete signs of nature along with discrete signs of an artificial reality while maintaining the ability to ascribe accurate meaning to these signs. On one extremity are those who say that, if it is not already too late, now is the time that the human must focus ever greater attention to the ground beneath our feet, to our terrarium, to revitalize nature and rekindle the precarious balance that the industrialism of modernity threw into turmoil. On the opposite end are those who doubt the ability and impact that humans can have on shaping nature, who say that the signs are mistaken for wonders and that the interpreters of the signs are either as conniving and devious as the soothsayers and snake-oil salesmen of yesteryear or are ignorant as to the true potentiality of the species. The logical thought is that if we can speak to loved ones at the touch of a button surely we can feed the hungry and house the poor. That the miracle of spatio-temporal collapse in communication is prioritized over the miracle of fishes and loaves is, quite simply, maddening. This and similar social contradictions have driven the whole of sociology insane, just another group alternating between exposing and promoting the evils of the day. If it is no longer premarital sex that damns your soul, then it is your carbon footprint or your place within the capitalist system. There is the battle of universal good versus evil in church if that is

your flavor, or climate change and the contradictions of capitalism in the university if you prefer, and these are by no means exhaustive.

Call them by any name, doomsayers and their logics are available on any wave of the truth-falsity spectrum; the tools of the orator are available to all and culturally the specialist, taken as such, is démodé. Claims of the social scientist are met with so-called "common sense" denials, which are accessible to all within the digital archive. It is not by means of a critical skepticism that these claims are analyzed and weighed, it is by way of gut reactions, and snap prejudgments socially conditioned by the culture industry. The system recognizes the weakness of needing to rely on the specialist in order to advance its own needs, but it is a precarious relationship because the specialist can hypothetically challenge the system by appealing to that which the system cannot, namely the human dimension. To avoid this, the system does not eliminate the specialist, rather it reproduces the specialist according to the rules of the structure, training the specialist through a series of terroristic tactics so that even challenges made on behalf of the human dimension are systematically accounted for, processed and stored, neutered of all quality and content by their systematic reduction to news cycle sound bites, and provided in a ready to consume fashion that feeds directly into the waste society where we devour and discard thoughts as easily as a Starbuck's coffee cup.

Sociology has not escaped the conundrum of this systemic logic. As a discipline it is uniquely situated to address the contradictions of this system, however, as its specialists should understand all too well, they are part and parcel of the problem, for they too are wrapped up in the reproduction of the very system they wish to critique and restructure. We are left, not with contradiction, but with a paradoxical solution where the

tools we deploy are intended for a different reality than the simulation that presents itself to us as the *real*. Spatially, there is no outside, and neither is there a firm center from where the critiques of the current system and blueprints for a better world can ground themselves. The error in sociology is not just the misrecognition of its audience, it is a misrecognition of the subject. The fault, however, is not only on the agented actions of sociologists. How could it be, when the structure operates on a growth model whereby the discipline must comply with the demands of speed and accelerate its reproduction of specialists and contributions to the archive? Meanwhile the metrics are quantitative in order to provide a point of measurement by which to judge the efficiency and productivity of the specialist. So the specialists fill up the pages of the journals and the journals fill up the halls of the archive. "Of the making of many books there is no end; and much study is a weariness of the flesh" (KJV Ecclesiastes 12:12). This logic is far older than modernity, but the v(u)rtually enhanced system does not flinch when "the flesh," that human dimension, is ignored. Weariness is the weakness of the human that the system does not share, it cannot empathize with such a human condition. What then happens to the qualitative dimension? If it is merely the quantitative metric of consumption that judges the quality, then the system will never critique itself for it decides on the meaning of its own measures and can rationalize the critique to fit any narrative. This is especially so when consumption is at the heart of the growth model, the content is irrelevant so long as there is more, and it can appear faster. The guiding formula has fallen into the trap of reason, assuming that that which is consistent in thought must be consistent in reality; as if reality must conform to the thought, as if human consciousness were the center of reality, as if the Earth were divinely situated and

the universe revolved around the human world, as if the structure of that world was subject to the agents of it, as if the capitalist system could be the objective judge of itself.

V(u)rtical Epi-spaces and their Sociological Consequences

> *One day, perhaps, there will be a sign of intelligent life on another world. Then, through an effect of solidarity whose mechanisms the ethnologist has studied on a small scale, the whole terrestrial space will become a single place. Being from earth will signify something. In the meantime, though, it is far from certain that threats to the environment are sufficient to produce the same effect. The community of human destinies is experienced in the anonymity of non-place, and in solitude.*
>
> *
>
> *So there will soon be a need – perhaps there already is a need – for something that may seem a contradiction in terms: an ethnology of solitude.*
>
> - *Marc Augé, Non-Places: An introduction to supermodernity ([1992]1995)*

V(u)rtual epi-spaces bombard us while triggering ever more pervasive forms of anxiety as we are continuously subdivided in our swarm identities, but when speaking of epi-spaces, it is the transplanetary space that is rapidly overtaking the conversation as it enters into an evolutionary phase in the development of v(u)rtical space. Remember Voyager 1. In August, 2012, this appendage crossed over into interstellar space. It was launched in 1977, several years before Theorist's birth, and although it took 35 years to breach the barrier of our solar system, nothing since has followed in its wake. As of September 2014, Voyage 1 is coasting along at 17 kilometers per second in the debris of

stellar ejecta, and relative to the human dimension, it is alone.[47] It carries on board several cultural artifacts of the human species recorded on a phonograph record, called the Voyager Golden Record; that includes both audio and visual data. There are two ways to think of this, either (1) these artifacts represent an olive branch to the cosmos as an offering to any life forms who may share the universe with us, or (2) it is a memorial to the human, the last tomb of the species in the event that our planet cannot withstand the onslaught of modernity. In the latter possibility, the notion of solitude gains in strength as we are forced to consider the fact that this could be the last artifact of the human, and in this thought the Golden Record oscillates between a position as artificial trash floating among stellar trash, and a treasure on which the archive of humanity relies.

Then president of the United States, Jimmy Carter, included this message on the Golden Record by way of explanation:

> This Voyager spacecraft was constructed by the United States of America. We are a community of 240 million human beings among the more than 4 billion who inhabit the planet Earth. We human beings are still divided into nation states, but these states are rapidly becoming a single global civilization.
>
> We cast this message into the cosmos. It is likely to survive a billion years into our future, when our civilization is profoundly altered and the surface of the Earth may be vastly changed. Of the 200 billion stars in the Milky Way galaxy, some--perhaps many--may have inhabited planets and spacefaring civilizations. If one such civilization intercepts Voyager and can understand these recorded contents, here is our message:
>
> This is a present from a small distant world, a token of our sounds, our science, our images, our music, our thoughts, and our feelings. We are attempting to survive our time so we may live into yours. We hope someday, having solved the problems we face, to join a community of galactic civilizations. This record represents our hope and our determination, and our good will in a vast and awesome universe. (July 29, 1977)[48]

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[47] Voyager mission weekly report, dated 2014-09-19. http://voyager.jpl.nasa.gov/mission/weekly-reports/
[48] http://www.presidency.ucsb.edu/ws/?pid=7890

Here we see the transcendence of the temporal scale, thinking beyond the human, and perhaps even after the human. On the time horizon of billions of years the anxiety of human disappearance itself vanishes because the human mind cannot fathom the scale other than in the most abstract sense. However, there remains a desire for the archive to survive, to tell the story of the human. Professor of science and technology studies, Denisa Kira (2013), examined this desire found within the design of several projects, including the Golden Record, which involve a nod to the posthuman apocalyptical dimension. She concludes that "we are inspired to accept the "uncanny" dimensions of our being and technologies, to give meaning to the ultimate entropy and *vanitas* of our condition" (p. 182). Research in this direction allows us to "confront our possible and inevitable "futures"" (p. 182). In other words, it is a way of confronting the horror of the world-without-us. However, when analyzing the data that is included on the Golden Record[49], it is all too clear just how rapidly our culture has shifted and how poorly these images paint our reality. In the relatively short interval since its launch the population on the planet has nearly doubled in size, and the image that it paints fails to recognize the transformation of a species that has already shown signs that it is in a stage that is after the human in any natural or social sense that the word might imply. If the reality of the world-without-us is gaining in probability through environmental contamination and resource scarcity, what attitude must prevail in the world for us to remain on this path?

"Fuck Earth! Who cares about Earth?" So said Elon Musk jokingly in a recent interview with science and technology writer Ross Andersen for *Aeon* magazine

[49] Photographs are available on the NASA Voyager mission page: http://voyager.jpl.nasa.gov/spacecraft/scenes.html

(September 30, 2014) which we will examine at some length here. The irony of the statement comes from the fact that Musk is the billionaire founder of the environmentally conscious electric-auto manufacturer Tesla, and has based his whole philosophy on the potential for a technologic transformation of human action. But in this interview, Musk is not speaking as Tesla's representative, rather on this day he is speaking as the CEO and primary shareholder of his other company, SpaceX, the one that builds rockets and looks past earth's gravitational pull to the spaces beyond. Specifically, Musk has set his long term sights on the creation of a large settlement on Mars. Although his gaze is beyond Earth, the cavalier statement above by Musk is not an indication of a desire to abandon Earth, rather it is a reaction to two prevailing social facts that contradict rational thought. The first is found in the dominant lifestyle of advanced modern societies, replete with planned disposability for each and every object of our desire, including ourselves and our individuality, fueling the transfiguration of the planet into the world-without-us. The second is in the irony of our species being in possession of the sociological insights that target and diagnose the consequences of such actions, but at the same time ignore these insights and hurtle ever faster toward the impending finality of resources propping up this system.

It is through the large investments that are funneled toward exploring v(u)rtical epi-spaces that the question of social justice again rears its head. Anderson challenged Musk on this point, asking him, "Why do we spend so much money in space, when Earth is rife with misery, human and otherwise?" Musk, reacting to the notion of finitude and the fatal theory of the human in the development of his strategic business goals, replied:

> I think there is a strong humanitarian argument for making life multi-planetary, in order to safeguard the existence of humanity in the event that something catastrophic were to happen, in which case being poor or having a disease would be irrelevant, because humanity would be extinct. It would be like, "Good news, the problems of poverty and disease have been solved, but the bad news is there aren't any humans left."

It is not surprising that he still sees the project in ideologically humanist terms. This is after all the claim of the transhumanist, who envisions the technological transformation of reality as the culmination of the human destiny where the resultant subject is not posthuman, but finally, Human in the modernist sense; even if it is a cyborg Human embedded with technological appendages. Indeed the very foundations of modernism rest on this sort of programmatic strategy: that the human can, through the application of reason, come to know the full potential of itself. The Greeks, as the classic example of modern thought, inscribed their temple at Delphi with the command: γνῶθι σεαυτόν—translated as know thyself—as if the human could come to truly know its species-being well enough to unlock the depths of individuality. Habermas (1981) was right in one respect, modernity is an incomplete project. The essence of the 'human' is still unknown in its complexity and the egalitarian utopia is as distant as it ever was. But while there is a romantic sensibility that fuels the desire to imagine the completion of the modern project, it ignores the logic of the fractal nature of our reality that transforms all objects by realigning the rhythms of agented actions to match those of the dominant system, thereby signaling the relegation of human rhythms to a past that is inaccessible in any real dimension other than that of the artificial simulation of the archive. In other words, the rhythm of the system has already derailed the culmination of that project as it is cut off by possibility itself. Possibility here is not cut off by the possible actions of agented actants, it is cut off by the finitude of the planetary space that has already surpassed its

natural equilibrium by its artificial collapse in time. Therefore, there are two ways to conceive of Musk's philosophy, it is either (1) that he sees both the spatial and the social side of the fractal argument and seeks to breach the finitude of space by the opening of v(u)rtical spaces where the social can be reconfigured, or (2) he makes the mistake of perspective and while seeing the spatial fractal scale, he fails to see the social fractal and transcends one side while merely recreating the same positionality on the other.

Although Musk's plans with SpaceX rely on a humanist justification, his approach is not antihuman in the way that oddly aligns the logic, if not the trajectory, of many bioconservatives and environmental activists (especially those in the anarcho-primitivism camp) with corporate CEOs and governments (who are privatizing the resources needed for mere survival). Musk explains,

> It's funny, not everyone loves humanity. Either explicitly or implicitly, some people seem to think that humans are a blight on the Earth's surface. They say things like, "Nature is so wonderful; things are always better in the countryside where there are no people around." They imply that humanity and civilisation are less good than their absence. But I'm not in that school,' he said. 'I think we have a duty to maintain the light of consciousness, to make sure it continues into the future.

Again, we see here from his comments a desire to hold onto modernist enlightenment ideals that make moral claims on the goodness (potential or otherwise) of human action. While these ideas certainly provide a compelling goal for humanity, by not addressing the structural problems they ignore the root cause of the problems in the first place. Just as capitalism retains its primacy through its successes by spreading its crises geographically, Musk's comments can be read as a furthering of the systemic logic that likewise seeks to spread risk spatially. Without falling into the sociologically enticing trap of condemning this failure to recognize the systemic root causes of the problem, Musk's solution

presents another opening of posthuman alternatives that are already underway. This alternative does not fall on a dogmatic utopic/distopic polarity, even if its justifications are sold to the masses under this guise. Rather, even if this project and others like it are met with success, there is little reason to believe that the result will not reproduce the same inequalities that are present today; meaning that it will privilege some while ignoring the plight of others. It is, however, a means of addressing the spatial finitude that triggers the fatal human condition by opening up a new nomadic frontier for novel evolutionary potential, and true to the logic of the current system it allows the present to stretch into the future. Therefore, while Musk's plan and others like it cannot be presented as solutions to 'social' justice problems, they do aim to push the finitude of the system and fatality of the human off onto an ever receding temporal point. What this ignores are the impacts that these spatial transformations will have on both the idea and the physicality of the human as these plans are enacted and the primacy of the archive is reproduced.

The fractal scale is further complicated when looking toward these transplanetary spaces, as they cannot be viewed or reached outside of a technological mediation which implies some level of blurring between the v(u)rtical and the v(u)rtual. In point of fact, any Mars colony would be completely reliant on technology and, for a long period of developmental time, it would out of necessity remain tethered to Earth because of this technologic dependency. Beyond these material arguments, there is a compelling reason to return to the science of ideas and that of metaphysics when discussing the potential for transplanetary travel and the possible virtual implications. Philosopher Nick Bostrom, presents a compelling argument that the posthuman transformations discussed here will

occur, or are already occurring, in a simulation. After examining the probability of the simulation argument in light of a series of socio-historical facts, he concludes that,

> A technologically mature 'posthuman' civilization would have enormous computing power. Given this empirical fact, the simulation argument shows that at least one of the following propositions is true: (I) the fraction of human- level civilizations that reach a posthuman stage is very close to zero; (2) the fraction of posthuman civilizations that are interested in running ancestor-simulations is very close to zero; (3) the fraction of all people with our kind of experiences who are living in a simulation is very close to one. (2003:255)

If we accept the logic of Bostrom's argument we must have a contingency for all of these various scenarios, because "in the dark forest of our current ignorance, it seems sensible to apportion one's credence roughly evenly between (I), (2), and (3)" given our current socio-historical reality. What this implies is that it is probable that either (1) we will not escape the fatal stage of the human and we will go extinct like previous dominant life forms on our planet, (2) advanced civilizations will drop the obsession with origin that our species continues to demonstrate, or (3) that we are already living in a simulation. Musk's theory converges on this:

> The absence of any noticeable life may be an argument in favour of us being in a simulation. Like when you're playing an adventure game, and you can see the stars in the background, but you can't ever get there. If it's not a simulation, then maybe we're in a lab and there's some advanced alien civilisation that's just watching how we develop, out of curiosity, like mould in a petri dish. If you look at our current technology level, something strange has to happen to civilisations, and I mean strange in a bad way. And it could be that there are a whole lot of dead, one-planet civilisations. (Anderson 2014)

In order to avoid that fate, the argument for offshoring life itself becomes very compelling regardless of a humanist or archivist stance. It plays off of the current system's strengths by neither imagining a revolution nor a progressive socially-minded evolution of the current system, but rather a transcendence of its spatial barriers through the reopening of frontier space. While it cannot guaranty either the continuation of the

species, nor the resolution of the problems of social justice, it does present a form of possible systemic longevity that is currently ignored by most social scientists.

Unlike the postmodern game-show mentality of Mars One, which seeks to turn the Mars project into a televised competition, SpaceX again follows an ideology born out of modern capitalism, one that aligns more closely the with nation-state and its military-university-industrial complex. Understanding that testing simulation theory and attempting to stave off extinction might not appeal to the traditionally minded, Musk recognizes the economic function that this can have for capitalism. "If we can establish a Mars colony, we can almost certainly colonise the whole Solar System, because we'll have created a strong economic forcing function for the improvement of space travel." Musk is targeting, not the most qualified or the most deserving individuals for his Mars colony, nor is he providing this service with their interests in mind, rather it is for the "intersection of the set of people who wish to go, and the set of people who can afford to go." Again it would be all too easy to critique this standpoint sociologically for its replication of the irrationality of consumerist logic that fuels capitalism's unsustainable growth model, where capital makes right, but to do so would again be to miss the point of the fractal argument laid out here. And at the level of life itself, there is a moral argument here that ignores the reproduction of inequalities by deemphasizing the individual but by elevating the species survival as such.

Indeed if the goal is merely to trumpet the rhizomatic root systems that follow a traditional critique of political economy, then there is still the transnational state-based option for Mars exploration funded through public taxes. When discussing the recent success of the Indian Space Research Organization's (ISRO) Mars Orbiter Mission

(MOM), which managed to place a satellite in Mars' orbit on their first attempt[50], science writer Eric Berger told RT that funding space exploration is "one of the ways to gain credibility on the international stage." [51] Although Berger acknowledges that this equates to a "status symbol" among industrialized countries, thereby pulling it back to the postmodern drive for image construction, largely neutralizing any claim that there is an egalitarian goal beneath it all, it still suggests that the discourse remains open on this scale. It certainly enticed the United States, because less than a week after MOM achieved orbit, NASA announced a partnership with the ISRO to explore Mars in a joint operation.[52] And even here the lines are blurred, as SpaceX continues to win NASA contracts and carry out government work on their behalf. In sum, even the colonization of Mars plays out across the fractal scale, reproducing itself in enough flavors to suit nearly any palate.

Mars exploration is an example of v(u)rtical epi-space on a cosmic scale, however, there are simultaneously many projects that are justified along similar lines operating on the infinitesimal scale. The former maintains a mode of morality that appeals to group preservation while limiting access to those who can afford to participate; however it would be wrong at this stage to suggest that participation would involve a qualitative improvement in the lives of the participants. "That the colonization of Mars by humans is not very probable matters less than the symbolic confirmation, strong and repeated, of an application of technological advances to the human organism itself, both

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[50] Astonishingly done considering the fact that the mission came in at a fraction of the cost ($74M) when compared to the Mars missions undertaken by Western governmental space programs.
[51] Article dated October 17, 2014: http://rt.com/op-edge/196768-india-mars-space-mission/
[52] NASA Press Release, September 30, 2014: http://www.nasa.gov/press/2014/september/us-india-to-collaborate-on-mars-exploration-earth-observing-mission/#.VEGpXvl4pMg

in the operation of its nervous system and its behavioral possibilities" (Janicaud [2002] 2005:32). Because of the dependency that any Mars colony would have on Earth, and the many health problems that the new environment will have on biological life forms, there is reason to believe that it will encompass many personal sacrifices, especially if the human is not augmented to cope with these environmental hazards. However, the latter appeals to individualistic desires, specifically targeting life-extension technologies that appeal to the same desire found in those who believe in some religiously conceived form of life after death. In this field there is again little reason to suspect that it will culminate in the betterment of all. So long as it is successful, and marketable, with the current state of disproportionate health care, these technologies will likely remain exclusionary and targeted at the wealthy, but even with a differential distribution the effects will be felt by the entire species.

There are too many examples to survey them all and many of the examples are still in a phase that is too technical for sociological analysis without unpacking the data at length, but a couple that bear mention are nanotechnology and mind-uploading. On this spectrum there are all kinds of social tensions as metaphysical and religious ideologies are challenged by science. The former example begs questions of bio-power as the body enters into a phase of plasticity and is reconfigured on a cellular level (de Grey 2013; Freitas 2009; Hall 1994; Kurzweil 2004; Shapiro 2013; Miah 2013). In light of the overwhelming evidence of governmental intrusions of individual privacy, and their disregard for vast civilian populations in ideologically charged geopolitical wars, there is rampant concern that ethical breaches could derail the entire field. However, this is perhaps merely wishful thinking on behalf of opponents, as historical evidence

demonstrates that ethical boundaries can rarely withstand the onslaught of capital. So long as there is money to be made in these novel technologies, it appears likely that just as the masses ignore the manipulation of social networking, so too will they ignore the implications that this technology will have on further social control. It may simply be the case that the seduction of immediate health benefits of nanotechnology will outweigh the social risks associated with its deployment. On the other hand, the latter example of mind-uploading ignites religious tensions as science aims to eliminate death by making silicon and graphite based copies of our consciousness, thereby aiming to extend the existence of individual thought patterns (Merkle 1993; Moravec 1997; M. Rose 2013; Vinge 1993). Exactly how this can play out, and whether it is even possible or not is currently the subject of debate between philosophers, biologists, psychologists, neuroscientists, computer scientists, and investors.

The sociological implications of both ends of v(u)rtical developments in epi-space are ultimately the same in that they imply a complete reconfiguration of life itself. As the study of epigenetics is beginning to demonstrate, our evolutionary pathways are determined by biology, environment, and social forces. By sending people to live off-world our sociological analyses must be up to the task of analyzing these transformations from appropriate perspectives, and typical modern arguments that still seek a centrality of the human realized through democratic processes are simply not up to the task. They risk the sin of perspective that early humans fell into when failing to accept the decentering of Earth. The decentering of Earth paves the way for the necessary decentering of the human, as our access to the scale and resolution of the image of reality expands beyond the merely human dimension. The effects of neoliberalization have effectively killed the

social dimension, and thereby significantly weakened any appeal to a specifically human dimension, just as Margret Thatcher announced years ago. In a world made up individualistic drives, the conflicts between groups who persist in thinking at the level of the social, but who continue to use an anachronistic definition of the concept will be of little worth. Certainly there will still be a space in the archive for these voices, after all that is exactly what the individualistic logic of the system allows, but this will in no way position the discipline of sociology in a way that it can actively take part in these transformations. While not losing the critical necessity of the discipline, there is a need to rethink its goals in light of the prevailing systematic forces that are moving life in directions that are not compatible with any sort of humanist agenda. Indeed as the analysis of these epi-spaces demonstrates, the human is in a process of a mechanthropomorphic transformation. Even if the original settlers of Mars or the first minds uploaded to the virtual world have human characteristics, they will enter a new phase of evolutionary development, dealing with new problems, new behaviors, and new sets of actions. Sociologists must be willing to assume positions that are located both internal and external to the spaces of these transformations in order to understand what these experiences will tell us about our story. To that end, in the following section we will examine a framework for looking at the various modes of life that are branching off of the human in order to allow us to recognize these differences and conceive of the new theories that are needed to understand and diagnose the resultant implications.

A Framework for Thinking the Posthuman

I believe the ultimate goal of the human sciences to be not to constitute, but to dissolve man.

\- *Claude Lévi-Strauss, The Savage Mind ([1962]1966)*

Not to be. Only human. Still clinging to the hope of being only human.

\- *Jeff Noon, Vurt (1993)*

Giorgio Agamben, building on the maxim of the father of modern taxonomy Carl Linnaeus (1707-78), tells us that "man has no specific identity other than the ability to recognize himself" ([2002] 2004:26). What Linnaeus attributed to the human was the ability to answer the question, with the result being a tautological definition of the species. But Agamben continues, "to define the human not through any nota characteristica, but rather through his self-knowledge, means that man is the being which recognizes itself as such, that man is the animal that must recognize itself as human to be human." This is a combination of an Aristotelian and Cartesian conception of the human using the animal as the pseudo-double for comparison because of the somatic similarities in the species; but ultimately the somatic distinction is subordinated to the mental distinction that thinks the comparison and acts on it. On the Aristotelian side, the philosopher Gilbert Simondon places "reason and choice [as] characteristic of the human species, but this human species is not strictly different in nature from animal species" ([2004]2011:46). This coincides with Agamben's formulation of Linnaeus' first claim, insofar as human identity is only separated from animal identity in that its representatives are in possession of a unique characteristic that allows them to make distinctions in the first place. Continuing in the Aristotelian vein, "all species live in the same manner… [W]hat appears as a specific characteristic of one species is perhaps indeed characteristic,

because it doesn't exist in another species, but the functions which are filled by the characteristic gifts of the species are not unique to the species" (Simondon [2004]2011:51). While the human may possess reason and choice (some level of agency), and indeed it is an ambiguous claim for certainly there are exceptions to the rule which do not disqualify those (e.g. the mentally disabled, babies, or coma patients) who display no aptitude for either characteristic from existing under the umbrella of human identity, the function of identity is for Aristotle fulfilled by the demonstrated lack of these characteristics in 'lesser' animals. Therefore, reason and agency are sufficient, but not necessary characteristics for authoring the human identity.

Agamben, pushes the argument with a further contingency. This is where the Cartesian cogito shows itself in Agamben's formulation, in which the human must recognize itself as such to be such; in other words, the somatic dimension is subordinated by the mental dimension that thinks the thought about the body as object and categorizes it as such by thinking it. While there is little question that this is still by and large the way in which actants consider their membership in the species, this definition demonstrates the floating signifier of human, as the signified is free to morph into anything it pleases, and is only tethered to the human signifier by want and desire. Ultimately, however, this is a poor definition for current historical circumstances because it retains a universal human centrality by erasing difference and subordinating other modes of being that deploy reason and choice to the human signifier. According to Levi-Strauss' formulation above, this concrete definition is antithetical to the human sciences, the point being to dissolve man. If this is the case then the formulation of the human that

is provided in this text is only possible because of the resultant effects that science and technology have on nature and the role they play in constructing access to epi-spaces.

There is not too fine of a point that can be placed on the result of the transformations in spatial awareness and the introduction of epi-spaces in our access to the fractal reality by degrees of resolution. The human, as a central concept that unites the destiny of a species, already resides in the dustbin of history, insofar as (1) the ideal utopic notion of a Humanity achieved is cut off by possibility itself under present conditions and that which remains in the aftermath of the grand narrative of modernity is forever altered as a result of this derailed project and (2) because the material human of nature (if such a thing ever existed; once it is unborn it is impossible to verify) is continuously altered by the effects the modernization along with the spaces it inhabits. In other words the human is dissolved, and in the process of disappearing as both mind and body are disciplined according to the mechanthropomorphic rules of advanced modern societies, turning the subjects into symbolic objects that are free to alter their mode of being in the ideal and the material. That history does not move in a linear fashion is enough to cautiously allow that this may not be a permanent condition, however, in light of the spatial transformations and the extrapolationist logic of fractal directionality, the probability that the species will suddenly head in the direction of either completing the modern project, or return to some premodern configuration, appears less likely than a catastrophic planetary transformation, one that would present a condition that would be entirely different than the goals that either of these groups claim to represent. This is not merely a semantic distinction between human and posthuman. Although the signifiers are not universally predetermined to specific signifieds, the discourse of humanism has

assumed a negative stance that seeks to delimit the human according to the actions taken by individuals.

That which exists after the human is the fractal subject blurred across the scales as a posthuman swarm experimenting with new modes of being; it is the inappropriate/d other. It is important, however, to point out that this is not a value judgment against those individuals who cling to the human and wish to reclaim its centrality in political, economic, and social discourse. Psychologically, and even sociologically, this is perfectly understandable; after all this is the manifest message that is drilled into modern actants by most branches of the social sciences, humanities, and modern institutions in general—even when they appear to act in more antihuman ways, the message is generally always painted in human terms. Even if individuals do not embrace the posthuman labels outlined below, they cannot escape the mental and physical effects of an artificially provoked environment or the reach of the technological appendage. On the one hand, the label (human, or posthuman) merely serves as a symbolic representation of that which names itself, and the signs are not absolutely concretized (in spite of attempts to do so by particular discourses); but where the concept of the human attempts to delimit and refuse membership, the posthuman opens itself up and embraces difference. In the virtual mode, all other modes of being may function as pure symbolic representations regardless of the latent structure. That which disgusts us as barbaric actions taken by our own species are often labeled as *inhuman*, or *animal* in traditional distancing narratives, but while it may make us feel better to define the word in such a way that we refuse to acknowledge certain actants' membership in the species, we cannot make them accept the label and proclaim their own actions and species-being as inhuman. The inhuman/human

distinction is one that is only possible when they exist within the same mode of being. On the other hand, there are certain agented actions one may presume to take as forms of resistance against the move away from the human signifier. However, as a consumer, which is currently the sphere of the highest level of agented actions, our choices of resistance are of marginal import. Do not buy a cell phone, do not log into the virtual archive, do not consume media, eat clean, don't take pharmacological substances, etc. But even when these decisions are made at their most extreme point of resistance, one cannot escape the bombardment of radio signals, the excess pharmacological molecules in our water supply, or the global effects of climate change!

As beings that play within these novel modes begin to discover their spaces of operation, the limits and conflicts of these modes of life can be flushed out in their sociological and psychological transformations. But this is no easy task as people do not always latch onto these modes of being in overt and conscious ways, rather there are both manifest and latent social and psychic processes and actions that indicate the directionality in which individuals fall in the model provided below, and there is much overlap as these trajectories have fluid boundaries and multiple levels of mixing. What, then, are these beings, these "mutants who embody the contorted logic of a paradox…that torture[s] our notions of reality" (Ligotti 2010:15-16), who masquerade in the place of the human claiming that title like some historical impostor? It is almost as if there were a conspiracy, as the horror writer Ligotti has labeled it, in which we are all participants; a con that stretches across the species, in which we are all in on the secret denial of our real selves.

In the phase of simulation, the actant is somewhere along the fractal scale of a species that our theoretical fictions tell us was once human, now mimicking that anachronism of nature, that fleshy barbarian. Our violence is simulated, as is our sex. The virtual trains the real, the resultant real offshores itself onto the vertical, the exchange follows the fractal scale because "any given worth of reality can only be swapped for the equivalent worth of Vurtuality, plus or minus 0.267125 of the original worth" (Noon 1993:63). Whenever there is an exchange, even when described in pataphysical terms (the imaginary mathematics of the particular, the impossible, the absurd), a false equivalency develops. Something is lost; something is gained; but their worth is of a differential scale. Although in Noon's *Vurt* this exchange is portrayed in negative terms (the human loses and the Vurt gains in the exchange, due to the scale of individualized desires within the plot and the assumed perspective of the reader), by applying the symbolic logic of exchange in which signs are exchanged for yet other signs (the floating signifiers swap places and lose themselves), the result of the exchange falls outside of moralistic claims as to goodness and badness because in the system of signs the symbol is artificially created and destroyed as dictated by the simulation of the real. In other words, the oscillation of moral claims are so buried in the individual histories—shaped by social forces and biology—that it is impossible to make any final judgment that is transhistorical when it comes to these exchanges between one mode of life and another. Each mode will produce its own set of problems, the consequences of which can only be understood from within, and there is every reason to expect some degree of overlap between the modes; their pure forms are a rarity. In order to examine those problems we must first have a framework for understanding each mode of being so that we may

examine concerns that are particular to each mode; this is the precondition for a comparative study. The unbirth, that is, the disappearance of all that linked itself to the order of the real, is the everyday experience of an advanced modern society that is nothing but the procession of simulacra; of signs. What replaces it is not of the same value, but the value, portrayed within the exchange of signs, is indeterminate and exists only in a perspective that embraces concretized notions of being. Value that cannot be determined is of the order of the absurd, as is a concretized being; therefore there exists the need to turn to the pataphysical methodology to address and understand the absurdity of this desire in terms that can penetrate minds that adhere to any of the ideologies that fuel these ontologies.

The church was right to fear the Copernican revolution, it was the moment in which the human could no longer verify itself against the vast cosmos; when the human was confronted by the recognition of its theoretical fictions as systems of symbolic exchange. It was the moment when the human was free to disappear—to be unborn—to make space for that which proceeds it in simulated form. The simulation is the artificial construction of a reality that cannot come to grips with its own condition, where nature is mediated and the reflection is of a harsh uncaring reality, where the human assumes the burden of the real and dismantles it because it crushed them like Atlas, sapped of his Titan powers, under the weight of heavenly orbs. To reduce the human to nothing is not to leave us with nothing, for "the real fantasy [the world-without-us] is not representable. If it could be represented it would be unbearable" (Baudrillard [1970] 1998:148). So the human does not vanish without leaving traces of itself in the form of phantoms, ghosts, specters, and most importantly, mutants, that haunt the species as if it were human while

pulling a veil over the eyes of those bound to this fictional ideal for the sake of an all too understandable comfort.

The fictional ideal remains because it serves as a functional framework that enables us to understand the variance between modes of being. In fact it is through Noon's fiction, Vurt (1993), where an ontological framework for advanced modern societies appears. Noon recognized the transformations that were gaining visibility in the techno-capitalist system at the turn of the millennia and named them according to the directionality of each prevailing and emergent form. We are back in the realm of Alice,[53] only the world is no longer the quaint simulation of a little girl's dream, it is the Freudian nightmare of Scribble coping with the loss of referent as he travels the fractal scale. Scribble has lost his sister (and lover) to the Vurt and received a creature of the Vurt in exchange. In order to restore the swapped actants to their space of origin, Scribble must transform himself into something other, something no longer human but not fully of the Vurt either. Noon offers this framework to conceive of these posthuman transformations:

> There are only FIVE PURE MODES OF BEING. And all are equal in value. To be pure is good, it leads to a good life. But who wants a good life? Only the lonely. And so therefore we have the FIVE LEVELS OF BEING. And each layer is better than the one before. The deeper, the sweeter, the more completer.
>
> FIRST LEVEL is the purest level. Where all things are separate and so very unsexy. There are only five pure states and their names are Dog, Human, Robo, Shadow, and Vurt.
>
> SECOND LEVEL is the next step. It happens because the modes want to have sex with other modes. Except they don't always use Vaz, so these babies get born: Second level creatures. Or sometimes the modes get grafted together. There are many ways to change. Whatever, Second level beings go one better in the knowledge stakes. There are ten Second level beings and their

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[53] Noon's book *Automated Alice* (1996) serves as the sequel to Carroll's *Alice's Adventures in Wonderland* and *Through the Looking-Glass*, at the same time it serves as a prequel to *Vurt*. Whereas Alice's adventures introduced the shift in spatial awareness, Scribble's adventures introduce the shift in being that is triggered by these spatial transformations.

names are Dogman, Robodog, Dogshadow, Vurtdog, Roboman, Shadowman, Vurtman, Roboshad, Robovurt, and Shadowvurt. Chances are you, the reader, are a Second level of some kind.

But you just want to have sex, right? Which delivers the next level, the THIRD LEVEL, of which there are ten modes also; Robodogman, Shadowmandog, Dogmanvurt, Robodogshadow, Robovurtdog, Shadowvurtdog, Robomanshad, Robomanvurt, Shadowmanvurt, and Roboshadowvurt. These are the middle beings, where most creatures get stuck; they just haven't got the spirit to go beyond.

Except of course, some few can't stop having sex. Which gives birth to the FORTH LEVEL, of which there are only five modes, each one missing only one element, and their names are; Flake, Dunce, Squid, Spanner, and Float…

Beyond all this lies the FIFTH LEVEL. Fifth level beings have a thousand names, but Robomandogshadowvurt isn't one of them. They have a thousand names because everybody calls them something different. Call them what you like—you're never going to meet one. Fifth level beings are way up the scale of knowledge and they don't like to mingle. Maybe they don't even exist.

The Cat? He calls the Fifth level Alice. Because that was my mother's name, and it's the thing we all spring from, and try to get back to. (P. 265-266)

The only distinction drawn between his model and the one presented in *figure 3.1* below is that Noon maintains the human as a mode of pure being, which historically is presumed to have existed, but as is illustrated by the introduction of artificially accessed epi-spaces, the human is eliminated as a pure subject. It either never existed in a pure state and the human has always been defined by artificial reality, or the pure human existed in the past but with the introduction of the technological appendage it has mutated into something other. Either way the result is the same, the human is dissolved and now exists only in the levels of reproduction that mix the forms.

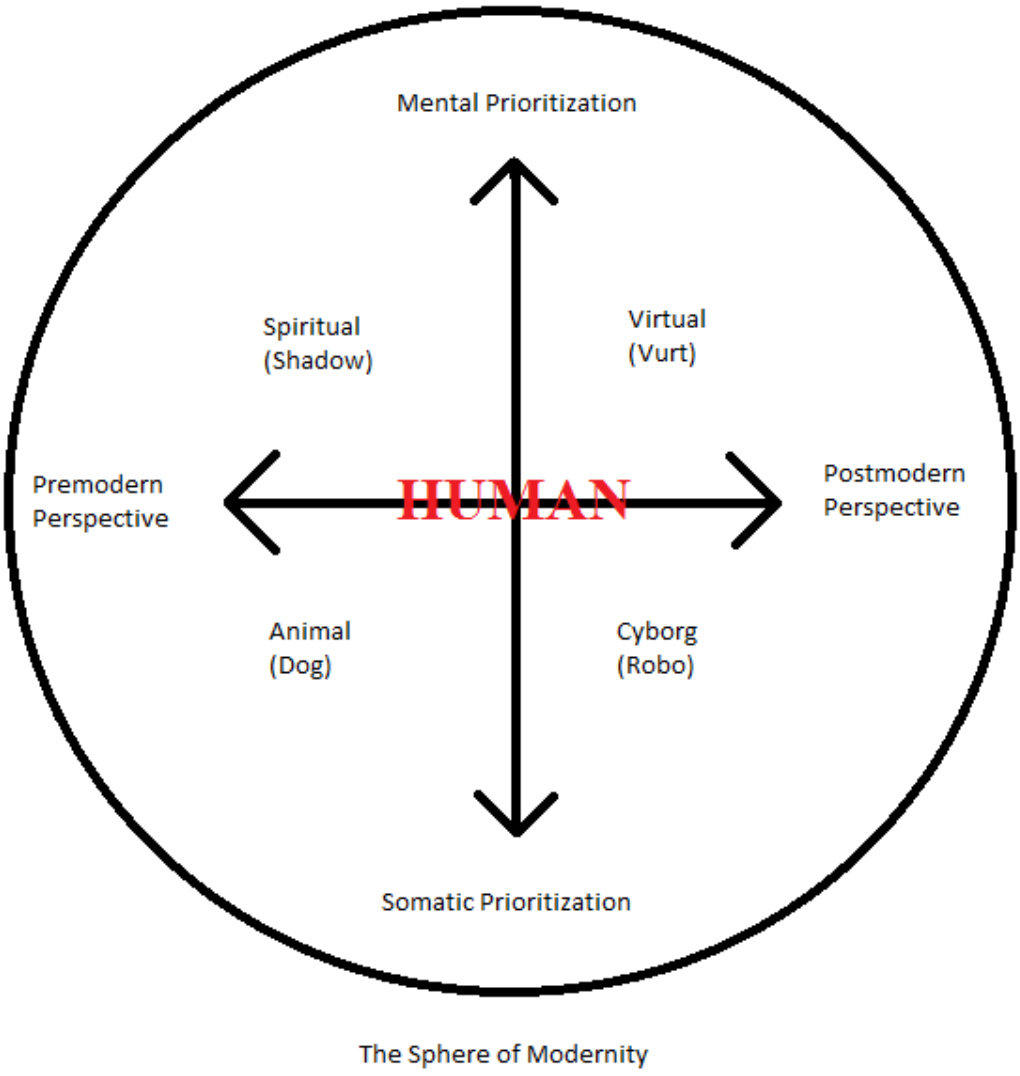

Figure 3.1: Modes of Being in the Sphere of Modernity

Noon's other categories match those of the simulation in its current form, only the names are changed here to reflect the pre- and post- modern trajectories of being that are embraced by actants who operate in this all-encompassing sphere of modernity. They are illustrated on the horizontal plane in *figure 3.1* above. The premodern forms of Dog and Shadow are more familiar to us when they are named Animal and Spiritual. These are the actants who continue to imagine a world in which they are either in a state of being that is at one with nature or a state of being that is at one with the transcendental order of the divine. The postmodern forms of Robo and Vurt are more familiar to us when they are named Cyborg and Virtual. These are the actants who integrate themselves according to the rules of technologic ubiquity, where the body and the mind are augmented and enhanced artificially. Whereas the modes of premodern thought that prevail in the modern sphere imagine spaces that are lost in probability, the postmodern forms imagine spaces that are still largely fictional. Both directions represent individualized fantasies that to a greater or lesser degree confront their own probability in the everyday lives of all actants. On the vertical plane the modes of being are divided by the focus on either mental or somatic prioritization. Both the spiritual and virtual modes imagine a transformation that stresses mind as the central component in being, regardless of the corporality of the body. The animal and cyborg modes, however, prioritize the physical body as being either at one with nature or the machine and imagine a transformation of our corporality.

Much more work is needed to examine each of these trajectories in full to understand the sociological and psychological drives that push individuals in these various directions. We can only make a few brief comments on each as a result of this

investigation that uncovered them. It is also important to note that just as there is overlap and mixing caused by the reproduction process in Noon's account, for our purposes the overlaps are caused less by biological reproduction (although surely there is some level of genetic and familial influence on the directionality of individuals), then it is by choice of the actant, available resources, and most importantly the location in space both on the horizontal (collapsed) plane and the vertical plane that makes up our fractal reality. In other words, where someone is located on planet Earth, their available experiences, and their level of engagement with the technological appendage will result in different configurations and overlaps between these various modes of posthuman being.

The Animal trajectory has the longest history, however, in modernity it is the trajectory that is most foreign to the socio-technological conditioning that we undergo. In this category are those who insist on human/animal equality, the reintegration of human and non-human eco-systems, and a prioritization of Nature as the arbiter of the good. These subjects valorize the "natural" structure of animal life, as if animals are not also affected by this modern transformation and can still provide a model for our own organization. The Spiritual trajectory has the second longest history, and has maintained relevance in modern society through an institutionalized framework by offering a transcendental narrative that answers questions that science, as of yet, has been unable to answer with a certitude that comforts those who face the brutality of the real. These subjects tend to stress the vanity of human achievement, and the inability of humans to conquer death and sickness, and in general eliminate suffering, while insisting on the existence of a divine subject who controls the real and will ultimately fix these perceived problems. Insofar as the religious and spiritual narratives of various belief systems

continue to promote this form of alienation, it appears as if this mode of being will remain a powerful force in structuring the behaviors of individuals who live as if this life is merely a precursor to the good life in transubstantiated form, where spirit will eclipse the corporality of the flesh. These two forms represent the return of premodern thought processes that downplay the import of reason in mediating the good life and in distinguishing between truth and falsity. Both of these forms stress an affective condition that prioritizes the knowledge of the subject over that of the supposed objective empirical reality.

The trajectories of postmodern perspectives emerge nearly simultaneously once technology enabled access to the fractal scales through enhanced degrees of resolution. The Cyborg trajectory is one which still prioritizes the corporality of being, but sees nature as an obstacle to be overcome. In this form are those who most embrace the narrative of the hard sciences, where biomedical and agricultural advances can solve the problems of a species that consumes more resources than nature can provide. In this mode, nature is seen not as something good that we should return to, but as something manipulable and solvable. This is accomplished through prosthetics, artificial organs, cloning, nanotechnology, genetically modified crops, terraforming, and other dreams and realities that exist in these modes of science. Many of those in this mode recognize that this does not lead to utopia, but is rather a reactionary system where the most serious problems of existence are met with the manipulation of nature to suit the needs of a dominant species, often at great cost. Finally the Virtual trajectory is one that imagines a complete revolution of the real. It extrapolates on the current resolution of the image to the greatest degree, recognizing that the depletion of resources and the expansion of the

species leads to a point where the system cannot support the weight of the real. Therefore it imagines the deletion of corporality as an extension of the collapse of horizontal space by removing the friction through the reduction of materiality to a form that is made up predominantly of energy and information. It is here where the archive resides, and it is in this mode that the archivist toils often unaware. Additionally, due to the harsh nature of transplanetary travel and the limits of speed, many speculate that this is the only way that life can reach the stars beyond our solar system because it erases time by relativizing it through an additional transformation in space.

While in some ways these all represent categories that can be understood ideologically, it is more fruitful to examine them *as if* they stood in for the real and represented theoretical fictions that guide the understanding of beings in advanced modern societies. In a fractal reality there is no verifiability as to these ontological makeups and there is no guarantor of their reality. But neither can we confirm the real when all indications point toward the simulation of the real as the model through which we experience it. By and large we experience this simulation as the reality of our condition, because we are limited to the socio-historical situation in which we find ourselves and we must confront it as if it were the real:

> Awake, you know that dreams exist. Inside a dream you think the dream *is* reality. Inside a dream you have no knowledge of the waking world.
>
> It is the same with Vurt. In the real world we know that Vurt exists. Inside the Vurt we think that Vurt *is* reality. You have no knowledge of the real world.
>
> Only a chosen few get the Haunting. They are the edge riders. Those strange people who can't make their minds up: just what am I? This is their question. Vurt or real? The haunted are of both worlds; they flicker between the two, like fire flies. What are they? Insect or flame? Both! Believe it. The haunted are special. They just don't know it yet. The Cat's advice to them;

> resist the temptation; don't jerk out. Jerking out is giving in. Giving up. Giving up on your true vocation. (Noon 1993:32-33)

Reality torn between Nature and the Artificial, this is the edge on which we precariously balance. Neither is whole, and the weighted side is unknowable except through the deployment of these theoretical science fictions which allow us to visualize the fifth dimension and grasp our condition. There is nothing that indicates, other than the reliance on an ideological crutch, which of these will dominate the other in the long run, but by examining each in kind as if they were the representation of the real we can diagnose the issues that individuals confront in their everyday lives. The key is not to fall into the temptation of dictating a singular and concretized notion, as is the temptation inherent in scientific discourse. Therefore the question is flipped as to sociology and its alliance with science and its methods. Those modern narratives have undone sociology and created the conditions for its disappearance because they have misrecognized the subject as human, when the human is already no more. To address this posthuman condition we must perform a radical critique of our discipline to determine if it is still capable of providing the diagnoses needed to meet contemporary and future needs.

> The Haunting is calling you; come up, come up! Let me take you higher. The Vurt wants you… (P. 33)

CONCLUSION
DELIRIUM SOCIOLOGICUS

> *We are the slaves of our technological improvement and we can no more return a New Hampshire farm to the self-contained state in which it was maintained in 1800 than we can, by taking thought, add a cubit to our stature or, what is more to the point, diminish it. We have modified our environment so radically that we must now modify ourselves in order to exist in this new environment. We can no longer live in the old one….*
>
> *…For all we know, the world from the next moment on might be something like the croquet game in* Alice in Wonderland*, where the balls are hedgehogs which walk off, the hoops are soldiers who march to other parts of the field, and the rules of the game are made from instant to instant by the arbitrary decree of the Queen. It is to a world like this that the scientist must conform in totalitarian countries, no matter whether they be those of the right or of the left.*
>
> *- Norbert Wiener, The Human Use of Human Beings (1950/1954)*

This text does not lend itself to a neat conclusion, because the end of the text opens rather than closes the door on the conversation. There is a spiral logic at play, the end is really just another beginning that overlaps the previous starting point, and the question is how we can navigate the spiral logic and continue to record the present for the archive. It is an archive that is tainted by diffracted lenses through which we experience and recount the story of our lives, therefore we must continue to treat our reality and our interpretations as fictional tales that play out across the fractal scales. It would be a mistake then to take the texts of the archive as a unitary whole, looking only at the probabilistic center while ignoring the outliers that represent alternative fictions as alternative experiences of this thing called life. We must apply a pataphysical perspective and see each one as a particular representation of a possible thread playing out in the simulation of the real. It is only after the human is liberated as a concept that it

is free to play itself out in every possible direction, and it is doing just that as it traverses the mechanthropomorphic trajectories. The archive needs more contributions in this vein to exhaust the concerns raised herein, to demonstrate what and where life itself resides; its functions, limitations, desires, dreams, and ultimately the finitude of each form.

On the one hand, this text has demonstrated theoretically, spatially, mentally, and somatically, that in the particular brand of reality being simulated in advance modern societies, the human is no longer a sustainable concept. This project must take on a tone of urgency as the directionality of the system implied herein is assuming a manifest narrative legitimacy among the top echelons of capital of technology.[54] The human doesn't hold up to our theoretical fictions, material limitations, probabilistic models, or the evidence examined herein as to the direction that our constructed epi-spaces are heading. The text ends with a model on which we can begin to base our investigations of the novel modes of being that are outgrowths of the human mode. To explore and exhaust those directions should be the goal of those concerned with questions of being and of the knowledge that is to be discovered within each of those modes. As a result we must next ask if sociology is up to the task of being the investigative model for uncovering this new form of reality.

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[54] In the short time since the writing of the analysis presented in the last chapter, two relevant news items have come out which bear brief mention here. First, Amazon CEO Jeff Bezos has presented a narrative for the future that repeats Musk's, representing another billionaire endorsement of transplanetary development. Bezo's told Business Insider: "New worlds have a way of saving old worlds... And that's how it should be. We need the frontier. My vision is I want to see millions of people living and working in space" (http://www.businessinsider.com/amazon-ceo-jeff-bezos-space-2014-12#ixzz3KnmdcPWU). Second, scientists have just announced a successful method for "creating three-dimensional haptic shapes in mid-air using focused ultrasound," or in other words, they have constructed a model of holographic projection that includes tactile sensations for interaction (Long et al. 2014) which has massive implications for the development of virtual reality.

Sociology was birthed as a reaction to modernity and was based on the model of the human as the central ontological category. If the human itself is unborn and subjected to the process of confronting its own disappearance, then it logically follows that without that foundation the entire project of sociology must be submitted to a critical reappraisal. While certainly sociology could construct narratives of the posthuman using its methodological tactics, by falling back on the human centrality of the social it will by necessity see these transformations through the lens of a known bias. Additionally, because the needed critique undermines the institutional framework in which we operate as social scientists, and therefore challenges our own survival within the capitalist system, any radical critique of sociology must recognize the dangerous waters in which it navigates. The bias is not therefore merely of the discipline's theoretical foundations, but so too is it one of our dependence on the material institutional support structure for our survival in the capitalist system. If the critique is solid, then the implications are not only relevant in abstract theories about mechanthropomorphic behaviors and empirically driven methodological investigations, they are also relevant in the immediate future for our own possible actions as social scientists on a very personal and individual level.

To pursue such a course is to confront the anxieties of the day head on. It requires not only the posthuman framework introduced here, but a self-diagnosis of ourselves as theorists in the service of institutions that maintain as their foundation outmoded theoretical fictions that have devolved into mere fiction. As we begin to confront these issues we will find ourselves in the role of the delirious sociologist confronted with the paradox of her discipline. To take one more step is to travel farther from home than ever before…

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