# Embedded Script

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## Abstract

The purpose of this thesis will be to explore, through the theoretical lens of Actor Network Theory and Accelerationism, the current nature and problematic elements within Human/Computer interaction, specifically as it relates to Global Capitalism and New Media artmaking. This exploration will include the roles and behaviors of contemporary Users, the nature of Global Capitalism, (as well as its next stage formation, Xenocapitalism, to be described herein) a number of global infrastructures related to the movement of both information and material goods, and the combined effects of these upon contemporary conceptions of space/time. Beyond simply identifying these elements, this exploration will also seek to devise possible strategic interventions within the Human/Computer relationship, again with a special emphasis on New Media artmaking.

*Keywords: Accelerationism, Actor Network Theory, Global Capitalism, Information Technology, New Media Art*

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## Chapter One: Introduction

The above mentioned exploration will be accomplished by first identifying and then expanding upon four Problems, which exist within both the Human/Computer relationship as well as Global Capitalism. These are: **1)** The Affirmational Cycle; **2)** Inclusion into Capital; **3)** Deformation of Space/Time; and **4)** Obscurement of Mechanism. What this paper will attempt to show is that these four Problems have led to the empowerment of a new formation of Capitalism, herein called Xenocapitalism, as well as the co-opting of technological development away from innovative and/or critical capacities. What will also be shown is the reciprocal loss of critical capacity within New Media art practices, which are reliant upon both of the above systems in their deployment.

Because the scope of the overall discourse is quite expansive, and not something which could be exhaustively explored in this document alone, it is the effects upon New Media artmaking which will be the focus of this paper's outcomes. This will be accomplished by developing a methodology of making based upon four Strategies, each designed to counteract and/or co-opt one of the aforementioned Problems. These are: **1)** Unexpected (and/or Uncomfortable) Interaction; **2)** Establishing Exteriority; **3)** (Re)Formation of Space/Time; and **4)** Hardware/Code as Art Object.

Before proceeding, it will be useful to first establish some key terminologies, as well as to specify the manner in which they are to be used within this paper. Afterwards, there will follow an overview of the theoretical literature which this thesis has used to form the foundation of its arguments and explorations. Once properly contextualized, the discussion of the four proposed Problems (as well as related concepts such as Xenocapitalism) will begin in earnest.

## Terminology

**Information Technology**, for the purposes of this discussion, will be taken to mean any digital device capable of communication and/or networking information, such as computers, phones, digital projectors, printers/scanners, satellites, cellular towers, and so on. Also included under Information Technology will be the non-networked devices and materials which form a necessary part of Information Technology infrastructure, such as fiber-optic and other cables, electrical power supplies, certain transportation systems, and a number of other elements which will be described further in the section dealing with Problem Four, the Obscurement of Mechanism. Also included as an essential component of Information Technology will be the Global Internet, which is comprised of both the Surface Web, and the Deep Web, as well as certain networks which are a hybrid of the two.

The **Surface Web** is the commonly accessible and easily searchable Internet, also known as the mainstream Internet. This is what one accesses when using a typical web browser or mobile device, and is where mainstream social media services are hosted. The **Deep Web** is a non-searchable (at least by any conventional means) and separate form of the Internet, which must be accessed through special web-browsers designed to anonymize the location of the user. Also called the Hidden, Dark, or Invisible Web, the Deep Web uses very different technical protocols from the Surface Web, and is known to commonly host content and activity which is illegal in most areas. Certain systems, such as private corporate or government servers and protected servers used by banks for online financial transactions, fall somewhere between the Surface and Deep Web, being accessible from the former but making use of technologies and protocols of the latter.

**Global Capitalism** will be used herein to describe the system of global financial and capital exchange, as expressed through stock markets, national currencies, transnational corporate entities and the international movement of industrial and commercial goods. The most prominent feature of Global Capitalism, compared to other forms of Capitalism, is the process of **Globalization**. Through this process, currencies, consumer goods and natural resources, as well as information, technology and cultural practices/products (such as language) are made available trans-globally. As

will be shown, this process is reliant upon certain major infrastructures, including the Global Internet.

**Neoliberalism**, which is mentioned prominently in Accelerationist writing, has been used in a number of different ways over time. In its most simple usage however, it refers to the increased privatization and de-regulation of economic mechanisms, as well as the corresponding political attitudes and activities which support and/or enact the same. It is these political elements which are most relevant to this paper, as well as those aspects of Neoliberalism which relate to the development, dissemination, contextualization and regulation of technology.

**New Media Art** will be used to refer to any form of artmaking (including installation, sculpture and performance) which makes use of Information Technology (as described above) or one of its supporting/related technologies in some integral way. This includes, but is not limited to, web-art, digital projection, machinic art, digital video/animation, computer/Arduino-based interactive software or devices and networked installations. Also included under New Media will be works which deal directly with the subject of technology, but which do not necessarily use any of the above forms or devices.

## Chapter Two: Literature Review

### Actor Network Theory

The first of my two primary theoretical sources is Actor Network Theory, a field of social theory developed in large part by Bruno Latour. In his work *Reassembling the Social: An Introduction to Actor Network Theory*, Latour takes on many different aspects of social theory as it existed at the time. Chief among these is the classification of "society" or "social ties" as having some sort of existence (or even material presence) of their own, outside of the actions and entities which enact them.

Of these he says, "[they're] taken as the name of a specific domain, a sort of material like straw, mud, string, wood, or steel. In principle, you could walk into some imaginary supermarket and point at a shelf full of 'social ties'"[1] Within A.N.T. he designates them quite differently, as "a movement, a displacement, a transformation, a translation, an enrollment. [They are] an association between entities… during the brief moment when they are reshuffled together"[2] Here we see societal "forces" as a byproduct of the interactions between social entities, rather than something which exerts upon

[1] Bruno Latour, *Reassembling the Social: An Introduction to Actor-network-theory,* (Oxford: Oxford UP, 2005) 64.
[2] Latour, "Reassembling," 64-65.

them from "outside". While the impact of these ties is still very real, this position de-privileges them as the authors of social reality.

Operating from this premise has potential implications at every level of social theory. For the purposes of this discussion however, the most essential outcome relates to the inclusion of objects as social actors. While it is radical from the viewpoint of most existent theory to include non-living objects into the social "realm," (even with the help of A.N.T. it is difficult to entirely avoid using figurative language here) Latour argues that "no science of the social can even begin if the question of who and what participates in the action is not first of all thoroughly explored, even though it might mean letting elements in which, for lack of a better term, we would call non-humans."[1]

Put in the simplest of terms, within A.N.T "any thing that [modifies] a state of affairs by making a difference is an actor"[2] In other words, if something is capable of changing the conditions of a place, entity or situation, whether directly or as a result of its interaction with something else, then that thing is possessed of social agency. Objects must therefore be included, as the "continuity of any course of action will rarely consist of [only] human-to-human connections…or of object-object connections, but will…zigzag from one to the other"[3]

[1] Latour, "Reassembling," 72.
[2] Latour, "Reassembling," 71.
[3] Latour, "Reassembling," 71.

It is important here to make clear that agency, in this context, has nothing to do with sentience. A.N.T. does not claim that objects are aware of themselves or their impact, or that they choose (in the same manner that a living being would choose) to enact their agency. Rather, it simply states that these abilities are not necessary to have an impact at the social level. Furthermore, that as with "society," "sentience" does not represent a special dimension of existence, where the rules of interaction are magically different.

The new image of the social which this depicts, in which humans and objects (as well as non-human lifeforms) are operating at the same level, generating "society" out of their collisions and overlaps, is encouraging in its ability to disentangle itself from the overwhelmingly anthropocentric viewpoint of other social theories. It also privileges individual actors over faceless constructs. It's about *what happens* and *which things do what* as opposed to *how things are*. It will also provide an ideal context for exploring the relationship between humans and Information Technology.

To get there however, we must first take a slight detour from Latour. In Reassembling the Social he states that "Objects help trace social connections only intermittently"[4] His distinction here is based on the fact that most types of objects **A)** Do not seek out or initiate interactions, **B)** Do not normally continue interactions indefinitely, least of all "intangible" ones and **C)** Do not possess an active memory of their interactions (meaning one which is not

[4] Latour, "Reassembling," 74.

reliant upon the interpretation/extrapolation of a third party). This statement does not hold up when it comes to Information Technology. Networked digital devices possess the ability for self-initiated, fully autonomous action, as well as an active memory which is both precise and comprehensive (and which is used to initiate yet further courses of action). In this way, Information Technology (especially when viewed in terms of the Global Internet) is tracing social connections continuously.

That said, later sections of this document deal with Information Technology as playing into (and feeding off of) systems which are not only active, but which possess a distinct political quality as well. Specifically, that of Global Capitalism (which by its nature is inclusive of certain political models/movements). Latour alone does not provide the support needed for this claim. Instead, we must look to science and technology theorist Langdon Winner, whose work *Do Artefacts have Politics?* explores this exact issue.

Winner states that "The issues that divide or unite people in society are settled not only in the institutions and practices of politics proper, but also, and less obviously, in tangible arrangements of steel and concrete, wires and transistors, nuts and bolts."[5] In keeping with Latour, Winner is not claiming here that objects possess anything akin to a political belief. Instead, he is arguing that the ramifications which objects (and especially technologies) can have on the political sphere goes beyond the manner in which individual

[5] Langdon Winner, "Do Artefacts Have Politics?" (*Daedalus* Vol. 109, No. 1, 1980) 128.

Users deploy them. That despite technology being seen as a neutral platform for other activity,[6] certain technologies, due to the nature of their particular agency, shade the outcomes of their interactions towards specific political modes.

Winner also joins Latour in separating influence (or agency) from intent. In this case, he means not only that it isn't necessary for objects to have intention to effect things politically, but also that the intentions of developers and Users do not always dictate the political outcomes of a technology. On this he says, "Indeed, many of the most important examples of technologies that have political consequences are those that transcend the simple categories of 'intended' and 'unintended' altogether."[7]

Information Technology is a prime example of this, as I will Illustrate in later sections. For now though, I will move on to a review of some of the Accelerationist texts which have been most influential in that field, as well as to this document.

## Accelerationism

Accelerationism is a field of social theory which seeks to make use of the existing methods and infrastructures of Global Capitalism in order to bring

[6] Winner, 125.
[7] Winner, 125.

about radical shifts in the direction of human development. Rather than supporting the intended outcomes of Global Capitalism, Accelerationism instead seeks to deterritorialize it from its current fields of thought and modes of operation, and by doing so radicalize it against itself. In effect, this means the use of Capitalism (and its constituent systems, devices and methodologies) for the creation of a yet-to-be-defined global Post-Capitalism.

The earliest examples of Accelerationism, however, are different in significant ways from what I have dubbed the "new wave" of more contemporary Accelerationist theory. Early writers, such as Nick Land, called for a speeding-up[8] of the existing functions of Global Capitalism. The hope here, was that it would generate a techno-social state advanced enough to halt its own destructive nature. Or, alternately, that it would violently tear itself apart. This all-or-nothing attitude has been dismissed by the new wave of writers, as has the belief that any version of Capitalism as it exists now, regardless of how greatly it has been sped up, is capable of shedding its destructive qualities. That, in fact, this destructive tendency is one of its core tenants, rather than a mere side-effect.

Instead, what the new wave of theorists call for is the use of Global Capitalist means (which are able to operate at the scale and in the areas required) to

[8] Alex Williams and Nick Srnicek, "#ACCELERATE MANIFESTO for an Accelerationist Politics," (*Critical Legal Thinking*, Web, 04 Feb 2016.)

bring about radically different, and wholly unpredictable ends. In an editorial for e-flux titled *Accelerationist Aesthetics*, Gean Moreno discusses this shift:

> As a politics, in the version that comes filtered through the writings of Nick Land, accelerationism has been taken to task by a number of theorists…However, as it is being questioned and bashed, there is a parallel effort afoot to think accelerationism beyond the boundaries that were established for it by Land et al. [other writers] have been looking for ways around the shortfalls and blindsides of an early accelerationism, generating new ways to think through it, employing it less as a drive toward meltdown than a cunning practice through which to capture and redeploy existing energies and platforms[9]

The nature of this "cunning practice" varies from writer to writer, (or artist to artist, as the case may be) but has several key elements which are recurrent throughout. Foremost amongst these is the rejection of Neoliberalism, on the basis that it has failed on a number of crucial levels. Alex Williams and Nick Srnicek express this at length in *#ACCELERATE MANIFESTO for an Accelerationist Politics*.

To begin with they claim that "neoliberal programmes have only evolved in the sense of deepening."[10] This deepening refers to an entrenchment, or "fundamentalism"[11] within Neoliberal beliefs, at the expense of the social advancement which that system is ostensibly meant to bring about. The primary cause of this is a loss of vision or ingenuity from within Neoliberalism. Having been unable to devise solutions to global crises,

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[9] Gean Moreno, "Editorial – 'Accelerationist Aesthetics,'" (*e-flux*, Web, 04 Feb 2016.)
[10] Williams and Srnicek.
[11] Moreno, "Accelerationist Aesthetics."

brought about primarily by Global Capitalism, Neoliberalism has instead looked inward, retreating from global responsibility altogether.[12]

In part, this has manifested as calls to return to historical models of economics which are not up to the task of reforming Global Capitalism in a post-internet world, but which instead echo the historic importance of Neoliberalism itself. The other aspect of this retreat from the global comes in the form of direct-action politics. According to Accelerationist thought, the "local" has been glorified in an attempt to create the illusion (or perhaps bolster the delusion) that individuals still possess the ability to counter the problems which the world is currently facing, while simultaneously reinforcing Neoliberal political/economic systems as the only valid approach to doing so.

> The new social movements…[have been] unable to devise a new political ideological vision. Instead they expend considerable energy on internal direct-democratic process and affective self-valorisation over strategic efficacy, and frequently propound a variant of neo-primitivist localism, as if to oppose the abstract violence of globalised capital with the flimsy and ephemeral "authenticity" of communal immediacy.[13]

This "immediacy" is another important aspect to the Accelerationist critique of Neoliberalism. Part and parcel with Neoliberalism's inability to effectively cope with present problems is its lack of strategies for the future. Thus, it has used its advocacy of localism to not only retreat from the idea of global

[12] Williams and Srnicek.
[13] Williams and Srnicek.

action, but to also abandon the future, collapsing time into what writer Eugene Brennan calls a "perpetual now."[14]

The effects of this on technology can be clearly seen. Neoliberalism has:

> begun to constrain the productive forces of technology, or at least, direct them towards needlessly narrow ends… rather than a world of **space travel**, **future shock**, **and revolutionary technological potential**, we exist in a time where the only thing which develops is marginally better consumer gadgetry. Relentless iterations of the same basic product sustain marginal consumer demand at the expense of human acceleration.[15]

In this is reflected both the lack of ingenuity and the localized nowness of contemporary Neoliberalism. Computers and Information Technology have been stripped of their innovative and transformational qualities, and instead reduced to mere gadgets which stand in the way of the future they were once looked to to help create. We see here what Winner means when he says "If we suppose that new technologies are introduced to achieve increased efficiency, the history of technology shows that we will sometimes be disappointed. Technological change expresses a panoply of human motives"[16]

In this case, that technological change is being utilized to reinforce Neoliberal fundamentalism, while retaining the impression that "The Internet and the broader digital revolution"[17] are inherently progressive, regardless of how society actually implements them. This inherently future-oriented quality is

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[14] Eugene Brennan, "'debate Is Idiot Distraction': Accelerationism and the Politics of the Internet," (*3AM Magazine RSS*, Web, 04 Feb 2016.)
[15] Williams and Srnicek. (emphasis added)
[16] Winner, 124.
[17] Brennan.

something which Eugene Brennan, (in his article *"Debate is Idiot Distraction": accelerationism and the politics of the internet*) argues is absolutely not true. By reinforcing the notion that it is, while simultaneously diminishing actual innovation within digital technology, Neoliberalism is able to keep people satisfied within its perpetual now through the tacit (and vague) promise that technology itself is building the future, so that they don't have to. The "marginally better consumer gadgetry" which emerges each year is the token proof of this promise.

A similar relationship has formed within the creative fields. Here too localism and an obsession with an ever-present nowness has taken hold. Artmaking has taken on the guise of criticality through its calls for a type of direct-action that only reinforces the system it is ostensibly critical of. Simultaneously, Global Capitalism becomes ever more present as "art becomes decor for the offices of hedge fund managers, and…the art world—as David Graeber put it somewhere—mutates into 'an appendage to finance capital.'"[18]

Concerned with more than merely economics, Accelerationism rejects this:

> Responses to disappointments with contemporary culture and technology do not have to result in self-indulgent retreat. Accelerationist aesthetics refuses such vain quests for a 'lost identity' and searches instead to rediscover 'future-shock', to awaken us from [our] sense of ahistorical slumber.[19]

[18] Moreno, "Accelerationist Aesthetics."
[19] Brennan.

With this and similar calls to action, it seeks instead to preserve and re-invigorate the critical edge of the arts,[20] as well as return to technology a socially active and creative drive. At the intersection of both these goals sits New Media art. As a consequence, New Media Art has both the most at stake in this discourse, as well as potentially the most to offer in terms of opposition.

## Intersections

When turned directly towards Information Technology and the global net, some notable parallels emerge between A.N.T and Accelerationist writers. Williams and Srnicek, in their Manifesto, mirror Latour in their belief in the social importance of material things: "Technology and the social are intimately bound up with one another, and changes in either potentiate and reinforce changes in the other."[21] Winner comes from the other side, saying, "Those who have not recognized the ways in which technologies are shaped by social and economic forces have not gotten very far."[22] This inclusion of economics nicely bridges the two fields, as Accelerationism has always had a strongly economic bent to it.

[20] Moreno, "Accelerationist Aesthetics."
[21] Williams and Srnicek.
[22] Winner, 122.

When viewed in terms of this reciprocal relationship, technology (which has experienced a period of extreme development in the past century) then offers a potentially hopeful note in regards to social and political matters as well. The development of one may be used to develop the others. Latour, in an article titled *Networks, Societies, Spheres: Reflections of an Actor-Network Theorist* spoke about some of the more interesting elements he saw as emerging from digital networks: "in the new networks…the expansion of digitality has enormously increased the material dimension of networks: The more digital, the less virtual and the more material a given activity becomes."[23] What he means here, is that many of the intangible elements involved with communication and connection become physically actualized within digital systems. The network takes on a specific shape, through digital infrastructure, (fiber-optics, wireless routers, etc.) and are therefore less reliant on "virtual" connections. He goes on to say, "We have the social theory of our datascape. If you change this datascape, you have to change the social theory."[24]

This echoes the relationship of reciprocal changes expressed by Williams and Srnicek, as well as Winner. Combined with the increased physicality (and therefore direct interactivity) of digitally activated networks, what seems to be on offer here is a **tangible** method for the transformation of socio-

[23] Bruno Latour, "Networks, Societies, Spheres – Reflections of an Actor-Network Theorist," (*International Journal of Communication* Vol 5, 2011) 802.
[24] Latour, "Networks," 802.

political reality. However, theorists in both fields remain skeptical, not convinced that the avenues which technology is currently headed down are the right ones, or that development is happening quickly enough:

> Given the enslavement of technoscience to capitalist objectives…we surely do not yet know what a modern technosocial body can do. Who amongst us fully recognizes what untapped potentials await in the technology which has already been developed? Our wager is that **the true transformative potentials** of much of our technological and scientific research remain unexploited, filled with presently redundant features (or pre-adaptations) that, following a shift beyond the short-sighted capitalist socius, can become decisive.[25]

Latour expresses a similar sentiment in *Networks, Societies, Spheres*:

> Digital [development] has generated a lot of hype, but I believe…that **its true development is still to come** and that it will be necessary to invest also, in no small part, in the theoretical import of the notion of network.[26]

These developments-yet-to-come, which Accelerationism reminds us are (or should be) unknowable from our current position, are what will become the focus of this document. At least in regards to the use of technology in New Media artmaking.

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[25] Williams and Srnicek. (emphasis added)
[26] Latour, "Networks," 810. (emphasis added)

## Chapter Three: Theory

Before moving on, I will briefly restate here the manner in which the above mentioned fields will be used in the main body of this document. Accelerationism will be the dominant framework of the exploration which follows. Both the Problems which my methodology will be based upon, and the majority of the terminology which I employ will fit directly into an Accelerationist context. A.N.T on the other hand, provides a few key conceits which allow for Information Technology to be discussed without being constrained by the limitations of its "intended use" or its perceived place within either "society" or the mind of the User. That is not to say that those elements won't be considered, merely that they will also not be counted as definitive or exhaustive.

### Affirmational Cycle

The first of the Problems from which my methodology will be formed, is that of the Affirmational Cycle. In addition to being first, it is also by far the most "human," being rooted almost entirely in the actions, demands and expectations of the User. In many ways, these actions/demands/expectations are an expression of the Neoliberal attitudes already described in the above section.

As Information Technology has become entangled with everyday life, its dual potentials for both socializing and political engagement have become blurred together. While Users attend to "the constant maintenance of [their] personal identity through social media"[27] they are also tending to their (equally contrived/constructed) political identity. This identity is defined not through actual political action, which is largely not demonstrable in online arenas, but rather through "awareness," which is. Because of this unique position afforded by Information Technology, in which information is more visible than action, the already prominent activity of "endowing banal quotidian action with a 'political' status…has [been] even more problematically exacerbated in online activity."[28]

Within this context, where "politics" operates primarily as a reflection of identity, the only standard which Users are expected to hold themselves to is their own feeling of engagement. With functionally infinite discourses available online, Users can therefore engage only in those which enhance this feeling. The consequence is the rapid expansion of an "insular segregation from the popular sphere…[as] the already-converted preach to each other within micro-communities."[29]

[27] Brennan.
[28] Brennan.
[29] Brennan.

Those few in the minority of users who do not participate in this form of online activism are either left with no legitimate spaces in which to operate, or have their words and activities co-opted by the majority. It is here that we come back to the words of Williams and Srnicek, and see the rise of "self-valorisation over strategic efficacy."[30] Only now, the attitude has separated from the interpersonal/large-scale context of overarching Neoliberal systems and been fully internalized by the individual User, (whether willingly or by the force of the online majority).

Once internalized, the attitude invades both sides of the political equation, dominating the actions and attitudes not only of the established Neoliberal political/economic order, but also those groups which position themselves as counter to it. The so-called revolution is based on a "politics of localism, direct action, and relentless horizontalism…content with establishing small and temporary spaces of non-capitalist social relations, eschewing the real problems entailed in facing foes which are intrinsically non-local, abstract, and rooted deep in our everyday infrastructure"[31] In the exact same manner as the established order, we see its "detractors" practicing what Moreno (quoting Slavoj Žižek) describes as "the superstitious compulsion to make some gesture when we are observing a process over which we have no real influence."[32]

[30] Williams and Srnicek.
[31] Williams and Srnicek.
[32] Gean Moreno, "Notes on the Inorganic, Part I: Accelerations," (*e-flux*, Web, 04 Feb 2016.)

The "foes" which Williams and Srnicek are speaking of here, and the "process" which Moreno speaks of, are the systems of Global Capitalism, **not** merely the established Neoliberal order, even though it is the latter and not the former which these "localist counter-politics" are aimed at. Where we have now found ourselves is a political landscape where both sides are not only functionally identical, (distinguishable only in their details, but not their basic motivations/methodologies) but also directed specifically **away** from the actual problems facing them. Within this landscape, any sense of a true exteriority quickly dissolves. As it does so, any external landmark which might be used to establish a new course of action is likewise lost from sight. In addition, politics and Information Technology, so far intermingling primarily at the social media level, become even more entangled as the interiority of this closed-circuit politics/sociality becomes a wholly un-differentiable mass.

Integrated in this way, (but more immediately accessible) Information Technology becomes the primary method by which individuals can prove their expertise within the political arena. The result is a "technological fethishism among…media theorists, bloggers, leftists, and conscientious web participants, which covers over a lack on the part of the subject. The fetish appeases guilt and sustains a somewhat deluded faith that we are well-informed, politically engaged citizens"[33] Hoping to match this "expertise", the

[33] Brennan.

fetish migrates into the popular realm as well, where it further encourages "immediacy over sustained reflection and engagement."[34] Additionally, once popularized, there emerges a demand (in the Capitalist meaning) for devices which reinforce this relationship. Technological development is directed away from innovation, and towards the above type of immediacy/appeasement.

We are now getting to the heart of the matter, as it relates to this thesis exploration. Having spiraled into itself a sufficient number of the times, the political/social/technological process, as activated by the Global Internet, has narrowed down to a closed circuit that need include only a single User and Device. The Human/Computer relationship has become a pure expression of the Neoliberal "perpetual now," removed utterly from both the global and the temporal. It is Computer-as-Mirror.

Devoid of any sense of exteriority, in either time, space or socio-political context, the reflection in the screen becomes a self that is also a site. A self-sustaining node of unhindered self-expression/affirmation, where the User can gain satisfaction from their pre-scripted political/philosophic stance within a communally constructed illusion of simultaneous awareness/impact. The seeming contradiction which is introduced by this "communal" element (they are, after all, still online) only deepens the appropriateness of the mirror analogy.

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[34] Brennan.

For while the mirror can show only the extreme locality (both spatially and temporally) of its subject, it is the socially constructed standard of "beauty" (or awareness, radicalism, conventionality, etc.) that the subject uses to judge that locality. What is most dangerous in this relationship, is that when outside factors do sometimes manage to work their way in and cause the subject (User) to doubt their reflection, the prescribed course of action is yet deeper self-affirmation. And so, "Technological progress, rather than erasing the personal, has become almost entirely Oedipalized, ever more focused on supporting the…individual subject."[35]

In their performance of this ever-further receding into the self, both the established Neoliberal order and the horizontalist movements which "oppose" it[36] also make ever more extensive use of Information Technology and its hyper-globalized infrastructure. This calls for the ever-further expansion of that infrastructure, which in turn feeds the Global Capitalist processes which make use of it. In their efforts to re-affirm themselves of their non-dependence upon (or revolutionary stance against) such systems, they directly empower them, while also pushing them further and further out of view.

The outcome has been the creation of (or at least the substantial empowerment of) a form of Global Capitalism that is autonomous,

[35] Brennan.
[36] Williams and Srnicek.

unchecked, and fully outside of the human domain. Global Capitalism becomes, to paraphrase Moreno, Xenocapitalism.[37] It is from out of this that our other Problems emerge.

## Xenocapitalism

In controversies about technology and society, there is no idea more provocative than the notion that technical things have political qualities. At issue is the claim that the **machines**, **structures**, **and systems** of modern material culture can be accurately judged not only for their contributions of efficiency and productivity, not merely for their positive and negative environmental side effects, but also for the very ways in which they can **embody specific forms of power and authority**.[38]

In *Notes on the Inorganic (Part I)*, Gean Moreno, while describing certain qualities of contemporary Global Capitalism, uses the term Xenoeconomics.[39] What he is alluding to here is that the methods through which capital is acquired, as well as the ways in which that capital is utilized, no longer take into consideration the goals/requirements of humanity. That the capitalist "for-us," which has to date been an ever-present presumption of capitalist analysis, no longer exists.[40]

What is necessary is to think the in-itself of capitalism outside of any correlation to the human…For surely…capital is ultimately a machine which has almost no relation to humanity whatsoever, **it intersects with us, it has us as moving parts, but it ultimately is not of or for-us.**[41]

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[37] Moreno, "Part I."
[38] Winner, 121. (emphasis added)
[39] Moreno, "Part I."
[40] Moreno, "Part I."
[41] Moreno, "Part I." (emphasis added)

What follows is a detailed breakdown of the elements which, through my research, I have identified as being active within (as well as actively contributing to) Xenocapitalism. This includes Inclusion into Capital, the Deformation of Space/Time, and Obscurement of Mechanism. These same elements, (called Problems in order to clearly distinguish them, as well as keep the language of this document outcome-oriented) are also active within those parts of the Human/Computer relationship which have been obscured/disconnected through the Affirmational Cycle (itself our first Problem). Each component of my methodology, to be detailed in the section following, will be oriented towards illuminating and counteracting one or more of these Problems within New Media artmaking.

## Inclusion into Capital

In *Notes on the Inorganic (Part I)* Moreno discusses the work of nanotechnologist Dr. K. Eric Drexler, who is considered a pioneer of that field. In his book *Engines of Creation* Drexler describes a potential hazard presented by the technology. Nanobots, which are a theoretical/experimental type of microscopic machine, would be capable of converting one type of matter into another by rearranging molecules. They would also be capable of self-replication, constructing more of themselves out of available materials. The hazard which Drexler describes is an apocalyptic scenario in which nanobots run amok and, in an ever-accelerating wave of self-replication,

consume all of the organic material on the Earth. With nothing left to convert, the machines would become inert, leaving behind an undifferentiated grey sludge, or goo.[42]

While Drexler himself eventually disproved his own theory, Moreno uses this "grey goo problem"[43] as a useful metaphor for contemporary Global Capitalism. There are two parts to this. Firstly, he sees the current manner in which capital is acquired as being both naturally all-inclusive, as well as extremely ecophagic (consuming the organic). He describes this as "the very dissipative tendency that is at the core of capitalist production itself—the movement toward resource elimination as the necessary correlation to the expansion of capital."[44] He then goes on to say, bringing up for the first time the idea of an alien element to Capitalist activity, "What if we propose that capitalism has something like agency and that this agency is manifested in ecophagic material practices? Capitalism eats the world. Whatever transformations it generates are just stages in its monstrous digestive process."[45]

The system so described, this insatiable "alien monstrosity"[46] is significantly different from conventional depictions of the mechanisms of Capital. Having similarities to Heidegger's notion of the "Standing Reserve", (as discussed in

[42] Moreno, "Part I."
[43] Moreno, "Part I."
[44] Moreno, "Part I."
[45] Moreno, "Part I."
[46] Moreno, "Part I."

his work *The Question Concerning Technology*) this globe-spanning Xenocapitalist force is not content to merely have "everywhere everything" at hand, for the **potential** of future use[47] but is instead compelled (by its own agency, now fully removed from the human sphere) to actively **consume** all available resources, regardless of whether or not this results in any sort of functionality. Human use (and with it the ostensible goal of the market, Profit) has been removed from the system. "Everywhere everything" is to be consumed, (made into Capital) because that is simply what this new form of Capitalism does, with no distinction made between means and ends.

The second realization which Moreno draws from the "grey goo problem" concerns not material, (or space) but time. He sees in this now defunct apocalyptic scenario, as well as the manner in which it was adopted into popular culture at the time, an overall cultural shift in which an oncoming decimation of the organic world is accepted as an objective and unavoidable fact.[48] To illustrate this, he describes a speculative architectural project (by a company called InfraNet Lab/Lateral Office) which would convert oil rigs in the Caspian Sea into variable live/work spaces once the oil reserves in that area are depleted. About this, he says:

> What is astonishing in this is that the depletion of petroleum is naturalized as empirical fact—**as if it had already happened**…This is the project's pragmatic realism. **A coming decimated landscape**—the end point of a process so natural that it can be accounted for before it is even set in

[47] Martin Heidegger, *The Question Concerning Technology, and Other Essays*, (New York: Harper & Row, 1977) 7-8.
[48] Moreno, "Part I."

motion—becomes a determinant factor in the architectural production of the present[49]

This acceptance of a "desertified"[50] future landscape represents a new dimension to Capitalist inclusion; one which Xenocapitalism readily grabs hold of. Here we see not only the inclusion of all **present** materials into the stores of Xenoeconomic capital, but all **future** resources (however hollow or secondhand they may be) as well. Reclamation occurs simultaneously to decimation. It is in fact, the very future itself which has been claimed, collapsing the future into the present (as far as both the market and current cultural production is concerned) in an echoing of the Neoliberal "perpetual now" described by Brennan.

This is the expansive and indiscriminate Inclusion into Capital that must be addressed by this document and the methodology it seeks to establish. It is an inclusion that grabs hold not only of all available resources, but of the collective future, and with it our collective culture as well. This second aspect, in which culture is adapted to suit Xenocapitalism, is especially worrying as it threatens (echoing aspects of the Affirmational Cycle) to eliminate the potential for technological development and artmaking which are oriented towards anything external to Xenocapitalism itself. It is anathema to the type of criticality which this thesis hopes to re-invigorate.

[49] Moreno, "Part I." (emphasis added)
[50] Moreno, "Part I."

Possibly even more troubling, is the potential for the **biological** adaptation also inherent in this type of inclusion. Winner, while describing the development of mechanical tomato harvesters in California, details the steps in which first the workers (who had previously hand-picked the tomatoes) were replaced, and then, in order to accommodate the roughness of the new automated pickers, agricultural researchers had to breed "new varieties of tomatoes that are hardier, sturdier, and less tasty."[51] While the breeding of particular qualities into plants (as well as animals) has long been practiced, doing so in order to accommodate the mechanical necessities of an automated, (and inherently Global Capitalistic) process is a much newer development.

In the context of Xenocapitalism, in which humanity is no longer the metric for capitalistic activity, it carries with it the threat of human adaptation as well. Winner, having recognized this trend, speaks also of "the all too common signs of the adaptation of human ends to technical means."[52] The cultural theorist Steven Shaviro takes this a step further in his article *More on Accelerationism*, in which he describes a short story by Paul Di Filippo titled *Phylogenesis*. The story describes an invasion of Earth by massive alien entities. On the brink of extinction, geneticists engineer a new breed of humanity, designed to survive as parasites within the bodies of the invaders. While doubtful that Di Filippo intended this as an allegory for Global

[51] Winner, 126.
[52] Winner, 123.

Capitalism, Shaviro believes that it works perfectly as exactly that.[53] It details the natural endpoint of the process described by Winner, in which humans are adapted to fit the machinery of the Xenocapitalist system; no different than tomatoes. In this scenario, while not "consumed" in the most obvious sense, humanity has none the less been rendered into a form of Capital, or at the very least an aspect of Capitalist infrastructure.

But what of Information Technology? Where does that fit into this Problem? In the most direct sense, it is through the use of Information Technology towards Global Capitalist ends. Despite the belief of many of the web's strongest proponents, the Internet "does not have magically democratic powers of resistance to monopolies of power and capital."[54] Not only does a huge amount of money flow through the Internet daily, (via online shopping, banking, etc.) but the aesthetics of the net are also increasingly corporate/capitalistic in appearance. Early versions of the web contained no Copyright or Trademark notices, (both signifiers of "intellectual property" as defined by the market) but they can now be seen everywhere, including personal webpages.

Even the "underground" movements of the web are not immune. While critiquing the work of Robert McChesney, Brennan says "[McChesney]…also hints at these misguided approaches to technology and politics in his

[53] Steven Shaviro, "More on Accelerationism," (*The Pinocchio Theory*, Web, 04 Feb 2016.)
[54] Brennan.

criticism of…hackers who, he says, often persist in the naïve faith that 'the revolutionary nature of the technology could trump the monopolizing force of the market'"[55] The Deep Web, which has long been the domain of so-called hackers, is indicative of this. Massive black markets continue to operate through it, despite an increasing awareness by various law enforcement agencies which has led to several large-scale raids. Though not affiliated with either governments or legal corporations, the mechanisms of Capital are still very much present in even the deepest, most obscure corners of the Global Internet.

In short, Information Technology has been actively, and quite thoroughly, integrated into the mechanisms of Global Capitalism. But the reverse has also happened. Through Information Technology, Capitalism has expanded exponentially. The particulars of this will be discussed in following sections, but what is most essential to keep in sight is that each time Information Technology has been subject to the Inclusion into Capital, so too has Capitalism been subject to the Inclusion into Information Technology, with more and more of its systems becoming dependent upon the automation and connectivity of digital computing and the global net. In keeping with this, there has also formed a corresponding cultural belief in the "coming webification," (so to speak) in which Inclusion into Information Technology is accepted as factually as environmental decimation.

[55] Brennan.

These bi-directional intersections empower both sides, while further pushing human ends out of the picture. Despite the seeming ever-presence of social media,[56] more and more of what Information Technology does is unseen, and for the soul benefit of Xenocapitalism.

## Deformation of Space/Time

A number of Accelerationist writers have addressed this next Problem, that of the Deformation of Space/Time. Moreno, in *Notes on the Inorganic (Part II)* collects several of these, providing a useful synthesis of the overall discourse. Essentially, the topic revolves around two main terms: **1)** Non-Space, which emerges from the work of Marc Augé, and **2)** Any-Space-Whatever, which comes from Deleuze. Shaviro, (again, used here as collected and laid-out by Moreno) in his explorations of film in the book *Post-Cinematic Affect*, compares and contrasts these two different representations of space, both of which are at play within the world of Global Capitalism.

Non-Spaces are:

> spaces that are not historical, relational, or concerned with identity. They lack characterization and are always stamped with instructions ("This line for foreign nationals," "No Smoking,'" ubiquitous arrows and other ideograms, etc.). They exist to fulfill very specific ends—think of transportation terminals

[56] Brennan.

or ATM kiosks or entire railway systems. **Non-spaces tax any sharp distinction between architectural object and infrastructure.**[57]

Spaces such as "seaports, warehouses, work lofts, storage buildings, indoor stall markets, airports and airplanes, parking garages, [and] pre-fab offices."[58] Places which are simultaneously both homogenous and interchangeable, yet also distinct in their disconnection from the context of their surroundings. The Any-Space-Whatever on the other hand:

> as it was originally conceptualized, is different from the non-space. It doesn't begin as a space devoid of certain qualities or erected with a very narrow end in mind. Rather, under certain conditions, it "de-laminates" from the temporal and historical coordinates that define it. [It] practices a kind of becoming-generic in the sense that it eradicates whatever identity was inscribed on it by unplugging from "that which happened and acted" in it, thus disallowing certain habitual connections and ways of thinking, dismantling established orders, and clearing the way for unexpected and latent potentials to be actualized.[59]

As it was originally conceived by Deleuze, the Any-Space-Whatever represented a form of radical deterritorialization from the Global Capitalist structure. As that structure itself is reliant upon the continual de- and re-territorialization of materials and cultural elements, the further deterritorializing of the Any-Space-Whatever would indeed translate the space in question into an interesting and potential-rich theoretical area.[60] An area that, through its pushing of Capitalist elements into possibly alien terrain, would perfectly exemplify the goals of Accelerationism.

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[57] Gean Moreno, "Notes on the Inorganic, Part II: Terminal Velocity," (*e-flux*, Web, 04 Feb 2016.) (emphasis added)
[58] Moreno, "Part II."
[59] Moreno, "Part II."
[60] Moreno, "Part II."

Unfortunately, as Shaviro argues, the "de-laminated" and "unplugged" qualities of the Any-Space-Whatever have been reproduced (and therefore co-opted) by the Non-Space and the Global Capitalist systems which it expresses (and is simultaneously an expression of). These systems have "[made] permanent and essential, reproducible and quantifiable, extended and irrevocable, the momentary 'de-lamination' of a space from its temporal and historical coordinates. The difference between the any-space-whatever and the non-space of supermodernity has eroded."[61] With it has eroded the radical, Accelerationist potential which it once possessed.

Unlike our previous Problems, in which the inclusion of Information Technology and the Human/Computer relationship were the result of a highly cyclical (and therefore naturally somewhat ambiguous) causality, in regards to the Deformation of Space/Time we see instead very clear parallels. The transactional, hyper-generic Non-Space and its inherently Global-/Xenocapitalistic qualities are embodied perfectly by the digital "spaces" of the Global Internet. Generic panels of "space" called up by the touch of a button, identical each time, to each User, regardless of where or when they are accessed, or how many versions are being accessed at one time. Any changes which occur are temporary, and are undone as soon as the page is dismissed or reloaded.

[61] Moreno, "Part II."

Even more potently, the trans-spatial immediacy of websites "erase" all non-generic space between the server which hosts it and the terminal which accesses it. Just as airports, train stations and bus depots effectively dismiss the intervening spaces between themselves, so too do the transportation hubs (websites) of the Internet. That it, of the Surface Web, which is the Internet that is accessible and searchable by ordinary browsers. The "regular Internet." Contrasting it is the Deep Web, which is accessible only through particular types of browsers, and is almost entirely unsearchable.[62] This Deep or Invisible Web,[63] which has recently become the subject of popular media, is ostensibly meant to act as the Any-Space-Whatever to the Non-Space of the Surface Web.

More accurately, it was meant to replace the Internet of the late eighties/early nineties, from before it became the popular domain of social media and high-speed streaming that it is today. As this early Internet became increasingly drawn into the Capitalist mechanism, (with advertisers being amongst the earliest adopters) more and more of its denizens "unplugged" from its increasingly mainstream networks. As new technologies for anonymizing online presence appeared (most notably onion browsers) the Any-Space-Whatever version of the web that emerged out of this exodus expanded into increasingly obscure (and often illegal) avenues.

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[62] Rabia Iffat, and Lalitha K. Sami, "Understanding the Deep Web," *Library Philosophy and Practice*, 2010, (*Academic OneFile*, Web, 28 Jan 2016.)
[63] Iffat and Sami.

Interestingly, the parallels here between the Surface Web and the Non-Space and the Deep Web and the Any-Space-Whatever extend into their technical qualities as well. The Surface Web uses what technological researchers Iffat and Sami call "static" or "fixed" pages, of which they say: "Static pages do not depend on a database for their content. They reside on a server waiting to be retrieved, and are basically html files whose content never changes."[64] In other words, the digital "space" that the page represents is already complete, and is simply shuttled to the terminal of the User (or bot, browser, etc.) which accesses it. The Deep Web on the other hand uses "dynamic" pages. "Dynamic pages are created as a result of a database search. They are also called database-driven Web pages, wherein the content and the design are housed separately. The content is put in a database and is provided only when requested by the user."[65] This means that the actual content of the page is neither fixed nor connected to its stylistic trappings, and so no readymade digital "space" necessarily exists, requiring that "space" to be actively constructed each time upon request.

That said, it does not mean that the Deep Web has managed to avoid the co-opting forces of Global Capitalism which have neutered Deleuze's original conception of the Any-Space-Whatever. As more and more black market commerce flowed through it, and as banks and secure corporate servers made use of dynamic and otherwise separated structures, the Deep Web too

[64] Iffat and Sami.
[65] Iffat and Sami.

was made "reproducible and quantifiable." It's assertions of exteriority, reinforced by the frequent use of "lo-fi" or "old-school" web aesthetics, ultimately did not result in a notable disconnection from conventional Global Capitalist contexts. Ultimately, "The ruins of old Detroit, and the new business and luxury towers of Shanghai and Dubai, are two sides of the same coin"[66]

But what are the effects of all this? What has been the impact of the spread of the Non-Space, both physically and online? Moreno tells us that "'de-lamination' now happens not between a space and its historical coordinates and physical metrics, but between building production and its anthropomorphic coordinates."[67] In other words, yet another shift away from the human sphere, and deeper into Xenocapitalism.

Having detached itself from the anthropocentric standard, and with no other guiding principle besides that of globalized Capitalism, the Non-Space has begun a full-blown colonization effort.[68] It reproduces itself into all available spaces, and in doing so converts them (as well as their residents) in accordance with its own sensibilities of space and time. This sensibility is not one which considers the demands of the human body, (either spatially or temporally) nor the limitations of intervening spaces. The flows of Capital (in the form of both material and information) move through them at breakneck

[66] Moreno, "Part II."
[67] Moreno, "Part II."
[68] Moreno, "Part II."

speed, but move also non-stop, requiring workers (which is to say movers of goods and information) to run non-stop as well. At least in those instances where they cannot be simply replaced. Because the transport of physical goods is inherently slower, this must happen in larger and larger quantities, with ever more expansive reserves held at the ready. In effect, the Non-Space, once actualized simultaneously over a large enough area, becomes purely infrastructural.

All spaces are one space, and all times are one time, because in this way the expansion of Capital (echoing what we saw in the previous section) can **always, already have happened.** Humans exist in these "spaces", (which are spread uniformly across both the physical and digital) only as another aspect of the Always Already infrastructure of Xenocapitalism. Information Technology, meanwhile, becomes simply an open corridor through which Capital, (in the form of both digital currency and information which has Always Already been converted into digital currency) can flow. It is a medium without a message, and by their natural entanglement, New Media artwork becomes this as well, if not in actuality then in the mind of the viewer who has been naturalized into the world of the Non-Space.

## Obscurement of Mechanism

The last of the Problems to be addressed is also, (thankfully) the most straightforward. The Obscurement of Mechanism which operates within both Xenocapitalism and the Human/Computer relationship has emerged very naturally out of the Problems already discussed, as well as by extension of several long-standing conventions. In the most basic sense, it is a by-product of the ever-increasing scale of the infrastructure of both Global Capitalism and Information Technology. According to sociologist Susan Leigh Star, this infrastructure, by its nature, is **designed** to be invisible.[69] Its purpose is to provide a required result with as little imposition to the user (used here in the generic sense, to refer to a host of human and non-human elements which draw from infrastructures) as possible. They are "an inherent part of technical work."[70] Why then is its invisibility/obscurement problematic here?

If not for the elements which this document has already explored, then perhaps it would not be. However, in the context of an increasingly alien, self-actualizing and deeply ecophagic global system, (and its co-opting of both the technological and cultural tools which might be used to counter it) it seems appropriate to reevaluate our position. Star tells us that even prior to the formation of the systems this work addresses, infrastructures were not

[69] Susan Leigh Star, "The Ethnography of Infrastructure," (*American Behavioral Scientist* 43.3, 1999) 380.
[70] Star, 378.

thoroughly studied in regards to their relationship to human use/activity.[71] It seems likely that this, in part, allowed for certain infrastructures to so dramatically transform without notice.

Of these, there are two which are most relevant to this exploration. **1)** The global network of shipping containers, and **2)** The Global Internet (including both the Surface and Deep Webs). For the first, we will turn to Marc Levinson, whose book *The Box* explores the history and ramifications of shipping containers in the context of Global Capitalism.

He begins by very simply stating that, "How much the [shipping] container matters to the world economy is impossible to quantify"[72] Levinson's position is that, if not for the shipping container and the way it has been employed from the late 1950s onward, Global Capitalism as it exists now would almost certainly not be as extensive as it is.[73] And yet the global system of such containers, (which, as of 2013, is recorded to haul more than a billion and a half metric tons of goods annually, valued at over five trillion U.S. Dollars) is largely invisible, and seldom thought of.

This is due in large part to the extensive use of (Information Technology activated) digital and mechanical automation, which increasingly leaves humans out of the equation:

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[71] Star, 378.
[72] Marc Levinson, *The Box: How the Shipping Container Made the World Smaller and the World Economy Bigger*, (Princeton, NJ: Princeton UP, 2006) 8.
[73] Levinson, 11.

A ship carrying 3,000 40-foot containers, filled with 100,000 tons of shoes and clothes and electronics, may make the three-week transit from Hong Kong around the Cape of Good Hope to Germany with only twenty people on board.[74]

Even where they are involved, it is only to facilitate those aspects of the process which cannot (yet) be done by machine. Decision-making is not involved, and an increasingly large portion of the involved spaces/devices/tasks are left to the agency of networked computers:

Almost every one of the intricate movements required…is choreographed by a computer long before the ship arrives. Computers…determine the order in which the containers are to be discharged, to speed the process without destabilizing the ship. The actions of the container cranes and the equipment in the yard all are programmed in advance. The longshoreman who drives each machine faces a screen telling him which container is to be handled next and where it is to be moved—unless the terminal dispenses with longshoremen by using driverless transporters...The entire operation runs like clockwork, with no tolerance for error or human foibles.[75]

The outcome is what Levinson describes as a "nearly seamless" system, in which numerous tons of goods are moved tens of thousands of miles for no more than the cost of an airline ticket.[76] Furthermore, it is "More than likely, no one has touched the contents, or even opened the container, along the way."[77] In essence, this network not only facilitates the global-scale Inclusion into Capital already discussed, it also renders it invisible while in motion, effectively erasing from sight those parts of the globe which are not active nodes of the Global Capitalist process. Even many of these nodes are at least

[74] Levinson, 4.
[75] Levinson, 6.
[76] Levinson, 7.
[77] Levinson, 7.

partially obscured, as the point-of-origin (both spatially and temporally) of a particular material or product is lost to any entity outside of the network. In this way it supports and magnifies also the Deformation of Space/Time.

The counterpart to this network, one which deals with information instead of material goods, is the Global Internet. The infrastructure of the Internet exists largely in the form of a globe-spanning network of fiber-optic cables, which have been laid on the ocean floor from the 1980s onward. Far from the "intangibility" that is often ascribed to it, the Internet is enabled through roughly 885,000km of fiber-optic cable, (as of 2014) which is enough to circle the Earth about twenty-two times. These cables follow many of the same paths as the above mentioned network of containers, connecting every continent except for Antarctica. Just as that ocean-bound system is dependent upon Information Technology, so too is Information Technology dependent upon a network of ships and tankers to install and maintain it.

But even setting this (almost entirely invisible) physical component aside, and focusing only on the stored information connected to/through the net, there is still a very substantial lack of visibility/access. This is especially true of the Deep Web, which utilizes "dynamic" webpages which are almost wholly unsearchable.[78]

Public information on the Deep Web is currently 400-550 times larger than the commonly-defined World Wide Web…contains 7,500 terabytes of

[78] Iffat and Sami.

information, compared to 19 on the Surface Web…[with] nearly 550 billion individual documents compared to one billion on the Surface Web.[79]

Furthermore, "it is estimated that even the best search engines can access only **16 percent** of information available on the Web."[80] But even this does not fully describe the problem. The volume of information involved in even that sixteen percent is staggering, and the rapidly fluctuating web of interactions between servers, cables, routers and other devices which enable it at any given instant even more so. In her work *Ethnography of Infrastructure*, Susan Leigh Star describes her difficulty in carrying out a comprehensive study (inclusive of human use/interaction) in even a single interdepartmental computer network. Her initial hope was that the network's automated log-keeping functions would help make matters easier, but soon found the sheer volume of data so dense as to be barely approachable.[81]

This obscurement through **too much** information is one that, according to urban technology researchers Igor Calzada and Cristobal Cobo, is increasingly present within Information Technology[82] and those systems (such as Global Capitalism) which make use of it. It is a form of obscurement which has carried over into the social realm of Information Technology as well, especially in the form of online journalism, which increasingly inundates

[79] Iffat and Sami.
[80] Iffat and Sami. (emphasis added)
[81] Star, 383-384.
[82] Igor Calzada, and Cristobal Cobo, "Unplugging: Deconstructing the Smart City," (*Journal of Urban Technology* 22.1, 2015) 33.

Users,[83] especially when viewed in its full pluralistic form. In combination with the functional invisibility of Information Technology's physical infrastructure, the results are very much the same as those of the network of shipping containers, only in terms of information and cultural content.

The way in which information moves is concealed, only becoming visible at its output nodes, where it suddenly explodes in nearly overwhelming quantities (an aspect of this is seen also in the shipping container network, with ports/terminals that are like a "factory whose scale strains the limits of imagination"[84]). As a result, the very same expansions of the Inclusion into Capital and Deformation of Space/Time that were shown above take place here as well, with information's origins and movements almost completely obscured. The effects in relation to spatial and temporal deformation are especially pronounced, as digital "objects" are infinitely reproducible, existing in countless different locales simultaneously, with out-of-date and/or cached versions overlapping with or being buried by their own updated forms.

Besides enhancing the other Problems this document has already explored, including the Affirmational Cycle through its crossover into social media/online journalism, the Obscurement of Mechanism also provides a new challenge. By making the interiority of a system which has already been shown to aggressively deny any kind of exteriority invisible/inaccessible, we

[83] Brennan.
[84] Levinson, 4.

are left with very little critical material with which to form a strong counter-initiative.

## Chapter Four: Research Methodology

The process of my research is, in most regards, already visible within this document in the form of the above identification of Problems and the below development of methodological Strategies to counter them. It is through this outcome-oriented process, during which I kept the matter of criticality in New Media artmaking always in mind, that both this document and its associated body of works was formed. It is therefore not necessary to go into great detail here, as I believe the contents of this section to be already apparent. There are however two points which I wish to touch on before moving on to my making methodology.

### Iterative Making

The nature and form of the New Media artworks created in conjunction with this document have changed significantly during their development. In part, these changes have been as a response to changes in my research/writing. The reverse is also true however. Through both making and exhibiting, the natural trial-and-error process involved in artmaking (especially an artmaking that is very much dependent upon a relationship to space/Viewer and the realities of various technologies in implementation) has generated results which, though hard to exactly quantify, have nonetheless had an impact on my overall research.

The effectiveness, relevance, and impactfulness of various relationships and conceptual avenues has become more (and in some cases very much more) clear through making/presenting. As these and the influence of my more conventional research and writing have altered my artwork, that newly altered work fed back again into new research, and so on, in a reciprocal fashion. While still always grounded in my theoretical work, this document has benefited (and changed) due to these cycles of iterative making.

## Web Association and Link-Holes

I have engaged in various freeform and informal methods of research that make use of the Internet's built-in tools and infrastructures. This includes a host of different activities, such as Link-Holing, in which embedded links are followed from one site into the next without a specific intent or (necessarily) subject in mind. Other methods include the use of open-source content such as Wikipedia as a method of discovering names, titles or general trends within certain fields; image-based searches (leading eventually to the host site of the most relevant images); free association web searches (based off of either random terminology within a particular field, or synonyms of the same); and the use of certain individual's social media pages to link to their sites of interest. Though not determinate of any of my core theoretical sources, these practices have nonetheless been of benefit to my process.

## Chapter Five: Making Methodology

The anxiety to shake things up, in light of the disaster of **a vanishing critical dimension**, has to boil over into something concrete at some point, and this, at least from where I'm standing, demands a lateral move through the horizon that currently determines the conditions in which art production is allowed to unfold. It demands probing expeditions into other spaces, into terrains from where the other side of what we are currently inside may begin to take shape. And it demands **the sharpening of robust…conceptual tools**[85]

Having now sufficiently developed the nature and outcomes of these four Problems, it is time to get into the methodology which has emerged out of them, and which represents the primary outcome of this document. I will do so by **1)** Returning to each Problem, in the same order as they were outlined above, and **2)** For each address a Strategy in New Media artmaking which is intended to counteract or repurpose it. I will also **3)** Provide for each an example of an artist/artwork which exemplifies that Strategy. In contrast to the above sections, which made extensive use of my source materials, this section will attempt to be as direct and outcome oriented as possible, and as such will keep its language concise and on-point throughout.

## Affirmational Cycle | Unconventional Interaction

The methodological Strategy which I have developed to engage and challenge the Affirmational Cycle, is that of Unconventional (and/or

[85] Moreno, "Accelerationist Aesthetics." (emphasis added)

Uncomfortable) Interaction. By creating interactions within/through New Media artwork which either deny or challenge the habitual manner in which Users (Viewers) engage with technological elements, it is my hope to either: **1)** Direct them to see something within the machine other than themselves, or **2)** Direct them to see themselves, and the manner of their use, more lucidly. They are to either be denied the satisfaction (and self-affirmation) which they seek from technology, (and by extension technological art) or be made to see the ways in which that satisfaction is problematic. In part, this will also include avoiding anthropocentric and/or historocentric descriptors and narratives. These elements feed into the Viewer's expected/habitual engagement style with technology and art through a reaffirmation of their existent biases within/against those fields.

The possible strategies for implementing this are numerous. The use of technology, as well as the viewing of art, both involve a host of pre-scripted arrangements, postures, input methods, and hierarchies. Altering/interrupting any one of these has the potential to push the User out of their habitual zone. It could be as simple as changing (through either code or hardware) what happens when a particular button is pressed, or by setting-up artworks which showcase every hallmark of interactivity but are in fact autonomous or static. Other strategies involve pitting Viewers against randomized or semi-randomized elements, (mostly code-based) as well as providing only partial or imperfect instruction, or requiring uncomfortable or

unusual postures in order to access elements of the work. Essentially anything which threatens to surprise, frustrate, confuse, or push back against the User has potential here.

When implementing such methods however, a balance will need to be struck. Pushing too hard, or creating too much confusion, creates the risk that (an unreasonable number of) Viewers will give up and disengage completely, without absorbing deeper content. My goal here will be to create an itch, not a wound. There should still be a sense of satisfaction with the work as an art experience, even if the expected satisfaction of the involved computer/Information Technology (or art) interfaces is denied.

Another primary strategy here will be the inclusion of the Viewer directly into the work. My primary method for this will be the use of both webcams (and possibly audio microphones/speakers) and digital projectors. By either using the likeness of the viewer and incorporating it somehow into the piece, or by using them as a platform onto which content can be projected, their own position within the larger context can be addressed actively, and without the need for extensive contextualizing materials. Any implications which are made by the work about the role/responsibility of the User will be, through the material realities of its operation, true, at least for as long as the interaction continues. As an added element, this inclusion will benefit from the affirmational satisfaction of the mirror effect while simultaneously working to counteract it.

The work of Art which I have selected as an example of this Strategy is *HTC (hypertextual consciousness)* by Mark Amerika.[86] In this work of web art, the viewer must navigate through a series of visually simple pages, each of which contains excerpts of text of various lengths, which represent Amerika's partially essayistic and partially evocative writing about various elements of online interaction and technology. The pages can be navigated only by clicking on certain sections of the text itself, which are embedded links to other pages. There is no central or "main" page which can be used to orient oneself, nor is there a particular order to the pages or a clear logic behind which link leads where. Defying all conventions of both narrative and website structure, the Viewer's pre-existent expectations and habits in regard to these is frustrated, and therefore brought into heightened focus.

## Inclusion into Capital | Establishing Exteriority

The element of the Inclusion into Capital which is most immediately present (meaning the most prominent and accessible at the scale of individualized New Media practice) is a strongly interiorized viewpoint. That is to say, that Information Technology and New Media artworks are too often allowed (or encouraged) to operate from within their established (and Xenocapitalist) contexts. Established tropes and aesthetics, already recognizable to the

[86] Mark Amerika, *HTC (Hypertextual Consciousness)*, 1995 (*Rhizome*, Web, 11 Mar 2016.)

viewer, are presented without being problematized, and within the context of their own internal/established logic.

Establishing Exteriority is, then, the methodological Strategy which I have developed to counteract Inclusion into Capital. In part, this will be achieved through highlighting technical and logistical elements which are normally concealed. The slick, seamless methods of exhibition utilized within some New Media art, (which are designed to completely obscure the "hand" of both the artist and the technology involved) feed into the sensation of an "enclosed space," in which the content of a particular art piece is meant to exist independently of any exterior reality. This seamlessness also echoes the visual aesthetics of consumer devices. In effect, the marketing strategies of major computer companies are internalized directly into the works of art which make use of those and similar technologies.

By plainly showing not only the devices themselves, but also the associated mess of cables, plugs, tape and so forth, I can not only deny this sense of enclosed disconnection, but also counteract the implications that technology must necessarily exist in accordance with a market-driven visual aesthetic. This will be reinforced by also using construction and installation materials in their unmodified states, (such as untreated wood, visible screws/nails, etc.) and employing an overall hand-built aesthetic for supports and installations.

My other primary strategy will be to, quite literally, depict those systems which this body of work addresses from the outside. By both visually and structurally showing systems from a position that is several steps removed, the sense that they are all-encompassing or somehow beyond representation will be undermined, as will the authority of any internal logic created by them. The use of hardware within the gallery space is itself a form of this, as it denies the perceived boundary of what is and is not a part of the work, and does not allow the parameters (either technical or conceptual) of any one device to become the only parameters active within the space.

As an example of this, I have chosen Zach Blas' *Contra-Internet GIFs*.[87] This work is a part of Blas' ongoing *Contra-Internet* project, and consists of three animated GIFs, each depicting a 3D rotating globe, with a stock image as its skin. The skins were chosen by searching a stock database for the term "internet." What emerged were three highly uniform images, each conveying the same impression of ubiquity and hyper-modernity. The globes are placed in front of a simple outer space backdrop, and by positioning the viewer outside of these highly uniform and networked Earths, the apparent ever-presence and inevitability which is depicted by the stock images is challenged by the inherent exteriority of the vantage point. Blas places the viewer outside of "everywhere."

[87] Zach Blas, *Contra-Internet GIFs*, *n.d* (*Rhizome*, Web, 12 Mar 2016.)

## Deformation of Space/Time | (Re)Formation of Space/Time

The methodological Strategy which I have devised in response to the Deformation of Space/Time is, simply, the (Re)Formation of Space/Time. Making extensive use of both installation and digital mapping, space in both a physical and online context can be extensively retooled. That is to say, that not only can those spaces be materially reshaped in some cases, but also that the established methods of depiction and abbreviation used to represent them can be challenged or re-deployed in new ways. This will be used towards two main effects: **1)** The restoration/recovery of spatial and temporal elements which have been either distorted or obscured, and **2)** The conscientious distortion or obscurement of spatial and temporal elements, designed to question these practices as they presently occur within a Xenocapitalist/New Media context.

Installations will rely heavily on Information Technology and other New Media tools, most notably projectors and/or webcams. These methods allow for existent physical elements within the gallery space to be visually rearranged, while also allowing for digital elements to be given a spatial quality through projection. Interventions to the normal operation of some of these (such as projecting onto irregular, living or otherwise unconventional surfaces) will provide further avenues of experimentation with spatial/temporal elements.

Digital and web-based pieces will focus on the ways in which Information Technology alters perceptions of space and time, with a special focus on Internet-enabled mapping methods, which speak directly to physical geographies as well. Distortions of "digital space" or "digital time" are also potential strategies in this area. Effects of this kind would be possible through not only visuals, but code as well, allowing for a more active, process-based approach.

I have chosen to use the work *The Sole Ripper* by Kristin Lucas[88] to illustrate this Strategy. Lucas' work is a 3D file depicting an imagined "pedestrian rollercoaster," designed to fit within a particular abandoned lot in Manhattan, which Lucas discovered on Google Maps. The file is broken up into a series of 2D images, the order of which reflects the manner in which data is broken down in order to be transported digitally, via the Internet. This process of discovery, construction and display represents a thorough survey of the shifting geographies and geometries of digital (and digitally depicted) space. The perfectly naturalized way in which the work flows from one method to the next shows just how embedded these digitally-realized spatial relations have now become.

[88] Kristin Lucas, *The Sole Ripper*, 2012 (*Rhizome*, Web, 11 Mar 2016.)

## Obscurement of Mechanism | Hardware/Code as Art Object

The final Strategy which I have constructed, intended to counteract the Obscurement of Mechanism, is that of hardware/Code as Art Object. I have already touched on this idea when discussing the methodological strategy of Establishing Exteriority. In this context, it will be used slightly differently. Primarily, its function will be to **1)** Make clear how the involved systems and tools of my artmaking operate, and to take responsibility for the same, and **2)** To illuminate and challenge the infrastructural and mechanistic elements of those systems which are the focus of this document.

In part, this will mean taking responsibility for any metaphoric or illusory elements which emerge within my artmaking. Because the tools which facilitate them will be not only visible, but actively included within the work, this will mean that any such metaphor/illusion will be clearly identified as such to the Viewer, defying the suspension of disbelief. Additionally, being denied more conventional means for establishing an emotional connection between work and viewer, forging a connection to the devices/systems themselves will become important to establishing a successful interaction.

In support of this methodological Strategy, I will add another, the Use of Active/Process-Based Elements. This is essentially a direct extension of the above guideline, except that it refers to infrastructural elements that are not necessarily tangible, or are time sensitive in some manner, such as

interactive and/or responsive programs. By keeping my artmaking rooted in this type of process, I can **1)** Reinforce my making by combining form with function, and **2)** Keep the Viewer both actively engaged and focused on questions of How as well as What.

My final example is Cory Arcangel's *Permanent Vacation*.[89] In this work, two computers are set-up within the gallery, each opened to a separate e-mail account. Each account has had an automated reply initiated, by which all incoming messages are sent a response, stating that the owner of the account is on vacation. A message is then sent from one to the other, setting off an endless back and forth of automated replies between the two, made visible to the viewer on the two screens. Arcangel not only uses the computers and e-mail accounts directly, causing them to operate as art objects, but also engages the infrastructural network (the Internet) that they are connected through to initiate the core process of the work. The infrastructure in essence **is** the work.

[89] Cory Arcangel, *Permanent Vacation*, 2007 (*coryarcangel.com*, Web, 10 Mar 2016.)

Figure 1: Detail from Perfect “Calm” (2016)

Figure 2: Detail from Perfect “Calm” (2016)

Figure 3: Detail from Perfect "Calm" (2016)

Figure 4: Detail from "Land and Sea" (2016)

Figure 5: Detail from "Land and Sea" (2016)

Figure 6: Detail from "Land and Sea" (2016)

Figure 7: Detail from “Holding Pattern” (2016)

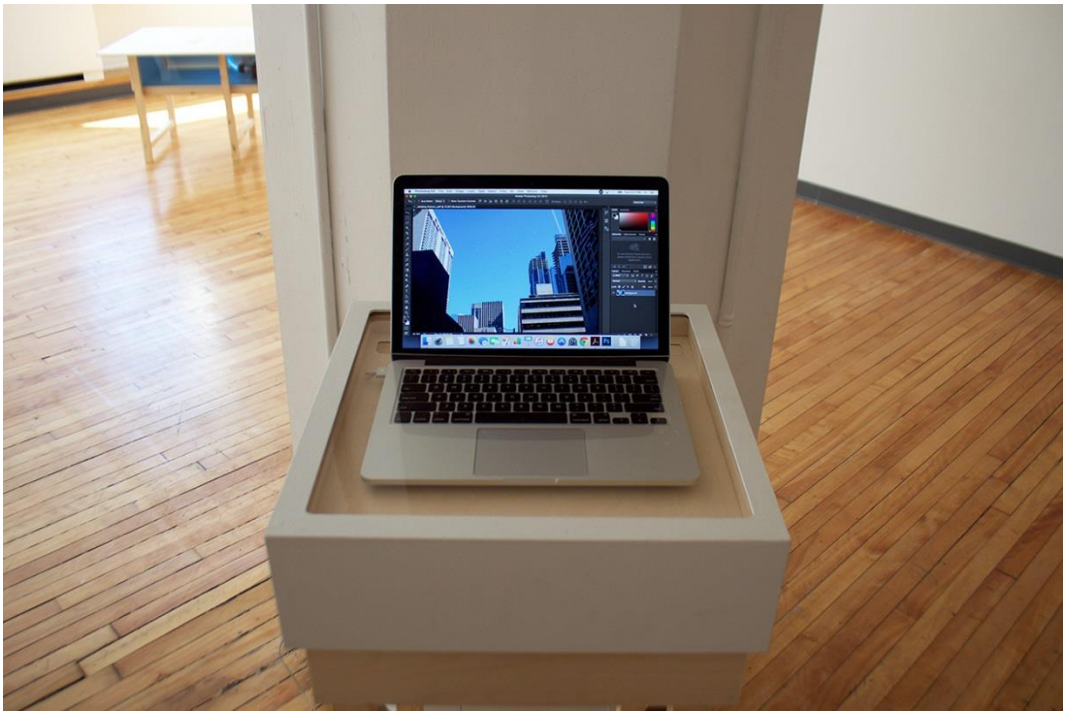

Figure 8: Detail from “Holding Pattern” (2016)

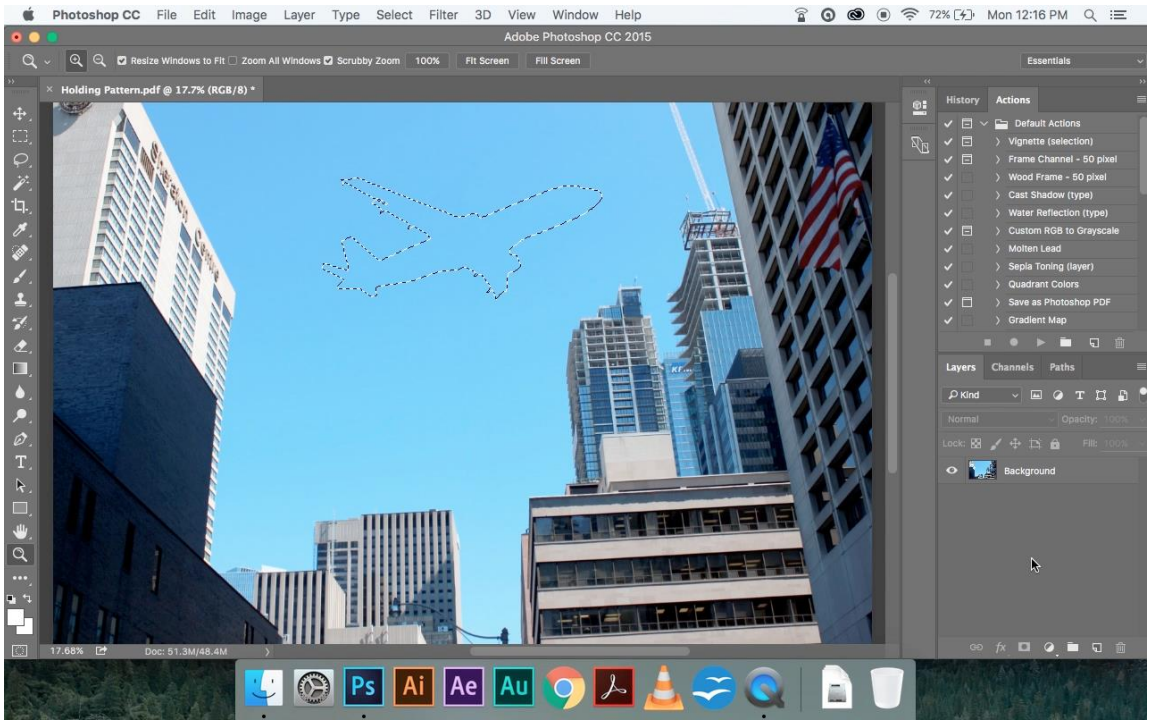


Figure 9: Detail from “Holding Pattern” (2016)


Figure 10: Detail from “Earthlab” (2016)

Figure 11: Detail from “Earthlab” (2016)

Figure 12: Detail from “Networked Space” (2016)

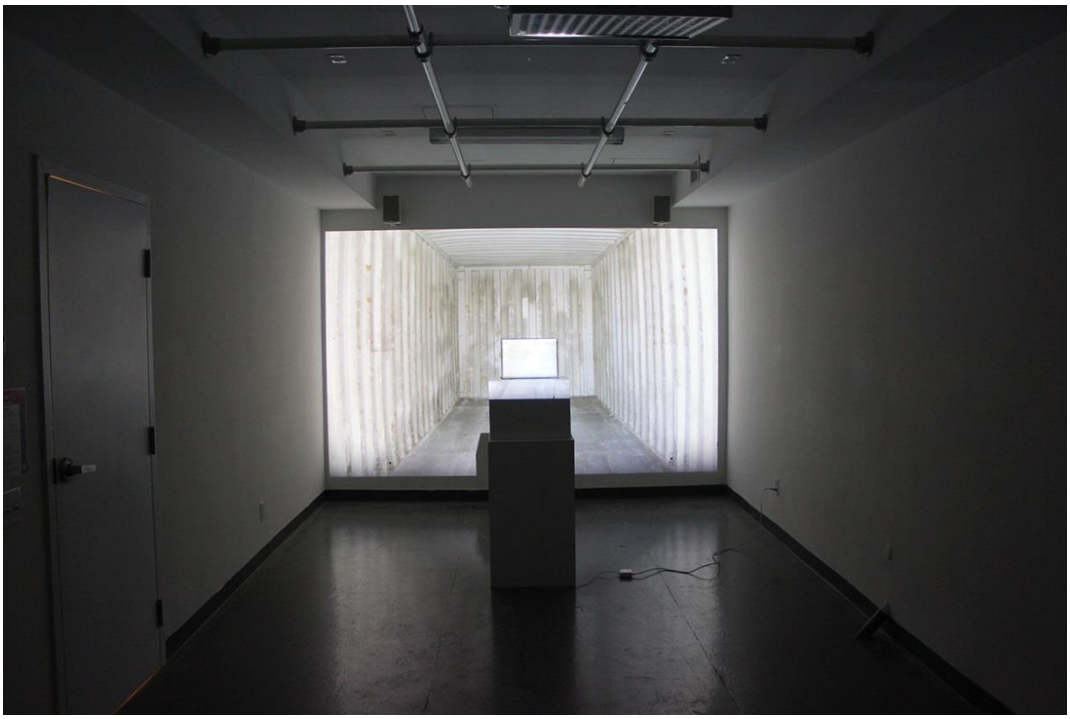

Figure 13: Detail from “Networked Space” (2016)

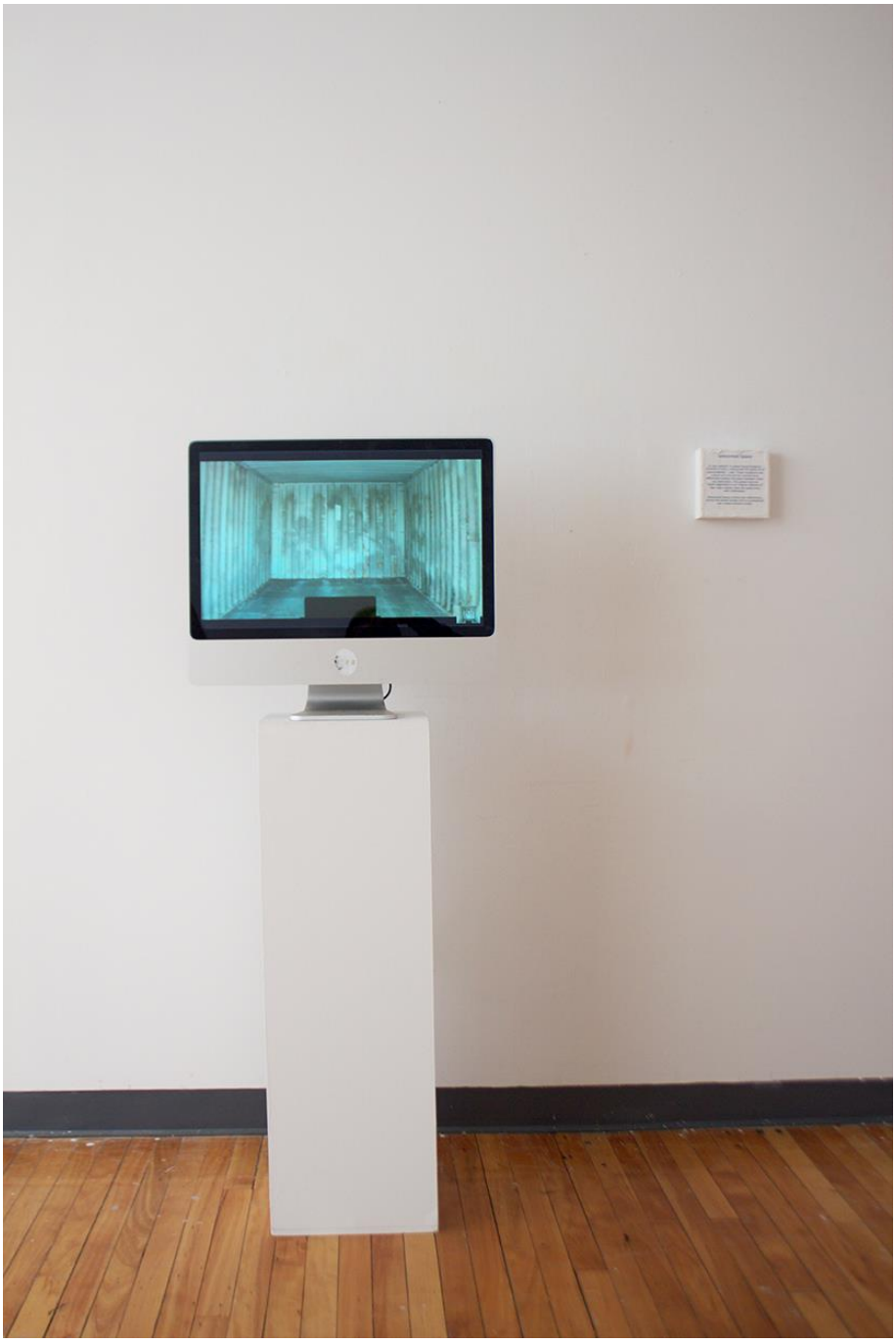

Figure 14: Detail from “Networked Space” (2016)

Figure 15: Detail from “Networked Space” (2016)

Figure 16: Detail from “Networked Space” (2016)

Figure 17: Detail from “Flatland” (2016)

Figure 18: Detail from “Flatland” (2016)

Figure 19: Detail from “Flatland” (2016)

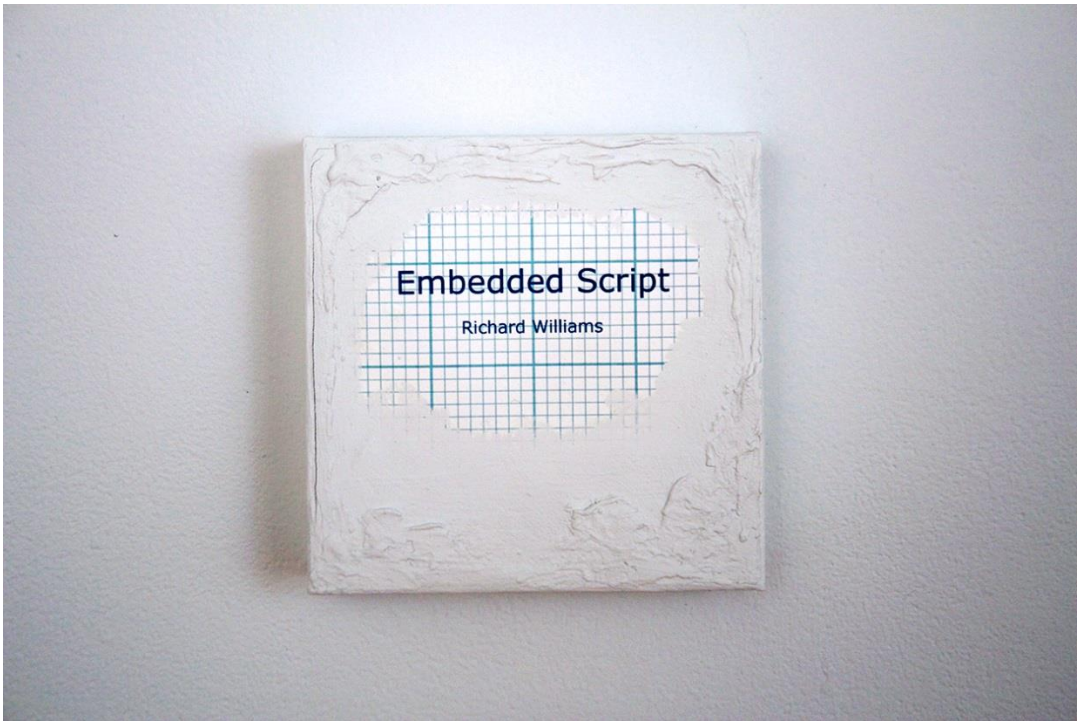


Figure 20: Gallery Didactic Panels


Figure 21: Gallery Didactic Panels

## Chapter Six: Outcomes

As one of its primary outcomes, this thesis exploration has developed several new Strategies for the making of New Media art. These Strategies are designed to re-activate a critical capacity within the field of New Media by either circumventing, co-opting or counteracting problematic trends within the existing Human/Computer relationship, as well as within Global Capitalism. Within my own practice, this has resulted in the body of work being exhibited in conjunction with this paper. More than that particular collection of pieces however, it has also opened up avenues for developing New Media works that deal with a wide range of concepts and themes, beyond those directly discussed in previous sections.

This same possibility exists for other New Media practitioners who may wish to take advantage of the methodological Strategies herein devised. Within the realm of Accelerationist (or related critical/theoretical) writing, these same methodologies, as well as the supporting theoretical arguments through which they were constructed, may be valuable for the purposes of offering new insights and connections between that field and Information Technology and/or artmaking. Each of the four Problems which this paper established, as well as each of the four Strategies devised to counteract them, could also be the subject of considerably further research. Likewise, the unconventional web-based research methods previously spoken of (link-holes, etc.) could potentially be developed as a project unto themselves.

In regards to the particular body of artworks which I exhibited in conjunction with this paper, several outcomes/avenues emerged which are not accounted for in the above sections. These fall into two categories: **1)** Outcomes related to making, and **2)** Outcomes related to exhibiting. While it is not necessary to discuss each of the exhibited works individually, I will make reference to them in part of as a whole in order to expand upon these outcomes.

## Outcomes Related to Making

During the final production of my thesis exhibition several trends or recurring motifs emerged out of the combination of my four Strategies, my pre-existing making habits and the particulars of the six works to appear in the exhibition. One of these was the use of repetition. Several pieces took commonplace imagery (such as desktop wallpapers in *Perfect Calm*, or Google Map images in *Flatland*) and then multiplied them into the hundreds or thousands as a means of conceptually repositioning them. This process of mass repetition/inundation is one which has appeared within my supporting theory as a component of Global Capitalism, and so it seemed fitting to repurpose it (in Accelerationist style) in order to challenge that system. I have not included it within my methodology section, as the technique does not fit directly into any of the four Strategies. Rather, it is able to operate as any one of them, (or several at once) depending upon the context and the nature of the element being repeated.

Another trend which emerged was a certain playfulness within the work. While both very direct and serious in its tone, my methodology nonetheless resulted in several artworks which are more lighthearted in their approach, or which incorporate elements of humor. In large part, this is a result of my pre-existing making habits. Humor has long been something which I incorporate into my work, for a variety of reasons. Within this particular exhibition, it emerged as a response to the seriousness of the subject matter, as well as a desire to offer viewers a range of different experiences on a common theme. What is noteworthy, is that earlier works made as a part of this program, as well as earlier iterations of the same works, were often lacking this playfulness. It was only after resolving my four Strategies, and implementing them over time through trial-and-error that I was proficient and comfortable enough to reintegrate humor and playful experimentation back into my practice.

One of the works which directly arose from this experimentation, titled *Holding Pattern*, was conceived of and then implemented only shortly before the exhibition began. Exploring the nature of global movement systems, (planes, trains, etc.) their relationship to resources and the precariousness inherent to them, *Holding Pattern* uses the selection tool of an active Photoshop window to reference an object (a commercial aircraft) which is no longer present. While quite simple in both its components and its execution, this work was able to operate as a synthesis of my methodology and theory,

while still being both evocative and playful. Having now completed the exhibition, I consider *Holding Pattern* to be its standout work, as well as the touchstone for the next stage of my practice. What form exactly that practice will take, is not yet clear.

## Outcomes Related to Exhibiting

Several other outcomes did not become clear until the exhibition was actively underway. One of these is a reliance upon multiple viewers in order for certain works to function. The work *Networked Space*, which uses a webcam to display viewers' images in two separate parts of the gallery, can only be fully activated when engaged by multiple viewers within both spaces. In the work *Perfect Calm*, nature-themed desktop wallpapers are projected directly onto a viewer sitting before a screen. While within the immersive projection, the viewer becomes the most visually interesting aspect of the piece, but this aspect can only be witnessed by a third party. While not planned, this element stood out as being quite valuable to an exploration of Global Capitalism, which is itself reliant upon the actions of multiple entities (some with access to one another and some without) in order to operate. As a result, it is a component which I plan to consciously repeat in future works.

Another outcome to emerge at the exhibition stage was the role of instructional material in relation to the work. In some instances a degree of

ambiguity about how to properly interact (or whether to interact at all) was a planned element of the work. This was done as part of the methodological strategy of Unconventional and/or Uncomfortable Interaction. In other cases however, interactive or immersive components which were intended to be straightforward were not coming across to viewers. Specifically, the act of sitting before the projection in *Perfect Calm* (as well as putting on the provided headphones to listen to the audio component) had not been made clear enough, resulting in few participants. To compensate, a simple set of instructions was printed prior to the exhibition's reception and placed near the work. During the reception, viewers would confidently engage with the work as intended, and of their own volition. Interestingly, the work *Networked Space* required no such instruction, but rather seemed to instigate a more organic investigation of its operation among viewers. While I have not yet come to any clear conclusions in this area, the use of instructional material will be given greater consideration during the development of future works.

Lastly, falling somewhere between the categories of making and exhibiting, are the outcomes related to my gallery didactics. Short abstracts were written for each work, in order to provide viewers with the necessary context. Initially, these had been printed on regular paper and were to be placed near the works like title cards. A simple visual motif was used, (a grid,

based upon the one used by Google Maps) but they were otherwise conventional support materials.

During the installation process, I felt that this conventionality offered an opportunity to implement my methodology in regards to the gallery itself. Consequently, the labels were mounted onto small panels (roughly six inches square, and an inch and a half thick) which were integrated into the wall using drywall filler and latex wall paint. The result was a series of parallel objects which spoke to each of the works individually while also unifying the written abstracts with the space itself. It was also my impression while the exhibition was underway that the increased materiality of the didactics made viewers more likely to engage with them.

## Conclusions

The methodology which is the primary outcome of this thesis investigation, combined with the supporting theory through which it was developed, has resulted in a body of work which not only was able to speak to my current practice but also suggest new and unintended paths for future explorations. Having done so using the materials, language and conceptual dimensions of Global Capitalism only reinforces for me its relevance within an Accelerationist discourse. Moving forward, I believe that the outcomes of this thesis will continue to be a valuable tool for both my research and artmaking,

even as the particulars of my subject matter (and the form/implementation of my artmaking) change and grow.

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