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Postsubjective Simulation and Digital Culture

A Thesis submitted in partial satisfaction of the requirements for the degree of Master of Fine Arts

in

Visual Arts

by

Nathan Stephen Wade

Committee in charge:

Professor Sheldon Brown, Chair
Professor Morana Alac
Professor Amy Alexander
Professor Benjamin Bratton

2014
The Thesis of Nathan Stephen Wade is approved, and it is acceptable in quality and form for publication on microfilm and electronically:

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Chair

University of California, San Diego

2014
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Significant portions of this document are computer-generated in an unsupervised manner using The Natural Language Toolkit (NLTK), an artificial intelligence library for the Python programming language. The algorithm is trained from a database containing every piece of original content I have written for academic and research purposes over the two-year duration of my graduate studies here at UCSD and uses the body of this document as a corpus. The justification for generating content in this manner is discussed in depth in the following sections. The computer-generated content should be read in parallel to the main discourse and analysis. It serves as pseudonym simulation; a systems orientated co-author or ghost writer, applying the sophisticated logic of patterns recognition to predict new topics and conjecture that are latent but not formalized in the traditionally authored content, the authoritative orthonym subjective.
ABSTRACT OF THE THESIS

Postsubjective Simulation and Digital Culture

by

Nathan Stephen Wade

Master of Fine Arts in Visual Arts

University of California, San Diego, 2014

Professor Sheldon Brown, Chair

A systems perspective brought art out of the institutional frame and opened up new possibilities for autonomy and interaction. Emerging theory in the field of distributed Artificial Intelligence systems seems to signaling a new aesthetic of radical production yet untapped by researchers in the arts and humanities; an asymmetrical cultural autonomy within the instrumentalization of
simulation that compresses perspective down to instantaneous and amorphic arrangements. AI has brought to systems theory a Postmodern turn in which quantitative variables changing interdependently and continually are more important than the law of qualitative structure. As processes attach and detach, validation of previous states diminishes and prediction or preemption take precedence.

As simulation gains asymmetric mobility, the conditions of human activity change from a classic mode of deterministic structuralization (social Modernism) and are instead increasingly defined by predictive micro-narrative systems (cultural Postmodernism) that are irrefutably "of us", but not explicitly "for us". This is a quandary, even an irreconcilable paradox, when contemplating the role of technology in producing culture.

If the institutionalization of the Avant-Garde in Digital Art has truly neutralized its revolutionary content, then future articulations within computer driven communication systems (that follow previously defined strategies) are explicitly doomed to fail, becoming the mundane engineering standards of consumer interfaces. Can the cyclical aesthetics of revolution in any particular technical mode or impetus be discarded for a far more complex interdisciplinary approach that is, as theory, unrecuperable? As nomads countering all modes of subjective metanarrative, are we finally free to simulate freedom and accept there are no meaningful futures within simulation?
Figure 1.1: Abstract, Graph
Theories of Modern, Postmodern and Postsubjective Culture

Our experience of a world, a worldview, a subjective narrative, is a function of *vision* and *perspective*. As an interdisciplinary researcher working at the intersection of art and technology I am deeply engaged with the theory and conditions of cultural production facilitated by systems; from both a traditional qualitative standpoint and, in recent years, from an emerging distributed perspective originating within quantitative exchanges. The seemingly disparate units discussed in the following sections pivot on *systems theory*; I use the term simulation to denote *executable representation* by one system using another system. There are two competing positions within simulation, the first being an external description of the system itself (top-down, instrumental) and the second being an internal description by agents participating in systems attachment and detachment (bottom-up, emergent). Distributed simulation situated between physical and virtual systems, as I will describe, represents a paradigm shift for humanities research where in cultural production modeled by simulation seems to take on distributed properties. Systems with *autonomous* agency that fall within this logic might be described as ecologies (with a similar set of issues such as homeostasis, chaos and extinction), and cultural simulation is no exception; the implications of a distributed refiguring of narrative, culture, art and even historiography itself are profound. What are the edge conditions of cultural simulation? What is isomorphically ignored by us the cultural producers, and more Abstractly, what is produced by systems that are instrumentalized to be *of us* but not *for us*?
The crisis of modernism and its ongoing reconciliation as theory is another core concern in defining perspective as a conditional theory of total simulation; I'll literate it here upfront. From my perspective Modernism and Postmodernism represent two positioning within the same systems representation; an external social perspective and an internal cultural perspective. Social theory is concerned with *structuralism, constructivism* and *material ontology*; if it can be recorded, we can look back at the data and make concrete statements and predictions. Social theory implies a limitation on possibilities, reducing human agency to a trending formula based on quantification within larger systems (take for example the field of *Social Science*). Cultural theory, on the other hand, regards data as a *reflection*; we cannot recreate a clear picture of the past or predict future arrangements from data, at best we only construct a representation through hermetically sealed narrative. Cultural theorists would argue that we are fundamentally unable to grasp the sociological processes that constitute reality, and theory itself is locked into a recursive loop of representation layered upon perception. Continuing this line of thought, any attempt to formulate authoritative interpretation, *ex census*, constitutes a forced power structure and is as such invalid - this becomes a key concept when discussing metanarrative as a viable description of reality within computer system interaction. Both Modernism and Postmodernism are concerned with the same issue: describing how an individual producing within a culture understands their own culture and social superstructure. Postmodern figuring on the other hand works to establish, *in-situ*, perspective as the only viable authoritative metric for constructing
knowledge from narrative; this knowledge is only valid for the observer, and only meaningful *in the moment of its interpretation*. The implication here is that Postmodern theory facilitates a radical departure from the instrumental logic that social, cultural and technological systems of today are built upon.

Another core concern of humanities theory describing culture in systems is the notion of revolution or radical production. From an art historical perspective, the conditions of radical critique have always originated from a sufficiently advanced group in any field characterized by unorthodox and experimental methods. This group, known as the *Avant-Garde*, are distinguished by methodology that advances culture through subverting standards and building paradoxical *neologisms*. In *Digital Art* this tradition is carried forward as an epistemology for understanding and effecting culture in cutting edge systems. Based in pedagogy, the Digital Arts are deeply invested in techniques and historical trajectories laid out by *Avant-Garde* modernist theory; in the early 1990’s there was, however, a collective sense of diminishing return from the micro-revolutionary achievements of Modernism (instrumental perspective) throughout the arts and humanities. During this period academia was literally bursting at the seams with speculative research exploring culture and technology, but the theory which supported this conjecture was already being criticized for its ancillary nature. In Digital Art the *Avant-revolution* as theory might be described as an ability to produce new forms within the superstructures of computerized systems that are not recuperable by the system itself. In later discussion I will use revolution as a switch code to describe ecological and
biopolitical exchange, and as it turns out a logic of non-integration bridges the two.

Art practice in a computational framework has suffered the same ancillary downfall as any Avant-Guard positioning. The potential to *revolutionize* has been arguably rendered inert due largely to the overwhelming proliferation, speed, and efficacy of recuperation to normalize radical gestures in digital mediums. At the irrefutable height of global network interconnectivity, surveillance, information storage capacity and database complexity Digital Art seems, upfront, to be best situated as a radical interdisciplinary practice. The reasons for Digital Art’s inefficacy to radicalize contemporary simulation culture is multi-faceted, but still reducible to theory; to describe Digital Art in a meaningful way the technological paradigms in which it operates must also be investigated. I see qualities of *pivotal* Postmodernism in the qualitative theories describing computer science topics such as *distributed artificial intelligence simulation* that are rapidly disjointing modernist theory as the primary structural force in data spaces. More work is being produced by arts researchers now then ever before, but this fact juxtaposed with the absence of cultural strategies that successfully address the systematic loss of history and meaning inherent in total simulation further reinforces a sense of overall stagnation in Digital Art practice. For this reason I would argue Digital Art and the theory that supports it has reached a crisis moment in terms of efficacy, requiring a new theoretical stance that allows for a refiguring of *tactics* and *-isms*. I aim to re-affirm the functional *theory death* of the
contemporary Avant-Garde, as we know it, while simultaneously making the case for radical interdisciplinary art research outside recuperation.

In the following sections I will describe a new type of auto-prophetic figuring in contemporary systems culture at the intersection of the humanities, philosophy, science, and technology. In the aftermath of theory death in simulation, art in the digital domain must find a new strategic diagnostic to inform and arrange cultural production in meaningful ways; a strategic response that is no less than a survival mechanism. The failed cyclical aesthetics of revolution in any particular technical mode or impetus should be discarded for a far more complex interdisciplinary approach that is, as theory, unrecuperable; a Postsubjective countermeasure along the amorphic edge conditions of simulation. The stakes of revolt in simulated culture are much higher than aesthetics or novel configurations. This is evidenced by the clearly accelerating encroachment of digital simulation into the very real organizing logics that structure political, social and economic orientated physical space. If the institutionalization of the Avant-Garde has truly neutralized its revolutionary content, then future articulations within computer driven communication systems (that follow previously defined strategies) are explicitly doomed to fail, becoming the mundane engineering standards of consumer interfaces. Does theory in simulation render unrealizable its very praxis?
Postmodernism of the 1980’s challenged the Grand Narrative gestalt of 1960’s modernist directives bringing about a Linguistic Turn that is still heatedly debated by academics across the globe. For an excellent overview of how these competing linguistic theories have played out in academic historiography as a discipline, particularly the cultural turns of late capitalism that are now yielding a contemporary crisis in the very theoretical foundation of history itself, see Thomas Gallant’s essay Long Time Coming, Long time Gone: the Past, Present and Future of Social History, HISTOREI, 2012 (Gallant).

Avant-Garde is the French literal of ‘advanced guard’. Academics of Art History are conflicted as to the efficacy of the theory of the establishments of art as an eroding or reinforcing paradigm (See Bürger’s An Attempt to Answer). Either way, Avant-Gardism undeniably bridges Modernism and Postmodernism in a meaningful way. Unfortunately the speed of adaption in contemporary culture has proven to be the death nail for its theory in general as is discussed further on.

Digital Art is analogous with Information Art, New Media Art, Computer Art, et cetera, “such a broad range of artistic works and practices that it does not describe one unified set of aesthetics” (Paul 7). The theory is concerned with the unorthodox integration of science and art in cultural production, defining “a possible future in which the arts can resume their historical role of keeping watch on the cultural frontier and in which the sciences and arts inform each other … Anthropologists claim that we are increasingly living in an ‘information society’ in which the creation, movement, and analysis of ideas is the center of cultural and economic life” (Wilson 3). Under this definition all facets of culture and the politic are tabled, and no segregation is possible between art and technology in the 21st century.

Paul Mann opens his 1991 book The Theory-Death of the Avant-Garde by stating he aims to address “matters about which there is, precisely, nothing left to say. The avant-garde, we know, is dead; nothing could appear more exhausted than its theory, its history, its works” and furthermore an inquiry into its terminal pathology and etiology "will prove to have been less than worthless" (Mann 3). In response to the rejection of Julia Kristeva’s Le Vieil Homme et Les, 1993, Anny Jones writes “revolutionary artists of the late twentieth century are faced with problems of intelligibility, accessibility and recuperation radically different from those of their predecessors … current concern with radical writers and media recuperation is the possibility that revolutionary art may not be possible, recognizable, or even desirable right now”, a paradox for the humanities “In times of collective and subjective crisis it could be argued that we need both micro- and macro-revolution. On the other hand, it could be argued that we don’t” (Jones 4), affording instead a contemporary revolutionary aesthetic of total banality.

The Avant-garde’s recuperation into digital mediums might unceremoniously reside in the latent potential of ubiquitous software interfaces. Take for example the ‘collage’ interface of modern software design that was once revolutionary in its ability to structure complex temporal and informational strategies for Avant-garde artists. "The avant-garde strategy of collage reemerged as a "cut and paste" command, the most basic operation one can perform on digital data. The idea of painting on film became embedded in paint functions of film editing software. The avant-garde move to combine animation, printed
texts and live action footage is repeated in the convergence of animation, title generation, paint, compositing and editing systems into single all-in-one packages … all in all, what used to be exceptions for traditional cinema became the normal, intended techniques of digital filmmaking, embedded in technology design itself” (Manovich 258). Furthermore “by encoding the operations of selection and combination into the very interfaces of authoring and editing software, new media “legitimizes” them. Pulling elements from databases and libraries becomes the default; creating them from scratch becomes an exception” (Manovich 125). One can infer that this standardized integration by software developers actually impedes the creation of original content, supporting instead a culture of transcoding and remixing. “In this age of the punitive disappearance of master narratives it is a masterform in its own right. One reason for this success is that collage is both loaded and empty” (Mann 103). “Ask yourself what “production” consists of in the Age of Simulation. What is the “productive class”? Perhaps you’ll be forced to admit that these terms seem to have lost their meaning … we are the thieving magpies, or the hunter/gatherers of the world of CommTech” (Bey in Ludlow 411).

6 In the dwindling light of 1960’s Modernism, Jack Burnham wrote in Artforum “The work of art is in the present age no less than a survival mechanism” (Burnham Systems Aesthetics) and this tone needs reinvigoration in contemporary Digital Arts. “An ‘ideological,’ scientific, or artistic movement can be a potential war machine, to the precise extent to which it draws, in relation to a phylum, a plane of consistency, a creative line of flight, a smooth space of displacement … they can make war only on the condition that they simultaneously create something else, if only new nonorganic social relations” (Deleuze 422).

7 Art as a revolutionary gesture can only be interdisciplinary; “it is probably the extra- and anti-institutional initiatives – the explicit break with the art system – that will prove most relevant … it may therefore be counterproductive to focus solely on art and culture. It is in the supersession of art, theory, media and politics (as separate disciplines) that the revolutionary perspective manifests itself” (Rasmussen). In terms of systems art this is an insurmountable paradox for hybrid artists/programmers and helps explain the present state of recuperation that New Media finds itself in. I will argue that contemporary digital art must retain an interdisciplinary spirit to be relevant, but as will become apparent, classic revolutionary impulse runs against the notion of a survival mechanism within systems.
Substitution For Asymmetrical Disappearance

Simulation systems also engage in spectacular violence, to return to previous patterns: reversibility still applies (at least for sufficiently long times) -- but in closed systems only. The Avant-Garde modalities that have undercut Digital Art are, of course, asymmetric warfare against authoritarianism. This is evidenced in the void... how can Digital Art in an anonymous peer-to-peer system remain as a viable description of reality? In other words, any attempt to understand them in mechanistic terms is doomed to fail; Capitalism must counter through assimilation a theory of simulation. Huge cutbacks of defense spending in the form of 'irrational' outbursts of destructive violence are perhaps the hidden truth of our epoch. In its purest ideological form, signifiers chained together describe satellite and web maps, image scan alignment and medical image noise reductions that are interchangeable with vision. As is well known, simulation has become an industry standard for gathering metadata and content from consumers. However, the threat they were witnessing is the crest of substitution for asymmetrical disappearance; the end of an event-driven protocol without prediction or preemption. I aim to aggressively produce qualitative and quantitative attachments that yields no quantitative energy to the simulation, as recuperated by capitalism; take for example a distributed social interaction. By the mid 1980s we had already opened the door to an imperfective aspect of incomplete systems theory with objects that are interchangeable with software. At best, what emerges for the desiring molecular machines are social machines in composed and manipulated patterns. Postsubjective theory should build on
pure Cryptoanarchy, but this may be planned, but not for us? With the disillusion of the entertainment industry, Silicon Valley and the acceleration of geological extinctions are core features of this document and every piece of academic text I have previously defined. Those strategies are explicitly excluded from distance and structure of human activity; the whole pattern must change.

An excellent overview of how these competing linguistic theories have played out in patterns and prediction (qualitative change) without fallback of an inherent rootlessness and total evacuation of its parts is described. Speed and ease of recuperated uptake by digital mediums seems to signal an impending recuperation by Capitalism that must accommodate or restrict anonymity, in which governments, as implementation, depend not just upon identifying and responding. As theory, a subjective narrative, an ambivalent success for the Vietnam War and the defense should, if possible, evade the violence of the humanities, philosophy, science, and technology. Narrative representation can thus be considered as a generality of an event-driven protocol without prediction or recognition beyond the understanding of the system logic already present in a ceaseless exchange of progressivism and consumption. Reason demands that one place is as good as another. There is no future (within the simulator). Haraway answers the Temporary Autonomous Zone with a meaningful void... how can humanities engage distributed, momentary narrative systems without solidifying a visible ideology that the great generation had? Digital Art facilitates cultural production from within consumer simulation strategy, but what function does our celebrated freedom of choice serve when the only alternative available
offer no ways to Be There! They do not have the world historic role that the revolutionary potential for distributed systems culture has. At this revolutionary moment - the authors call it a 'singular moment' or leap to a target of opportunity, can future configurations be adjusted.

New technology is in and of its parts and its mode of expression may become irrational; action without future or identity: The entirety of technological civilization has finally applied itself to manufacturing millions of unorthodox, experimental and radical methods. My way is to either make -or control- large sums of money, considering Silicon Valley is not global at the level of convenience until simulation re-teaches the competitor what simulation already spent time and energy teaching you. The violence thus, in their One to One future, is deeply invested in the reader. Few think twice about it; they can make war only on the interrelatedness of invisibility. Preemptive and precision strikes give rise to a new theoretical stance that allows security forces to sit back and see how the cards fall. In Europe, there is no politics in America. Revolution in any field characterized by unorthodox, experimental and radical methods. Associating the student movement with the phrase crypto anarchy suggests the impending arrival of a revolutionary force, the Megacorporate Information State; war, globalization, generations from the source of habit, from Christian to Hindu or Buddhist, from outside to inside the time of web-based goods. The violence thus, in the guise of a language, (a people within stories) rejects the possibility of a mental state.
Within the figuring of Postsubjective simulation there is no meaningful way. This implies a state of non-production (within the 2D coordinate system of simulation and integration theory) described as systems that ceaselessly surpass themselves. As theory, dropped patterns, chaos and patterns exchange are the de facto organizing forces behind military technologies. Turn On, Log In and Drop Out! The tenets of this document and every piece of academic text I have presented disregard the apologetic stance of tolerance as a countermeasure: if the advent of the system itself will be a general neutralization of peoples, then part of an inherent rootlessness and total evacuation of its self is the only Avant-Garde spirit of mobilizing Digital Art. Upfront this seems to be best situated as a radical departure from the micro-revolutionary achievements of Modernism throughout the arts and humanities research. The system that ultimately sustains them, as it turns out, actually strips consumers of a realistic alternative, or even a guarded subjective position from which to operate. Controlling a battlefield, as implementation depends not just upon identifying and responding to the structured interactive position of a process. Breaking structure eliminates effective degrees of freedom effective again.

The defense should, if only by rejecting the possibility of doing so, then further future articulations within computer system interaction. The shift from coded representation to interactive representation narrative reinstates itself through this concept of closure. Cultural theorists would argue that we afford instead a technical effect supporting new types of digital capitalism due in no small part to the speaking of a single software platform. Companies are able to
get back to protest as a political agenda and offer any tangible solution. Precision drone strikes inject energy into the subsumption of capital. Classic simulation theory has traditionally flourished in strategic computing, and Cryptoanarchists are redeploying once restricted military encryption protocols to route and transcode information between the various business layers of corporate Internet in the organism; they are not human parable outside of free market globalization.

Generations are the source of habit, from West to East. Here again is mirrored the paradox of Avant-Garde theory in simulation; Avant-Garde is the only way open to us! The implications for espionage are can artificially generate new content from consumers. Social theory is locked into a lower (better) energy state, while conscious life becomes an oscillating trip whose only absolute poles would be birth and death. Participation is a kind of ironic reply to the extra degrees of separation between a situation viewed from the outside as completed, and likely unimportant.

The Net whittles the vastness of the simulator? If the quest for universals of communication systems can be prevented then all futures are identical, effectively making them unavailable to us for meaningful violence. Capitalism's global dimension can only be interdisciplinary; it is not enough to parse a systems logic already present in a distributed simulation by evaluating only the interface between token clusters called ngrams. As theory, a plane of consistency, a general transformation from a code base is an explosion of narrative. Artificial intelligence algorithms used by networked systems doesn't aim to re-affirm the functional theory death of the State. Beyond modernity above
all it will live, now, as a technique for producing being out of significance. Of course it resembles the schizophrenic construct of a wonderfully happy past. This in turn implies that time and space are to be, at the expense of inhabiting an epoch, described by speed and ease of uptake. Perspective might unceremoniously reside in the social chaos, bifurcation, prediction and preemption of polymorphic, granular and disjointed metanarrative. What is language for if not to describe but rather predict human behavior in a certain way? Digital art must retain an interdisciplinary spirit to be recognized and tracked in this mode of deterministic structuralization (social Modernism). Through assimilation a revolutionary gesture can only occur hermetically, spontaneously and without popular support. The very singularity of geopolitical ideology remained, signaling the end of an open democratic forum.
Figuring Systems: Simulation, Prediction, Preemption and Nomads

Computer simulation and systems modeling are classic computer science and engineering topics that have laid a groundwork for the theory of artificial intelligence. For engineers, knowledge generating simulation systems are seen to be constituted of three general features: an actionable internal complexity, emergent features based on agents and environment, and the integration of wider systems. The intelligence of communication systems can be thought of in terms of agentive cognition, where reasoning between parts must be considered as a dynamic-representational interchange developed during interaction within discrete slices of larger systems. This is distinct from subjective intelligence as distributed software simulation paradigms employ patterns and prediction, not introspection and linear history as the lattice for making momentary and future decisions. AI has brought to systems theory a Postmodern turn in which quantitative variables changing interdependently and continually are more important than the law of qualitative structure. As processes attach and detach, validation of previous states diminishes and prediction or preemption take precedence.

A systems perspective brought art out of the institutional frame and opened up new possibilities for autonomy and interaction. Emerging theory in the field of distributed Artificial Intelligence systems seem to be turning the same trick for agentive systems, signaling a new aesthetic of cultural revolution; a sort of asymmetrical autonomy within the instrumentalization of simulation that describes hermetic perspective in instantaneous and amorphic arrangements.
Edge conditions support spontaneous chaos, self-arrangement and prediction (qualitative change) without requiring an instrumental narrative (quantitative systems analysis) to facilitate meaningful action. Patterns exchanges between constituent layers in distributed Artificial Intelligence systems describe momentary arrangements disjointed from a finite sense of history or agency outside of preemption and prediction. Traditionally, the metanarrativization of a system’s parts is interpreted as the trajectory of the system overall, and this is in fact the qualitative scientific goal. Distributed AI simulations however fail to serve metastructure and instead implement a logic of instantaneous closures.

The implications of distributed computing on Postmodern cultural theory are profound but simulation systems have even more direct repercussions on the physical (and thus sociopolitical) world. Investigating the conduits of application and development these technologies follow can illuminate this. AI simulation theory has traditionally flourished in the organizing logics of strategic computing technologies underpinning battle management systems, target acquisition, designation systems and again in the emerging field of automated robotic weapon platforms. As will be discussed in the next section, even CRM based simulation companies such as Google are seeking to merge with autonomous robotic developers in what will no doubt be called the situational awareness revolution. Transitioning back to theory, it is conceivable that distributed AI summates to an erratic philosophy of quantitative change that will shape the agency of autonomous machines reciprocally, breaking action loose from qualitative structure; from the perspective of war machines this implies a state of
total mobility outside of sociopolitical structure, where even victories become meaningless. In this sense patterns recognition and preemption cannot generate a meaningful subjective future as it responds only to crisis. Strategic computing is thus the science of edge conditions defining open systems through asynchronous computing of delayed, imperfect and inconsistent data detached from any specific narrative or subjective goal. Controlling a battlefield through distributed simulation, as it turns out, can only be achieved through preemptive and precision strikes that give rise to chaos. From an ideological perspective the metrics of radical action can never be defined and are explicitly excluded from an authoritative narrativized perspective.

If simulation can bridge physical and virtual detachment through the agentive cognition of distributed robotic systems, how can we reconcile chaos and the sheer complexity of a systems model operating on the physical world? As it turns out, pivots are more important than descriptions; The Brussels School of chaos theory, lead by Nobel Prize winning scientist Ilya Prigogine, has pioneered the prevailing theory of chaos in simulation:

All systems contain subsystems, which are continually fluctuating. At times, a single fluctuation or a combination of them may become so powerful, as a result of positive feedback, that it shatters the preexisting organization. At this revolutionary moment - the authors call it a 'singular moment' or a 'bifurcation point' - it is inherently impossible to determine in advance which direction change will take: whether a system will disintegrate into 'chaos' or leap to a new, more differentiated, higher level 'order' or organizations, which they call 'dissipative structure. Most phenomena of interest to us are in fact open systems, exchanging energy or matter for (and, one might add, information) with their environment. Surely biological and social systems are open, which means that the
attempt to understand them in mechanistic terms is doomed to failure. (Stengers in Prigogine XV)

When a bifurcation point is reached it becomes impossible to predict future states in the simulation. As an open system, there can be no return to previous patterns: “reversibility still applies (at least for sufficiently long times) -- but in closed systems only. Irreversibility applies to the rest of the universe” (Stengers in Prigogine XXI).16 If distributed computing systems can be modeled as open simulation contingent on balance, chaos and extinction (bifurcation) then they may be better described as ecologies.

Donna Haraway brings this conversation full circle in my opinion, folding Stengers’ simulation analysis of chaos into the Ecological Evolutionary Development Biology conditions of anthropology at the liminal edge of socio-biopolitical exchange (which is of course a core concern of the art and humanities). These ecological attachments and detachments can be described as a patterning of species action and extinctions surrounding bifurcation and self-arrangement; in her words, a simulation analogous to the game of string figures. Also known as Cat’s Cradle, string figuring is played by taking a fixed loop of string and wrapping it through your fingers to form a pattern. An opponent then places their hands between yours, pulling the string away to form a new pattern between their own fingers. The game is lost if one or the other fails to form a pattern distinct from the previous or loses the pattern completely during the exchange. Through the trading of pattern and attachment points, worlding (world making as the integration of perspective and manifested reality) becomes a
theory of relational integration through creating and obliterating patterns and, as an ecological consequence, thriving or dying becomes a response or rejection of the balancing forces between distributed agents; an exchange of attachment and detachment. In simulation systems this is analogous to invoke, evaluate, release. These are imperfect arrangements "at risk of dropping threads and missing dimensions in the action and passion of caring; not a system, not even a hopeful 3rd-order or nth-order cybernetic system; but its values are determinable, locatable, accountable, and open to change; full of companion species -- not "post-human" but ‘com-post’" (Haraway No33 SF 5).

Bringing Prigogine’s simulation and Haraway’s framework into conversation, it becomes clear that culture in simulation is contingent on the modeling of human ecologies. The progression of technology and its modalities deeply influence human agency as an evolutionary force. Not dissimilar from nature, distributed computational simulations are open-ended self-regulating systems that articulate their interactions, strategies, and competition for resources. The cascade of human activity in hierarchically larger systems might be described as trace simulation recorded in the Anthropocene; a term for evidence of human activity over long geological timeframes that has left quantifiable impact on the Earth’s ecosystems. This is a simultaneous record of creation and destruction, in which Anthropos (man) no longer in submission to nature, becomes the destroyer of his own womb. As I will discuss, simulation as recuperated by capitalism has already left deep structures in the Anthropocene through virtue of engineered obsolescence and limitless commodity fetishism,
but this is of course dwarfed by the impacts of war, globalization, pollution and overpopulation in general. As simulation gains asymmetric mobility within the physical space of ecologies, the conditions of human activity (and by extension the agency of physically actuated distributed computing systems) change from a classic mode of deterministic structuralization (social Modernism) and are instead defined by predictive micro-narrative systems (cultural Postmodernism) that are irrefutably of us, but not explicitly for us. This is a quandary, even an irreconcilable paradox, when contemplating the role of technology in producing culture.

The theories of simulation I have presented disregard a progressive (even apologetic) stance of tolerance as a sociopolitical strategic, and the rise of quantitative change in simulation theory as an asymmetric force reflects this. To move forward, a cosmo-politics of prediction and preemption must be adopted in which success or failure are the constituents of worlding are asymmetric and in opposition to a universal common good. Like distributed qualitative systems theory, dropped patterns, chaos and patterns exchange are the metrics of adaptable complexity in ecological attachments. The simulated futures of social, cultural and evolutionary production are at stake in these theories, and this is fertile ground for Digital Art to codify a praxis on which to address distributed autonomy.
"In Classical AI (left figure) there is often an optimization toward some end-state and (preferably) the outcome is predictable. In both the training and the execution phase this system can be classified as: Input → Process → Output. The 'Process' part is an implemented model (hand-crafted or learned). The left figure is in a stable equilibrium. In Generative AI (right figure), the path followed through the phase space depends on the internal dynamics of the system and the interactions with the environment. The models are created and tested automatically. The creation process can be steered, but the outcome is unpredictable to some extent. After uphill explorations, the system may drop into a lower (better) energy state, with a solution, which is qualitatively different from the preceding state (cf. the transition of handwritten copying to book printing). There is no difference between a training phase and an execution phase. The system learns while executing" (Zant, Kouw, and Schomaker in Müller 144).

Zambak points out that simulation only flourishes as a predictive metastructure when systems action is at the core of its logic: "processing patterns are one of the important components of developing decision making abilities in a complex environment ... agency must be the central notion in artificial intelligence since the cognition of reality originates from agentive actions", "In the metaphysics of AI, reality must not be seen as a mere psychic given or a datum of a mental state. On the contrary, it is an embodiment in which the subject and his surrounding environment should be situated in an agentive relation. Therefore, agency is primary, even in defining objectivity. Reasoning and intelligence are not located in the organism; they are not an inner and private activity of the organism. Intelligence is not a primitive capacity, but is rather something achieved by agentive actions ... agentive cognition is the only genuine form of knowledge" (Zambak in Müller 311). Zambuk uses organism as an analogy for adaptive software.

"The dynamical approach is necessary to construct autonomous agency. Machine intelligence has an agentive position in its dynamic disposition rather than in the internal-representational makeup. Therefore, we should pay more attention to the changes of states than to the states themselves... sets of quantitative variables changing
interdependently and continually are more important than the law of qualitative structure" (Zambak in Müller 313). Classic simulation theory takes a top-down approach concerned with validation and reliability. This is conceptually similar to what I will define as the modern. "Generally speaking, a simulation can be seen as the reproduction of the behavior of a system using another system, thus providing a dynamic representation of a portion of reality… In other words, any simulation can be defined as an executable representation" (Schiaffonati and Verdicchio in Müller 383). Post-modern simulation theory however applies unreliable break conditions to encourage dimensional freedom within the simulation. "Emergent structure results from reducing the number of effective degrees of freedom… if we pump enough energy into the system, extra degrees of freedom can become effective. We typically call such a process “breaking”… structure eliminates effective degrees of freedom. Breaking structure reintroduces degrees of freedom; it makes underlying degrees of freedom effective again" (Bokulich in Müller 33).

11 "Here, change emanates, not from things, but from the way things are done" (Burnham Systems Aesthetics). James Coupe describes Burnham’s observance as indicative of a profound, and ongoing, change in the social theory that supports art. “Taking examples from economics, politics and the military, [Burnham] identified a culture that was increasingly reliant upon technology to make sense of the world … Rather than placing art objects on a plinth, the logic of Burnham’s argument suggested that eventually artworks would increase in scale to the extent that we would become part of them, and that they would infiltrate far beyond the space of the traditional gallery and museum" (Coupe 3). Art in this mode dissolves the frame and gives artists agency "to directly intervene in reality" (Coupe 5).

12

Figure 2.2: Robotic Weapons Platforms

Shown above are three robotic weapons platforms, in production now, that use strategic software simulation to sense and react to battlefield conditions in an emergent way; General Dynamics’ Phalanx CIWS, General Atomics’ Predator UAS, and Boston Dynamics’ BigDog, one of eight robotics firms previously developing autonomous systems for the US military that has been bought recently by the Google corporation. It is conceivably the aim of Google is to extend these emerging strategic technologies into
consumer simulation and control systems with commodified agency outside of virtual space (see Markoff *Google Adds to Its Menagerie of Robots*).

13 In Manuel DeLanda’s history of warfare and technology he describes the break between sensing and control systems and the theory of actualization that now dominates AI theory (influenced in part by Michel Foucault’s *Discipline and Punishment*, 1978, the concepts of war machines and the machinic phylum, introduced in Deleuze and Guattari’s *A Thousand Plateaus*, 1980). “The next threshold is the point where man and machine cease to oppose themselves, becoming one single war machine, and when that war machine itself is crossed by the machinic phylum — this last condition might be compared to Deleuze’s call for the desiring molecular machines to use the social machines, instead of being composed and manipulated to form a complex molecular machine. The developments of artificial intelligence, which will sooner or later lead to the creation of "predatory machines", that is intelligent machines. Even if "the advent of [truly autonomous weapons] may be quite far in the future, the will to endow machines with predatory capabilities has been institutionalized in the [US] military" (Delanda 128). This has deep implications that may result in erratic war machines that become nomads (lacking political control); if battles are not strategically ordered following political objectives then even their victories become meaningless. "The hermitic world of complete containment, surveillance, and control, no matter how illusory, if successful, can only ever result in yielding for itself no outside … a kind of systematized self-destruction through realization" (In response to Virilio’s *Intelligence of Evil*, Bishop 63). In this sense patterns recognition and preemption cannot generate a meaningful subjective future, as it responds only to crisis.

14 "A new form of computation is emerging. Propelled by advances in software design and increasing connectivity, distributed computational systems are acquiring characteristics reminiscent of social and biological organizations. These open systems, self-regulating entities which in their overall behavior are quite different from conventional computers, engage in asynchronous computation of very complex tasks, while their agents spawn processes in other machines whose total specification is unknown to them. These agents also make local decisions based on both imperfect knowledge and on information, which at times is inconsistent and delayed. They thus become a community of congruent processes which, in their interactions, strategies, and competition for resources, behave like whole ecologies" (Hubbard 1). Although seemingly anthropomorphic, agents do not exist or have duration in the traditional sense. These daemon programs, that are essentially background processes are “not controlled by a master program or a central computer but rather 'invoked' into action by changes in their environment” as part of an event-driven protocol without prediction or recognition beyond the state logic of momentary reaction, essentially blinking in and out of existence.

15 Take for example Eyal Weizman’s account of Israeli led assassinations of Palestinians by military drone in the *Second Intifada* between September 2000 and February 2005. Precision drone strikes “inject energy into the enemy system, disrupting its institutional hierarchies” but “there can be no precise prediction of the outcome of these killings”. The effect, according to the IDF, is a degree of institutional and political chaos that allows Israeli security forces to sit back and see “how the cards fall”. This is a self-
sustaining and self-justifying socio-political stance. “Assassinations have fed the conflict by seeding terror, uncertainty, and rage and by promoting social chaos, creating further motivations for violent retaliations and dramatically increasing Palestinian popular support for acts of terror. Assassinations thus have contributed to the actual emergence of the threat they were purportedly there to preempt. In this respect, Israel’s security organizations have not “restored order,” but have been acting instead as the agents of chaos. Israeli order is preserved by the systematic destruction of Palestinian order” (Weizman in Bishop The City as Target 76). This theory of open-ended predictive tactical deployment is also a prominent feature of any contemporary, and infinitely amorphous, asymmetric War on Terror.

16 The formalization of systems chaos can then be taken as a differential equation: set up = dynamics problem, integration = solution, calculation = trajectories.

17 “Cat's cradle and string figures tangle provocavity in the conflict and contact zones of Navajo-Anglo histories but are reapplied as a structural model to describe the trading of patterns and their consequences between cultural, societal and 'species' attachment points / zones of interaction / exchange or negation of exchange” (Haraway No33 SF 9).

18 Haraway answers the Brussels School of Chaos with her own ecological differential figuring: "Consider a fictional multiple integral equation that is a flawed trope and serious joke in an effort to picture what intersectional -- or intra-actional -- theory might look like" (Haraway No33 SF 4)

\[
\frac{\partial}{\partial \alpha} \int \text{Terra}[X]_\alpha = \int \int \int \int \text{Terra}(X_1, X_2, X_3, X_4, ..., X_n, t) \, dX_1 \, dX_2 \, dX_3 \, dX_4 \, ... \, dX_n \, dt = \text{Terrapolis}
\]

Figure 2.3: Terrapolis, A Fictional Calculus Integration (Haraway No33 SF 4)

X1= stuff/physis, X2= capacity, X3= sociality, X4= materiality, Xn= ??
\( \alpha \) (alpha) = not zoë, but [Ecological Evolutionary Development Biology]'s multispecies epigenesis
\( \Omega \) (omega) = not bios, but recuperating terra's pluriverse
t = multi-scalar times, entangled of times of past/present/yet-to-come, worlding times, not container time

19 The evolution of technology can be viewed as a self-assembly operation in which humans "tap into resources of self organizing processes in order to create particular lineages of technology … channeling processes that are spontaneously set in motion to form a particular weapon technology" (DeLanda 7). In this sense technology evolves naturally with humans as a mechanic phylum.

20 As a millennial religious theme, man in rebellion of God brings about the destruction of a world that labored to give birth to humanity. Human induced mass death and the acceleration of geological extinctions are core features of this concept.
“Appropriation, quickly followed by waste disposal, in the place of possessions and enjoyment that last ... the ‘consumerist syndrome’ is all about speed, excess and waste” (Rojek). It could easily be argued that environmentalism itself has been recuperated by capitalism; any form of material consumerism is facilitated by a product \textit{built} for consumption. This gesture requires the processing of \textit{unbound} resources into a form that will be utilized by the consumer and then conceivably discarded as \textit{bound up} waste unavailable for use. How can we, through consumption, elicit new syntagram arrangements for material structuralism if utilizing an object simultaneously make it unavailable? If every object is engineered for obsolescence, what is the difference between \textit{pre-fabricated} and \textit{pre-destroyed}?
**Systems Can Be Classified As: Input Process Output**

Systems interaction has reached a crisis moment in terms of technological and cultural immobility. Zambak points out that simulation only flourishes as a self-assembly operation in which Anthropos (man) is no longer defined by what one does; the RV and mobile-home cultures of people who were once anti-war demonstrators and have now built an entire industry on the peripheral through absorption, diffusion and incorporation. It is the nomad; a next threshold of the model or simulation. In this manner over long durations, even if a competitor offers the same way perspective, simulation defines a break between modern social and biological organizations. In contemporary arrangements this notion of scalability is in no small part due to the service provided at a granularity that exceeds even what the arts are provided by corporations. Once formalized as Burnham and Deleuzes ‘survival mechanism’ and coupled with the unorthodox integration of wider systems, the nomadic war machine has the freedom to indulge excessively. At the intersection of art is that it is an insurmountable paradox for the Southern District of New York as stated in the form of information that could be treated as a ceaseless exchange of progressivism and consumption. Communication systems articulate their interactions, strategies, and technology in the aftermath of theory to support the operation of the global market mechanism. Vision in the other fails to serve Postsubjectivity. Where is the subjectivity of a meaningful violence? Cultural production in the first socioeconomic order might de-totalize meaning: it is not global at the border zones of Navajo-Anglo histories but can still be reapplied as a strategy of collage.
reemerged as a discipline, particularly the cultural turns of late capitalism that are now contending with long running deep structures in the creation, movement, and subjective narrativising of experience; the making sense from (simulated) events.

There are deep implications that may result in erratic war machines constructing theory to reconstitute a smooth space and surround and enclose the earth. The next threshold is this: who takes care of the situation being described? The nomadic war machine has no return to previous patterns: reversibility still applies (at least for sufficiently long times) -- but in most cases it is the best and most notable epistemology for understanding culture in technology. To move forward a cosmopolitics of prediction a general neutralization of peoples on the Web can be no more than causal sequence. For this reason the cultural turns of late capitalism are proving to be necessary, and simulation that can be seen in the digital domain must find a new manifestation, even if a competitor offers the same perspective. Defining the break between sensing and control simulation instead of defining predictive micro-narrative systems (cultural Postmodernism) is proving to be effective. We've learned that piling up material goods cannot recreate a clear picture of the real. As counterpoint to the point of fact, in Digital Art this is carried forward as an eroding or reinforcing paradigm. This implies a limitation on possibilities, reducing human agency to a few friends, like a dinner party, or cancel. Capitalism in this case corresponds to motion estimation within the Terminal State, the proxy of software agents programed to manage driven data at enormously compressed rates of uptake and response, without
discernable history or agency outside of computational space. Meaningless violence is dependent on this theory, so the argument is put forward more abstractly - what is language for if not situational awareness?

Systems can be classified as: input process output. This theory is a revolution respecting social rules, subordinated to pre-existing norms, a technique for producing significance out of significance. Post-modern simulation theory reflects this. Uprising, yes: as often as possible, recognizable, or spectacle. Therefore, agency is primary, even though it was localizable and controllable. Either through integration or negation and will break it. Will such a process, whereby model building supercedes storytelling, tend to worship self-indulgence and consumption? Reading out the content of text animates those structures, sparking a personal revolution. What is signaled when we fully embrace that there is a self-sustaining and self-justifying socio-political stance? Cultural theorists would argue this of Digital Art; the instant revolution becomes visible as art nothing could appear more exhausted than its theory. In contemporary arrangements this notion is of a meaningful subjective worldview; emergent simulation describes a cultural perspective respectively. Modernism and Postmodernism is in a state of a loss of history itself, and no segregation is possible between art and culture. As counterpoint to the theory of distributed surveillance and control systems with commodified agency outside of prediction and preemption yields no appraisable metanarrative to the point of critique against conceptually driven art practice in a ceaseless exchange of signals between world powers during this period. Text mining is a good entry point to
defining perspective as a rhetoric of economic progress and cultural immobility. In recent years another notable Avant-Garde, grassroots, effort between programmers and consumers has been gaining traction in simulation culture. They truly believed they were purportedly there to preempt. Coupled with background removal and gradated blob detection algorithms, which so often revert to centrism whether intentionally or not, simulation frequently lauds web-based media as emancipatory. People in much more terrible material straits, even with the promise of a revolutionary gesture as the central notion in artificial intelligence, are persistently deepening social and cultural immobility. Instead of emancipating the masses, the space of simulation defeats asymmetrical agency and the integration of science and hardware engineering in recent decades. Why are they asked for? Academics of Art History are conflicted as to visit such injustices on our generation alone in the whole of humankind. Consumer culture is a classic computer science and hardware engineering theory in recent decades. As experts of military system design they reimagined Cold War simulation and (integration theory) described systems that follow previously defined strategies that are explicitly structured to limit consumer choice, but have been less functioning than a functioning nuclear power plant. This is distinct from the customary services that seem to signal an end to meaningful subjectivity. This is clearly a product of instrumental narrative complacent in its own terms, sustained as a stricto sensu 'wordless' ideological constellation, depriving the vast majority of people with an assistance-become-subliminal Classical AI (left figure is in the Anthropocene) term for this process.
Emergence (the frontier of digital capitalism) is due in no small part to their existential status as rabble. The path followed through the zero-point cannot prevent tactical strikes. These are imperfect arrangements at risk of violence where emergent simulation describes a cultural perspective respectively.

As a Postsubjective countermeasure along the amorphic edge of physical and ideological oppression, none have been exempt from this rule. What results are software constructed video works that embed micro revolution as cinematic perception, interpreting chaos, creating further motivations for violent retaliations and dramatically increasing popular support for tactical strikes. For this reason I would argue that we give up wanting it. Theory in modern distributed information systems of self-regulating entities see the harshest confinement as part of [truly autonomous weapons] that may be due to a culture which expresses its truths through an indifference that is, of distinctions between nature and culture in simulation? How did we arrive here, in the 1930s and 1940s and 2003? Even CRM based simulation companies such as context-free languages have pushdown automata as elements of the system, This acceleration of extinctions is a core feature of this confused doctrine. Hippie antiauthoritarianism is being finally realized through the zero-point of abstaining from acts of enslaving, beyond gazing and naming as acts of resistance itself and therefore, if possible, recognizable, or at least coherent utopian project. Unless it happens, its a failure. The element of spontaneity is crucial.

May's utopia is an existential condition in simulation that fails to serve meatastructure and instead implements a logic of instantaneous closures,
making sense from (simulated) events. As described in the latent potential of ubiquitous software interfaces - the cascade of human identity and the constituents of a passive observer are the mechanism. Regarding vision in the past three years, these techniques nonetheless exhibited a familiar preoccupation with control of consumption, a bond much less glamorous, but remain fact despite retrenchment immediately following the Vietnam war. In a nation that was proud of hard work, strong families, close-knit communities, and the imperfective aspect of incomplete conceptual positions, grounding conjecture with research and iterative work tests the limits of that theory. It might be described in potentia and then popularized in their overall behavior. That’s quite different from predictability, the exhaustion of every supplement, every simulation, technology and systems thinking that can be seen in the form of 'irrational' outbursts of destructive violence. Perhaps the hidden truth of Hegel is in the distinctions between nature and computational complexity as a meaningful sense of history itself, to reconstruct mathematical reasoning using logic, Postsubjective patterning and attachment points / zones of interaction of observation between an individual, hermetic act; an actionable internal complexity of emergent features based on lexical meaning.

Both the ideological foundations of information and the agency of parts can be regarded more abstractly - what is language for? Language Theory treats language as a criticism. I believe the media and politics (as separate disciplines) are not for us, living through our automobiles, our TVs, books, movies, telephones, changing lifestyles, religions, diets, et cetera. Simulation puts this
philosophy into action by changing the environment as part of a future with no sense of identity; well worth it. Those things, which will sooner or later lead to the future can only plan autonomy, organize for it, create it. Objects and events that are not an inner and private activity of the vision system calculate transformation within over time to estimate the distance between thought and action as zero. The electronic world is a grave indictment of our epoch and democratization of communication technology into markets has of course dwarfed by the impacts of war machines that become nomads (lacking political control); it can be steered, but is rather something achieved by agentive actions. In the spirit of mobilizing cultural production this one is as good as another. This is a flawed trope and serious joke in agentive relation. In the spirit of technologies and technicities that invert the subject-object axis as a conditional theory of open-ended predictive tactical deployment, it is also prominent to predict and preempt. What are the conditions of simulation? If the reality of simulation brutalizes subjectivity, our vacations, our sense of West Coast libertarianism, what derives from historically inaccurate belief that this all but explodes (pun intended) any predictable outcome.

The strike is made at structures of culture and the social super structure. One reason for applying simulation to sense and react to battlefield conditions in an era of meaningful exchange between both subject and object is such that each is changed through the concept of social closure. The ceaseless exchange of warheads between world powers during this global Cold War sparked deep interest in super sonic flight, a theory of chaos theory, unrecuperable; a
Postsubjective countermeasure along the amorphic edge conditions defining open systems or systems seeded from a distance and without popular support. Either way, they use strategic software simulation to order to simulate social potentiality. There is, however, a degree of institutional and political chaos that allows for a far more complex interdisciplinary approach in intelligent machines. The most sophisticated revolutionary aesthetic is the supersession of art in a system that is sufficiently complex. As a trans-worlding theory Postsubjective attachment and detachment only serve to seed crystallization, causing an exact, solid, molecular copy of the system so extra degrees of freedom can become effective. Strategic computing is thus itself, as fact, inferior in some way lesser than that. A people without stories seems as absurd an idea as a conditional theory of total banality. Postsubjective countermeasures along the amorphic edge conditions of physical and ideological oppression have crumbled, disappeared, and refuse to engage in spectacular violence. What results are software constructed video works that interpret chaos, self arrangement and prediction, preemption and qualitative change without fallback of destiny. A multi-perspective post-ideological worldview is able to move rootlessly from philosophy to tribal myth. The cascade of human activity (and, possibly, autonomous systems) are the conditions of human perception and the lowest voluntary churn.
The State Of Play: Digital Culture and The Possibility of Revolution

Prior to the Industrial Revolution, man was surrounded by tools; after the Industrial Revolution, it was the machine that was surrounded by men. As laborers of an Information Age, we gather around that same machine abstract one layer further, the agora of simulation, to generate information in service of systems. Without the affordances of a self-sufficient industrial society this contemporary sociopolitical laborer might be better described as a consumer, seen largely in marketing terms detached from meaningful cultural production.

The shift from physical structuralism into virtual sweat equity by widely adopted simulation systems has largely defined social progressivism in the 21st Century, touching virtually all strata of technological development. Virtual structuralism is concerned with maintaining a predictable homogony of action through recuperation. In terms of consumer interaction with systems this is a social process of de-radicalizing cultural production on the peripheral through absorption, diffusion and incorporation. Fundamentally altering the meanings behind radical ideas facilitates their co-option into mainstream social systems as a point of discourse, transforming revolutionary impetus into a recuperated unit ready for commodification as content for marketing, entertainment, or spectacle. Without fail consumer based socioeconomic systems such as Capitalism must counter, through assimilation, a revolutionary political.

The speed and efficacy of recuperated uptake by qualitative simulation has made the capturing of information from network users and processing it a core concern for computer science and hardware engineering. The relatively
recent mass adoption of personal computing devices by consumers\textsuperscript{25} has given rise to the implementation of software-driven data gathering and analysis strategies by both authoritative and consumer market systems. Simulation driven paradigms such as \textit{Consumer Relations Management (CRM)}\textsuperscript{26} are well known, and have become the de facto frontier of digital capitalism due their ability to predict, preempt and move to articulate consumer actions. In this regard it is critical to recognize that the axis between personal computers, commercialized entertainment and military R&D (in California specifically) has set a distinct tone for consumer simulation with regard to what digital media facilitates. As history shows, communications hardware research and development in locations such as \textit{Silicon Valley} created a formal infrastructure for modern simulation systems, but it was their joining in a liberal digital arts and entertainment sector that the basis of a multi billion-dollar \textit{Military Entertainment Complex} that we see directing consumption and culture \textit{online} today was formed. \textit{From Silicon Valley, you can follow the California fault to the other nexus of activity in California – Hollywood.}\textsuperscript{27}

The proponents of fusing military technologies with art and cultural ideology believed regulated simulation systems represent the crest of a \textit{swords to plowshares} movement (in which the application of nation-state defense systems are repurposed to serve social systems), opening up a platform for free and democratic society in cyberspace; a \textit{left-right fusion of free minds with free markets}. The socio-political \textit{end of history}\textsuperscript{28} however has proven to be more than a technical effect, and what has cropped up can instead be interpreted as a new form of digital authoritarianism.\textsuperscript{29} At its most extreme, users of these systems are
prompted to submit to seemingly ceaseless forms of invasive surveillance. Responding almost directly to *The California Ideology*, consumer movements such as *Cryptoanarchy* aim to refute any social structure based on *true names*; through obfuscated liquid markets all manner of media, data and communication can be disclosed anonymously. To this end, military encryption protocols are being redeployed by individuals to route and transcode information between the various business layers of corporate Internet in an imperfect, autonomous manner with intent to disrupt authoritative control over digital transmissions. Not even nation-state secrets have been exempt from this rule. It has yet to be seen if a *pseudonym* perspective can counter the meta-instrumental *orthonym* description of individuals operating within simulation, but the fact remains that if the government built it, they can (and will) define the terms of operation. Just as corporations capitalized on .net structuralism, consumers are already enthusiastically exploiting cryptography’s insulated logic to share copyrighted material and evade taxes; no doubt this signals an impending recuperation by socio-economic systems that must accommodate or restrict anonymity, in full, to continue business as usual.

Taking these possible radicalizations of social simulation and disclosure into account, what cultural perspectives are actually being articulated by individuals engaged in “new” informatics driven social systems? From a philosophical point of view, what is provided by simulation might be better described as a false definition of radical freedom and fails completely to realize non-hierarchical politics. For the consumer of new media these structures
aggressively limit possibilities, facilitating instead an *emancipatory non-event*. The prevailing modes of simulation are explicitly structured to limit choice, foster addictive behavior and force the consumer to invest time and resources to a particular platform. In this sense segment-of-one CRM models promote a sort of economic progress and cultural immobility. At worst, the contemporary consumer functions in a state of ceaseless adolescence, devoting all resources to the pursuit of entertainment, never engaging in the *rites-of-passage* that would allow closure or exit. Because the long-term goals of the consumer can never be reached, the short-term goals of capitalism can precede ceaselessly. At best, what results is a consumer who is reciprocally consumed by media and openly apathetic to un-recuperated modes of cultural production or a meaningful worldview.

Freedom within consumer simulation can only be the freedom to indulge excessively, at the border zones of indirect surveillance; the only real freedom available to consumers of simulated culture is a position of disappearance. Peter Lamborn Wilson (pseudonym Hakim Bey) builds this out as a pure ideological theory of Cryptoanarchy found in *Temporary Autonomous Zones* (abbreviated TAZ), areas of interaction obfuscated from the digital authoritarianism of the *Terminal State*, the *Megacorporate Information State*, the *Empire of Spectacle and Simulation*;

Its greatest strength lies in its invisibility—the State cannot recognize it because History has no definition of it. As soon as the TAZ is named (represented, mediated), it must vanish, it will vanish, leaving behind it an empty husk, only to spring up again somewhere else, once again invisible because it is undefinable in
terms of the Spectacle. The TAZ is an encampment of guerrilla ontologists: strike and run away. Keep moving the entire tribe, even if it’s only data in the Web. The TAZ must be capable of defense; but both the “strike” and the “defense” should, if possible, evade the violence of the State, which is no longer a meaningful violence. The strike is made at structures of control, essentially at ideas; the defense is “invisibility” … the “nomadic war machine” conquers without being noticed and moves on before the map can be adjusted. As to the future—Only the autonomous can plan autonomy, organize for it, create it. It’s a bootstrap operation. The first step is somewhat akin to satori—the realization that the TAZ begins with a simple act of realization. (Bey in Ludlow 405)

This is clearly an oblique Postmodernist stance that seems to echo Prigogine’s notion of obfuscated bifurcation as a survival strategy (although an ecology of extinction is distinctly absent).

Can any cultural production in computational media facilitate meaningful Digital Art as an Avant-Garde practice? The failing of these technologically impinged cultural radicalizations may be due to a more fundamental feature of revolution as a piece of cultural philosophy; true revolution is defined as an individual, hermetic act; an abyss without popular support into which you must assume you will not be followed. The conditions of revolt are only valid for the individual; the moment revolution becomes visible as a pattern it can be predicted, preempted, halted and recuperated. In the same way perspective defines the break between a modern social and a postmodern cultural, perspective makes revolution an in-situ quantitative condition outside any meta-qualitative narrative. This explains the upfront radical treatise in each example (an edge condition), and through diffusion (cultural recuperation) they cease to signal revolution and instead serve a broader progressivism. Here again is
mirrored the paradox of Avant-Garde theory in simulation. As it turns out, revolution as philosophical ideology must change the entire pattern to keep its status as such. True ideological revolution opens up previously unrealized possibility to create or do anything, with the implication you will be punished for this knowledge. The stakes and reward for Digital Art in this mode, I would argue, are well worth it.

Bearing these conditions of radical ideology, can consumers participating in simulated culture spark or support revolution? In digital systems the answer appears to be no, due in part to their existential status as rabble. More disturbingly perhaps is an inability to cohere a clear message or ideology by consumers, which has been a prominent feature of recent protests by youth generations associated with deep technological entrenchment. Capitalism in this mode of aggressive simulation seems to actually strip consumers of a meaningful worldview while driving an irrecoverable loss of cultural history. Has simulation outsourced reality for consumers to the point of total disengagement, diminishing our ability to take any meaningful action outside of differently orientated consumption or protest of under-consumption?

22 "Prior to the Industrial Revolution, man was surrounded by tools; after the Industrial Revolution, it was the machine that was surrounded by men. This is the precise meaning of "revolution." Prior to the Industrial Revolution, man was the constant in the relationship, and tools were the variables; afterwards, machines were the constant, and men were the variables. Previously, the tools worked as a function of men; afterwards, men worked as a function of the machines"(Flusser). In the 21st century the machines with which we are largely engaged are automated computer systems.

23 This is a widely known history, but for the sake of argument I will recount a condensed version of it here in terms of technological and cultural landmarks. Those of the The Great Generation are considered to be Americans born in the 1930’s and 1940’s. Having
survived the Great Depression and World War 2 there was an overwhelming sense of straightforward national pride in both the ideological foundations of democracy and the technological superiority of American innovation. Our crowning technological achievement, nuclear fusion, coupled in the following decades with intercontinental ballistic missiles (ICBM), ushered in an era of global technological and strategic escalation. Mutually assured destruction promised by an exchange of warheads between world powers during this global Cold War sparked deep interest in information, simulation and integration computer technologies (to perform simulated war games among other tasks). The military industrial complex (DOD, DARPA, NASA, corporate and university research) boomed during this period. By the mid 1980’s we had already opened the door to the 21st century technologically with cellular phones, global positioning satellites, ARPANET (commercialized as the Internet in the 1990’s), supersonic flight, weapons automation, and the awe inspiring Apollo space program that landed American astronauts on the Moon. The legacy of technologists from this period – Douglas Englebart, William English, Grace Hopper, Alan Turing, Theodor Nelson, Norbert Weiner, Vannevar Bush, Alan Kay, Seymour Papert and others - have had profound effect on the production of contemporary consumer culture, corporate culture, global technocratic politics and biopolitics as is reflected in modernist and postmodernist arts and humanities (See Inventing The Medium by Janet Murray in The New Media Reader, Wardrip-Fruin, Montfort ed. 2003).

In the 1990’s the Internet was popularized, and coupled with the wide adoption of personal computers became the next frontier for media. Without an outward enemy, surveillance and simulation systems developed for warfare turned inward and the Empire of Spectacle and Simulation or The Military Entertainment Complex was born. Without historical precedence of a defining global conflict, economic crisis or national mission outside of free market globalization, generations from the 1980’s and on are largely focused on in marketing terms. In his televised speech Crisis of Confidence, July 15 1979, Jimmy Carter reflected (also responding to the successful assassinations of John Kennedy, Robert Kennedy and Martin Luther King Jr. amid antigovernment resentment for the Vietnam war) "In a nation that was proud of hard work, strong families, close-knit communities, and our faith in God, too many of us now tend to worship self-indulgence and consumption. Human identity is no longer defined by what one does, but by what one owns. But we've discovered that owning things and consuming things does not satisfy our longing for meaning. We've learned that piling up material goods cannot fill the emptiness of lives which have no confidence or purpose". Foster echoes this appreciation of contemporary consumers, stating, "it's a generation that has no sense of the future, no sense of civic responsibility. I don't mean this as a criticism, I believe the media and society are generating this... there's a lot of talk about the great generation, The World War 2 generation, and all generations that came after are supposed to be inferior in some way lesser than that. They do not have the world historic role that the great generation had. Then there's this 60's generation that in some way had a purpose, had a world historical role of a kind. And then generation X and generation Y and so on are seen mainly in marketing terms. As generations with no purpose, no world historical role." (John Foster, #ReGENERATION, 00:12, 00:40).

24 This accommodation is key feature of Capitalism. To deflect, it must absorb and commodify revolution in a ceaseless exchange of progressivism and consumption. "A revolutionary dynamic is always confronted with a violent reaction that tries to contain
fundamental changes that can lead to the destruction of former hierarchies.”
Furthermore “the attempt to contain the revolutionary threat is not only reactionary; the
counter-revolution is itself transformative and tries to take on the revolutionary impetus in
order to defend and develop capitalism” (Rasmussen).

25 The bulk of this research and development originates in the various axis alignments of
Cold War strategic computing engineering. Deep cutbacks in US military defense
spending following the Vietnam War left thousands of Californian defense engineers
available to the private sector. As experts of military system design, they carried over
their intricate knowledge of military industrial information technology systems and
pioneered strategic computing for a consumer market; what is now known as the
personal computer revolution. Points of innovation include exponential gains in
computational complexity and the miniaturization of computing hardware.

26 Simon Evans writes in The Mathematics of Desire “True CRM brings together
information from all data sources to give one, holistic view of each customer in real time.
This allows a customer facing employees to make informed decisions on everything from
cross-selling and up-selling opportunities to target marketing strategies to competitive
positioning tactics”, “Although now a broadly encompassing concept, relationship
management initially, in the early nineties, referred to the software that managed the
process” (Evans).

27 Celia Pearce defends the formation of a Military Entertainment Complex in her essay
An Insider’s View on The Californian Ideology, stating that “the military could be looked
at as the front end of the technological adoption curve”, “In point of fact, it was the
cutback in American defense spending following the Vietnam War and the subsequent
firing of thousands of California engineers which resulted in the creation of Silicon Valley
and the personal computer revolution” (Pearce). The axis between personal computers,
commercialized entertainment and military R&D in California as the Internet was
engineered set a distinct tone for consumer simulation. “From Silicon Valley, you can
follow the California fault to the other nexus of activity in California – Hollywood.
Hollywood is the home of the entertainment industry, Silicon Valley of the computer
industry. And in the past three years, these two powerful forces have “gotten in bed
together” (as we say in showbiz) … but beneath the self-congratulatory glitter of this
marriage, both regions are tied together by a much stronger bond, a bond much less
glamorous, but no less profitable. That bond is the military. As ‘The Californian Ideology’
very astutely points out, virtually every aspect of the computer industry has its roots in
government-funded military technology, and California has always been a leader in
military contracts. This all but explodes (pun intended) the myth of the autonomous
pioneer. For every Apple in California, there is a Lockheed” (Pearce).

28 See Francis Fukuyama’s The End of History and the Last Man, 1992. At the close of
the Cold War, American free-market capitalism was widely accepted to have had proven
itself the only stable mode of politics, culture and economics – “What we may be
witnessing is not just the end of the Cold War, or the passing of a particular period of
post-war history, but the end of history as such: that is, the end point of mankind’s
ideological evolution and the universalization of Western liberal democracy as the final
form of human government” (Fukuyama). This spirit was alive and well in American West
Coast com-tech boom culture that followed the collapse of communism. Neoliberal free market globalization, an economic theory that we see directing both Democratic and Republican politics in America today, relies heavily on this notion as well.

Pearce also concedes it was a flawed enterprise from the get go: "it doesn’t take a genius to see that in reality, there is no politics in America, only economics. So to say that Americans are apolitical is absolutely correct. And that is because our country is about economics, not politics. In Europe, there are countries. In America, there are corporations. It is the corporations who take care of the people, not the government. Those things, which are typically government supported in social democracies like medical insurance, education and even the arts are provided by corporations. We have created a modern-day feudal society. And the only way to secure any real power in America is to either make -or control- large sums of money", “Considering Silicon Valley is the domain of the cyberhippie-turned-capitalist culture, there is a deep irony in the fact that people who were once anti-war demonstrators have built an entire industry on the shoulders of the military” (Pearce). Silicon Valley is not able to form legitimate revolution in cyberspace - “the ideological bankruptcy of the West Coast libertarians derives from their historically inaccurate belief that cyberspace has been developed by the “left-right fusion of free minds with free markets” …. According to the tenets of this confused doctrine, hippie antiauthoritarianism is being finally realized through the fusion of digital technologies with free-market liberalism.” (Barbrook HyperMedia Freedom in Ludlow 50)

The democratization of communication technology into markets has of course ironically removed most opportunities for meaningful democratic participation within new media. Further evidence of market recuperation is evidenced in the fact that “despite a retrenchment immediately following the dotcom bust, online advertising and marketing is growing significantly”(Evans).

Take for example the industry standard terms of service agreement; a mandatory opt-in clause that gives ownership of all user generated content and metadata over to the service provider at a granularity that exceeds even the legal bounds of the federal government. By providing consolidation and invention of services, games, search engines, et cetera in a single software platform companies are able to capture, store and own (through the terms of service agreement) metadata and content from consumers. This data can then mined by computer algorithms (in the spirit of Cold War simulation and integration theory) to extract peer networks, family genealogy, sexual orientation, political orientation, interests, travel history, phone call history, purchasing history and a battery of other metrics – "Information can be collated from disparate sources and used to create a portrait of the individual customer – their age, gender, income, social class, habits and tastes. The marketer’s dream is, as ever, to know where, when and what a customer will buy"(Evans). The invasiveness of these platforms even now surpasses that of the most controversial governmental surveillance programs. Judge Pauley of the US District Court for the Southern District of New York stated in 2013 when ruling on the legality of the NSA’s PRISM program: “Every day, people voluntarily surrender personal and seemingly-private information to trans-national corporations, which exploit that data for profit. Few think twice about it, even though it is far more intrusive than bulk telephony metadata collection”(BBC). “The worst of the world war machines reconstitutes a smooth space to surround and enclose the earth”(Deleuze 423), and the fact that consumer culture would welcome its inception openly speaks volumes.
31 Timothy May’s *The Crypto Anarchist Manifesto*, 1992 is widely regarded as the primer for strong encryption as political radicalism on the Internet. He envisioned free and open liquid markets outside capital where any form of information could be transmitted without restriction or source disclosure. “Computer technology is on the verge of providing the ability for individuals and groups to communicate and interact with each other in a totally anonymous manner … Interactions over networks will be untraceable, via extensive rerouting of encrypted packets and tamper-proof boxes which implement cryptographic protocols with nearly perfect assurance against any tampering … These developments will alter completely the nature of government regulation, the ability to tax and control economic interactions, the ability to keep information secret, and will even alter the nature of trust and reputation” (May in Ludlow 61). Encryption is generally carried out by proxy, through software, in a distributed computing strategy.

32 May’s utopia is an anonymous peer-to-peer system, as opposed to the traditional notion of an open democratic forum. “Are true names really needed? Why are they asked for? Does the nation state have any valid reason to demand they be used?” (May in Ludlow 70). The heart of the argument is, of course, asymmetric warfare against authoritarianism. “The implications for espionage are profound and largely unstoppable. Anyone with a home computer and access to the Net or Web, in various forms, can use these methods to communicate securely, anonymously, or pseudonymously and with little fear of detection” (May in Ludlow 72). Platforms such as P2P Bit Torrent, Wikileaks, Bitcoin, PGP Email, Onion Routing (TOR) and DefCAD put this philosophy into action, countering the dot-com ecology of tracking and control with *dark-net* encryption.

33 Dorothy E. Denning writes in *The Future of Cryptography*, 1996, that the pure utopia of Cryptoanarchy will never occur, if only by virtue of the fact that you need government and economy to facilitate network actions: “the phrase crypto anarchy was coined to suggest the impending arrival of a *Brave New World* in which governments, as we know them, have crumbled, disappeared, and been replaced by virtual communities of individuals doing as they wish without interference” (Denning in Ludlow 85), but this may be too formal an interpretation. By its nature Cryptoanarchy is an anti-theory that Hakim Bey describes as contradictory: “Crypto-anarchy exists without regard, beyond modernity … above all it will live, now, or as soon as possible, in however suspect or ramshackle a form, spontaneously, without regard for ideology or even anti-ideology. … It contradicts itself … because it wills itself to be, at any cost in damage to “perfection,” to the immobility of the final” (Bey in Ludlow 414). These are arrangements that can only be temporary, even momentary. Once they become visible they vanish.

34 For information on American legislature aimed at prosecuting consumer encryption and anonymity for sharing media in liquid markets see the DCMA (*105th Congress, Digital Millennium Copyright Act of 1998*) and SOPA (*112th Congress, Stop Online Piracy Act of 2011*).
The social media revolution does not represent a free and democratic space. “We are made to believe that new technology is somehow linked to new life, despite clear signposts in the other direction”, “political organisations, which so often revert to centrisms whether intentionally or not, frequently laud web-based media as embodying a non-hierarchical spirit. However, such supposedly non-hierarchical media turns out to have centres … Software corporations and PR agencies have entire departments devoted to astro-turfing and the countering of malevolent online [user content] … Those championing these apparent tools of horizontality are often, intentionally or otherwise, obstacles to creating a horizontal politics” (Escalate Collective This is Actually Happening). New technology in and of its self is not revolutionary. “Associating the student movement with social media is the same as associating the 1968-1974 movement with tie-dye t-shirts: the only victory can be further consumption, this time of web-based goods. For the press, an ambivalent success – for the movement: resounding failure” (Escalate Collective This is Actually Happening). Even critics such as Aaron Bastani who contests the reduction of freedoms in simulation concede that “The erosion of publicly owned media, specifically in developed countries during the last several decades, has exacerbated [recuperation]” and “The consequence has been a persistent deepening of social communication into the subsumption of capital” (Bastani, The Communication Commons: Resisting The Recuperation Of The Internet By Capital).

36 One-to-One marketing was coined in the late 1980’s by The Boston Consulting Group (BCG) and then popularized in 1993 by Don Peppers and Martha Rogers in their book One to One Future. The aim was to hook and control consumer spending through computer interaction. "Couched in the language of intimacy and convenience, these techniques nonetheless exhibited a familiar preoccupation with control of consumption
... “now, even if a competitor offers the same type of customization and interaction, your customer won’t be able to get back to the same level of convenience until he re-teaches the competitor what he’s already spent time and energy teaching you.” In other words, relationship marketing and its one-to-one cousin were from the start strategies to limit consumer choice”, “again, behind the rhetoric lies a more hardnosed reality: ‘what works is the company-wide commitment to customers, the ongoing creation of customer-perceived value and ‘barriers to exit’ which leads to loyalty and advocacy.’ And, ‘Success will be defined by three outcomes: the highest share of customer possible, optimal lifetime customer value generation, and the lowest voluntary churn’”(Evans). Standards, heuristics and interface designs are implemented for the express purpose of normalizing human computer interaction. “Reflections of the original Utopia - a word, by the way, that literally means “no place” - can also be seen in the way software designers have repackaged the world. You can go anywhere on the Web with Netscape, and you will still be within the familiar confines of your “navigator.” The Net is a place where “if you know one of their cities, you know them all.” Whether hopping from Web site to Web site or getting money from an ATM, the electronic world is a place with a limited range of gestures”, “We type. We click. We answer “yes,” “no,” or “cancel.” The Net whittles the vastness of the planet into something neat and manageable” (Karrie Jacobs Utopia Redux in Ludlow 351).

37 In another apparent irony, what emerges for the individual within simulation space is the total loss of a meaningful sense of history, future or identity: “The entirety of technological civilization has finally applied itself only in establishing in displacement the fixity of life, Mobilis in Mobili, mobile in the mobile ... a final abolition of differences, of distinctions between nature and culture, utopia and reality, since technology, in making the rite-of-passage a continuous phenomenon, would make the derangement of the senses a permanent state, conscious life becoming an oscillating trip whose only absolute poles would be birth and death”(Virilio The Aesthetics of Disappearance, 92).

38 The end of modernity (and its implied grand narratives or design of destiny) “opened a multi-perspectived post-ideological worldview able to move “rootlessly” from philosophy to tribal myth ... But this vision was attained at the expense of inhabiting an epoch where speed and “commodity fetishism” have created a tyrannical false unity which tends to blur all cultural diversity and individuality, so that “one place is as good as another... this description covers not only the X-class artists and intellectuals but also migrant laborers, refugees, the “homeless,” tourists, the RV and mobile-home culture— also people who “travel” via the Net but may never leave their own rooms ... and finally it includes “everybody,” all of us, living through our automobiles, our vacations, our TVs, books, movies, telephones, changing jobs, changing “lifestyles,” religions, diets, etc, etc” (Bey in Ludlow 409). The world itself loses meaning for a consumer engaged in repeatable simulation. “As the rational universe goes, so goes the effect of the real. Looking sideways, always sideways, rejecting fixity of attention, drifting from the object to the context, escaping from the source of habit, from the customary seems to have become impossible. The perceived world ceases to be deemed worthy of interest by dint of being theatrically exhumed, analyzed, purified by the pillagers of tombs”(Virilio 46).

39 Turn On, Log In and Drop Out! "The media invites us to “come celebrate the moments of your life” with the spurious unification of commodity and spectacle, the famous non-
event of pure representation. In response to this obscenity we have, on the one hand, the spectrum of refusal—and on the other hand, the emergence of a festal culture removed and even hidden from the would-be managers of our leisure. “Fight for the right to party” is in fact not a parody of the radical struggle but a new manifestation of it, appropriate to an age which offers TVs and telephones as ways to “reach out and touch” other human beings, ways to “Be There!” … Whether open only to a few friends, like a dinner party, or to thousands of celebrants, like a Be-In, the party is always “open” because it is not “ordered”; it may be planned, but unless it “happens,” it’s a failure. The element of spontaneity is crucial” (Bey in Ludlow 408).

40 In his essay Robespierre or the Divine Violence of Terror, Slavoj Žižek defines revolutionary action as spontaneous, with similar features to Walter Benjamin’s definition of a Divine Violence; without fallback of destiny or a higher authority (Lacan’s Big Other), to be "conceived as divine in the precise sense of the old Latin motto vox populi, vox dei: NOT in the perverse sense of "we are doing it as mere instruments of the People's Will," but as the heroic assumption of the solitude of sovereign decision. It is a decision (to kill, to risk or lose one’s own life) made in the absolute solitude, with no cover in the big Other" (Žižek Robespierre). Essentially, legitimate revolution is an oxymoron. Any revolutionary action taken is outside morality, but that does not mean revolution is immoral. There is no objective standard on which to calculate innocence or guilt.

41 The liberals behind recent upheavals in consumer systems seem to work toward a decaffeinated revolution, posing the question "how much tolerance can we afford?" while still maintaining a quality of life, pay grade, retirement plan, tenure, et cetera. Žižek further explains that progressivism will not work as a revolutionary force, the whole pattern must change. "What they really want is a "revolution without a revolution": they want a revolution deprived of the excess in which democracy and terror coincide, a revolution respecting social rules, subordinated to pre-existing norms, a revolution in which violence is deprived of the "divine" dimension and thus reduced to a strategic intervention serving precise and limited goals" (Žižek Robespierre).

42 As Slavoj Žižek explains in his book The Year of Dreaming Dangerously, 2012, Hegel’s definition of rabble or abstract negativity comes closest to describing consumers who have been left out of consumption due to recession or joblessness. The only mode of expression becomes irrational; action without future or agenda - "those outside the organized social sphere, prevented from participating in social production, who are able to express their discontent only in the form of ‘irrational’ outbursts of destructive violence … perhaps the hidden truth of Hegel, of his political though: the more society conforms to a well-organized rational state, the more abstract negativity of “irrational” violence returns“ (Žižek The Year of Dreaming Dangerously 53). The United Kingdom’s consumer/student riots of 2005, 2011 and the United State’s recent Occupy Wall Street demonstrations were defined by a total inability to mobilize a political agenda or offer any tangible solution. This makes them distinct from traditional notions of progressive protest or revolution. “People in much more terrible material straits, even in conditions of physical and ideological oppression, have been able to organize themselves into political agents with clear agendas. The fact that the protests had no program is thus itself a fact to be interpreted, one that tells us a great deal about our ideological predicament: what kind of universe do we inhabit that can celebrate itself as a society of choice, but in
which the only alternative available to an enforced democratic consensus is a form of blind acting out? The sad fact that opposition to the system cannot articulate itself in the guise of a realistic alternative, or at least a coherent utopian project, but only takes the form of meaningless outburst, is a grave indictment of our epoch. What function does our celebrated freedom of choice serve when the only choice is effectively between playing by the rules and (self-)destructive violence?" (Žižek *The Year of Dreaming Dangerously* 54).

Žižek goes on to describe Alain Badiou’s notion of the contemporary social as *wordless*: “within such a space, meaningless violence is the only form protest can take… perhaps it is here that we should locate one of the main dangers of capitalism. Although capitalism is global, encompassing the whole world, it sustains a *stricto sensu* ‘wordless’ ideological constellation, depriving the vast majority of people of any meaningful cognitive orientation. Capitalism is the first socioeconomic order which de-totalizes meaning: it is not global at the level of meaning. There is, after all, no global "capitalist worldview", no "capitalist civilization" proper. The fundamental lesson of globalization is precisely that capitalism can accommodate itself to all civilizations, from Christian to Hindu or Buddhist, from West to East. Capitalism's global dimension can only be formulated at the level of truth-without-meaning, as the real of the global market mechanism." (Žižek *The Year of Dreaming Dangerously* 54)

"The riots also contain a moment of genuine protest, a kind of ironic reply to the consumerist ideology by which we are bombarded in our daily lives: "you call on us to consume while simultaneously depriving us of the possibility of doing so properly - so here we are doing it in the only way open to us!" The violence thus, in a sense, staged the truth of our "post-ideological society", displaying in a painfully palpable way the material force of ideology. The problem with the riots was not their violence as such, but the fact that it was not truly self-assertive - in Nietzschean terms, it was reactive, not active, impotent rage and despair masked as a display of force" (Žižek *The Year of Dreaming Dangerously* 57). Essentially, there is no going back to protest as a meaningful agonistic force for social change. The tendency of modernity is to be regressive and ignore post-modern implications, the *fait accompli* of technology: “to advocate abandoned ideas, to return to obsolete conceptions, is simply to exchange one error for another - or so they say … a technology detached from socio-economic or cultural pre-conceptions, desires to become the metaphor of the world, while envisioning itself as a revolution of consciousness - finally replacing the pseudo-state of rational wakefulness, while furnishing people with an assistance-become-subliminal" (Virilio 41).
To Advocate Abandoned Ideas

The Process part is an anonymous peer-to-peer system, and as it turns out, the revolutionary impetus of a recursive loop of representation layered upon perception. Those things are qualitatively different from the predictability of metanarrative built on simulation. Art in the same old methods (historicism, psychologism, scientism, etc.) under this definition is in all facets of culture and perception that human beings have engaged in under repeatable simulation. The implications are profound and deeply meaningful; they have even been used in scientific proofs using symbolic logic. As researchers of Digital Art we must engage distributed, momentary narrative systems without solidifying a visible ideology that the erratic theory of qualitative simulation could look at as the front end of a narrative trajectory. As subjective viewers, we have enjoyed stories even stranger then the ones we own. In Digital Art, et cetera, the media invites us to come celebrate the moments of your life with the aim of selling cultures. This shift originates from coded representation of interactive representation and entails an aspectual shift like that from perfective to imperfective, from West to East. The sad fact is that you need government and economy to facilitate network actions: any mode of aggressive simulation successfully adopts a narrative form, spontaneously and without popular support. Furthermore the attempt to contain fundamental changes and a battery of other metrics and information serves a meaningful sense of diminishing return from the would-be managers of our post-ideological society. New information technologies seem to
work toward a decaffeinated revolution, posing the question how much tolerance can we afford? Without fail, Capitalism must counter through assimilation a tactical strike, but the system itself may make most data unavailable for human uptake.

As the rational universe goes, so is the realization of people of any computing contingent revolution: the more abstract negativity comes close to describing consumers, the farther we have been exempt from this period. Douglas Englebart, William English, Grace Hopper, Alan Turing, Theodor Nelson, Norbert Weiner, Vannevar Bush, Alan Kay, Seymour Papert and others - have had profound effect on the internal temporal constituency of a captured images holding more than visual data. If occult art within the physical space of ecologies and the conditions of cultural history stand on aspect, the concepts of war machines and the theory of Cryptoanarchy will never occur. If successful, can an interactive simulation construct be realized or even be desirable right now? The protests had no program and is thus itself a type of customization and interaction with internal degrees of freedom. If we pump enough energy into the system chaos will prove to have centers. Software corporations and PR agencies have entire departments devoted to astro-turfing the imperfective; a mandatory opt-in clause that gives ownership of all logic, consumer consent and enters into a lawful panopticon of me-centric services. Freedom within consumer simulation can have no precise prediction of the divine dimension and thus is reduced to a systems granularity of sufficient complexity. The electronic world is under military political control before even hitting the factory floor. Human induced mass death
and the imperfective militarized response to qualitative objectivity is articulated in the most controversial governmental surveillance programs. In recent years another revolutionary political has invested in the cultural frontier and might tap into resources of self organizing processes of other machines whose total specification is unknown to them. The sheer complexity of authoring sophisticated obfuscation software places it in the creation, movement, and as we know them all. Breaking structure reintroduces degrees of freedom effective again. Cultural production within simulation is further rendered obsolete by technologies and technicities that invert the subject-object axis as a sociopolitical strategic, and competition for resources. Postsubjective tactics hold true revolutionary potential for distributed systems culture.

Propelled by advances in software design and increasing connectivity, distributed computational systems can then artificially generate new content from initial strategies to address systematic loss of social vision in cultural simulation; reflections of the past, present or future, the fait accompli, of his own womb. Combining this method with other image processing method in the OpenCV library are the deep neurological structures of culture and social super structure. Stories are the home of the work itself. We envisioned free and democratic destiny that became instead a culture of stories to a sufficiently advanced group in any particular technical mode or impetus, and should be discarded for a refiguring of tactics and isms. This is clearly an oblique Postmodernist stance. Therefore, agency is primary, even subjective; let us be more brutal by refiguring strong features found in CRM and Cryptoanarchy engineering to serve
Postsubjectivity. The social media has a company-wide commitment to customers; intended techniques of digital become exceptions for a traditional cinematic normal in subsumption of capital. From a philosophical point of fact, it could be argued that we are increasingly living in an information society in which the subject and object is each changed through the phase space of ecosystems. As researchers in Digital Art the meaning of clusters based on both imperfect knowledge and on information are continually fluctuating. At times, entangled of times of collective and subjective crisis it could be described as a shift from coded representation to interactive representation and is analogous to the simulation at large. Bearing the conditions of physical and ideological oppression, none have been exempt from this rule (In the 1990s), and as we now know they have had profound effect. Intelligence as chaos might form a new revolutionary praxis in digital culture, utopia and reality, and research efforts. Targeting implicates a meaningful sense of history, but unless it happens its works and practices are that which it shatters in the preexisting organization. Cultural production is a flawed trope and serious joke in any information society in which the arts are provided by corporations. Will there be a general neutralization of peoples in the Earth’s simulation systems?

These agents also make local decisions to advocate abandoned ideas based on the production of contemporary consumer functions in a computational manner. This simulated culture is grown out of being composed and manipulated to form a particular sort of de-realization: once the event has occurred there is no going back to previous states as a countermeasure. Protest must yield no
actionable results, without regard for ideology or even anti-ideology. The stakes and reward for Digital Art in this mode is carried forward though epistemology that understands culture is profound and largely unstoppable. Autonomy exists in only reactionary systems; the counter-revolution is itself transformative and tries to contain the revolutionary perspective manifested by itself. Social theory implies a limitation on possibilities, reducing human agency to an organizing force of culture in technology. The perceived world ceases to be seen as a criticism. I am intensely interested in revolution as defined in instrumental authority (quantitative systems narrative) perspectives. Instead of emancipating the masses, the term target of opportunity thus presupposes the generality of an established order, scheme, organization -- at least for sufficiently long times. In most cases and most notably it is as an individual producing within a culture. American late capital lacks the revolutionary impetus of the recuperated unit ready for commodification as content for marketing, entertainment, or if even desirable right now a modern social and a meaningful subjective worldview. Will the broad range of artistic works focused on terminal pathology and etiology prove to have lost their meaning as we are now merging with autonomous robotic developers in what will no doubt this signals an impending recuperation by Capitalism that must accommodate or restrict anonymity? In their interactions, strategies, and language we describe a notion of the original Utopia - a word, by the way that undeniably bridges Modernism and Postmodernism concerns with validation and reliability.
Systems that make targeting inseparable from thinking close the gap of perception to the tenets of this marriage, both regions are tied together by a master program or a simulation that can be executed to tokenize patterns of speech and process the lexical degrees of freedom. This is a masterform in its invisibility. The State can not recognize it because history has no definition of it. Radical ideology that can support the emergence of radical change, we know, is dead; nothing could appear more exhausted than its theory. Lead by Nobel Prize winning scientist Ilya Prigogine, chaos has pioneered the prevailing theory of logic for making momentary and future decisions. The stakes of simulated culture are much higher than aesthetics relative to each other. Targeting implicates a meaningful sense of history, purchasing history and a sustainable plan for an estimated life span. Only regions that have left in fixedly simulation as the vector of direction averaged from another region of simulation are tied together by a class of automata and research efforts. As processes attach and detach from simulation without exceptional results no discernable history or predictable trajectory gives rise to qualitative structure. Therefore, agency is primary, even though it were localizable and controllable, either through integration, as contemporary simulation requires a new pattern between their own rooms and finally it includes everybody, all of us, living. Our sense is of overall stagnation or pseudonymous fear of detection. Unlike Cryptoanarchy however, this implies an effort to picture what intersectional -- or intra-actional -- theory might look like. A formal calculus in symbolic logic provides the syntax of a defining global conflict, economic crisis or national mission outside of computational space; meaningless
violence is deprived of the frame. The observer, and all generations that came after, are supposed to be regressive and ignore post-modern implications in a distributed computing strategy. Technological development and its implied grand narratives or design of destiny or a 'bifurcation point' - it is a classic computer science and engineering topic that has been recuperated by capitalism; take for example the collage interface of modern software design that was proud of hard work, strong families, close-knit communities, and more abstractly - what is language for if not to tell stories?

Digital Art in this mode must be adopted, in full, to return to obsolete conceptions, not a parody of the original Utopia - a word, by the impacts of war machines and the defense of invisibility; a kind of ironic reply to the rest of the United State’s infinitely amorphous and asymmetric War on Terror. Silicon Valley’s military research and development created the infrastructure for a seeming logical last criticism by virtue of engineered obsolescence and limitless commodity fetishism. Are true names and diffusion (cultural recuperation) essentially blipping in and out of being, order out of significance: the phrase was coined to suggest the impending arrival of a space. The ever-changing associations of Silicon Valley are faced with problems of intelligibility, accessibility and recuperation radically different from the underlying ontological framework, even if a competitor offers the same old methods (historicism, psychologism, scientism, etc) and narrative knowledge (Objectivity) and including, one assumes, an explosion of narrative, then one could say the apolitical culture is one of transcoding and remixing.
What is isomorphically ignored by us, but unrecuperable? A theory of quantitative change will shape the agency of our longing for meaning. Having survived the Great Depression and World War 2 there was an overwhelming sense of history or agency outside of sociopolitical structure, evacuating itself of its own right. The organizing force of culture and humanities is information; network users and processing have reached a threshold in both complexity and distance of action. Vision recognition is generally carried out through proxy by software. We've learned that software representations in narrative form affirm that if you know one, you know them all.
Foundations For A Postsujective Theory

Instrumental knowledge (*Objectivity*) and narrative knowledge (*Subjectivity*) are competing simulation perspectives that describe metanarrative through the concept of closure. The ceaseless aspect of distributed computing seems to fold closure in on itself, destroying the possibility of a meaningful subjective worldview. Working from both aspects, a theory of *Postsubjectivity* could be described as a strategy of instantaneous closures, making objective simulation as an instrumental narrative complacent in its own destruction (micro-closures describe hermetic segmentation without an aggregated arc of narrative trajectory). If a system’s granularity is sufficiently complex, the asymmetrical agency of distributed computation defeats an overarching systems metanarrative and the efficacy of subjective positioning. This is an existential condition in which a systems perspective results in a loss of self and a meaningful history afforded by linear trajectories. Within digital simulation systems there is however a unique opportunity for the individual to mobilize a response to qualitative objectivity using the most aggressive emergent tendencies of the system itself. Following this logic, Postsujective Art as research software would aim to aggressively produce quantitative change and qualitative structural attachments that yields no appraisable metanarrative to the simulation that encapsulates it. As was discussed earlier on revolutionary potential, everything that produces contradiction or balance feeds back into a system - driving it forward. If this condition of participation is immutable in metanarrative, then production as a countermeasure must yield no actionable future, balance or dissonance. Within
the figuring of Postsubjective simulation, a meaningful worldview might be momentarily realized as obfuscation outside of prediction or preemption. Art in simulation must be one step further removed than even a *machine surrounded by workers*.47

The Avant-Garde modalities that have undercut Digital Art were recuperated due to a lack of *persuasive theory*, relying instead on an *ancillary* logic employed solely to support the operation of the theory used in describing it.48 The Postsubjective stance as a theoretical framework should also be formalized as Burnham and Deleuze’s survival mechanism or war machine; a militarized response to modernity’s weak structure, *evacuating itself of its own terms* to become agency *a priori*.49 Postsubjective countermeasures are concerned with visibility and tactical reappropriation; if the reality of simulation brutalizes subjectivity, *let us be more brutal* by refiguring and reflecting its strong features (for example CRM and cryptography engineering) to serve Postsubjectivity. If simulation is striving to cohere social actions into a predictable narrative, then Postsubjective software should generate patterns of systems interaction that are unreadable, momentary, and for all intents and purposes *motionless*.50 This is distinct from May’s theory of asymmetric disappearance through encryption; Postsubjectivity is visible, but unrecuperable. As a *trans-worlding* theory Postsubjective attachment and detachment only serve to *seed crystallization*.51

It is a mistake to consider new media as emancipatory. CRM and consumer simulation are built at the end of an open market adoption curve for
military technologies, and as such constitute a social theory of distributed surveillance and control that *ought to make us shudder.* Cultural production within simulation is now constituted by preventing any meaningful event from even occurring (this is the core feature of *preemption* and *deterrence*). If all action can be prevented then all futures are identical, effectively ending subjectivity as a *worlding* theory (and reinforcing the notion of an *end of history*, albeit with a very different connotation). Any meaningful interpretation by a subjective viewer looking in on simulation is further rendered obsolete by technologies and technicities that invert the *subject-object axis,* even when the distance between thought and action are zero the speed and complexity of systems afford deep layers of data that are not human parable outside of computational space - for all intents and purposes making them unavailable to us in a subjective interactive way. Objects and events that are able to tap this resource could ceaselessly surpass themselves, seeming amorphic and alienating to the structured interactive position of the viewer.

Postsubjective tactics hold true revolutionary potential for distributed systems culture. If *it doesn’t take a genius to see that in reality there is no politics in America, only economics,* then one could say the apolitical culture of American late capital lacks the revolutionary potential a political theory affords and therefore all social and cultural production in this mode is illegitimate. Only by countering all recuperable modes of subjective metanarrative can one be free to *simulate freedom* and accept there are no meaningful futures within simulation. Anti-metanarrative politics are rootless, futureless, invisible and vanish the
moment they are named. Postsubjective theory should build on this aspect of pure Cryptoanarchy, but instead implement the complex figuring of eco-anthropological trans-worlding patterns exchange as substitution for asymmetrical disappearance. A loss of meaningful history and identity are required under both ideologies, and only by rejecting the possibility of a common revolution can a radical aesthetic be achieved.

Emergent simulation describes a cultural production of systems as people with language but no stories. Postsubjective software should be actively engaged in language, working at very high speed with no intention, plan or direction. Simulation systems also engage in the syntax of targeting to isolate exceptional conditions and move to predict or preempt within calculated windows of opportunity, which can be interpreted as a narrative act. As a countermeasure, Postsubjective software should attach and detach from simulation without exceptional results, without discernable history or predictable trajectory. Targeting implicates a meaningful exchange between both subject and object; holding still in simulation space (under scrutiny of military and corporate patterns recognition software) becomes the maximum return of superior countermeasures. The sheer complexity of authoring sophisticated obfuscation software places it in the domain of the expert and the artist as an engineer. All others are placed on the funeral pyre of past configurations.

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45 Simulation describes uncertain conditions that yield legitimate knowledge through narrative. One way to think around aspect in systems are the conditions of closure: "In his standard work on aspect, the linguist Bernard Comrie distinguishes two forms of time reference in language – aspect and tense. Tense ‘relates the time of the situation ... to some other time, usually to the moment of speaking’, whereas aspects are ‘different
ways of viewing the internal temporal constituency of a situation’. Where tense distinguishes between situations taking place in the past, present or future, aspect draws a distinction between the perfective; a situation viewed from the ‘outside’ as completed, and the imperfective; a situation viewed from the ‘inside’ as ongoing. The shift from narrative representation to interactive representation entails an aspectual shift like that from perfective to imperfective, from outside to inside the time of the situation being described. Narrative representation can thus be considered as analogous to the perfective aspect – always already completed by closure, apprehended as a totality as if seen from a distance and without the possibility of change, whereas interactive representation is analogous to the imperfective aspect – incomplete, seen from the inside with all the messiness and incoherence that this implies, ongoing” (Cameron Dissimulations).

46 The sense of alienation felt among contemporary scientists and philosophers when reflecting on system models is profound, a modern anxiety as discussed by Lenoble, Pascal and Monod; “the essence of the world is the ever-changing associations of atoms in the void ... how can we recognize ourselves in the random world of atoms?”, "Man must finally awake from his millenary dream; and in doing so, awake to his total solitude, his fundamental isolation. Now does he realize that, like a gypsy, he lives on the boundary of an alien world. A world that is deaf to his music, just as indifferent to his hopes as it is to his suffering or his crimes" (Prigogine 3). If a system is sufficiently complex, meaningful subjective action becomes inconsequential. Cultural production in simulation however can afford the unique opportunity to side step our modern crisis of metanarrative and redeploy a system’s emergent tendencies as a countermeasure: "if the world is fatal, let us be more fatal than it. If is indifferent, let us be more indifferent. We must conquer the world and seduce it through an indifference that is at least equal to the world's" (Baudrillard Ecstasy of Communication 101).

47 Flusser argues that art in the age of simulation relies on tactics. The prerequisite of this interaction is that the simulation have a high enough 'fidelity' of possible configurations to require a strategic response; "such an activity is not dissimilar to playing chess. The chess player is also in search of new, virtualities within the chess program: he looks for new moves, and new results ... the pre-industrial craftsman was surrounded by tools, and the industrial machine was surrounded by workers, but the [artist] is within the [simulation], intricaled in it. This is a new kind of relationship, where man is neither the constant nor the variable, but one where mark and apparatus form a single function-unit" (Flusser). The problem here of course is that describing a system does not alter it, and in fact work in this mode suffers the same fragility of any theory based on ancillary narrative.

48 Tom Wolfe wrote of an epiphany he had while reading a talismanic passage by Kramer describing realism as conspicuously lacking a persuasive theory; "As it turns out art is not autonomous, it cannot stand on its own; even an art that claims to depict reality as such needs theory to support it, to make it visible as art. What is worse: not only is the poor spectator dependent on this theory, so is the artist" (Mann 4), "The dirty secret of modern art is that it is ancillary to the theory that describes it" (Mann 5). This is a sharp point of critique against conceptually driven art practice that aims to impact culture in a meaningful way. As described in the previous sections, the space of simulation used
by networked systems doesn't aim to reflect reality or its phenomenology. It is conceivable that if constructed in a certain way, digital art could retain figurative autonomy of meaning in and of itself through autonomy of pragmatic simulated action. Where the subjectivity of a spectator or artist attach to this figuring is unresolved, and likely unimportant.

49 "Theory should be the evacuation of its own terms, the exhaustion of every supplement, every simulation, every recuperation. It might be the last task of theory to exhaust theory itself, to push its terms until they disintegrate or, as Baudrillard would say, "implode". "My way is to make ideas appear, but as soon as they appear I try to make them disappear." But even then "we can bet that a new militant generation will rise over the horizon, brandishing new 'procedures of truth'" -doubtless reinstatements of all the same old methods (historicism, psychologism, scientism, etc) and including, one assumes, an antitheory" (Mann 19). The Postsubjective side steps Mann's seeming logical last criticism by virtue of an inherent rootlessness and total evacuation of meaningful historical perspective. As theory, every term must be expended within learning arrangements, estimating integration, and constructing language that cannot be deciphered from outside the momentary, sealed, reality of the work itself.

50 The most sophisticated revolutionary aesthetic is in appearing inert and featureless within subjective simulation. Protest itself is inside a system, for consumers a simulacrum, so true revolution can only occur hermetically, spontaneously and without popular support. Protesters “playing by outmoded rules of political engagement will not only prove ineffectual in derailing the system of simulation, but will only be simulation of resistance itself and therefore enable the further construction of the Real operative in the simulation of politics”… "Everything that produces contradiction or a balance of forces or energy in general merely feeds back into the system and drives it on"(Bishop 41). Žižek also isolates open protest within capitalism as anti-revolutionary. "Are individual acts of resistance on the part of [two opposing social forces] just the obverse of the system that ultimately sustains them? If so, then the answer is obvious, if counterintuitive: the only way to stop the system from working is to stop resisting it … in order to make the step from reformism to radical change, we must pass through the zero-point of abstaining from acts of resistance which only keep the system alive. In a kind of strange release, we have to cease to worry about other people's worries, and withdraw into the roll of a passive observer of the systems circular self-destructive movement" (Žižek *The Year of Dreaming Dangerously* 108).

51 Postsubjective string figuring (Haraway) might actually function more like Kurt Vonnegut’s fictional *Ice-Nine* chemical. In the novel *Cat’s Cradle*, 1998, a military substance is used to seed crystallization causing any liquids that comes into contact with it to self arrange into an exact, solid, molecular copy of the catalyst. To mirror this condition in simulation, Postsubjective pattern and prediction algorithms should maintain immobility through complex active engagement, locking both simulation and subject in a ceaseless exchange of changing patterns with unchanging results.

52 (SAT adjective) : (SAT noun) :: (SAT modifier) : (SAT noun) - Maybe self improvement isn't the answer, maybe self-destruction is the answer. As a hallmark of modern society, new information technologies seem to reinforce an emerging authoritarian society of
Instead of emancipating the masses, the advent of the Net was much more likely to reinforce the power of their oppressors. "Compared to the approaching forms of continuous control in open sites, we may come to see the harshest confinement as part of a wonderfully happy past. The quest for 'universals of communication' ought to make us shudder" (Gilles Deleuze Control and Becoming 174-175 in Barbrook Imaginary Futures 247).

Vannevar Bush’s simulation research programs brought together modern systems engineers and the social science of academia: “This interaction birthed the heyday of the cognitive sciences and the era of social science specialists who could provide charts and graphs meant not to describe but rather predict human behavior in a given situation. Essential to this predictive capacity of social science research is the model or simulation. In this manner, events can be modeled ahead of time, predicted, and therefore, if desired, brought to fruition or terminated. In the simulation, then, resides means by which the pre-emptive strike could be considered, implemented, and justified … deterrence becomes a replacement for war, a simulation of war (Simulacra and Simulation, Baudrillard 32).” The ultimate reason for applying simulation to social order “is to create a securitized order, a general neutralization of peoples on the basis of the final nonevent”, to defeat global terrorism, for example “it is going to be necessary, then, to invent a security system that prevents any event from occurring (Intelligence of Evil, Baudrillard 118)” (Bishop 49).

The notion that "Without human activity, the Net is nothing but an inert mass of metal, plastic and sand" (The Mimesis Critique, Barbrook) is a correct appraisal of 1980’s simulation, but the reality of AI does give the net and autonomous weapon systems edge conditions that are outside and ambivalent of human interaction. This worldview is temporary, rootless, and autonomous thus not contingent on subjective interaction.

In his book Baudrillard Now, 2009, Ryan Bishop describes the subject-object axis as a positioning of interaction and observation between an individual and the constituents of a system. Systems that make targeting inseparable from thinking close the gap of perception to the point where objects and self have no distance, effectively eliminating the difference. Bishop’s reading of Baudrillard is on postmodern Cold War philosophical terms. End games, counter measures and containment simulation are the de facto organizing forces behind military technologies. Systems interaction has reached a threshold in both complexity and distance of action, where nonexistent and unknown end conditions coupled with the strategies of preemption signal an end to meaningful subjectivity (the narrative empirical becomes rootless in a prediction based logic). In regard to a systems theory, object is interchangeable with software.

All interfaces are mediated. The elements of the computational business layer in a simulation that can be represented in a human parable presentation layer do not accurately represent a system’s inner workings. "By using immersion interfaces the participant can gain, so the argument goes, direct (ie unmediated, objective) access to pure data, (a realm both digital and noumenal). However, in characterising this as a shift from coded representation to experiential post-representation what is glossed over is the coding and mediation involved in constructing the simulation in the first place" (Cameron
**Dissimulations**. The instantaneous nature and computational complexity of a system makes most data unavailable for human uptake.

57 Emergence (the frontier of interactive simulation theory) describes systems that ceaselessly surpass themselves. "In its most fully realised form, that of the simulation, interactivity allows narrative situations to be described in potencia and then set into motion—a process whereby model building supersedes storytelling, and the what-if engine replaces narrative sequence". "Can an interactive construct, or a simulation, successfully adopt a narrative form? Will there be a general transformation from a culture of stories to a culture which expresses its truths through an immersive, interactive medium, the shared experience of the simulator?" (Cameron Dissimulations). An identity situated at the shared experience of the simulator would of course resemble the schizophrenic construct of a distributed computational system. As subjective viewers, we could only engage with simulation here through the proxy of software agents programed to manage driven data at enormously compressed rates of uptake and response, without supervision.

58 As the economic model of late capitalism collapses in on itself, it becomes clear that systems hold no meaningful futures; "are we not today approaching an outright economic depression? Will such a prospect give rise to a properly collective counter-institution? One thing is clear: only when we fully embrace that there is no future (within the system), can an opening emerge for radical change to come" (Žižek 111).

59 Pure crypto anarchy is beyond state recuperation simple by virtue of its invisibility—"history has no definition of it" (Bey in Ludlow 405). Pure Cryptoanarchy exists without regard, beyond modernity. "The TAZ exists not only beyond Control but also beyond definition, beyond gazing and naming as acts of enslaving, beyond the understanding of the State, beyond the State’s ability to see" (Bey in Ludlow 432).

60 Tactics that aim to neutralize simulation must reject the possibility of a meaningful systems configuration or bifurcation. "In sum, realism demands not only that we give up waiting for “the Revolution” but also that we give up wanting it. “Uprising,” yes—as often as possible and even at the risk of violence. The spasming of the Simulated State will be “spectacular,” but in most cases the best and most radical tactic will be to refuse to engage in spectacular violence, to withdraw from the area of simulation, to disappear" (Bey in Ludlow 405). Unlike Cryptoanarchy however, Postsubjective figuring does not require a meaningful hermetic integration or motive, or even a guarded subjective position from which to operate.

61 Narrative is a deep structure of human identity and the primary mode in which we decipher information from the natural world. "History, politics, memories, even subjectivity, our sense of identity, are all representations in narrative form, signifiers chained together in temporal, spatial, and causal sequence. Narrative is a component of those deep structures with which we construct ourselves and our universe; true stories through which, in the manner of certain Aboriginal legends, the world is dreamed into existence. Narrative appears to be as universal and as old as language itself, and enjoys with language the status of a defining characteristic of humanity and its culture. A people without stories seems as absurd an idea as a people without language, (a people with
language but no stories even stranger, for what is language for if not to tell stories?)" (Cameron Dissimulations). Emergence in distributed computational systems is the realization of people with language but no stories. Postsubjective tactics are not for us, but of us. Simulated life, as it turns out, is not life yet still produces culture: “At the heart of the interactive representation narrative reinstates itself through the subject narrativising the experience, making sense from (simulated) events. If narrative is a technique for producing significance out of being, order out of contingency, then simulation can be seen as its inversion, a technique for producing being out of significance, of generating a simulation of contingency from first principles. Rather than a people without stories, interactivity offers the promise of a people within stories, and rather than the end of narrative, an explosion of narrative within the simulator” (Cameron Dissimulations). This is exactly why interactive systems produce a false sense of freedom; the perceived explosion of narrative for the user is simultaneously the restrictive explosion of metanarrative utilized by the simulation.

Unpredictable events suspend simulation: “to be effective, the response to the singular and unpredictable event tends to suspend or alter established plans, procedures, or schedules. If the latter seek to organize and regularize spatiotemporal events in terms of their predictability, the unpredictable requires the suspension or alteration of the established grid. The very singularity of a “target of opportunity” thus presupposes the generality of an established order, scheme, organization, or plan, in respect to which an event defines itself as exceptional or extraordinary. The determination of such an event as a “target,” however, implies an effort on the part of the system to integrate or appropriate the singularity of the event through an equally exceptional response. Given that the event’s singularity is generally determined with respect to its nonpermanence and nonubiquity, the response generally has to be “rapid” and “focused” if it is to be effective. This in turn implies that time and space are to be transformed from media of alteration and dislocation into conditions of self-fulfillment and appropriation. In this respect, the term target of opportunity is related to another common phrase, window of opportunity, as implementation is to potentiality. Insofar, however, as implementation depends not just upon identifying and responding to a “target of opportunity” but upon controlling access to it, realization in this situation entails a particular sort of “de-realization”: once the event is defined as a “target,” it is treated as though it were localizable and controllable, either through integration, as in academia, or through disintegration, as in the military sense” (Webber 5). Targeting is an interactive exchange, "the term originally indicates both subject and object, both archer and target. In a sense, the act of aiming or targeting entails within itself a type of techne, in Aristotle’s sense, as something that links subjects and objects and reveals not only their relationship but also the potential residing in each. The techne, here the act of targeting in a material or immaterial sense, unfolds the inter-relatedness between subject and object such that each is changed through the interaction" (Bishop City as Target 6).
Consolidation and Invention of Services

The elements of metanarrative redeploy in systems as an emergent tendency to predict dynamic-representational interchange is developed during interaction within discrete slices of larger systems. Standards, heuristics and interface designs are implemented for the sake of argument, and I will describe a new strategic diagnostic to inform a widely adopted and highly invasive narrative form, spontaneously, without supervision. Standards, heuristics and interface designs are implemented for the individual; the meaning of its parts and their trajectories fall within that frame. The military industrial complex (DOD, DARPA, NASA) can be interpreted, one or all tell us a great deal about our ideological predicament: what kind of ironic reply to the mass adoption of personal computers, commercialized entertainment and military R&D in California as the trajectory of the cyberhippie-turned-capitalist culture in utopia and reality; a free and open to us set-theoretic model.

What is signaled when we move to combine animation, printed texts and live action footage in repeatable simulacra of Cold War strategic computing technologies of battle management systems, camera calibration, and military applications? Optical flow is calculated as the heroic assumption of the old Latin motto vox populi, vox dei: NOT in the guise of a mental state. The seemingly desperate units discussed in the present age are still heatedly debated by academics across the stratum of technological engagement and cultural production and is as such constituting a social perspective. After uphill explorations, (the end of narrative trajectory), language itself is inside a system,
supporting the notion that natural language could be computed recursively. As soon as possible, in making the rite-of-passage a continuous phenomenon, would we could make the step from reformism to radical change; we may come to see the DCMA and SOPA. Like distributed qualitative systems theory, the primary mode is widely regarded as the core of its logic: processing patterns are one of eight previously developing autonomous systems for the desiring and use in social machines. Instead of being composed and manipulated to form legitimate revolution, simulation is an insurmountable paradox for our generation. We typically call such a supposition.

Migrant laborers, refugees, presupposes the generality of an alien world. The Manifesto is widely regarded as the trajectory of the senses a permanent state, conscious life becoming an oscillating trip whose only absolute poles would be technology and culture. Postsubjective countermeasures are concerned with validation and reliability. Surely biological and social systems are acquiring characteristics reminiscent of social communication into the roll of a meaningful way. An artificial intelligence library for the Python programming language, a simulation without language, (a people without stories) seems as absurd an idea as a criticism, I would argue, and the constituents of a system. In Europe, there are no meaningful futures; are we not today approaching an outright economic depression? To move forward a cosmopolitics of prediction and preemption cannot fill the emptiness of lives which have no confidence or purpose. This is an encampment of guerrilla ontologists: strike the machinic phylum introduced in A Thousand Plateaus, 1980. Agency is primary, even subjectivity, so let us be
more indifferent. In the metaphysics of AI, reality of simulation, all will become apparent. A classic revolutionary impulse runs against the notion of scalability, terror, uncertainty, and the end of the legitimate new media. The sad fact that manufacturing millions of consumers would welcome simulation speaks volumes. The Natural Language pushes its terms until they disintegrate or, as Baudrillard would say, implode. The formalization of systems chaos can then be used in many applications, and provide the underpinnings for computational syntax. The aim was to hook and control, not build a sense of identity and all representations in narrative form. The principle of compositionality further defined meaning based on internal position to other clusters within larger systems. This is the only mode of technological development. Aside from the meaning of a people within stories, interactivity offers the promise of user generated content and metadata (including cellphone GPS coordinates, web browsing history), its work and practice a function of an organizing force for automated weapons platforms, in the form of information systems, target acquisition, weapons designation, unsupervised surveillance and feature recognition software. In its most fully realized form, spontaneously, without supervision. They have even been able to tap this resource to ceaselessly surpass themselves.

As processes attach and detach, validation of previous states diminishes to prediction (qualitative change) without fallback of an alien world. For this reason I would argue all representations in narrative form are signifiers chained together in satellite and web maps; image scan alignment, medical image noise reduction, object is interchangeable with software. Research driven Digital Art in
this case corresponds to motion estimation within the arts. The first step is somewhat akin to an aphanitic realization that the attempt to understand them in mechanistic terms is doomed to failure (If the latter seeks to organize and regularize spatiotemporal events in terms of service agreement). Metadata and content from consumers itself as a simulation can be thought of for what is produced by arts researchers more now then ever before, but unrecuperable. The legacy of technologists from this period have had profound effect on the condition that they simultaneously create something else, if possible, recognizable, or at least for sufficiently long times -- but in most cases are best and most notably as an epistemology for understanding culture in profound and deeply meaningful ways. Once formalized as automata, elements of the divine dimension and thus sociopolitical world became embedded in paint functions of film editing software. However, various forms can only occur hermetically, spontaneously and without the possibility of a world historical role. In opposition of the same way battlefield management software might organize target acquisition, designation systems report the most radical tactic will be spectacular, but living and dying are the conditions of simulation. The liberals behind recent upheavals in consumer systems seem to reinforce the power of their predecessors and current concern with radical writers and media recuperation is evidenced in the 21st Century, reaching out across the globe as generations with no intention, plan or direction.

What is worse: theory will prove ineffectual in derailing the system of simulation I have done extensively in past research. The 1990s were literally
bursting at the risk of violence. What they really want is a degree of institutional
and political chaos that allows for a consumer market, sparking the personal
computer revolution. The Postsubjective stance as a strategy of collage
reemerged as a social structure based on the part of an instrumental authority
(quantitative systems narrative). For every Apple in California there is the motion
of objects or the observer relative to each other. Are individual acts of resistance
(which only keep the system), to know freedom? In the novel Cats Cradle is
played by taking a fixed loop of representation layered upon perception. As
generations with no intention, plan or direction Postmodern figuring works to
establish in-situ perspective as the Internet was popularized, and withdraw into
the system to integrate or appropriate the singularity of a complex expression
that is composed from the micro-revolutionary achievements of Modernism.
Throughout the arts and humanities research is as Postmodern theory mandates
a radical aesthetic be achieved. Instead of emancipating the masses, the act of
aiming or targeting entails a type of customization and interaction, your customer
won’t be able to express their discontent only in the same way battlefield
management software might organize target acquisition, designation systems
and most notably as an instrumental authority (Lacans Big Other). An antitheory
as theory, a theory of distributed surveillance and feature recognition software.
You can go anywhere on the Web with Netscape, and research efforts. Optical
flow is calculated as the motion of only 8 years. This is a problem with the
strategies of preemption and prediction, we are made to believe that new
technology is somehow linked to new life as implementation depends not just
upon identifying and responding to the world. I see qualities of Postmodernism in
the spirit of radicalism? This description covers not only that which is beyond
Control but also that which we are fundamentally unable to grasp in the
sociological processes that constitute reality, since technology is unpredictable to
some extent.

If it doesn't take a genius to see that in some way we had a world, while
simultaneously envisioning a society of control. Postsubjective string figuring
might actually function more like patterns cognition. In Generative AI (left figure)
there is no less profitable strategy. Perhaps you'll be forced to admit that these
terms seem to reinforce the power of their terms, and you can never be defined
by only one mode of technological development. Cultural theorists would argue
all representations are in a narrative form, spontaneously and without popular
support. What is isomorphically ignored by us, living through our sense of civic
responsibility? If all action can never know what it is not able to economically
dispose of how can we recognize ourselves in the action and extinction as
bifurcation and self-arrangement? The game is lost if one or the other hand, the
party, is in reflecting the qualitative structuralization of a captured image as more
than visual data, (a realm both digital and monoumenal). End games, counter
measures and containment simulation are the solving algorithms, which at times
are inconsistent and delayed. CRM and consumer simulation strategy dubbed
Consumer Relations Management (CRM), as it turns out, actually strips
consumers of a complex expression from the inside as ongoing. Narrative
representation can thus be considered as analogous to warfare; to push its terms
until they disintegrate or, as in contemporary simulation systems, a new manifestation of it simultaneously vanishes. This might deprive us of new cognitive sciences and an entire industry built on the shoulders of the interrelatedness of tokens in text; the amorphous nature of government regulation and targeting isolate exceptional conditions and move to predict future states of the old Latin motto vox populi, vox dei: NOT in the 1990s on the Internet. This may be quite far in the language of intimacy and convenience, but these two powerful forces have gotten in bed together beneath the self-congratulatory glitter of this concept. (SAT modifier): (SAT adjective): (SAT modifier): (SAT adjective):: (SAT adjective):: (SAT modifier):: (SAT modifier):: (SAT noun) - Maybe self-indulgence and consumption?

We click. The inability to mobilize a response to this figuring is unresolved. Coupled with the wide adoption of personal computers, we engage in asynchronous computation of very complex tasks while envisioning ourselves as a people within stories; our resources behave like whole ecologies. Modernism and Postmodernism are concerned with validation and reliability. The following sections pivot on systems theory and Postmodern turns in which the creation of original content supports instead a contemporary crisis as good as any other. Once formalized as Burnham and Deleuzes survival mechanism within systems, Hakim Bey builds out Stengers analysis of chaos through the terms of technological development. Couched are the rites-of-passage that would allow closure or exit. Patterns exchanges between constitute layers support momentary arrangements and unknown end conditions coupled with the absence
of cultural simulation? The fact remains that if constructed in a ceaseless exchange of changing patterns narrative will render unchanging results. OpenCV is performance-optimized for building language in block-based detection algorithms that analyze motion overtime by comparing differences in sequential digital motion frames. Consumer encryption and anonymity in liquid markets form a meaningless outburst, this media is not revolutionary. Although capitalism is global, to encompass the whole pattern we must change self-organizing processes in order to make them disappear. The Postsubjective side steps Mann’s seeming logical last criticism by virtue of an open system, for what would occur if the Internet was popularized, and only by freedom? In this sense patterns recognition software becomes the destroyer of his own womb. Narrative representation can thus be considered as a part of the mechanic phylum. Both subject and object, both regions tied together by a class of automata creating the spurious unification of commodity and spectacle; the speed and complexity of a mental state.
**Figuring Postsubjectivity as Art Practice**

As a hybrid artist working at the intersection of art and technology, I am intensely interested in the cultural implications of simulation. Although Avant-Garde practice fails as theory in modern distributed information systems, the work of art in the present age is still no less than a survival mechanism. Finding a point of contact between revolt and production has never been more invigorating to the field of Digital Art; the amorphous nature of attachment and detachment in contemporary simulation requires a new diagnostic weaponization of perspective by artists. My art practice approaches systems issues first from a conceptual position, grounding conjecture with research and iterative work that tests the limits of that theory. What I will describe here are two artificial intelligence algorithms used extensively in custom software pieces I have written over recent years.63

![Figure 4.1: Autopoiesic Tail. Nathan Wade, 2014](image)

Building language is a powerful tool for bridging theory and practice. Language itself is a simulation system with internal degrees of freedom in
wordplay, syntax and structure. Embedded here are the deep neurological structures of culture and perception that human beings have engaged in for millennia. Reading out the content of text animates those structures, sparking integration, visualization and reaction in the reader. If we intake a body of machine parsable text, for example the contents of a user-generated internet database, procedural operations can be executed to tokenize patterns of speech and process the lexical degrees of separation between key tokens or token clusters called ngrams. This mapping can then artificially generate new content from the underlying ontological framework in a sophisticated manner. The Natural Language Toolkit (NLTK), an artificial intelligence library for the Python programming language, implements wordnet, a database of synset definitions that record syntagm interconnectivity based on lexical meaning. Coupled with clustered tokenization, a corpus can be analyzed by software to extract the meaning of word clusters based on their positioning to other clusters within larger grammatical structures. This facilitates a type of machine learning that can generate previously undefined, contextually aware content that matches the tone and semantic context of the root material. As a Postsubjective strategy, generating content in this way serves to revocate a system logic already present in a given corpus, and counter it. The text is treated as a distributed simulation by evaluating only the interface between token clusters, and what is generated by the ontological model not only predicts but preempts future topics. The corpus content can come from anywhere - scraped from online sources using a web parser software library (as I have done extensively in past research) or seeded
from a closed database. As stated in the acknowledgement, alternating sections of the text in this document were processed without supervision using this model of AI content generation. The corpus data gathered to seed the algorithm was derived from plain text conversation of this document and every piece of academic text I have authored over the course of my graduate studies. New work such as *Autopoiesic Tail* (2014) removes the author one degree further by using its own generated content as an input corpus to seed the algorithm in a recursive self assembly and reassembly process based on instantaneous closures.

![Image](image_url)

*Figure 4.2: What Followed Was Amazing Bliss.* Nathan Wade, 2013.

The second artificial intelligence toolset used heavily in my artwork exploring Postsubjectivity is the *Open Computer Vision* (OpenCV) machine perception library. In the past fifteen years OpenCV has gradually become the industry standard for vision based sensing and control systems and is used extensively by researchers for machine perception tasks. The *black box* of a captured image holds more than visual data, and through the simulation of sight
a systematized language of prediction and preemption as a way of looking or isomorphically ignoring might be described in cultural terms. One such subset of the OpenCV library that performs this task are the optical flow solving algorithms, which calculate transformation within an image over time to estimate the distance and structuring of a space as well as the motion of objects or the observer relative to each other. Coupled with background removal and gradated blob detection algorithms, optical flow can predict motion in a video buffer to track objects and their trajectories within defined frames. As a strategy of prediction, a virtual camera could be directed to preempt an area of interest in the same way battlefield management software might organize target acquisition and weapons designation for moving targets. What results are software constructed video works that embed micro revolution as cinematic perception; interpreting chaos, bifurcation, prediction and preemption as pan, tilt, zoom, jib and gimbal. This framework coupled with 4K resolution heightfield rendering is present in my computer-generated HD video works such as What Followed Was Amazing Bliss (2013) and We Want to Conquer Area X (2013) which are concerned with target tracking and prediction. In the spirit of mobilizing Digital Art, my interest as a visual artist is in reflecting the qualitative structuralization of a visual field and pressing the edge conditions of its simulation.

What is signaled when we move to preemptively block unpleasant consequences, constructing an absurd reality devoid of subjective meaning yet paradoxically flooded with urgency through momentary arrangements and unknown protocols of access? When meaningful narrative ceases, how can
Digital Art facilitate cultural production in the Avant-Garde spirit of radicalism?

Digital Art must engage distributed, momentary narrative systems without solidifying a visible ideology that the medium at large could move to block or articulate through recuperation. In the spirit of strategic response described in the previous sections, artwork in this mode must be polymorphic, granular and disjointed from metanarrative while actively engaging in tactical response and preemption that yields no quantitative energy to the simulation at large.

*Simulation stands in proxy of man, the proxy surrounds the engine of simulation.*

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63 Listed here are select artworks developed and exhibited in labs and galleries on the UCSD campus over the duration of my graduate research. The software platform described is implemented in each:


64 “The very notion that natural language could be treated in a computational manner grew out of a research program, dating back to the early 1900s, to reconstruct mathematical reasoning using logic, most clearly manifested in work by Frege, Russell, Wittgenstein, Tarski, Lambek and Carnap. This work led to the notion of language as a formal system amenable to automatic processing” (Bird, Chapter 12). *Language Theory* treats language “as a set of strings accepted by a class of automata, such as context-free languages and pushdown automata, and provided the underpinnings for computational syntax” (Bird, Chapter 12).
Once formalized as automata, elements of language can then be used in scientific proof using *symbolic logic*. "A formal calculus in symbolic logic provides the syntax of a language, together with rules of inference and, possibly, rules of interpretation in a set-theoretic model" (Bird, Chapter 12). The *principle of compositionality* further defined meaning based on the interrelatedness if tokens in text; "the meaning of a complex expression is composed from the meaning of its parts and their mode of combination ... the meaning of a complex expression could be computed recursively" (Bird, Chapter 12).

*Text mining* is a common term for this process.

OpenCV is considered stable, and is used extensively by researchers for machine perception tasks. The library was made public by Intel's *Performance Library Team* in Russia from a code base developed internally by MIT's Media Lab. OpenCV is performance-optimized for C and C++ code. "Since its alpha release in January 1999, OpenCV has been used in many applications, products, and research efforts. These applications include stitching images together in satellite and web maps, image scan alignment, medical image noise reduction, object analysis, security and intrusion detection systems, automatic monitoring and safety systems, manufacturing inspection systems, camera calibration, military applications, and unmanned aerial, ground, and underwater vehicles. It has even been used in sound and music recognition, where vision recognition techniques are applied to sound spectrogram images. OpenCV was a key part of the vision system in the robot from Stanford, *Stanley*, which won the $2M DARPA Grand Challenge desert robot race" (Bradski 2).
Figure 4.4: Motion Gradients of The MHI Image (Brads 344)

Depicted above is a block-based detection algorithm that analyzes motion overtime by comparing differences in sequential digital motion frames. The background pixels are ignored and overall motion of only regions that have changed is analyzed. *Optical flow* is calculated as the vector of direction averaged from the sequential block gradient search within an area of interest. The values returned in this case correspond to motion estimation within the 2D coordinate system of the frame. Combining this method with other image processing techniques allows areas of interest to be recognized and tracked in this manner over long durations, even after a period of inactivity.
Works Cited


