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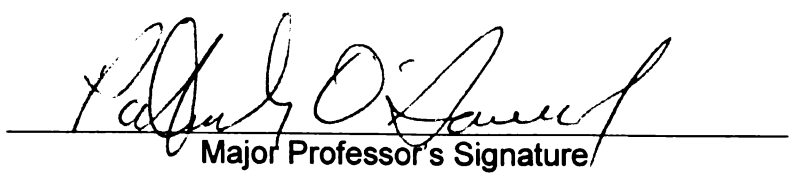

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TEXTUAL EVOLUTION: ADAPTATION IN TWENTIETH AND TWENTY-FIRST CENTURY LITERATURE, FILM, AND CULTURE

By

Gregory W. Wright

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ABSTRACT

TEXTUAL EVOLUTION: ADAPTATION IN TWENTIETH AND TWENTY-FIRST CENTURY LITERATURE, FILM, AND CULTURE

By

Gregory W. Wright

One of the most common responses to adapted texts—"The book was better"—evinces the often reductive and simplistic critical response to adaptation. Instead of dwelling on the limited critical enterprise of comparisons inherent in many studies of adaptation, this dissertation constructs theoretical models for analyzing adaptation as a process, rather than evaluating works' supposed fidelity. My theoretical models' central trope analogizes textual adaptation to biological adaptation to solidify how intertextual relationships operate and change over time in relation to cultural environments. This approach focuses on five original models—influenced by yet adapting meme theory—for exploring adaptation, mapping texts' associations through synaptic, viral, symbiotic, macrosymbiotic, and emergent paradigms. These models stem from readings of both the content and form of the textual clusters surrounding, respectively: Michael Paterniti's *Driving Mr. Albert*'s synaptic connection to Beat literature and Einstein's brain; Koji Suzuki's *Ring*'s viral expansion to other media forms; the symbiotic interdependence of Spike Jonze's *Adaptation* and Susan Orlean's *The Orchid Thief*; Wells's *The War of the Worlds* and its macrosymbiotic affiliations to the invasion narratives, spoofs, adaptations, and homages it spawns; and the emergent evolution along orders of complexity between and among the textual threads of George Romero's zombie movies. Even though this dissertation performs original studies on texts, the process is much more important than

the product; in other words, this study's primary yield emanates from the fresh theoretical groundwork it creates and the interdisciplinary dialogues it initiates among scholars of film, literature, and culture.

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Introduction

In an article titled "Twelve Fallacies in Contemporary Adaptation Theory," Thomas Leitch argues that, "despite its venerable history, widespread practice, and apparent influence, adaptation theory has remained tangential to the thrust of film study because it has never been undertaken with conviction and theoretical rigor" (149). This dissertation undertakes Leitch's challenge through critically theorizing adaptation as an intermedial process rather than the product of the essentialist media forms proposed by George Bluestone in his 1957 *Novels into Film*, the first major work to address adaptation critically. Given this focus, my project parallels the efforts of figures such as Linda Hutcheon, Brian McFarlane, and Leitch himself, in that the focus lies in theorizing adaptation rather than performing the fairly limited comparisons and contrasts—or "fidelity criticism"—suggested by Bluestone's model. Each chapter focuses on the development of a theoretical model for analyzing the process of textual adaptation as parallel to biological adaptation and film studies, yoking textual theory and evolutionary theory. The models unfold through my readings of textual clusters, arcs of adaptation that deal implicitly or explicitly with the tropes of adaptive evolution through their content and form. Thus, even though this dissertation performs original studies on texts, the process is much more important than the product; the focus lies on the intertextual and intermedial relationships rather than solely on monadistic or essentialistic texts. While this approach relies on science-based analogy and metaphor, it also develops concrete vocabularies for conceptualizing adaptation as an intertextual undertaking, making the dissertation an interdisciplinary dialogue among the academic realms studying literature,

film, and culture.

In his seminal 1976 book *The Selfish Gene*, Richard Dawkins first initiated the term "meme" as a cultural parallel to the concepts he elucidates in the rest of the text, primarily genetic evolution. The meme functions like a gene, transmitting cultural DNA through evolving, adaptive systems, and the meme is passed on through imitation. This cultural transmission creates an analogous paradigm to biological replication: memes can mutate, replicate with high fidelity, lie dormant, or even suffer extinction. Since Dawkins first introduced the idea of the meme, many other commentators have taken up the trope to elaborate on a variety of phenomena in fields as disparate as psychology, philosophy, sociology, and anthropology. If memes are measured by their prolific influence, then the "meme" meme has been fairly successful indeed. One of the central challenges, however, lies in just how we evaluate and utilize memes; part of the debate that continues to increase their influence focuses on just what utility this concept represents now that we have it. The metaphorical weight of the meme concept works well—the analogy is both basic and appealing—but what exactly is a meme? The referent is largely unstable, and, because of the difficulties in quantitatively observing culture on either the micro or macro levels, much of what has been written about meme theory analyzes what memes are, how they work, and why we should even care in the first place.

In his first invocation of the meme, Dawkins insists that the concept not become mystical, yet his own writing seems to shroud the idea in mystery. In order to provide illustrations and a working definition of memes, Dawkins writes:

> Examples of memes are tunes, ideas, catch-phrases, clothes fashions, ways of making pots or of building arches. Just as genes propagate themselves in the gene pool by leaping from body to body via

> sperms or eggs, so memes propagate themselves in the meme pool by leaping from brain to brain via a process which, in the broad sense, can be called imitation. If a scientist hears, or reads about, a good idea, he passes it on to his colleagues and students. He mentions it in his articles and his lectures. If the idea catches on, it can be said to propagate itself, spreading from brain to brain. (192)

This brief, oft-quoted encapsulation has caught on fairly well, but these examples provide a perplexing blur between form and content. The list, citing "tunes, ideas, catch-phrases, clothes fashions, ways of making pots or of building arches," includes and equivocates both material and nonmaterial substances, making memes unstably shift between the artifact and the inspiration, the tangible and the intangible, the dancer and the dance. Thus, part of the difficulty in dealing with memes is that even those who agree on the fundamental premise of this evolutionary model of ideas and society cannot agree on what exactly the cultural particles are at the center of it all.

Since Richard Dawkins coined the term meme, many others—most prominently, Daniel Dennett, Susan Blackmore, and Robert Aunger—have approached definitions and explanations of memes' properties, but there is little cohesion among these theorists as to the memes' physicality, their scope, and their method of transference. For some, the meme is immaterial, a metaphorical concept that works in a parallel analogy to the transference, adaptation, and mutation of genes, but, for others, the meme concept is couched in language that makes it sound like an as-yet undiscovered, microscopic mental parasite, operating according to its own anthropomorphized desires. For Blackmore, the meme circulates within society, and for Aunger, the meme replicates and mutates within the brain itself.

The philosopher Daniel Dennett points out in the ambitiously titled *Consciousness Explained* that this distinction of the values of memes only stems from memes dictating worth to begin with, and, moreover, these memes have only caught on through virtue of their propagation and general acceptance. Dennett explains this value judgment loop through exploring the idea of a "meme" itself and the relativistic lack of intrinsic merit ideas in general possess, outside of meme-created value systems; as he writes:

> (Note that in its own terms, whether or not the meme meme replicates successfully is strictly independent of its epistemological virtue; it might spread in spite of its perniciousness, or go extinct in spite of its virtue.)
>
> Memes now spread around the world at the speed of light, and replicate at rates that make even fruit flies and yeast cells look glacial in comparison. They leap promiscuously from vehicle to vehicle, and from medium to medium, and are proving to be virtually unquarantinable. Memes, like genes, are *potentially* immortal, but, like genes, they depend on the existence of a continuous chain of physical vehicles, persisting in the face of the Second Law of Thermodynamics. Books are relatively permanent, and inscriptions on monuments even more permanent, but unless these are under the protection of human conservators, they tend to dissolve in time. (205)

But, to some extent, the reader must then ask why Dennett's argument has any more appeal than another formulation of meme theory; there certainly are enough others to choose from, appealing to various memetic structures within different niches of readership. Brodie, after all, enjoys a great deal of popularity for his watered down, populist version of meme theory, despite (and even perhaps because of) his overall lack of intellectual rigor and basic inability to define what exactly a meme is. With all of these disparate conceptions as to what memes are, what values they or the worldview implicit in their creation have, and to what ends they can be directed, however, there is

hardly a holistic, unified encapsulation of what "meme theory" is. So why invoke meme theory at all, if the referents are so blurred?

The meme metaphor, with some adjustment toward specificity, creates innovative channels for discussing the evolution, adaptation, and proliferation of ideas, fundamental concepts for understanding the social impact and influences of texts. Although theorists such as Joseph Carroll have combined literary and evolutionary theory, few authors have explored the concept of evolutionary adaptation taking place on the textual level. Carroll, in his *Literary Darwinism*, for example, primarily utilizes literature as a means of understanding and employing a kind of Universal Darwinism to help explain human nature, his project running a course parallel to evolutionary psychology in that it focuses on human behavior within key texts instead of analyzing texts as themselves indicative of algorithmic processes. Rather than investigating a kind of fundamental—and perhaps essentialist—form of human nature, I am adopting and adapting evolutionary theory for the purposes of investigating the phenomena of textual replication, adaptation, and proliferation in various social and cultural contexts. In short, the focus is on how narratives—and the memetic ideas they perpetuate—evolve. This approach is by no means exclusive of historical, theoretical, or deconstructivist readings of texts, but instead I seek to complement and synthesize these methods into a syncretic, adaptive and adaptable model for rethinking the physical and metaphorical transmission of texts, the propagating of new, recombinant cultural DNA.

In order to proceed with such a project, though, the parameters of meme theory—more specifically, the relevant definitions of terms—need to be addressed. Nearly all forms of meme theory, from its first coinage by Dawkins, situate memes as brain-based

entities that interact with cultural artifacts and are passed along through some form of imitation or replication. Some theorists pull back from meme theory a bit to hold that there is still a humanistic "free will" or "human creativity" operating outside the memes' influences, a "real self" that mystically cuts through social interactions. Yet arguing both for memes and against their totalizing influence is a bit like founding a nonconformists' club; it may be fun, but it contains a paradox that makes such a flawed action virtually pointless. Susan Blackmore attacks such humanist biases as those underlying these kind of speculations about simultaneously having memes and individual, inexplicable tastes in *The Meme Machine*, and she does so along lines that are surprisingly similar to Marxist anti-humanism. According to her line of thinking, we are "selves" only by virtue of our genes and the cultural influences (or memes) that bombard us constantly every day, some of them sticking around long-term. As she categorizes an individual's personality formulation and self-identification:

> Memetics provides a new way of looking at the self. The self is a vast memeplex—perhaps the most insidious and pervasive memeplex of all. I shall call it the 'selfplex'. The selfplex permeates all our experience and all our thinking so that we are unable to see it clearly for what it is—a bunch of memes. It comes about because our brains provide the ideal machinery on which to construct it, and our society provides the selective environment in which it thrives. (231)

With some slight linguistic adjustments, Blackmore's ideas here sound almost Foulcauldian, and with this theoretical affiliation in mind, meme theory identifies social networks as its arena of interest and influence. As I mentioned earlier, though, Blackmore's formulation of meme theory is merely one competing for dominance (appropriately enough for a Darwinian reconceptualization of thought and culture), and, since her formulation of the meme is based on imitation rather than on material artifacts,

her particular brand of memetics is nearly impossible to quantify and thus test. Blackmore's memes are abstract concepts divorced from specific material or temporal circumstances, yet their explanatory power has some merit as a foundation for considering selves and texts as destabilized from the comfortable notions of identity and traditional considerations of narrative form so often found within Western society, a helpful distinction for my project's interest in the relationships between and among texts .

In detailing her conceptual model, Susan Blackmore carefully distances meme theory from such other frameworks as evolutionary psychology and sociobiology, which also ostensibly examine the interrelationships between human evolution and the particularities of culture; one of the key differences, according to Blackmore, is sex. Unlike alternative paradigms which understand contemporary human behavior as rooted primarily in the survival strategies of prehistoric peoples—which, with their exclusive focus on genetic propagation, have difficulty explaining such anomalies as voluntary celibacy, masturbation, homosexuality, or monogamy—Blackmore clarifies that memetic theory and sociobiological accounts of sex differ in two key ways. As she frames it, "First, memes have been around for at least 2.5 million years; coevolving with genes and influencing sexual behaviour and mate choice. Second, memes are now well off the leash and during the last century sexual memes have influenced our lives in ways that have little or nothing to do with genes" (129). With Blackmore's representation, mates with higher memetic capabilities have greater sex appeal (which explains the charms of artists, communicators, and academics), as their intellectual capital also has its own kind of power lineage, distinct from raw genetic survival and proliferation, yet linked to it.

This formulation helps explain why sex sells. Advertising has a long legacy of manipulating sexuality for marketing purposes, but while other theories have elucidated the connections between sex appeal and the spread of ideas, meme theory makes the spread of ideas itself a kind of sexuality, as memes form their own sort of libidinal economy. Though academics might joke about the marketplace of ideas being a red-light district, the tenets of meme theory can map the multivalent meanings of texts, explaining and parsing out the multiple memes linked to signs and signifiers. In this fashion, sex sells because it allows the memetic conflation of eye, brain, sex organs, wallet, social status, and unquenchable desires from each into a single sign. Texts are very literally sexy, procreating in an evolutionary mix that has seen an exponential explosion of information transference in the last few decades as technology allows for more powerful and cheaper modes of communication. Thus, while the textual messages expand outward from these proliferating media, the signs themselves also proliferate outward, taking on shifting, evolving meanings. As Gilles Deleuze and Félix Guattari formulate the elastic and expansive realm of signs and interpretation in their book *A Thousand Plateaus: Capitalism and Schizophrenia*:

> Nothing is ever over and done with in a regime of this kind. It's made for that, it's the tragic regime of infinite debt, to which one is simultaneously debtor and creditor. A sign refers to another sign, into which it passes and which carries it into still other signs. "To the point that it returns in a circular fashion..." Not only do signs form an infinite network, but the network of signs is infinitely circular. The statement survives its object, the name survives its owner. Whether it passes into other signs or is kept in reserve for a time, the sign survives both its state of things and its signified; it leaps like an animal or a dead person to regain its place in the chain and invest a new state, a new signified, from which it will in turn extricate itself. (113)

Just as Deleuze and Guattari here describe the leaping of signs and meanings, so does meme theory concern itself with the survival of ideas and their "place in the chain," separate and distinct as a statement or a name, surviving "its object" or "its owner." The memes are tied to genes, but they also move beyond to outlive their hosts, meaning that, while those who deal in ideas may disappear, the memes' heritage as well as their potential to be new creators or inspirations continues on within this "infinite network."

But just what evolves in this process? In characterizing memes as being as wide a range as "tunes, ideas, catch-phrases, clothes fashions, ways of making pots or of building arches," Richard Dawkins seems to suggest that physical entities change as part of meme adaptation, such that we can see new clothes, new pots, and new arches as evidence of the change taking place (192). Or, since Dawkins call those things the memes themselves, perhaps the physical change encapsulates the mutation of memes, making a new pot as much a meme as a way of making a new pot, using form and content interchangeably. For Susan Blackmore, the memes behave like microorganisms, spreading between people like a contagion through such diverse media as speech, literature, television, computer technology, radio, and film. For still another theorist, Robert Aunger, author of *The Electric Meme: A New Theory of How We Think*, memes reside solely in the brain, and the mutations and adaptations involved in changing memes from one state to another relies only on applied thought; brains transmit their ideas outward, where they take hold in other brains, replicating the same process again so that two people can say they have "got the same idea." Aunger even uses this evolution of ideas to elucidate how the concept of evolution began in the first place, writing that:

> Memes are generally thought to be replicators residing in people's brains that are able to reproduce themselves during transmission between individuals. Thus memes in Malthus's head were somehow recoded as spots of ink that survived their originator's demise on the pages of a book, there to be visually picked up and copied into Darwin's active, living brain. Once inside, they became linked to other ideas already present in Darwin's mind to form a unique complex: the theory of evolution. (11)

With all of these conflicting definitions of what a meme is, discussing "the meme" as a single, unified concept accepted to all parties becomes difficult. Perhaps the slippery qualities of the amorphous meme serve to help the idea proliferate on its own terms.

Throughout the chapters that follow, I will apply several different variations of meme theory, adapting the models proposed by these theorists and others, adapting them as needed. While meme theory sometimes analyzes cultural transfers as solely material or linguistic, I will adapt these existing molds of adaptation as conforming to other bases of evolution. My theoretical speculations will not overlook the material or the linguistic, but instead I reshape these categories as components of dynamic evolutionary frameworks, applying such metaphorical systems as the synaptic model, the viral model, the symbiotic model, the macrosymbiotic model, and the emergent evolutionary model. These diverse models contain nodes of intersection, and, as they replicate elements of other conceptions for understanding the interdependence of cultural and textual evolution, they cannot be absolute departures of prior methods for understanding the relationships between texts and cultures. What I am attempting, however, is the development of a more coherent process for analytically discussing the development of ideas, texts, and cultures across time and space. The rewards for these analyses and the evolutionary patterns that arise from them will be of great help to narrative theory, as they provide a new vocabulary for discussing the evolution, adaptation, and proliferation of texts

throughout and across cultures, while also making certain sorts of scientific discourses mutable and applicable to studies of myriad types of narrative. By developing new ways of examining texts as they shift through different forms, perspectives, and contexts, this project aims to concretize new modes of analysis to implement in the study of texts and their changes, through visions and revisions, as well as versions and reversions.

Through utilizing meme theory, as well as expanding the scope of this biological metaphor, my dissertation creates five original models for explicating the transference of ideas and texts across media and cultures. Although Dawkins informs my understanding of cultural and textual evolution, these five models are of my own design and are linked to my readings while also providing relevance to studies of other adaptive texts. Formulations of meme theory up to this point have focused primarily on the rhetoric and merits of models for meme theory, discussing the merits of its explanatory framework rather than applying it. And, indeed, the concept of the meme almost rejects the notion that we can be cognizant of these ever-shifting cultural particles, since they move and evolve so rapidly. The yield in such a project, however, lies in its ability to create interpretive patterns for understanding cultural evolution on the ground level, looking at adaptation as a function of larger, comprehensive trends. The difficulties in constructing these models and creating their vocabulary, however, stem from the differences between biological evolution and cultural evolution; when examining cultural texts' survival, reproduction, and mutation, there is only artificial selection. While we would, of course, have to question the "natural" in natural selection at least as much as biologists themselves do, the problem with adaptive texts is that their modifications are all applied with a sense of purpose—whether conscious or subconscious—by those who pass the text

along. Also, when applying meme theory, we encounter the same difficulties of classification that the meme theorists themselves encounter: what exactly are we talking about?

The terms of discussion change when we move between and among the levels of material texts, visual texts, oral texts, conceptual texts, and texts within texts. In other words, we could speak about the physical transference of a single copy of *On the Road* from one pair of hands to another as "the spread of memes" just as easily as we could write about the adaptive evolution of memes within Jack Kerouac's creation of *On the Road*, the novel itself being the conceptual progeny of Henry Miller's earlier work *The Air-Conditioned Nightmare*, about a cross-country trip and the resulting change in his ideological perspective. My focus here will center primarily on studying the process of conceptual adaptation of ideas, though occasionally this focus will branch out into tracings of material objects, oral histories, or changing trends in the visual arts. With meme theory's capacity for tracing texts' lineage and their adaptive impact in different contexts, cultural works reveal themselves to be components of a larger system, spawning multiple other narratives in the forms of sequels, remakes, and new forms that re-imagine their original inspiration. Still, within these larger systems, patterns emerge that parallel and privilege the dynamics of certain biological and conceptual relationships, which informs the five distinct models for adaptation I posit in this dissertation's chapters.

The first chapter of my dissertation refines this framework for understanding adapted and adaptive texts along evolutionary lines. Still, just like theories as early as Darwin's teach, evolution is not necessarily progressive, so the textual variations are not necessarily improvements from one iteration to the next. In looking at the web of

anastomosis weaving together nonfiction accounts such as Carolyn Abraham's *Possessing Genius*, Michael Paterniti's travel memoir *Driving Mr. Albert*, and Kevin Hull's BBC documentary *Relics: Einstein's Brain* with the fictional work of the Beats, this first chapter details how texts—along with their material, intellectual, and social impact—rely on their current cultural milieu for future proliferation, as well as the survival and success of the cultural particles that helped create them. This study of proliferation throughout a population ideally fits with meme theory's conception of culture as a system of concepts in constant flux and mutation. This line of inquiry extends into a tracing of *Driving Mr. Albert* back to *On the Road* to explore how the all-American road novel enacts the metaphorical and metonymical ways in which texts spread, adapt, and inspire one another, particularly in American culture. By examining the ways in which *Driving Mr. Albert* traces Einstein's influence through Kerouac, Burroughs, and Ginsberg, thus "Beat-ing Einstein's brain," I advance a synaptic model of adaptation, whereby concepts and texts arc across conceptual gaps much like electrical charges pass across neurons, showing that adaptation can develop like the ideas that serve as the literal and figurative subjects of the texts in question.

From this conceptualization of synaptic adaptation, I expand my scale to theorize the viral model by exploring how the core central narrative of Koji Suzuki's horror novel *Ring*—about a videotape that infects viewers with a virus-like curse—spirals outward in viral fashion itself, from book to book series, multiple movies, and digital texts in multiple cultural contexts, much like an adaptive viral epidemic. The viral model focalizes the somewhat random transferences and branchings of the synaptic model into a more streamlined version of Darwinian competition in the intersecting economies of

infections, markets, and mass media. This analysis centers on how textual mutations can occur from one form to another within a very brief time period, and, although Suzuki's central conceit in the *Ring* books is how media technologies have severely negative effects as they spread through social consciousness in viral forms, the author's ideas have spread in a kind of media epidemic similar to the virus attack at the core of Suzuki's frightening tales, proving, as Marshall McLuhan asserts, that "the medium is the message," rather than the subtle critique below the texts' surface (McLuhan 7).

In moving from the analytical model for the *Ring*-related texts to the model for analyzing Susan Orlean's travel memoir *The Orchid Thief* and the Spike Jonze-directed *Adaptation*, the focus once again enlarges, moving from the viral scale to a larger order of magnification; my third model for defining and criticizing adaptation concentrates on the interdependent intermingling of symbiosis. Much like the symbiotic relationship between orchids and their fungal symbionts, the relationship between Charlie Kaufman, Susan Orlean, and John Laroche is not quite so simplistic as parasites and hosts; instead, the tropes of evolution throughout *Adaptation* invite audiences to question the more comfortable categories inherent in Hollywood hierarchies as well as overly reductive Darwinism that labels all relationships as intrinsically antagonistic and competitive. Evolution in this case is not progressive, and, because the film's ending self-consciously indulges in cliché Hollywood conventions, the narrative is innately concerned with the impossibility of individualistic separation from others within the deep-seated interconnections of the social and cultural environment.

In forging the macrosymbiotic model, the analysis of the fourth chapter expands the scope from the symbiotic relationship between individual texts operating within a

relatively narrow timeframe to examine a much larger constellation of texts originating from H. G. Wells's *The War of the Worlds*, covering over one hundred years' worth of cultural impact and expanding a web of interconnection among texts so wide that it almost covers the entire genre of invasion narratives. The reading of these macrosymbiotic texts concentrates on how the content of the narrative—with its emphasis on bacterial tropes—mirrors the ways in which the relationships between and among adaptive *War of the Worlds* texts form through a seemingly parasitic, antagonistic paradigm through the narrow focus to macrosymbotic, long-term cooperation. Wells undertakes an explanation of evolution through a Darwinian *deus ex machina* by having his Martians die off because they have not adapted to the bacteria inhabiting everyday humans, making *Homo sapiens* the "fittest" by default of surviving. The relationship between humans and bacteria in Wells's novel, which seems forged in mutual adversity, eventually provides a kind of "Darwin *ex machina*" that saves the planet. Yet the story of the story does not end there. In turn, the adaptive texts extending from Wells's work—several movies, parodies, trading cards, a television series, a rock musical, a radio play, and many comic books—resemble the overarching pattern of macrosymbiosis when interpreted through a more diachronic scale. In other words, the texts' concerns with the macrosymbiotic social and biological functions of bacteria reflect how the adaptations of Wells's text also take on macrosymbiotic cultural roles themselves, often while being recast as an essentially American allegory.

Finally, with the fifth chapter's emergent model, my focus expands another level to examine the emergent evolution of complex systems through a reading of George Romero's zombie movies, theorizing their intertextual relationships among one another

as well as analyzing the larger network of texts and influences that lead to the emergence of Romero's *Night of the Living Dead.* Through this final chapter, my study culminates in a more totalizing formation of how adaptation allows for intertextual constellations of pluralistic, distributed meaning through the adaptive iterations of groups of texts. Despite the seeming simplicity of the zombie movie, reading Romero's "Dead" series—*Night of the Living Dead, Dawn of the Dead, Day of the Dead,* and *Land of the Dead*—as sequential unfoldings of order demonstrates how these slow-moving killers demonstrate evolution through ascending levels of complexity via the process of emergence. In this way, as the collective zombie character undergoes slight yet significant metamorphoses from film to film, "learning" as a species, the texts themselves take on additional meaning as a series rather than as isolated entries.

The role of adaptation studies and media criticism continues to grow, as does the popularity of meme theory as a means for explaining cultural phenomena, and my dissertation both follows and redirects these trends in a unique fashion. This project provides new directions for literary theory and cultural studies, as well as giving evolutionary theory another direction in which to adapt. In other words, this study's primary yield emanates from the fresh theoretical groundwork it creates and the interdisciplinary dialogues it initiates among scholars of film, literature, and culture. With this dissertation's progression from theoretical grounding to analyses of the velocity, time, and space of cultural evolution, the project improves our comprehension of how texts reflect and recreate their cultures of origin, as well as the changes they undergo from one form to another. Many contemporary literary critics and narrative theorists fuse scientific studies with their own textual explications, but few have explored the

possibilities of this particular offshoot of evolutionary theory, making my work unique. Thus, this dissertation aims to break new ground while also proceeding along lines similar to many important contemporary cultural theorists.

Chapter One: It's All in Your Head: Synaptic Convergences and the Beat-ing of Einstein's Brain

1. Memes on My Mind

In *Everything that Rises: A Book of Convergences*, Lawrence Weschler performs a series of image-based juxtapositions he calls convergences; by pairing such representations from seemingly disparate realms and then explicating the rife possibilities for connective associations, Weschler provides new critical contexts and rich intertextual meanings. Weschler admits that, using this methodology, there is a certain "range in [the] tone of these convergences ... some [are] fanciful, others polemical; some merely silly, others almost transcendental. Some tended to burrow toward some deep-hidden, long submerged causal relation; others veritably reveled in their manifest unlikelihood" (1). The book's final set of convergences concerns linkages between and among tree branches and roots, river deltas, and neuronal dendrites; Weschler explores the meaning-making patterns' similarities, asking finally:

> Which, still, is to say exactly what? Maybe nothing. The convergence so far verges on the tautological. But things get more interesting, perhaps, when we start thinking about how human brains in turn conceptualize the world's workings, for, time and again, they deploy treelike branchings as a way of visualizing complex processes across time. Family trees, for instance ... or the splay of artistic influence ... or the reputed progress of evolution. (210)

Weschler then explains how the process of linking these images and concepts—converging them—allows larger patterns to emerge, and Weschler's rhetoric itself seems to bifurcate into neuron-stimulating electrical stems (forks of lightning, too, figure into the convergence), literalizing his central pattern-making metaphor.

These meanings that can zap across such wide gaps in time, space, and traditional contexts allow for new ways of reading disparate connections, even allowing for convergences of "manifest unlikelihood." Weschler even reads patterns of synaptic activity outward as paralleling human constructions such as the Internet, as well as reproduction and evolution, writing that:

> No doubt at some sub-submicroscopic level, the furthermost neural dendrites in the brain are in fact exuding spasms of chemical foam, whose electrical consequences well out in concentric waves across the synaptic gap and toward the furthermost extensions of neighboring neurons. And—genius to genes, cerebellum to cereal, concepts to conception—what else, what other is procreation itself? (223)

Using Weschler's far-reaching pattern analyses as an initial step toward similar metaphorical convergences, this chapter explores the connections between and among meme theory, synaptic patterns, personalities, and texts, as well as links outward to patterns found in the works of Albert Einstein, Allen Ginsberg, Jack Kerouac, Carolyn Abraham, and Michael Paterniti. While these branching argumentative lines might seem unnecessarily convoluted at this early point, they will hopefully converge through the analysis that follows. The purpose of this chapter's forking paths extends beyond simply intertextual weavings; the aim is both to create a new model for thematic analysis of textual adaptation—based on principles of evolutionary theory and neurological science—and to demonstrate that model through application. This "synaptic model" follows the threads of meme theory, as defined by Richard Dawkins and refined by Robert Aunger, though it also represents a critical intervention in response to these theorists' ideas.

The term "meme" was initially created by Richard Dawkins to explain how the process of biological evolution had corresponding patterns of evolution in such a disparate realm as culture. While biological theory is just as much socially constructed as literature or the literary theory that analyzes it, the merits of meme theory are that it provides an effective means for exploring culture with enhanced vocabularies different from the standard parameters of literary or cultural theory, looking specifically at cultural and textual evolution. In this context, evolution is defined as incremental change over time that, while often adaptive to environmental surroundings, is not necessarily teleological, and this perspective complements the cultural relativism most often employed in contemporary theory. By utilizing the paradigm of evolutionary theory as applicable to culture, meme theory allows us to depart from the traditional, limited debates about works' fidelity in textual adaptation or standard readings of the anxiety of influence. Similarly, the plasticity of the terms and methods within meme theory present practical tools for investigating concepts as fluid as those most often contained in narrative theory. Clearly, texts and our understanding of texts within certain cultural contexts change in ways that reflect a form of evolution, and my work here seeks to study the possibilities for models of narrative theory as suggested by divergent trends within the various incarnations of meme theory. Despite the fact that theorists have had notorious difficulties in pinning down the "meme" as a concrete concept, meme theory texts offer fertile ways for conceptualizing the relationships between texts and their surrounding cultural environment.

But, when we view texts as enacting a kind of historical and conceptual connectedness itself through their convergences and branching influences, the resulting

map describes a net of anastomosis, or a network in which streams both branch out and reconnect like the synaptic relations of neural cells and the larger patterns they form. Such webs serve to structure both a form of intersubjectivity and a kind of intertextuality through bifurcating and grafting texts and subjects that previously seemed disconnected. Through tracing this textual lineage both backwards and forwards, we can tease out a theoretical model for understanding intertextuality as its own kind of synaptic connectedness through disconnection, not unlike the highway system Kerouac explored both metaphorically and literally in *On the Road.*

According to Robert Aunger's book, *The Electric Meme: A New Theory of How We Think*, the evolution of ideas works within a single brain, not exclusively between or among subjects' brains, as theorists such as Susan Blackmore, Daniel Dennett, and Richard Dawkins all posit. In order to explore this concept of internal intellectual evolution, Aunger discusses the possibility of neuromemes (which, in a confusing turn, he sometimes also calls memes), a new concept he defines as being: "*A configuration in one node of a neuronal network that is able to induce the replication of its state in other nodes*" (197, italics in original). Within this definition, Aunger asserts that the evolution and internal transfer of information operates on as narrow a basis as the interactions of individual neurons. Because these neural links inform the basis of individuals' personalities, expressions, etc., Aunger's neuromeme framework has many complementary facets to the neurological explanations Joseph LeDoux offers in his book: *Synaptic Self: How Our Brains Become Who We Are.* Although LeDoux, as a professor at New York University's Center for Neural Science, does not evoke the term "meme" in his work, much of *Synaptic Self* is concerned with illustrating how the chemical and

electrical components surrounding neurons determine the construction of self. LeDoux views his work only within a literal framework, but his assertions also have larger theoretical implications when drawn into the metaphorical realm; his explanations of the brain's convergence zones provide unique connections not only to Aunger's work but to the textual juxtapositions and explications found in Lawrence Weschler's convergences. LeDoux writes of both synapses and larger convergence zones in the brain, but, I argue, these schematic outlines have implications on external models as well. LeDoux illustrates the associations between synapses—the gaps between neurons—and self by writing that:

> My notion of personality is pretty simple: it's that your 'self,' the essence of who you are, reflects patterns of interconnectivity between neurons in your brain ... When a neuron is active, an electrical impulse travels down its nerve fiber and causes the release of a chemical neurotransmitter from its terminal. The transmitter drifts across the synaptic space and binds to a dendrite on the receiving neuron, thus closing the gap. Essentially everything the brain does is accomplished by the process of synaptic transmission. (2)

Aunger and LeDoux's respective texts complement each other fairly well, but the difficulties in applying their conceptions of the inner workings of the brain to the evolution of texts lie mostly in the fact that few texts deal exclusively with the inner workings of the brain. Instead, I propose to modify these literalist understandings so as to draw their frameworks outward to analyze a potential, metaphorical model for textual transmission across historical time and cultural space, operating in a similar function to the neural transmissions explored by Aunger and LeDoux.

The synaptic model relies not on the explicit connections between texts but the process of both transmission and evolution that takes place during the projection of texts

and ideas. The importance of the synapse is that it provides the medium for transmitting information within the brain, but such a transmission can only occur when the two neurons in question are separated by a synapse. The connections are not exactly connections; instead, the synapses represent chasms of meaning which can only be traversed by a certain sort of chemical or electrical charge. This process is not about closing the gap; rather, it concerns utilizing the energy produced by the synapse as a result of the disparate pieces of information contained in the unbridgeable neurons.

From this model, I will explore the possibilities for the appropriation of intentionality that results from this energy dispersal, looking at transfers not within a single brain but through the neural structure written large upon the outside culture. Later in this chapter, I will examine the cultural, textual, and ideological correlations among the literature by and about Albert Einstein, the Beats, and an unconventional journalist named Michael Paterniti. Though there are no direct associations between these individuals or the texts they created, the electrical charge—a kind of intellectual energy—that builds between the gaps existing between their respective positions in space and time creates a new kind of meaning when we perform a synaptic-style tracing of their works. By reading subjects' texts as operating in an analogous fashion to neurons, what formerly divided their conceptual positions now creates a sort of neural electricity that arcs across the gaps of meaning. Such work does not close the gap so much as enrich our understanding of formerly disconnected elements, exploring the energetic tension that arises from their juxtaposition. The synaptic model here produces a generative energy through the paradox of linking what seems to be categorically separated, mimicking the

work the brain performs as both an information-processing space and as a conceptual map for analyzing the evolution of texts.

2. The Brain as Cultural Hub

In order to furnish a bottom-up conception of Albert Einstein, a figure normally situated at the top of conceptual hierarchies, we need look no further than a tabloid's treatment of the famous physicist. In the September 26, 2005, edition of *Weekly World News*, the tabloid that regularly reports on the likes of bat boy and the saber-toothed baby while billing itself as "the world's only reliable newspaper," there is an unusual story about Albert Einstein's brain (1). The cover contains a photo montage with an inset of Albert Einstein smiling, a brain in a bell jar exuding electricity, and a man gripping his head in pain as electrical arcs grip him and trigger explosions to his left. The headline blares: "Einstein's Brain Comes to Life—And Goes on Rampage!" As wacky as this front page claim is, a semiotic reading of these images along the lines of critic Roland Barthes shows that there is a form of cultural logic to this bizarre reportage.

Our culture recognizes that Einstein possessed some form of genius, and, though average people might not understand Einstein's theories, they know his ideas contained revolutionary, world-changing power. The implicit reasoning here suggests that if anyone's brain were to come alive and go on a rampage, Albert Einstein's brain is a likely candidate. Moreover, this peaceful image of the kindly physicist grinning and raising his eyebrows creates a dialectical opposition to the cover, given the wanton destruction his renowned organ perpetrates in the fabricated photo below; this contrast gestures—though most likely unintentionally—to the central irony of Einstein's life and work: the work of

the world-famous pacifist was appropriated by other scientists to create atomic weapons, the most destructive devices the world has ever known. The "rampage" that *Weekly World News* depicts fails to have such far-reaching implications as possible nuclear holocaust, though, and even the promise of a man gripping his head in pain while wracked by volts of electricity proves false in the article itself.

Showing an unusual amount of restraint, the tabloid's story has no high-voltage torture or fiery explosions; instead, pseudonymous author Henry Fisick writes about Einstein's brain reanimating as a result of "reactivating microwaves from satellite dishes and cell phones," which lead to the brain having special communicative powers via cell phone networks (24). Albert Einstein—if we can equivocate and call his brain "him," which the article does—then launches a number of prank calls using his new cellular capabilities of his revitalized brain cells, ordering pizzas to Ontario's fictional "McMeister University" and prank-calling the dean to say his wife was out with another man. While these events hardly explain the electrical arcs and the anguished man screaming, the article also has a certain logic vis-à-vis the mythology of Einstein. His brain, the incomprehensible source of genius that changed our world forever, lives on through a network of communication; his ideas are so powerful they keep firing electricity outward from his brain even years after his death, machine-like and unstoppable. In terms of meme theory, Einstein's brain is a resonant meme proliferator; its signifying capacity provides multivalent meaning, both metaphorical and metonymical. His brain produces ideas literally and symbolically, culturally and materially: through Einstein's intellectual work, through the evolution that work sparked for other thinkers, through the ideological impact his work had, through the physical

manifestation of atomic bombs which Einstein secretly supported for use against the Nazis and then spent the rest of his life denouncing. The explosion outward from this one brain is immense, not entirely unlike the analogy suggested by the whizzing volts of electricity in the doctored tabloid photo. And, while *Weekly World News* does not substantiate much of anything in its publication, the front-page treatment proves that Einstein's brain as a richly mythological semiotic symbol is very much alive in the present day.

Weekly World News is not the first to report on Einstein's brain as a cultural icon, nor is it any coincidence that I invoked Roland Barthes when discussing the semiotic mythology of the twentieth century's most powerful organic metaphor. In Roland Barthes's collection of essays, *Mythologies*, the critic scrutinizes cultural products that others overlook, everything from Greta Garbo's face to professional wrestling to cleaning products; but Barthes also dissects Einstein's brain (semiotically, of course), in an essay titled "The Brain of Einstein." As if predicting the tabloid reportage that links the famous brain to mechanical adaptability, Barthes writes that:

> Einstein's brain is a mythical object: paradoxically, the greatest intelligence of all provides an image of the most up-to-date machine, the man who is too powerful is removed from psychology, and introduced into a world of robots; as is well known, the supermen of science-fiction always have something reified about them. So has Einstein: he is commonly signified by his brain, which is like an object of anthologies, a true museum exhibit. Perhaps because of his mathematical specialization, superman is here divested of every magical character; no diffuse power in him, no mystery other than mechanical: he is superior, a prodigious organ, but a real, even a physiological one. (68)

Barthes characterizes the brain as embodying machine-like intelligence, constrained only by its physiological limitations, which dictate the organ's eventual death and

decomposition. Yet these mechanical qualities are the source of Einstein's ability to fascinate whole cultures; here is an intelligence recognized by the international community, yet only a tiny sliver of the population can follow his unintelligible line of thought through strings of equations and computations. The mystery of Albert Einstein's intelligence is how his black box of a brain was so efficient, so mechanical, that it could topple society's previous ways of understanding time, space, and matter. Even Einstein himself, when pressed on the point, did not know how his mind differed from the average person's, making his genius somehow unknowable even unto itself. Thus, conceptions of his brain perform a kind of textual conscription that shift it from the literal register to a metaphorical text, reconceptualizing the organic material as kind of text itself.

As Barthes illustrates, most people, rather than examining Einstein's actual work, want to unlock the secret of what made him so uniquely intelligent, or, looking at the products of his thought, they want to unlock the secret of the universe in a neat and tidy package. The beautiful simplicity of "$E = mc^2$" rests in that the equation reifies the concept of knowledge as a discrete chunk existing in a vacuum, revolutionary without requiring additional explanation. Barthes discusses this popular misconception, as well, noting that "Popular imagery faithfully expresses this: *photographs* of Einstein show him standing next to a blackboard covered with mathematical signs of obvious complexity; but *cartoons* of Einstein (the sign that he has become a legend) show chalk still in hand, and having just written on an empty blackboard, as if without preparation, the magic formula of the world" (69, italics in original). According to the legend of Einstein's genius, his brain produces earth-shattering observations effortlessly, equations like "$E = mc^2$" erupting fully formed from his forehead like Athena from Zeus's brow.

This presumption contradicts contemporary neuroscience as well as commonsensical understandings of scientific work. The ideas within Einstein's head underwent many years of development and adaptation before his reports were published, and, following the publication of Einstein's 1905 work, the scientific community took several more years to recognize the scope of what exactly his work signified. This evolution of Einstein's ideas conforms to Robert Aunger's iteration of meme theory; ideas replicate and mutate within the brain, which, according to neuroscience, is the ideal location for evolution as developmental change. Aunger investigates neurons and synapses as themselves constitutive of an environment in the following terms:

> In fact, the brain is just the kind of place Replicator Theory would suggest as the birthplace of a replicator. It is full of ambient energy waiting to be harnessed and provides lots of scaffolding for a replication reaction in the form of a network of cells with support structures on which to hang components, all in standardized configurations, and so on. Just as DNA is protected inside a double envelope of outer cell and nuclear walls, so too is the brain encased inside a system of doubled protection, this time made of bone, tissue, and chemicals. (176)

As Aunger frames the brain, this neural landscape provides the ideal space for populations of ideas (meme species) to evolve and adapt, transferring outward only after the weakest variations of the ideas have died off, making the strongest ideas the surviving "fittest." While Aunger's theoretical formulation is not so democratic as to say that all brains are created equal, the process of thought does not vary so significantly, based on his studies, as to constitute an entirely different class of thinkers like Einstein. In other words, Einstein may have been a member of the intellectual elite (according to a social model of evolution), but his ideas developed through the same processes as any other thinker (according to a neurological model of evolution).

Still, something about the deft nature of $E = mc^2$ captures the social imagination with its brevity. The cultural popularity of Albert Einstein over other scientists is this persistent notion that his efforts have unwittingly produced: Einstein's thoughts make intelligence basic and commodifiable in neat, little phrases. Moreover, in reducing Einstein's research to this Platonic ideal of a single equation formed out of thin air, popular culture creates a secondary myth to justify intellectual laziness and stupidity. Einstein had some special power, the thinking goes, and since most people do not have super-powered smarts, they can continue their lives without critical thinking because, as Einstein personifies, either you already have intelligence or you never will. Einstein's mental aptitude is the source of his greatness, not his conceptual achievements themselves; the comfort is, as Barthes elucidates, that:

> Through the mythology of Einstein, the world blissfully regained the image of knowledge reduced to a formula. Paradoxically, the more the genius of the man was materialized under the guise of his brain, the more the product of his inventiveness came to acquire a magical dimension, and gave a new incarnation to the old esoteric image of a science entirely contained in a few letters. There is a single secret to the world, and this secret is held in one word; the universe is a safe of which humanity seeks the combination: Einstein almost found it, this is the myth of Einstein. In it, we find all the Gnostic themes: the unity of nature, the ideal possibility of a fundamental reduction of the world, the unfastening power of the word, the age-old struggle between a secret and an utterance, the idea that total knowledge can only be discovered all at once, like a lock which suddenly opens after a thousand unsuccessful attempts. The historic equation $E = mc^2$, by its unexpected simplicity, almost embodies the pure idea of the key, bare, linear, made of metal, opening with a wholly magical ease a door which had resisted the desperate efforts of centuries. (68)

With Barthes's explanatory framework, Einstein's appeal is conversely not his intelligence but the safety of his intelligence somehow existing in no one else, as well as the comfort that all brilliant ideas are reducible to singular, holistic nuggets.

> Paradoxically, "'*the most powerful brain of all*'" can justify uncritical thinking, and that thinking, in still another paradox, props itself up on a kind of evolution, not of ideas but of genes (69, italics in original). The implicit logic behind Einstein's genius—as somehow not being a product of years of study (Einstein earned bad grades in school, the fallacious urban legend contends)—the reason to abandon reason is that Albert Einstein was the pinnacle of evolution, the ultimate specimen bred for thinking. We can never reach his level of thought, so the suppositions reason, if we simply do not have the genetic stuff which serves as the brain blueprints for genius; Einstein's brain is unattainable in the absolute.

The cultural text of Einstein's brain signifies this mythic, medieval order of knowledge, but Barthes also implicates Einstein himself in supporting this image of the factory brain as elevated above all others, writing that "Einstein himself has to some extent been a party to the legend by bequeathing his brain, for the possession of which two hospitals are still fighting as if it were an unusual piece of machinery which it will at last be possible to dismantle" (68). While Barthes accurately parses the sociological meaning of Einstein's brain—what the brain-as-text itself signifies—this characterization of Albert Einstein bequeathing his brain to science is not entirely accurate, or, at least, some parties still dispute that Einstein ever did such a thing. Einstein's wishes about what to do with the remains of his body, his ideas about what to do when "'*the most powerful brain of all has stopped thinking*,'" are still unclear, as the only remains of his wishes are the multiple, conflicting narratives of diverse parties with diverse interests (69, italics in original).

No authority disputes the brain's fate, however. Everybody agrees that Dr. Thomas Harvey, the pathologist in charge of Einstein's autopsy, removed the brain without hesitation. Some claim this act was theft; some claim it was following orders. Otto Nathan, the executor of Einstein's estate and thus the man in charge of Einstein's physical and intellectual property (of which the brain certainly must fall into either category, one would think), has claimed both that he authorized Harvey to remove the brain and that he never said any such thing. In his nonfiction book *Driving Mr. Albert: A Trip Across America with Einstein's Brain*, Michael Paterniti carefully avoids labeling Harvey's actions as simply legal or illegal, instead claming that:

> Working under the humming lights, jugging the liver, palpating the heart, Harvey made a decision. Who's to say whether it was inspired by awe or by greed, professional duty or malpractice, beneficence or mere pettiness? Who's to say what comes over a mortal, what chemical reaction takes place, when faced with the blinding brightness of another's greatness, and with it a knowledge that we shall never possess even a cheeseparing of that greatness? (10)

Within this passage, Paterniti captures major questions at issue with respect to Einstein's brain as a socio-cultural object; the controversy in question is not the ethics of "grand theft anatomy" so much as it is "what chemical reaction takes place, when faced with the blinding brightness of another's greatness." But the passage does not focus on chemical reactions in Einstein's brain; Paterniti depicts Thomas Harvey as the new mental mystery man since his unknown thoughts set in motion the controversial behavior of removing the brain.

Here I would like to add a reminder that although the levels of meaning are different when examining developments in a single brain versus a larger social framework, the patterns within the mental model emerge as paradigmatic of the larger

social model. The impact of one brain, even after its functions have ceased, inspiring a certain "chemical reaction" in another brain as "the blinding brightness of another's greatness" exposes within social interconnectivity the synaptic patterns by which any ideas negotiate the neural network. There is a larger schema of convergence working here, mirroring the work done between synapses. From the memetic perspective, Einstein created a revolutionary wave of ideas, igniting minds across the globe with thoughts of relativity and its atomic potential, but the proliferation of Einstein's ideas (as well as the ideas permeating our culture about the nature of intelligence), just like the synaptic evolution of ideas, relies on the brain itself. The chemical reaction in Paterniti's text, Robert Aunger points out, requires something akin to a social network within the brain, so that transmissions of communication can catch on and negotiate between genes and memes to produce the best behavior for the organism, even when the transmissions focus on that organism's recognition of its lack of greatness within the larger social network. As Aunger writes:

> The brain is designed by natural selection to produce behavior—adaptive activity in the organism. That is what the brain does: intervene between genetic instructions and environmental stimuli to produce an adaptive response. So it seems natural to suppose that competition among memes must be to produce behavior, to be selected for the good effects they produce in the host. That is how the symbiosis between genes and memes arises: Both seek to promote "good" behavior in the organisms they find themselves in ... It's the fact that memes are necessarily social that sets them apart from essentially independent replicators like genes or prions. Memes are "born with connections": Their substrates are physically tied to one another as parts of a single, massive neuronal network. (227)

With Aunger's conception in mind, the brain's neurons are constant negotiators between the limits of DNA strands and themes of memes, genetic programming and social

programming (more problematically labeled as "nature" and "nurture"). The ideas spraying in and out of the brain are sorted based on their potential success for raising the station of the brain's owner to the highest possible position, which, in social animals, is more about status than survival. Thus, when faced with the greatness of Einstein's intelligence, as evinced by the cultural and intellectual standing of his brain, Thomas Harvey, the lowly pathologist, seems to have little option—at least in Paterniti's depiction of aspiring to "a cheeseparing of that greatness"—other than to take that brain so as to obtain a greatness of his own. The idea has its own kind of evolution internally in Harvey's brain just as his status evolves to a higher social level. After all, other great figures, such as Erwin Shrödinger and, more (in)famously, J. Robert Oppenheimer, have raided the cerebral fruits of Einstein's brain to achieve their own sort of greatness; Harvey just goes right for the source. Harvey's action has little to do with his survival, but, with someone else's brain in his basement, the importance of Harvey's status, his power to shape larger cultural, social, and intellectual patterns, increases tremendously.

Harvey saw an opportunity and exploited it, which Paterniti exploits in his own right in his own book, and both earn a higher social standing in Darwinian terms for their behavior. Appropriately enough, the above passage from Paterniti's book represents a synapse-like transference of narrative focus (from Albert Einstein to Thomas Harvey) while it simultaneously depicts a synapse-like transference of notoriety, in both form and content. Harvey holds noteworthiness and intelligence (or at least potential for intelligence through neurological research) simply by ownership of the brain; he achieves intellectual fame by proxy for transplanting the brain from Einstein's body into a formaldehyde-filled Tupperware container in Harvey's own basement, much like

Paterniti, as Harvey's friend and chauffeur, obtains his own quirky cerebral appeal by transporting Harvey across America with Einstein's brain in the car's trunk, making Paterniti a genius twice removed.

Like a football player receiving attention for scooping up a fumbled ball, Harvey is famous because he has Einstein's brain, and Paterniti explores that possession of genius through the brain removal's complicated interlacing of legal, cultural, intellectual, and material concerns. In cutting out the brain of Albert Einstein—"a genius, a guru-mystic who had unlocked the secrets of God's own mind"—Harvey also performed a dissection of our understanding of body and mind, as well as the material rudiments of identity and thought, which define understanding itself (6). As Aunger elucidates in his own version of meme theory (as an evolutionary neural epistemology), passing ideas between brains requires replication, and replication instigates a tension between the information's fidelity and inaccuracy. Moreover, this information, by its very design, aims at further replication, because, as Aunger explains:

> It is only when information *replicates* that an additional causal force becomes involved in the explanation of communication. This is the very essence of the meme hypothesis. The memetic suggestion is that there is an information-bearing replicator underlying communication that goes unnoticed by the traditional approach: a hidden homunculus acting as a second kind of agent, a puppeteer pulling invisible strings that direct aspects of the communication process. This puppeteer is the information packet itself, evolved to manipulate its carriers for its own ends. (12-3, italics in original)

Although Aunger's formulation relies on a somewhat sinister anthropomorphization, the observation holds that, just as Marshall McLuhan asserts, "the medium is the message" (7). Ideas have a cultural valence beyond and outside of themselves in that their memes—as the atomistic particles parsed out of ideas parsed out of texts parsed out of

contexts parsed out of cultures—function as adaptive proliferators. Although certain ideas may be unpopular, or in Einstein's case, difficult to understand, their central purpose lies in reproduction, even (perhaps especially) outside of their original contexts, creating energy through the disparate juxtapositions allowed for by the synaptic model. This proliferation of meanings, outside of original contexts and appropriated away from any creators' initial intentions, partially explains why Einstein's formulation of physics exploded outward to such previously unforeseen possibilities as the atomic bomb. Our present comprehension of how the brain works, and of how ideas spread from one source to another, is still relatively limited, but even Harvey knew that the brain, which he had so carefully removed, dissected, labeled, and preserved, could play a key role in furthering that knowledge ... and give Harvey a fair dose of fame along the way.

In her account of the various transfers of Einstein's brain, *Possessing Genius: The Bizarre Odyssey of Einstein's Brain*, Carolyn Abraham includes Harvey's removal of the brain as well as Paterniti's narrative about the brain's cross-country trek. Paterniti suggests that the trip was undertaken out of Harvey's desire to right the wrongs of his brain-snatching by returning the renowned brain to Albert Einstein's granddaughter, Evelyn Einstein. Abraham, though removed from Paterniti's story and yet another remove from the original genius, describes the trip:

> With Harvey in the passenger seat of a rented Buick Skylark, Paterniti behind the wheel and Einstein's brain bobbing once again in a trunk, the unlikely couple set out in February 1997 on a cross-country adventure that would eventually read like an urban legend itself. With roadside diners and Las Vegas and the atomic history of Los Alamos, the journey offered a buffet of Einsteinian parallels and comic anecdotes for the artful wordsmith Paterniti. His travelogue, which first appeared in *Harper's* magazine, eventually became a book, *Driving Mr. Albert*, with Paramount Pictures snapping up the movie rights. (310)

Paterniti, Abraham, and even Paramount Pictures all understand intuitively what makes a story like this one work: it "read[s] like an urban legend itself." Like Einstein's ideas, like the popular images of the wild-haired mad scientist who made a mushroom cloud out of Newton's universe, the memetic rudiments of this story proliferate like mad, tapping the cultural desire for unusual, quirky tidbits-that-feel-like-rumors, creating the sense of an urban legend, urban legends being the structures which Susan Blackmore, Robert Aunger, and Richard Brodie all use as accessible explanations for how memes mutate, adapt, and propagate. Not only that, just like Paterniti implies at the beginning of his trip with Harvey, this urban legend is, at its core, also about redemption, about returning remains to the next of kin. Unfortunately, once the two arrive at Evelyn's house in California, Harvey refuses to hand the brain over.

At the journey's end, Harvey wants only to clear his throat and show Evelyn the brain rather than give it back. Harvey retains control as the man appointed by fate to dole out the pieces of Einstein's brain, unready to give up his status, despite charges from nearly everyone that his greedy possession of the brain inhibits any knowledge we could still squeeze out of his Tupperware's pulpy contents. After a quick overview of critical opinions about Harvey's handling of the brain (as well as the relativistic importance the research on Einstein's brain provides to cognitive science), Paterniti depicts Harvey's role as brain benefactor thus:

> Harvey, however, spins [the work on the brain] with a little more drama. "You see," he says, "we're finding out that Einstein's brain is more unusual than many people first thought." And when it comes to the dissemination of its pieces, he paints himself as a bold leader who's carefully hand-picked an international squadron of distinguished movers and shakers after reading their work. By some of their own admissions,

> however, many contacted him first, then months—in some cases, years—later, received anonymous packages containing wrapped pieces of brain. (55)

In the Barthes essay, we saw how popular assumptions about intelligence tend toward the culturally conservative, especially in the case of Einstein's brain as an iconic, pristine, incomprehensible machine; this paragon of intelligence justifies intellectual conformity since the status quo simply does not possess the genetic, chemical, or psychological makeup of such a great man as Einstein. In a similar fashion, Harvey's attitude toward intelligence—as evinced by his parceling out the brain to those he deems worthy—is conservative in that intelligence is not only material, it is property which a patriarchal figure must oversee and protect. Harvey acts as the brain bourgeoisie, meting out slivers of brain for other researchers to utilize, pontificating on what "we're finding out about Einstein's brain," when his legitimacy in the academic realm has long since expired. In light of the fact that Harvey declines to return the brain to Evelyn Einstein, Paterniti and Harvey's trip, then, seems to be not so much a tale of redemption as just another excuse to transport the brain, spreading Einsteinian ideas along the way, as though proliferating the pieces of brain were equivalent to spreading the brain's ideas themselves.

And why not? Paterniti observes several times in his book that his perspective is somehow different simply for having Einstein's brain in the trunk of his car. From this sort of thinking we can logically extrapolate that this physical presence of Einstein's brain must also change the landscape of the America whizzing by outside Paterniti's car windows, although such an irregular, quantum theory-based sense of epistemology implies Heisenberg rather than Einstein. Yet formal educators support this rather backward notion that Einstein's genius is physically trapped like a genie in its

Tupperware bottle of murky formaldehyde, and after Harvey addresses the school in an assembly, Paterniti describes how "there are about twenty-five people in the room, teachers and a few invited students, handpicked for exhibiting their own traces of brilliance in science class, in hopes that their close proximity to the brain may imbue them with some of the Einstein magic" (180). Here again are the charges of electricity radiating out from the dead genius's brain to communicate with the synapses of the living, mischievously manipulating the fate of the status quo with a spike or two of energy.

In spite of such mystical interpretations and faith in relics (or perhaps because of them), theories of intelligence, including meme theory, have a very difficult time defining a person's smarts by means that are not quantifiable and therefore bound to the material realm. Here, in the nutshell of the human skull, is Aunger's central problem: how can meme adaptation and replication take place in the brain and then escape to adapt and replicate in other iterations in society? According to Aunger's paradigm of neuromemes, an idea matures out of "basically just a brain-based, super-molecular structure capable of replication" (197). Although Aunger at times relies on external explanations of memetics—such as those Dawkins develops—most of the action takes place between the brain's synapses rather than in material culture, but the difficulty here is that the brain itself is material culture as well. Even when Aunger asserts that "memes are not bound to particular cells," he also claims that: "The molecules in a neuron that define its electrochemical state, as a readiness-to-fire, come and go; it is the readiness-to-fire that endures. Memes are still physical; it's just that their substrate is energetic—'electric,' if you will—rather than material" (199). This mental mapping of informational evolution

may work within the mind, but then how can those electric memes zap outward? Despite the tabloid reportage in the *Weekly World News* story and the desperate hopes of schoolchildren ogling "*the most powerful brain of all*," ideas do not literally arc like electricity from one physical space to another, outside of the brain, at least. We can draw such connections through the tracings of the synaptic model, but even Aunger and LeDoux's ideas about the internal transfer of information within the brain have difficulty explaining how ideas evolve and adapt beyond the confines of the human skull. In order to map the synaptic model outward to look at gaps between and among other outside social nodes, we need to examine how conflicting and competing transmissions interact within the brain. LeDoux writes of how synaptic broadcasts meet in convergence zones for processing:

> A convergence zone (CZ) is a region that receives inputs from other brain regions and that integrates the information separately processed by other regions ... Once information is integrated, it can then be used to influence the activity of the input regions. These are examples of bottom-up and top-down processing. The ability of working memory to integrate information from various systems and hold that information temporarily for the purpose of performing mental operations (comparing, contrasting, recognizing) is a typical bottom-up process, and the ability of working memory to use the outcome of this processing to regulate what we attend to is a typical top-down or executive function. (316)

The convergence zones LeDoux details have their metaphorical counterparts within interpretive frameworks wherein we exercise top-down function to compare disparate elements, much like the performative readings Weschler pulls out of juxtaposing seemingly disparate visual texts. According to LeDoux's reading, such juxtapositions, as well as any transfer of intelligence outward, rely on some sort of material vehicle, but to what extent must each material text rely

on the internal evolution of another brain forming the ideas in order for meaning-making to take place?

3. Models for Consumption in the Marketplace of Ideas

In order to examine the materiality of informational transfers, Aunger provides a provocative metaphorical framework for the material consumption of cultural transmission. At the beginning of *The Electric Meme*, Robert Aunger outlines three scenarios involving the transmission of information, and he questions the extent to which these incidents also involve the replication of information, the difference being a definitional crux for meme theory. By assembling these three "apparently unrelated vignettes," Aunger creates a kind of convergence zone in which the reader draws parallels across the conceptual gaps, mirroring the workings of synapses within the brain (8). These vignettes involve: a funerary rite among the Fore people of Papua New Guinea; a passage of ideas from Thomas Malthus to Charles Darwin via the written word; and an initial step in the transfer of the so-called Michelangelo computer virus. According to Aunger, these examples involve transmission in the biological, cultural, and electronic form, respectively. Perhaps the most unusual of the three—the vignette Aunger spends the most effort analyzing—is the first account, concerning the epidemiology of neurological disease:

> *In 1953, a young girl of the Fore tribe, participating in funerary rites, consumed pieces of her deceased grandmother's brain. The elderly woman had died from an illness that progressively caused an uncontrollable quaking of the limbs, loss of coordination, paralysis, and dementia. Four years later, just as a brash American doctor reached their village in the Eastern Highlands of Papua New Guinea, the girl began to exhibit symptoms of the trembling disease herself. A year later, she was*

> *dead too. Most of the women in her village were soon suffering from what they called* kuru, *the shaking. But then the young virologist, Carleton Gajdusek, established a connection between participating in funerals and becoming the subject of a funeral yourself. The cultural practice of eating brains soon stopped when the news of this link spread, and* kuru*'s devastating consequences on Fore society gradually dwindled away.* (7, italics in original)

In this brief passage, Aunger's research undergoes an unusual conflation; within this tale, form and content, matter and ideas, brain and tradition all crystallize into an apt, yet complicated metaphor for the spread of disease and its relationship to intelligence. The Fore people have a tradition involving the consumption of the honored dead at a mortuary feast, wherein the men eat the best pieces—the meaty muscles—while women and children eat the less desirable bits, including the brain. In this cannibalistic funeral ritual, even the bones are ground up and sprinkled onto food so that the dead and their memory may perpetuate through the living.

From this rite we add another wrinkle to the synaptic model, as it provides a more sophisticated metaphorical model for the textual transfer of ideas, assuming that ideas fit within a discourse of disease and infection. The Fore rite is the biological transfer Aunger discusses, but few westerners would have heard of the Fore were the rites not also linked to the transfer of the *kuru* disease. Western conceptions of knowledge enter the narrative in the form of Carleton Gajdusek, who posits that a "slow virus" disease causes the Fore epidemic. In 1976, Gajdusek wins a Nobel Prize for medicine as a result of his research-based detective work; but the story continues on with Stanley Prusiner winning another Nobel Prize for medicine in 1997 for his own, very different explanation of *kuru*, which involves prions (proteinaceous infectious particles) rather than a viral transfer. Aunger formulates how prions work in this way: "With the aid of a catalyst, prions cause

another molecule of the same class to adopt an infectious shape like their own simply through contact. Thus prions are an important and only recently discovered mechanism for the inheritance of information through means other than genes" (94). Prions, in enacting passage from one particle to the next, provide a provocative parallel to the way in which information passes from one neuron to the next across synapses. The electricity and chemicals that trigger the reactions propel the messages not entirely unlike an infection.

Prusiner's prion explanation does not provide an alternative means for *kuru*'s method of transfer (the culprit is still the cannibal funeral), but Prusiner's work diagnoses that the replicator in question in such a transfer is a class of disease that the world had not been able to explain in the past. The moral (and model) here is that we are moving along lines of intelligence that expand and adapt through time and space, moving from brain cannibalism to two Nobel Prize-winners' work. But in Prusiner's study, we finally return to the West again, after what seems like a foray into a wholly alternative, exotic rite of cannibalism; Prusiner's work cycles back also to explain mad cow disease, the scourge of beef-eating Western cultures that feed cow and sheep brains to their cattle. While Aunger's opening salvo elucidates the differences between viral diseases and prion-based diseases, as well as how those differences pertain to meme theory, he does not explain what, exactly, the memes are in this case of blending Fore tradition with Western epistemology and epidemiology. The Fore funerary ritual involves a gesture toward immortality, but, by Western standards, that immortality was achieved only on the textual level when the ideas made it into print as Gajdusek's missing puzzle piece in the spread

of disease, resurfacing again after a long period of dormancy, much like the *kuru* disease itself, years later in Prusiner's work to resolve the mad cow disease phenomenon.

This multi-layered narrative teases out questions regarding the spread of infectious particles, whether literal and biological or abstract and intellectual, pulling threads of materiality into question. As Aunger observes, although Gajdusek and Prusiner both won Nobel Prizes, they cannot both be correct; the material explanation of the disease must reside in either a virus or a prion, not both. Likewise, while Western society may scoff at the cannibalistic traditions of the Fore tribe, it has few viable explanations for how and where the "essence" of consciousness rests—be it called a mind, an ego, or a soul—and the "proper" means of transferring that "essence" from one subject to another. The explanation for how to understand, let alone transfer, genius remains elusive, though something about the theme of quick and easy material transfer, as primitive or cannibalistic as it may sound, appeals to popular interests time after time.

While this study of cerebral consumption contains synaptic bridges to a variety of dissimilar ideas, we can extend it also to the multiple attempts to understand Einstein's brain through narrativization. Within Carolyn Abraham and Michael Paterniti's texts, there exists a framework for consumerism, intellectual cannibalism even, that evokes the Fore's tribal traditions, even though the ingestion of Einstein's brain is not quite so literal.

Although the means were not cannibalistic in the traditional sense, everyone seemed to want a piece of Albert Einstein when he was alive. Abraham details how: "Harassed by requests for his autograph, Einstein had once remarked that mere signature hunting was the last vestige of cannibalism: 'People used to eat people, but now they seek

symbolic pieces of them instead'" (68). Something about the collector's obsessive mania sets in—desire to be genius however many degrees removed—when the physicality of celebrity and intelligence collide. Einstein's brain represents the ultimate souvenir, as it is his real thinking tool "in the flesh." Paterniti, after his tourist trap-riddled trip with Harvey, steals the opportunity to experience Harvey's souvenir firsthand in Evelyn Einstein's home. Although Harvey refuses to give Evelyn her grandfather's brain, even a piece of it, Paterniti slips out a few slivers for her, writing:

> I pick some out of the plastic container and hand a few to Evelyn. They feel squishy, weigh about the same as very light beach stones. We hold them up like jewelers, marveling at how they seem less like a brain than—what?—some kind of snack food, some kind of energy chunk for genius triathletes. Or an edible product that offers the consumer world peace, space travel, eternity. Even today, the Asmat of Irian Jaya believe that to consume a brain is to gain the mystical essence; and Microsoft employees glug potions of herbal energy elixirs called Einstein's Brain at company parties. But to be absolutely honest, I never thought that, holding Einstein's brain, I'd somehow imagine eating it. (194)

The first thoughts that transfer through Paterniti's synapses upon contact with the brain are consuming the coveted object, like the "Microsoft employees" who "glug potions of herbal energy elixirs called Einstein's Brain at company parties." While the passage is very odd, Paterniti illustrates the desire to take the complicated mysteries of intelligence, that "mystical essence," and simplify it into discrete, digestible chunks. Within the framework of cultural transference, ideas' origins may imply authorship, but such origins do not dictate ownership, as the easy appropriation inherent in the digestibility of intelligence as Paterniti indicates here. Paterniti's all-American odyssey culminates in a flash to a consumer fantasy; although he knows better than to stick pickled brain pieces

into his mouth, part of Paterniti believes that this morsel of Einstein's mental matter promises "world peace, space travel, eternity" to its consumer.

Paterniti's phrasing of the "consumer" relationship to "some kind of energy chunk for genius triathletes" and the energy drinks of Microsoft employees operates in the framework of intellectual dissemination that his whole trip has taken. His journey with Dr. Harvey is premised on the notion that distribution of the brain—whether metaphorical or literal—serves some beneficial purpose, perhaps mystical and unknown. Traveling across America with Einstein's collected writings in the trunk would have nowhere near the same cultural impact, since the brain as text itself—singular and rare, despite the slicings Harvey has performed over the years—creates a strange performative aura, somewhat removed from the actual ideas associated with Einstein's corpus. The ideas produced by the brain prove to be less provocative as they are unknowable to the average person, as well as reproducible anyway, but the uncommon rarity of the brain, in both its achievements and its stark scarcity, makes its presence powerfully charged. Walter Benjamin's essay "The Work of Art in the Age of Mechanical Reproduction" applies here to the extent that we can view Einstein's brain as a text and a text as a work of art, and, as Benjamin writes, "Even the most perfect reproduction of a work of art is lacking in one element: its presence in time and space, its unique existence at the place where it happens to be" (220). The brain is absolutely unique, not just for the work it performed, but because it is irreplaceable, unfit for any kind of meaningful reproduction; Paterniti notes that the process by which Harvey preserved the brain makes its cells impossible to clone. We have seen the last of Albert Einstein, with the exception of the pieces Paterniti

literally salivates over as he confuses his intellectual response with some undefinable urge to consume the genius.

But Einstein's genius, and its capacity to inspire an aura of awe, does not limit itself to the physical space of his brain, as the reproductions and images and impressions of Einstein have long been in place as marketing tools in spheres of consumption. Abraham writes of how Einstein's direct authorial production of ideas may have died with him, "But the genius was as fashionable as ever. He glared out from greeting cards, T-shirts and postage stamps from Nicaragua to Mali. He had become a bona fide brand, his image re-purposed as the quintessential smart consumer selling cameras, hair products, beer and women's stockings—things he never would have agreed to do in life" (126). The irony of this summation of Einstein's posthumous commercialization is that, despite Roland Barthes's claims to the physicist's complicity to be "party to the legend by bequeathing his brain," Albert Einstein would not likely have endorsed his brain's commodification either, the splicing of chunks as research specimens or souvenirs also being "things he never would have agreed to do in life."

Such intellectual ownership—of one's ideas, of one's images, and even of pieces of one's body—is clearly not absolute, regardless of the original owner's intentions. No matter how obviously stated, executing those intentions relies on a certain interpretation, and such enactment can veer far from the original intention, whether willfully or unconsciously. Such (perhaps unintentional) appropriation evokes the example of the Fore people's traditional funerary rites, where the intention of the deceased was obviously not to spread the *kuru* disease, let alone open up divergent levels of global understanding about the epidemiology of viruses or prions. As a metaphor for the proliferation of

intelligence, Aunger's opening case proves problematic, as its implications for the distinctions between originator and replicator, between generator and proliferator, are not clear. The origins of certain Western medical knowledge, specifically the current understanding of prions and disease transference, trace their roots back to ... what, exactly? The possible candidates include: Stanley Prusiner's work, Carleton Gajdusek's work before him, the Fore people themselves, the young girl who first exhibited the symptoms of *kuru* under Western eyes, the grandmother who had the *kuru* before the young girl did, the *kuru* disease itself, or perhaps just the grandmother's brain that transferred the *kuru* in the first place, making possible the sequence of events that led to two Nobel Prizes and multiple paradigm shifts in Western society. Inside the brain of a deceased Fore woman in 1953 lay the seeds for an explosion of ideas—dependent, of course, on the causal train of thought begun by the Fore people's cannibalistic funerary traditions—but the ideas that exploded outward were far removed from any of the woman's intentions. In much the same way, Einstein's brain—both its intellectual products and its actual, material presence—produces effects and affects that are likely far removed from the intentions of the brain's owner. That energy, that arc from one point to a more removed, seemingly disparate one, illustrates the core of the synaptic model, both in terms of internal, mental transmissions and external, social transmissions.

4. Another Cluster of Convergences

Aside from the nonfiction works of Michael Paterniti and Carolyn Abraham, Einstein's brain has also inspired fictional work, such as Mark Olshaker's 1981 novel, *Einstein's Brain.* Although the novel's concerns are largely peripheral to the matters

explored in this chapter, *Einstein's Brain* provides a provocative metaphorical parallel to this chapter's central interest in convergence. In Olshaker's bizarre narrative melange of international espionage, mad science, and brain-swapping, three individuals seek to uncover what links them together and makes them all the convergent, collective target of a multi-national conspiracy. The three—a cutting-edge physicist, a scientific journalist/activist, and a Zionist rabbi—discover that they all share a history of brain disease, specifically, brain diseases that seemed inoperable when they were simultaneously admitted to the Goddard Institute. Not long after their admission, all three were miraculously cured. The mystery of their interconnective, instinctual intelligence finds its final answer, somewhat anti-climactically, in the title of the book itself. The evil (and completely fictional) Dr. Norbert Ramsey, in whose care Einstein's brain was entrusted, decided to implant the healthy, super-intelligent parts of Albert Einstein's dead brain into the waiting receptacles of three terminally ill patients' skulls, in the hopes that Einstein's intellectual legacy would live again. The three consciousnesses then proceed to feed on the pieces of Einstein's brain that replaced their own diseased cerebral chunks. Dr. Ramsey explains his nefarious plot to the bewildered physicist and Einstein receptacle Paul Garrett:

> [Ramsey] paused and breathed in slowly and fully, as if he would take all the air in the room. "I had the brain," he repeated. "And now you have it!"
>
> "But this is the work of a Frankenstein," Paul countered. "How could you be so cavalier about playing with our very souls?"
>
> "There was nothing cavalier about it. You were a dead man, Paul. You must have realized that. How many people back then recovered from a grade four oligodendroglioma, or a medullo blastoma, or glioblastoma multiforme? Even the celebrated Norbert Ramsey didn't save them. But I saved you, and I saved Amanda, and I saved Kagan. It was a long shot, but I knew there was a chance my theory of 'invasive tissue dominance'

> would work, and in your three cases, it did. No other surgeon could have pulled it off."
>
> "Are you claiming you stuck a piece of Einstein's brain in our skulls on the off chance it would turn our cancers around," [sic] Paul said derisively. (215)

The "invasive tissue dominance" Dr. Ramsey speaks of endows the three patients with Einstein's mental superpowers, which are synaptically between them when they are near one another, possessing genius bodily in their three-fold collective brain.

The novel constantly gestures beyond the individual abilities of the three characters, pointing to a larger, systemic mode of thought; the discovery of a grand unified theory, the scientific holy grail which Einstein was working on unsuccessfully at the time of his death, is possible only with this group's combined brainpower, the parts adding up to a higher scale of emergent intelligence as though they were neurons in a larger brain themselves. The memes developed by Einstein's brain, according to Olshaker, could only be extracted bodily and processed in new host brains in order to continue their adaptation. Dr. Ramsey's project does not clone Einstein, but it replicates his intelligence, creating three hybrid intelligences, who all grind away at issues important to Einstein: his theoretical work, his pacifism, and his Zionism, picked up by the physicist, the journalist/activist, and the rabbi, respectively. In this way, the novel's paradigm supports and subverts Aunger's conception of meme theory as it pertains to memory:

> Memories simply aren't warehoused in the miniature bodies of specific neurons, to be elicited by an electrical prod to the exposed gray matter or excised by surgically removing an area of the cortex. You can't separate some molecules from the brain and expect to hold a memory in your hand. No bit of information has meaning except through its relationships to other bits of information. Our model of memes must be consistent with what we

> presently know about the *distributed* and *contextual* nature of memory and learning in the brain. (194, italics in original)

Within this passage, Aunger explains that memories are not merely physical, literally transferable as pieces of matter, but memories rely on the physical structure of the brain as they rely on the context of the brain's internal environment. The ideas take seed with different individuals in Olshaker's novel because they find themselves in brains receptive to certain aspects of the intellectual development, adapting the parasitical part of the brain to its own essentialist surroundings, just as Einstein's work means different things to those minds who encounter it. The three physically enact LeDoux's convergence zones, processing pieces of the puzzle in their own way. Their bodies as texts, then, and also as meme vehicles, can adapt themselves to existing knowledge and reform it at the same time.

Thus, as bizarre as Olshaker's plot is, it gestures toward several problems with exploring cultural convergence: the blurring of texts, authors, bodies, intentions, and ideas. Because the three characters in Olshaker's novel all receive bits of Einstein's brain, they are endowed with superior intelligence, or perhaps the brain leftovers thrived because they were planted in intelligent people's heads, which raises another problem with convergence: Is it really divergence? Franco Moretti explores such questions about cultural texts in *Graphs, Maps, Trees: Abstract Models for a Literary History*, where he traces the material literary history of certain traits along Darwin-style family trees. For example, Moretti examines the thematic development of detective stories and their tropes, explaining how Arthur Conan Doyle's Sherlock Holmes emerges as the fittest, tracing the process as categorical divergence, splitting of branches from singular sources (67-74).

Moretti also acknowledges, however, that convergence is similarly bound up in the process, writing that:

> Divergence prepares the ground for convergence, which unleashes further divergence: this seems to be the typical pattern ... And don't be misled by the 'topological' technicalities of all this: the real content of the controversy, not technical at all, is our very idea of culture. Because if the basic mechanism of change is that of divergence, then cultural history is bound to be random, full of false starts, and profoundly path-dependent: a direction, once taken, can seldom be reversed, and culture hardens into a true 'second nature'—hardly a benign metaphor. If, on the other hand, the basic mechanism is that of convergence, change will be frequent, fast, deliberate, reversible: culture becomes more plastic, more *human*, if you wish. (80-1, italics in original)

In other words, the lines of textual genealogy[1] consist of tangled exchanges, diverging and converging. Similarly, the concept of the synaptic model of adaptation is likewise bound up in this paradoxical anastomosis; the structure of neurons is divergent, and yet the synapses between and among them represent convergence.

Some of the linkages we can draw across texts are provocative, while others seem to lead nowhere. Much like Weschler notes, this insight seems tautological, although the associations may in fact indicate much larger insights about how cultures and texts evolve. Paterniti's *Driving Mr. Albert*, like any text, draws from a wide variety of influences, but not all of these conceptual connections generate provocative energy through their juxtaposition. On the informational level, much of Paterniti's research stems from a prior nonfiction road narrative: Kevin Hull's BBC documentary *Relics: Einstein's Brain*, though the thematic influences stretch another direction, going back to Einstein via the influence of the Beats, which I treat in the following section. Paterniti directly refers to Hull's work in his own, and both concern the brain-toting pathologist

[1] Moretti also takes up the trope of memes, citing Richard Dawkins as part of the conceptual "tree" linking

Thomas Harvey (87). *Relics: Einstein's Brain*, however, follows Japanese scholar and Einstein enthusiast Kenji Sugimoto as he treks across America in search of part of his hero's brain, performing amateur detective work to track down Harvey's whereabouts in spite of overwhelming odds and numerous dead-ends (including Dr. Harry Zimmerman, of the Albert Einstein College of Medicine in New York, claiming that Harvey has been dead for years). Kenji Sugimoto's attempts to understand Einstein better through a material connection to his all-but-destroyed body—the last remnants of his brain floating in formaldehyde—prompts Sugimoto to track down Thomas Harvey, much like Michael Paterniti does in his own quest; both figures are searching for conduits through networks that can connect them historically, materially, and intellectually to Einstein's legacy, the cultural backdrop looming behind the twentieth century. Kenji Sugimoto's trials, which begin with footage of him staring up at a stained glass representation of Einstein, take on the qualities of a holy pilgrimage, tempered by humorously bizarre encounters Sugimoto has with the Americans he encounters. Some of the entertainment value of Hull's *cinema verité*-style witnessing of Sugimoto's quest stems from misunderstandings and mistranslations, but the dialogue usually posits Sugimoto's limited English as vastly superior to the quirky idiom of the various scholars who seem equally incapable of keeping track of autopsied organs and former colleagues.

For example, in a rare set of geographical convergences, Sugimoto's search takes him to Lawrence, Kansas, which is the one-time home of Thomas Harvey. Sugimoto walks up to a television repair shop's window facing the street and witnesses the annihilation of Lawrence on television via an atomic blast. After pensively watching this

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back to the work of Charles Darwin.

made-for-television spectacle of atomic destruction, Sugimoto turns his head to say "Oh, hello!" to an unseen man. The man then enters into a friendly dialogue with Sugimoto, explaining that: "You see, Lawrence has the distinction of having been destroyed in the film here." The television movie in question, which is never named in the documentary, is *The Day After*, and the likewise unnamed man further explains—in response to Sugimoto's simple reaction of "Yes, atomic bomb. Wow!"—that this movie was made "right here in Lawrence. I knew lots of people who got on the film, worked on the film as extras. They did a pretty good job. Look at those trees, huh? What puts Lawrence on the map is that it was wiped off the map. Absolutely." He then asks what brings Sugimoto to Lawrence and offers directions to Dr. Harvey's house, constantly referring to landmark locations that are no longer there, as if *The Day After* somehow actually had blown them off the map literally. The point of including this snippet, both in the documentary as well as in my analysis here, stems from the unusual and fascinating network of anastomosis that permeates even the detours of this kind of historical tracing, which may in fact be nothing but detour itself, always deferring authority as metaphor and/or metonym to some other, outside source, partly due to the indeterminacy of coincidence. This web of meaning mirrors the biological ebb and flow of life itself, as Elizabeth Grosz notes:

> Not having a given place in the universe—except that which it forges for itself—life is also out of time, not simply determinable in its time and place, but is that locus or orientation that invariably strives for a new future. Not limited by what it was, by its form, its history, its past life can now be understood in terms of its forces, its ability to act, to move, to survive, to make itself over into what can survive ... Life exceeds itself, its past, its context, in making itself more and other than its history: life is that which registers and harnesses the impact of contingency, converting contingency into history, and history into self-overcoming, supersession, becoming-other. (40)

In other words, with the right sense of scope, there are webs of signification that occur even in coincidental pairings, such as Harvey's residence in Lawrence tracing back to Einstein, much like the atomic apocalypse movie set in Lawrence can also trace back to Einstein. This "happy accident" of Harvey living out a metaphorical connection between place and history is captured by Sugimoto, Hull, and the nameless man, and the network of meaning, history, and contingency thickens through this sort of anastomosis.

In *Ariadne's Thread: Story Lines*, J. Hillis Miller meditates on the possibilities within narrative for anastomosis, writing that criticism, in mapping out these potentialities for meanings, is "implicitly a transaction between mind and mind" (154). That is, the multiple threads of meaning can intersect through diverse levels in "one or another line in the network of anastomoses joining ... the author to the narrator or the character to the critic, or the critic, without mediation, to the cogito of the author, or the reader to the web of relations among the imaginary persons in the text." Sugimoto's search, like the documentary text connected to it, enacts anastomosis by positioning itself in dialogue with the historical and literary moments that came before it, connecting multiple authors, critics, and texts, many of which serve only as conceptual placeholders, like the Lawrence landmarks that are no longer there. Just like the fictional fate of Einstein's brain in Olshaker's novel, the distributed nature of this meaning, the inherent intertextuality, is key, as it represents a kind of textual adaptation. With the framework of meme theory, we can trace the intellectual genealogy of adaptive concepts through time and across space, in what might previously have been seen as unlikely progressions. This framework allows for something of a Rube Goldberg-style intermingling of histories and historiographies, literary trends and material/textual patterns, and cultural and social

linkages. Dawkins writes that: "Just as genes propagate themselves in the gene pool by leaping from body to body via sperms or eggs, so memes propagate themselves in the meme pool by leaping from brain to brain via a process which, in the broad sense, can be called imitation" (92). By applying the paradigm of evolutionary theory to culture, meme theory allows us to depart from the traditional, limited debates about works' fidelity in textual adaptation or standard readings of the anxiety of influence. Similarly, the plasticity of the terms and methods within meme theory present practical tools for investigating concepts as fluid as those most often contained in narrative theory, such as intertextuality and intersubjectivity. With these overlapping networks of convergence in mind, we can trace Paterniti's book back not through its informational inspiration but through its thematic influences back to Einstein both through the myriad influences of his brain as well as through the literary influences of Beat authors like Kerouac, Ginsberg, and Burroughs, thus "Beat-ing" Einstein's brain.

5. Beat-ing Einstein's Brain

With the framework of meme theory, as developed by Richard Dawkins, Robert Aunger, and others, we can trace the intellectual genealogy of adaptive concepts through time and across space, in what might previously have been seen as unlikely progressions, and this framework allows for something of a Rube Goldberg-style intermingling of histories and historiographies, literary trends and material/textual patterns, and cultural and social linkages. This section examines how Albert Einstein himself authored a complicated meme genealogy, and perhaps the author who captures the bizarre twists of that lineage best is Michael Paterniti. And of all the stops that Paterniti and Thomas

Harvey make in *Driving Mr. Albert*, none is more fraught with complications than their visit to the Bradbury Science Museum in Los Alamos, a site devoted both to preserving ephemera related to the development of the atomic bomb and to rationalizing its use by American armed forces against the civilians of Japan.

Toting Einstein's brain to this historical locale creates history itself, Paterniti conjectures, because, while the pieces of brain floating in a jar no longer perceive anything, this tour aligns the preserved organ with what it indirectly wrought. This reunion between preserved brain and preserved documents presents the contradiction Paterniti explores, that: "The truth is that Einstein himself was confounded by the idea that his theory of relativity had opened up a Pandora's box of assured annihilation" (107). Moreover, despite the fact that the site mars Einstein's commitment to pacifism, the museum's stance on historical interpretation complicates the visit by what commentary the museum provides—and fails to provide—on America's history of nuclear aggression. As Paterniti frames the museum's spin on Albert Einstein:

> Sure enough, the first exhibit is a photograph of Einstein, and then a copy of his letter to President Roosevelt, behind glass. Harvey stands before it, reading, nodding seriously, then moves on. There's no mention of Einstein's regret at having written the letter. Instead, with a little selective editing, the museum, the town, the feat of dropping two bombs, comes with an Einsteinian seal of approval. The museum—and the culture of Los Alamos as a whole—is most glaringly defined by what its curators seem to have forgotten about the bomb. (142)

This partial appropriation of Einstein's public record feels almost libelous, considering how forcefully Einstein spoke out against the creation and use of nuclear weapons, as well as how he recanted the letter itself. And yet, the letter is no forgery. The "Einsteinian seal of approval" on the atomic bomb only comes into question for those

who understand the larger historical narrative that the famed scientist's other discourse provides.

With Albert Einstein's status as genius firmly solidified by his work in theoretical physics, his political thoughts held considerable weight for the average person, and he often directed his attention toward championing pacifism. Much of this rhetoric performs a certain type of disavowal in terms of what Einstein believes he ought to be held accountable for; while Einstein's work made possible the creation of nuclear bombs, such weaponry directly opposed Einstein's political stance. This central paradox of Einstein's life serves to illustrate how one's ideas evolve and adapt beyond their creators' intention when loose in the social sphere. The memes within Einstein's brain and its intellectual products, once released upon the world, could mutate through the appropriation of the Manhattan Project's scientists, such change demonstrating that evolution of ideas—like the evolution of species—does not rely on any sort of progressive march toward perfection. Einstein himself outlines this intellectual progression, from theoretical research to pragmatic application in the form of the atomic bomb, in terms of evolution of the species, though perhaps an evolutionary step that could end the species. In *Out of My Later Years*, in an essay entitled "The Way Out," Einstein writes:

> The construction of the atom bomb has brought about the effect that all the people living in cities are threatened, everywhere and constantly, with sudden destruction. There is no doubt that this condition has to be abolished if man is to prove himself worthy, at least to some extent, of the self-chosen name of *homo sapiens*. (133)

Einstein constructs this excerpt as pitting knowing subjects, or *homo sapiens*, against the unknowing, animalistic threats of manmade destruction, basically calling those who would use atom bombs incapable of thought, despite the bombs tracing their conceptual

origin back to Einstein. The bomb—constructing but avoiding its use—proves for Einstein to be the last lynchpin of civilization, what will either destroy or redefine the species. For "man" to "prove himself worthy ... of the self-chosen name of *homo sapiens*," widespread revision of the militaristic mentality must take place, with greater emphasis on peace, intelligence, and understanding. Clearly, he excoriates nuclear weapons and the politicians who brandish them, but his admonitions about them at times bear a hint of self-reproach.

In the title essay of Einstein's *The World as I See It*, the great physicist takes on the military mentality directly, writing how humankind's worst outcrop is: "herd nature, the military system, which I abhor. That a man can take pleasure in marching in formation to the strains of a band is enough to make me despise him. He has only been given his big brain by mistake; a backbone was all he needed. This plague-spot of civilization ought to be abolished with all possible speed" (4). Although his final gesture seems to mirror the Nazis' final solution, Einstein places the human species as a whole in danger of losing its status as cognizant animals capable of self-reflection. If the only aims of humankind are military aggression, then the "big brain" is a mistake, consciousness needing (and deserving) much less than the mental capacity we all currently enjoy as a result of our own evolution.

Despite the fact that Einstein held his pacifism before the bomb, these ideas about peace—being from a different realm from his scientific work entirely—did not adapt or filter into his theoretical work to such an extent that they preempted the creation of the hydrogen bomb. Once one's memes are released out into the world, those particles shift, adapt, and mutate in ways completely divorced from the original thinker's intentions.

With this continual metamorphosis of thoughts in mind, Einstein's memes (and, by extension, memes produced by lesser intellects as well) resemble the rhizome Deleuze and Guattari propose in *A Thousand Plateaus*, where they write: "The rhizome is an antigenealogy. It is short-term memory, or antimemory. The rhizome operates by variation, expansion, conquest, capture, offshoots" (21). The short-term memes still operate within the Darwinian framework, though Einstein's work does allow for a sweeping appropriation separate and distinct from his political views; however, we can still trace this short-attention-spanned, rhizomic "antigenealogy" as itself a kind of genealogy. While the work of the Manhattan Project bastardizes Einstein's larger perspective, Einstein's work is still the origin, and any evolutionary tracing undertakes questions of lineage, not questions of legitimacy. The bomb is an adaptation that represents the "variation, expansion, conquest, capture, [and] offshoots" of Einstein's texts.

Of course, we cannot overlook the fact that the exception to Einstein's pacifism was found in the face of Nazi oppression; he viewed atomic bombs as repugnant means to a noble end with regard to beating Hitler's forces. Though Einstein's work made the atomic bomb possible, though he condoned the Los Alamos research in his letter to Roosevelt, nuclear warfare was anathema to Albert Einstein, at least as far as most of his public texts indicate. For example, Einstein writes, in *Out of My Later Years*, an essay entitled "Atomic War or Peace," that:

> I do not consider myself the father of the release of atomic energy. My part in it was quite indirect. I did not, in fact, foresee that it would be released in my time. I believed only that it was theoretically possible. It became practical through the accidental discovery of chain reaction, and this was not something I could have predicted. (175)

With this passage, Einstein acknowledges how the knowledge he produced links to "the accidental discovery of chain reaction," though he simultaneously emphasizes that he should be exculpated by history. Still, in spite of this passage's intent to unburden Einstein from blame, the professions of innocence here seem overdetermined; he writes a half dozen times that he had nothing to do with the atomic bomb, all of which gestures backward to the fact that he did. Atomic energy was "not something [he] could have predicted," and yet he "believed only that it was theoretically possible." Even in his call for peace (dialectically opposed in the essay's title with atomic war), Einstein projects a vexed relationship to nuclear warfare.

One might easily write off Einstein's pacifism after the creation and deployment of atomic weapons, if his anti-militaristic views were not backed up by the liberal, pacifistic politics he publicly espoused long before the bomb's mushroom cloud ever loomed on the conceptual horizon. Despite his earlier calls for peace, Einstein's pacifism intensified—both in the strength and number of his speeches and letters—after the bombs were dropped on Hiroshima and Nagasaki, making his efforts seem very much like a response to the actions of the United States. In an essay entitled "The War Is Won But Peace Is Not," Einstein collapses the political responsibilities of America with his own professional responsibilities as a scientist, taking much more ownership of the atomic bomb than his stance in "Atomic War or Peace" indicates. He explains his position via the less guilty first-person plural:

> Physicists find themselves in a position not unlike that of Alfred Nobel. Alfred Nobel invented the most powerful explosive ever known up to his time, a means of destruction par excellence. In order to atone for this, in order to relieve his human conscience he instituted his awards for the

> promotion of peace and for achievements of peace. Today, the physicists who participated in forging the most formidable and dangerous weapons of all times are harassed by an equal feeling of responsibility, not to say guilt. And we cannot desist from warning, and warning again, we cannot and should not slacken in our efforts to make the nations of the world, and especially their governments, aware of the unspeakable disaster they are certain to provoke unless they change their attitude toward each other and toward the task of shaping the future. We helped in creating this new weapon in order to prevent the enemies of mankind from achieving it ahead of us, which, given the mentality of the Nazis, would have meant inconceivable destruction and the enslavement of the rest of the world. (186-7)

Here Einstein admits a certain amount of culpability, but he exonerates himself by invoking not just the Nazi menace but also "inconceivable destruction and the enslavement of the rest of the world," which, even by the most staunch pacifist's standards, seems like adequate cause for raising nuclear weapons in opposition. Obviously, though, we know that the two bombs were not used against "the mentality of the Nazis," yet Einstein situates his rationalization firmly in opposition to the fascist government that prompted his flight to America.

Although Einstein's perspective was often complicated or even paradoxical, his nontraditional beliefs and rebel opinions served as a template for criticizing the hegemony of the dominant U.S. culture, founding the basic components of the counterculture in the postwar years. Einstein was clearly not the only public personage to hold convictions that ran counter to the majority of American society, but in examining his work as part of a meme genealogy—revisions of Newtonian models of time and space, which led to atomic weapons, which led to Einstein's more pronounced pacifism in the face of potential nuclear holocaust—Albert Einstein's ideas trace a trajectory that informs nearly all of the twentieth century. Einstein's views against right-wing

conformity, his criticisms opposing unthinking military action, and his vexed pacifism in the face of America's emerging superpower status all provide the framework for understanding postwar literary and cultural movements. When we examine the overlap between Einstein's scientific and political ideas, Albert Einstein transforms into something of an ur-Beat.

Given the synaptic train of influence, since Einstein's ideas engendered atomic weapons, they also, in a sense, inspired the reaction against atomic weapons. After all, if Einstein—as intellectual inspiration, or intellectual origin—is the father of nuclear weapons, he certainly never was a proud father. We can trace the cause and effect of his intellectual work through this kind of cerebral history, with Einstein's ideas restructuring anti-nuclear proliferation both directly (through his passionate calls for pacifism) and indirectly (by laying the groundwork that enabled the atomic bombs in question). Einstein's theoretical physics provided the intellectual seeds for the creation of atomic bombs, and his political views prompted him to respond later in the historical flow of ideas (perhaps what we could call the "meme stream") to speak out against nuclear proliferation. As such, Einstein's influence directly impacted the thematic concerns and anxieties of the Beat Generation, specifically the works of Allen Ginsberg and Jack Kerouac. The material fruits of Einstein's thoughts—taking the form of nuclear weapons—filter into Ginsberg's poems even while Einstein's personal politics seep into Ginsberg's work as the voice of reason through pacifism. Granted, the pacifism Ginsberg espouses is tinged with a kind of schizophrenia—or at least a dissonant crackling among the synapses' convergence zones—in that it holds multiple contradictory positions

simultaneously, but that particular coloration seems even more Einsteinian, holding as it does a kernel of the physicist's original paradoxical perspective.

Perhaps this complicated relationship between personal views, national politics, and the technology of mass destruction plays itself out best in Allen Ginsberg's poem "America," where the poet addresses America about the historical and contemporary issues that parallel personal problems. Early in "America," the poet writes: "I can't stand my own mind. / America when will we end the human war? / Go fuck yourself with your atom bomb. / I don't feel good don't bother me" (62). In these few lines, Ginsberg establishes that an aggressive pacifism is a kind of contradiction in terms, but, despite the fact that the poet "can't stand [his] own mind," he still does not want to be bothered by the atom bomb. Later, of course, he acknowledges, after assorted diatribes and declarations, that "It occurs to me that I am America. / I am talking to myself again" (63). Here the poet admits that he is "talking to myself again," that he is, speaking as America, responsible for the atom bomb, that his aggression is directed backward toward himself, that he will have to perform the impossible task of fucking himself with the atom bomb. Such criticism proves self-referential, just as Einstein's vociferous calls for peace have a way of spiraling inward, though his personal cause-and-effect relationship to the bomb is obviously more direct than Ginsberg's is as just another average American citizen. The insider/outsider dialectic of these pacifist commentaries collapse in on themselves, but this reflexivity enriches the messages' power rather than detracts from it; both Einstein and Ginsberg are part of the problem, whether they admit it or not, but individual guilt is far less important than their textual parallels, which gesture beyond the individual subject toward a species-wide cry for survival.

This analytical linkage between Einstein and Ginsberg's internally conflicted perspectives on the atomic bomb provides a thematic connection between their respective bodies of work, but the meme-based cause and effect is fairly loose, as stated before: Einstein's theoretical physics effecting the atomic bomb effecting anti-nuclear pacifism, which the Beats espoused. With Allen Ginsberg's work, however, the correlation between Albert Einstein's views and his own extends beyond just similar thematic concerns in their texts. Although many of Ginsberg's works focus on specifically anti-nuclear pacifism—as in such poems as "Nagasaki Days: *Everybody's Fantasy*" and "Hum Bom!"—Ginsberg addresses Einstein even more explicitly several times in several texts, though only ever on Ginsberg's own terms. For example, "Xmas Gift," written on Christmas Eve, 1972, creates a fictional encounter between Allen Ginsberg and Albert Einstein:

> I met Einstein in a dream
> Springtime on Princeton lawn grass
> I kneeled down & kissed his young thumb
> like a ruddy pope
> his face fresh broad cheeked rosy
> "I invented a universe separate,
> something like a Virgin"—
> "Yes, the creature gives birth to itself,"
> I quoted from Mescaline
> We sat down open air universal summer
> to eat lunch, professors' wives
> at the Tennis Court Club,
> our meeting eternal, as expected,
> my gesture to kiss his fist
> unexpectedly saintly
> considering the Atom Bomb I didn't mention. (240)

As with many of Ginsberg's poems, "Xmas Gift" creates a dreamlike tension between abstract conceptions of the universe and material realities of the contemporary world.

Here, Albert Einstein, in the form of a dream, has magnificent thoughts about the universe, becoming "unexpectedly saintly," only to be undone at the end by "the Atom Bomb I didn't mention." Even though Ginsberg aligns himself with Einstein's thinking and what that thinking represents in the abstract—"open air universal summer" in a "meeting eternal"—the grim material reality sets in that Ginsberg has opposed for years in the form of nuclear weaponry, a devastating specter that seems far removed from the quaint leisure time of "Princeton lawn grass." Ginsberg admires Einstein despite the fact that the physicist spawned a creation capable of plaguing the poet's conscience even while he is unconscious.

As a world-changing thinker, Einstein represents the ultimate goal of Ginsberg's poetry, and, as such, Einstein is a saintly figure for many, regardless of the part he played in fathering nuclear warfare. Carolyn Abraham describes Einstein, saying that:

> He was the accidental and eminently quotable prophet, uniting the world's war-weary under a cosmic banner that transcended the volatility of national politics. He preached equality. He championed the causes of underdogs, lobbied for the wrongly convicted and himself suffered Nazi persecution. An admirer once called him the greatest Jew since Jesus. Einstein himself joked that he had become a Jewish saint. (66)

Einstein's complicated, contradictory "sainthood" is what Ginsberg praises—and even emulates—in his own way. The obstacles for both Ginsberg and Einstein lie in the tensions between the abstract and the material, leaving their "sainthood" more or less permanently vexed, just as the relationship between the physicist and poet stretches whatever thematic or material connections we might draw across the synapses that separate them. In one of his attempts to overcome the limitations of physical reality, Ginsberg writes in an unpublished 1966 "Letter to *Wall Street Journal*" (found in

Ginsberg's *Deliberate Prose: Selected Essays 1952-1995*) about the dissonance between material possessions and the satisfaction American culture claims they will provide. The key to satisfactory ownership of material goods, he explains, lies in awareness, since "the mistake made in America is persons accumulate more more (sic) dead matter, machinery, possessions and rugs and fact information at the expense of what really counts as more: feeling, good feeling, sex feeling, tenderness feeling, mutual feeling" (144). This anti-capitalist deconstruction of America's commodity fetishism mirrors Einstein's bewilderment at American consumer culture, but Ginsberg relies more concretely on Einstein's theoretical physics in the letter, linking Einstein's scientific re-creation of the world to Eastern religion. Later in the letter, Ginsberg writes that:

> History's accelerating like technology's accelerated. Can't go back. We can blow the whole show up. Or we can calm fear, see the world is really changing, like a dream, and go explore and help each other through. It's all safe because as Einstein and the Buddhists secretly tipped everybody off long ago: the whole show is a harmless wave-illusion. (145)

Within these few sentences, Ginsberg equates Einstein's redefinition of Newtonian physics with the Buddhist teachings Ginsberg similarly values, and, despite this abstract acknowledgement that "the whole show is a harmless wave-illusion," Einstein's contributions also make it possible for us to "blow the whole show up."

Within Ginsberg's model, Einstein's thoughts have the capacity to destroy the world, both physically and theoretically; the physicist becomes something of the ultimate Beat existentialist, able to map his realities out onto the world in ways that could level the supreme critique of capitalism through having the system demolish itself. Likewise, the linkages that Ginsberg establishes between Einstein and the Buddhists—the reformulations of space and time through theoretical science and cosmic meditation,

respectively—touch on another Beat obsession: becoming an agent who can adequately know and move through time and space. Beat writers such as Allen Ginsberg and Jack Kerouac typically attempt to manipulate time and space through certain forms of Zen Buddhist praxis, but they both frequently allude to other channels being open through other forms, such as Albert Einstein's theoretical physics.

With textual and intellectual obsessions similar to Ginsberg's work, Jack Kerouac's books often reveal themselves as operating within a much larger national matrix, deeply overshadowed by the looming possibility of nuclear bombs falling down to earth and just as concerned with how to reformulate space and time. In *The Dharma Bums*, the narrator character of Raymond Smith—a loose autobiographical pseudonym for Kerouac himself—finds himself hitchhiking across the desert when he is picked up by a trucker. Smith then describes his trek:

> And did he ever push that rig! From that desert in Arizona he roared on up to New Mexico, took the cut through Las Cruces up to Alamagordo where the atom bomb was first blasted and where I had a strange vision as we drove along seeing the clouds above the Alamagordo mountains the words as if imprinted in the sky: "This Is the Impossibility of the Existence of Anything" (which was a strange place for that strange true vision) and then he battled on ... and finally on Monday night bashing across Illinois and Indiana and into old snowy Ohio with all the cute Christmas lights making my heart joy in the windows of old farms. (132)

Within this rambling passage, Kerouac collapses the temporal duration of the trip into a listing of place names, casually inserting in the middle of his thoughts a "strange vision" in "the clouds above the Alamagordo mountains" that announces to the narrator the impossibility of the existence of anything. Like the Ginsberg pieces illustrate, the atomic bomb represents a form of nihilism that is absolute in both its material and theoretical forms. Still, the account of Smith's travels pushes ever onward like the rig toward its

destination, and Kerouac's sentences ends with "all the cute Christmas lights making my heart joy in the windows of old farms." The narrator's status as an American both supports and depends on that atomic presence in the desert, and his joy at "all the cute Christmas lights" relies, by definition, on the coexistence of the American heartland and its nuclear superpower. As with Ginsberg, Kerouac's characterization recognizes that fear of atomic detonation is largely pointless since reality is an illusion—that the existence of anything is itself an impossibility—and, moreover, nuclear paranoia pervades every aspect of American life, even the most material and trivial pleasures.

Before Kerouac's narrator has the vision at the atomic bomb test site, he discusses a "rucksack revolution" with Japhy Ryder, a fictional surrogate for Gary Snyder who, while drinking, leaps up and lectures the Kerouac and Ginsberg characters, saying he envisions:

> "Dharma Bums refusing to subscribe to the general demand that they consume production and therefore have to work for the privilege of consuming, all that crap they didn't really want anyway such as refrigerators, TV sets, cars, at least new fancy cars, certain hair oils and deodorants and general junk you finally always see a week later in the garbage anyway, all of them imprisoned in a system of work, produce, consume, work, produce, consume, I see a vision of a great rucksack revolution thousands or even millions of young Americans wandering around with rucksacks, going up to mountains to pray, making children laugh and old men glad, making young girls happy and old girls happier, all of 'em Zen Lunatics who go about writing poems that happen to appear in their heads for no reason and also by being kind and also strange unexpected acts keep giving visions of eternal freedom to everybody and to all living creatures..." (97-8)

Within this speech, Jack Kerouac, through Gary Snyder, through the Japhy Ryder character, espouses an order of "Zen Lunatics" as a means for fashioning new conceptions of time, not through theoretical physics but through a revision of the

capitalist system of "work, produce, consume, work, produce, consume." Although Japhy's rucksack revolution relies largely on adjusting American attitudes and values, it is no coincidence that the agents for these changes are called "Dharma Bums" and "Zen Lunatics," since they represent the Beats' means for fusing ecstatic wisdom with the everyday American landscape. As Kerouac demonstrates through the narrative events involving Raymond Smith's conflicts with his family (who view him as a freeloading deadbeat), the Beat formulations of "Dharma Bums" and "Zen Lunatics" depict an asymptotically close connection between Zen Buddhism and a sort of slacker perspective, yoking ancient wisdom with the outsider outlook of bums and lunatics. That cognitive leap from America-centered philosophies across the Pacific mirrors the same unlikely synaptic energy that also flows across the gaps between Ginsberg and Einstein. By juxtaposing the disparate terms, Kerouac infuses them with jazzy tension, a kind of cross-cultural charge.

Within the narrative of *On the Road*, Jack Kerouac's most popular work, the characters' meditations still contain shades of Zen mysticism, but the obsession with manipulating space and time becomes a more overt thematic concern. Instead of following Gary Snyder in the form of Japhy Ryder, Kerouac's narrator—now christened Sal Paradise—searches for and with Dean Moriarty, a fictional stand-in for Neal Cassady. Dean Moriarty represents a kind of Zen performer since he, as a character, can create and inspire ecstasy, though he is incapable of articulating his thoughts about the aura of wisdom that surrounds him. As Kerouac phrases the relationship between the narrator and Dean: "We sat and didn't know what to say; there was nothing to talk about any more. The only thing to do was go ... And all this time Dean was tremendously excited

about everything he saw, everything he talked about, every detail of every moment that passed. He was out of his mind with real belief" (119-20). In the character of Dean Moriarty, the line between lunatic and "Zen Lunatic" becomes indistinct. The key to understanding time and space seems to involve being "out of [one's] mind with real belief," a state that is linked also to a simultaneous appreciation of motion through time and space. Dean's fascinations with travel, ideas, speed, and sex all coalesce into his praxis for living as a kind of dissemination, not entirely unlike the libidinal framework of meme theory itself. As Dean's manic fits and starts at new lives, lifestyles, cars, and wives indicate, he wants to spread himself across the continent, getting as much as he can out of the experiences he encounters.

But Dean Moriarty's excited and exciting lifestyle is infectious, and Kerouac's Sal Paradise character catches the same physical and intellectual wanderlust as the two friends zip back and forth across America. When and if Dean finds enlightenment, he does not find the words to express that experience definitively; Kerouac's narrator, on the other hand, is able to describe his experience manipulating space and time through a kind of Zen understanding:

> And for just a moment I had reached the point of ecstasy that I always wanted to reach, which was the complete step across chronological time into timeless shadows, and wonderment in the bleakness of the mortal realm, and the sensation of death kicking at my heels to move on, with a phantom dogging its own heels, and myself hurrying to a plank where all the angels dove off and flew into the holy void of uncreated emptiness, the potent and inconceivable radiancies shining in bright Mind Essence, innumerable lotus-filled lands falling open in the magic mothswarm of heaven. (173)

This brief attainment of ecstasy—which Sal experiences outside a fish-and-chips restaurant—rewards Sal's meditations, being "the complete step across chronological

time into timeless shadows," a navigation of time and space that finally empowers him, if only for a moment. From this vantage point, Kerouac's narrator can perceive "Mind Essence" without the mediations that normally serve as obstacles to his observations. Here, he can finally know and explore time, which, since the vision holds "innumerable lotus-filled lands falling open in the magic mothswarm of heaven," suggests a synthesis of Eastern and Western philosophies through the juxtaposition of concepts like "lotus" and "heaven." By blending spatialized modes of thought and a new conception of time as a kind of space itself, Kerouac presents an amalgamation of physics and metaphysics, one seemingly capable of mixing mysticism with science.

Of course, other characters in *On the Road* flirt with similar fluxes between modes of knowledge and individual agency, especially as these concepts relate to movement in space and time. For example, Old Bull Lee, Kerouac's alias for William S. Burroughs, contemplates his own explorations of the boundaries between the knowable and the unknowable, saying:

> "Mankind will someday realize that we are actually in contact with the dead and with the other world, whatever it is; right now we could predict, if we only exerted enough mental will, what is going to happen within the next hundred years and be able to take steps to avoid all kinds of catastrophes. When a man dies he undergoes a mutation in his brain that we know nothing about now but which will be very clear someday if scientists get on the ball. The bastards right now are only interested in seeing if they can blow up the world." (153)

Once again, the dialectics emerge of knowable and unknowable, abstract and material, what scientists could understand of the human experience and the atomic weapons that they build instead. Similarly, the capacity for agency is undermined, as Old Bull Lee also indicates that all the Beat meditations will ultimately mean nothing more than individual

experiences unless scientists finally investigate the means for comprehending time, space, and the perceptions of the human brain. In referring to contemporary scientists as "[t]he bastards ... only interested in seeing if they can blow up the world," Old Bull Lee indirectly gestures backward to Einstein's influence, and, while Dean and Sal do not investigate Old Bull Lee's hypotheses about mutations in the brain, the pair do explore his concept of bending time and space through exertions of individual will, expanding on the Einsteinian project of perceiving a quantum reality, in which space and time are indissolubly bound with perception.

Throughout Sal and Dean's cross-country adventures, Dean becomes obsessed with knowing time, with knowing IT. When Sal narrates that "I wanted to know what 'IT' meant," Dean laughs and clears his throat and explains through a metaphor about how jazz riffs work through the example of an alto the pair have just enjoyed: "'Time stops. He's filling empty space with the substance of our lives, confessions of his bellybottom strain, remembrances of ideas, rehashes of old blowing'" (207). Dean's somewhat inarticulate explication of "IT," which hints at a relationship between time, space, and play, eventually derails when Dean starts sweating too hard to formulate his ideas. Instead of describing "IT," Dean and Sal mostly try to capture "IT" with their high-speed lifestyle of continental travel and uninterrupted flows of ideas, narratives, and stream-of-consciousness dialogue, and their efforts represent a way of reducing time and space to smaller particles until the measurable difference between their positionality becomes moot, thus achieving a new way of knowing time. "IT," then, is a conflation of Einstein's concepts of time and space with Kerouac's formulation of narrative. Alex

Albright connects Kerouac's temporal and spatial revisions to attempts to reorder everyday life, writing that:

> Kerouac [is] ... working with variations of what M. M. Bakhtin referred to as the road chronotope, which "permits everyday life to be realized" within its narrative. Bakhtin's idea of "chronotope" comes, as he explains it, from science, indicating for us the temporal and spatial relationships that are artistically expressed in literature. Like Einstein's theory of relativity—and rheomode—it indicates for us that space and time are inseparable, that time is the fourth dimension of space. Bakhtin's discussion is clearly directed to classical forms of literature, but his definition of "adventure-time" in novels (whose traits he also sees in drama and epic poems) seems perfectly suited as descriptive of ... Kerouac's work: Moments of adventure time occur when the normal course of events is interrupted, providing an opening for the intrusion of nonhuman forces, which then take the initiative. The temporal marker, for Bakhtin, is inseparable from the spatial marker. In using the chronotope of the road, the writer permits everyday life to be realized within his narrative; choice controls the path he will take. However, once on the path, chance encounters predominate. (136-7)

According to Albright, chance encounters predominate among the adventures Sal and Dean experience, episodes that evoke the existential arbitrariness of the Beat narrative aesthetic, but, at the same time, a narrative cannot be fully random, as there is always an intentional ordering system, even when an author applies Burroughs's process of literally cutting up texts to randomize their sequential progression. A narrative can discuss the subject of chaos and try to recreate its effects, but it cannot produce absolute chaos, as the text is fixed. The impossibility of narrativizing chaos, the fact that Beat writers can never fully convey the chaotic nature of contemporary life, seems critically synched with Einstein's initial doubts about quantum physics. In a letter to Max Born, Einstein writes that: "Quantum mechanics is certainly imposing. But an inner voice tells me that it is not yet the real thing. The theory says a lot, but does not really bring us any close to the secret of the Old One. I, at any rate, am convinced that He does not throw dice" (Clark

414). Popular sources typically paraphrase this quotation as "God does not play dice with the universe," and, while this idea retains its popularity, Einstein has since been proven wrong about his reservations regarding quantum theory. Just as the Beats have difficulty reproducing the random factors of the world through narrative, there are certain theoretical concepts that presented difficulties for Einstein when it came to understanding the intellectual repercussions of the theory of relativity.

Although writing—Beat literature or any other type—does not adequately convey true randomness since it is always the result of some authorial intent, the "chance encounters" Albright discusses do contain elements beyond the control of Dean and Sal; their lack of agency, the control they rarely possess with respect to their daily efforts regarding time, space, and understanding, aligns their anxieties about Einsteinian time and space with their anxieties about nuclear threats. Neither set of concerns is entirely random, but time, space, and the threat of nuclear obliteration are factors that, in their everyday life, are far beyond their means to control. Nuclear weapons may be outside of Kerouac and Ginsberg's individual control, but both the ontological and onticological impact of atomic bombs create a tension that filters downward from the national level to strike the psyches of individual citizens. Neither Kerouac nor Ginsberg want to suffer the consequences of the nuclear weapons, but they are powerless to prevent such an encounter, making the mystic, nihilistic message of the atomic bomb—"This Is the Impossibility of the Existence of Anything"—an existential translation of Einstein's theory of relativity, not along the lines of scientific relativity (in which the measuring observation by definition plays a role in changing what is observed) but a kind of moral relativity on the level of national politics. Choice cannot overcome chance within this

social framework, and the impossibility of preventing nuclear annihilation becomes just another everyday factor, just like the frustrations that result from Dean and Sal struggling with the impossibility of controlling space and time, of capturing and holding "IT."

The characters that pass through *On the Road*'s narrative parade may appear random, as they are bound to "adventure-time" and the interruption of everyday life, but their entrance is no coincidence, as they are reproduced in the text under the control of Kerouac as author. Unlike the random transmissions and interactions of daily life that led to the production of the text, the text itself is fixed. Bizarre events or personalities may erupt as though the product "of nonhuman forces," but, in spite of the coincidences intersecting the life of the author, the text is obviously a result of authorial intent. That is why Kerouac's "chance encounters" in the text, while they may not conform to standard conventions of narrative importance, are not truly random. For example, although to the character of Sal Paradise (standing in for Jack Kerouac), a meeting with Old Bull Lee (William S. Burroughs) may feel coincidental, the text, as a static entity, cannot arrive at any other "random" point. Likewise, when Michael Paterniti meets William S. Burroughs in *Driving Mr. Albert*, even though the account is nonfictional, there is no random coincidence operating, since, as a finished and published book, the text always already included this uncanny episode.

In writing *Driving Mr. Albert*, Paterniti explores several bizarre coincidental connections, but their inclusion is his text is not random since Paterniti undertakes the writing so as to compile these disparate elements into a linear narrative. In fact, Paterniti capitalizes on the unlikely synchronicities of his tale, recounting that he "first heard the story of Albert Einstein's brain as an urban myth too weird to believe" (vii). Years after

first being exposed to the "urban myth too weird to believe," Paterniti passes on this urban myth (which theorists such as Susan Blackmore argue are the ideal paradigm for looking at meme replication and selection) to his landlord, only to be told that the landlord already knows the story since he knew Thomas Harvey when the two of them lived in the same neighborhood as William S. Burroughs. The truth of the story Paterniti had been telling and embellishing for years collapses in what appears to be an unusual layering of coincidences, but, upon these events' transference into a textual narrative, they cannot be coincidences any longer. Paterniti's account then follows the trail leading him back to Thomas Harvey, getting Paterniti's story intertwined with Harvey's, Einstein's, and Burroughs's, and, in the process of traveling across America with Einstein's brain in the trunk and stopping along the way to visit Burroughs, Paterniti replicates parts of *On the Road*'s form as well as its content.

In connecting Albert Einstein (through the story of his brain) to America's Beat legacy, Paterniti brings a kind of meme loop back to its origin, connecting the end of the twentieth century to the theoretical physics that kicked off its beginning. The style of *Driving Mr. Albert* takes on the riffing, jazzy style of *On the Road* in several spots, throwing in rhythmic rambles that correspond to Kerouac's meditations on the nature of the universe, but, instead of attempting to master time and space through performing "IT," Paterniti backs up his observations on events' cosmic significance through easy-to-understand, pop versions of Einstein's scientific work. At times, Paterniti openly alludes to his influences in the Beat aesthetic, such as admitting that Dr. Harvey "didn't impress me right away as a rebel or a Casanova or a Beat wanderer, as a hero or a thief or a holy man—all of which, in various moments, he later would" (xi). Harvey becomes a "Beat

wanderer" in Paterniti's eyes when they criss-cross the country together, but this brief passage gestures toward Beat writing also in its formulation of a list of disparate labels—rebel, Casanova, Beat wanderer, hero, thief, and holy man—that mimics the Beats' exuberant style, mixing concepts in much the same way as Kerouac writes about "Dharma Bums" and "Zen Lunatics." The terms are admirable since their juxtaposition is as nonconformist as the characters the terms were invented to describe. Other passages of Paterniti's indirectly draw parallels to the Beat perspective *through* Einstein's views on consumerism and America's materialistic culture, all while Paterniti makes his own Beat-like poet critique of contemporary America: "Einstein would be horrified by our world and its extravagances: the Land of the Free and the Home of the SUVs. The absurdities of our Whopper-sized lives. And perhaps, too, he'd be stunned by the sheer roaring speed and interconnectedness of it" (70). The "interconnectedness" of Paterniti's criticism of American excess presents contemporary commodity fetishism with the poignancy of Ginsberg or Kerouac's language, while uniting such criticism with Einstein's likely reaction to the "absurdities of our Whopper-sized lives." Although this passage (as well as the context surrounding it) does not announce any affiliation with Beat literature, Paterniti's text has already aligned itself with the Beats, and, since the text has already performed this rhetorical move, we can read such countercultural passages as an intertextual part of the historical and intellectual continuum, the influence of the memes popping up like peripheral billboards as Paterniti drives down the highway.

Although the subtitle of the book—*A Trip Across America with Einstein's Brain*—proclaims that the text works within the tradition of the road novel, which was presented in perhaps its most popular form in *On the Road*, Paterniti overtly attempts to

recreate the Beat form through infusing *Driving Mr. Albert* with Beat content; through Paterniti's arranging, Thomas Harvey is reunited with his old neighbor William S. Burroughs. Though Harvey and Burroughs never interacted as neighbors, Paterniti reunites them as if they were old friends, a quirky, charged juxtaposition which both men play along with like the best of Kerouac's characters. Like the interactions of Kerouac's characters, the encounter between Burroughs and Harvey is mostly anecdotal, significant because of how something about it transcends the everyday; Paterniti writes of the trip to Burroughs's house:

> Father of the Beats, the counterculture incarnate, the junkie poet laureate, Burroughs, along with Allen Ginsberg and Jack Kerouac, were the original rappers about truth and beauty, while opening the door on an underworld world of American drifters, living only for the high of any given moment. Though Harvey once lived around the corner from here, he only ever met Burroughs once, for a lunch arranged by Kevin Hull, the filmmaker. Now, Harvey clasps his hand, enunciating loudly, believing that the eighty-three-year-old Burroughs is hard of hearing, which he isn't, then climbs up the writer's arm until they are in a startled embrace, the two of them as pale as marble. (87)

The interaction between Harvey and Burroughs after this point consists of an amusingly awkward social ballet, with Harvey shouting since he believes Burroughs is "hard of hearing" and Burroughs offering a joint to Dr. Harvey while calling him "Dr. Senegal" for some reason (91). Nothing much happens in this short episode, but it works so delightfully because this meeting of unusual personalities carries some sort of weight within a popular cultural/countercultural matrix. Paterniti unveils the encounter as though it is just another wacky incident that results from having Einstein's brain in the trunk, another "urban myth too weird to be true."

The trip to Burroughs's house takes on additional meaning, however, in that, anecdotal eccentricity aside, it also holds a sense of history. Burroughs died not long after Paterniti and Harvey visited, making the meeting impossible to recreate, taking place as it did within Burroughs's final days. More than that, though, textual history repeats itself when Burroughs launches into diatribe much like the predictions he uttered in front of Jack Kerouac, or even those he filled his books with. While Harvey is recounting the twentieth century's progress in mental health improvements (his area of expertise only through roundabout proxy via possession of Einstein's brain), Burroughs interrupts to say:

> "No, Doctor, nothing good will come from the End. More of a police state. More crime. More attacks on queers. I hope not to be here for it."
>
> And he won't be. In a few months he'll be dead. But now, he's bewildered, jigging to some distant music in his mind. Since we haven't planned to stay for dinner, we get ready to leave, though once he's gotten started on the End, Burroughs has much to say. Computer chips lodged in the brains of newborn infants, poets lynched in the trees along magnolia-lined driveways to Corporate Headquarters, a howling pandemonium of neo-Nazis, hip-hop brothers, born-agains, and Black Muslims all getting to know one another in the city streets of America with automatic weapons. It appears Harvey has never considered the matter from this angle, and seems a bit stunned. (92)

Paterniti's description of Burroughs's litany sounds like the voice Burroughs developed in his own texts, or what we read of Burroughs through the texts of Ginsberg or Kerouac or others. The conspiratorial prediction of "the End" even evokes the speech cited above in which Old Bull Lee elaborates about mutations in the brain during an interaction with Sal, an interaction that takes place after Old Bull Lee discusses the possibility of history haunting mankind in ways that could be understood if scientists just studied the means of communication instead of nuclear weaponry. The feverish pronouncement, important

due to its style rather than its content, feels much the same as Paterniti's account of the brief interaction with Burroughs. A current of unconventional history runs through the Burroughs-inspired talks in both Kerouac and Paterniti's texts: the references to a cultural continuum of past actions leading to the present, as well as the accompanying extrapolation into the improbable future through mad prophet-style predictions, and, finally, the fact that the outlandish dialogue was recorded at all as a kind of historical preservation of a conversational discourse before the one-way extension of time proved the predictions wrong. The importance is all in the curious conflation of influences, not that the moment could fit into any sort of conventional historical framework.

Despite Paterniti's narrative propelling onward to the showdown between Thomas Harvey and Evelyn Einstein over the formaldehyde soup of leftover brain chunks, the crux of the book, as I read it—a subtle homage to both the Beat writers and Albert Einstein as "the original cosmic slacker"—lies in Harvey's misunderstanding of Burroughs, which he admits in what amounts to a throwaway gag for Paterniti's purposes (Paterniti 46). Everything about the interaction between Burroughs and Harvey suggests completely crossed communication paths—from Harvey misconstruing Burroughs as deaf to Burroughs renaming Harvey "Dr. Senegal" to the failed discussion the two have about the nature of addiction—but in the middle of the doctor's house visit at the Burroughs residence, Paterniti reveals that: "Prior to our arrival here, Harvey confessed that he tried to read one of Burroughs's books—*Naked Lunch* or *Junky*, he can't remember which—but had no luck. 'Couldn't make sense of it,' says Harvey. 'But they tell me he's some kind of genius'" (88). With Harvey's offhand revelation, he raises the slippery point on which all of his dubious notoriety is based: the nature of genius.

Just as Harvey may or may not hold the key to investigating human intelligence in the aromatic Tupperware casually ignored for so many years in his basement, he also cannot recognize the nature or appeal of Burroughs's work, admitting only: "But they tell me he's some kind of genius." There is a kind of acknowledgement in Harvey's statement of the social forces that construe genius as a kind of cultural popularity rather than a kind of intelligence that can be widely understood or redistributed. Harvey's rhetorical shoulder-shrugging recalls Barthes's conception of Einstein as mythic, genius being genius precisely because of its unintelligibility to the average person. The way Barthes phrases it, mortality requires that genius be cut short, "since the world is still going on, since research is proliferating, and on the other hand since God's share must be preserved, some failure on the part of Einstein is necessary: Einstein died, it is said, without having been able to verify '*the equation in which the secret of the world was enclosed*'" (70). Although Burroughs and Einstein are in part responsible for the very trip Harvey finds himself on, he does not understand their genius fully, but neither figure was smart enough to figure everything out, so Harvey can console himself with the knowledge that, in a Darwinian sense, he beat both of them. As the doctor who has Einstein's brain, Harvey's quirky set of "coincidences" have catapulted him to a unique position of power. He has achieved his standing not through his own genius but through a cultural trading on the nature of intelligence as it pertains to materiality. After all, as Paterniti writes:

> Is it that genius is really nothing more than a matter of seeing as simply as possible, that somewhere in this world the image already exists waiting for the camera, or the profound idea already exists waiting for the mind to happen on it? After all, from a falling body Einstein pulled out relativity.
>
> And Harvey's genius? He survives ... and he has the brain. (126)

Harvey's genius is the genius of the collector, the right-place-at-the-right-time cultural archivist whose primary strength relies on the fact that he knows how to survive, and this bizarre blend of genetic and memetic aptitude, from a certain Darwinian vantage point, constitutes perhaps the greatest intelligence there is.

Chapter Two: The Viral Spiral: Tracing the Transference of a Cross-Cultural Media Virus through the *Ring* Texts

1. The Ring Opens Up

The core of the story is familiar to many, even those who are only on the periphery of exposure. There is a videotape containing disturbing images that somehow infect the viewer, ensuring death within seven days, and the only escape from that terrible fate (at the ghostly hands of a psychotic, drowned young woman) is to make a copy of the tape and pass it on, making the curse spread through the population like a virus. Throughout all of its various textual incarnations, the basic premise of Koji Suzuki's epidemiological horror novel *Ring* remains intact, but the circumstances of the text morph and mutate as the story moves through a variety of media in multiple cultures—graphic novel, video game, Japanese movie, Korean movie, American movie, sequels, etc. Despite Suzuki's central conceit raising many critical questions about the roles of media and technology in an increasingly alienated society, the author's viral idea has transformed into further removed iterations that spread just as quickly as the urban legend/ghost story at its core, drowning the implicit criticism below the success of the medium as the message. Paradoxically, the novel's successful reception, successful cross-marketing, and successful adaptation all serve to complicate (and possibly invalidate) Suzuki's underlying criticism of various forms of media.

Through a reading of this text's internal success (its metaphorical and rhetorical power) and its external success (additional adaptations and financial prosperity), as well as the possibility for dissonance between the two, this chapter seeks to create a groundwork for the viral model that explains this series of textual adaptations and others

like it. The viral structure pervades a wide variety of media in contemporary culture, and, unlike the components of the synaptic model discussed in the previous chapter, the progression within the viral model is largely sequential and traceable, though it presents problems in that the ultimate, absolutist roots of its origins, along with its final extensions, are, like the paths of viruses, basically impossible to determine with certainty. Also, unlike the synaptic model's relatively dynamic arcing across seemingly disconnected texts, the viral model presents much more rigidity in its sequential adaptive progression and viral transmission across cultural spaces. The viral model is, after all, inherently spatial in that viruses do not persevere over time in an unchanging form; given that viruses often mutate rapidly within a series of generations, the *Ring*-related media is particularly fitting, as it has thus far spread globally within a single generation. This chapter explores the tensions between unlimited textual proliferation and copyright-based quarantine, as well as how the texts' invocations of traumatic origin complicate the discovery and narrativization of a confined, totalizing source. Following this analysis of the conceptual parallels between meme theory and trauma theory, I then explicate the fashions through which Suzuki's text explodes outward like a pandemic caused by a highly adaptive, easily transferred virus, as well as how this proliferation relies on the current pressure between the analog and the digital as a means for assisting this spread. Finally, this chapter explores how the viral text moves across cultures, time, and space thanks in part to the virus-like strategies the text itself encourages in the marketing and advertising campaigns used to promote its adaptive diffusion, bringing the argument back to the inherent paradoxes within Suzuki's original text, which compromise the efficacy of that text's critical stance and underlying commentary.

In *Ring*, there is a vein of criticism against the ever-expanding role media forms play in contemporary life, leading to subjects' alienation and dissatisfaction. *Ring* tells the story of a reporter named Asakawa who uncovers a videotape that kills those who watch it, unless those victims victimize others by copying the video and passing it on, effectively helping the diseased media spread. Although the villain behind this viral video is not a corporate nemesis or media conglomerate, the novel's characters suggest that this horror is simply a magnification of the media's sinister usurpation of human experience, with which consumers around the globe are already complicit from their couches. In spite of this underlying critique, the core storyline has been successfully adapted into several different media forms in multiple international markets, creating minor dissonance between and within the adaptive texts. Suzuki himself is partially to blame for the discord between his novel's intrinsic message and its successful entry into the same consumeristic media market that serves simultaneously as *Ring*'s critical target and its bogeyman. Asakawa confronts a similar dilemma when he finds that the media industry is both directly and indirectly responsible for the videotape's epidemic by ruining the life of a young woman named Sadako. Although Asakawa's media connections have made his discovery possible, his knee-jerk reaction to learning that the parasitic media prompted Sadako's quest for vengeance is to sputter: "'But that's no reason to arrange an indiscriminate attack like this!' Asakawa's objection was made in full consciousness of the fact that he himself belonged to the media. In his heart he was making excuses—he was pleading. *Hey, I'm just as critical of the media's tendencies as you are*" (198, italics in original). This passage's self-reflexivity furnishes a winking admission that although media forms are the novel's critical targets—as carriers of the viral curse—Suzuki is just

as implicated as his (anti)hero by contributing to such media. The only way for Asakawa to free himself from the infectious videotape's curse is to copy it and pass it along, morally entangling him in the video's transmission.

Asakawa relentlessly pieces together the clues contained within the videotape's form and content, but, long before he discovers why four teenagers die a week after watching the video, Asakawa assumes he is tracking a virus. Early in his search, he hypothesizes about the deaths:

> Maybe there was some secret that only the four of them knew, and they'd been killed for it.... Asakawa tried out a more scientific explanation with himself: perhaps the four of them had been in the same place at the same time, and all four had been infected with a virus that attacks the heart ... Sure. He'd try thinking of it as a kind of virus for a while. Not that this would satisfy all his doubts ... If he were to pursue this hypothesis further, he could deduct that the fact that there hadn't been any other victims yet meant that the virus was not airborne. It was either blood-borne, like AIDS, or was fairly noncontagious. But more importantly, where had these four picked it up? (37-8)

In this passage, Asakawa moves his hypothesis deftly to its logical conclusions: from the cause of death being a shared secret to being a virus to being "blood-borne, like AIDS." Asakawa retains this viral discourse, and the videotape's curse in turn behaves much like a retrovirus such as HIV, altering hosts' genetic code to program them for death. As noted above, the catch is that the hosts can spare themselves by spreading the disease to others, thus helping the viral video reproduce, a feat that the video, as "organism," is incapable of doing without its host's help.

This passage of the videotape from subject to subject—passing on its content as a disease—closely mirrors the meme theory trope of the virus of the mind, a phrase first coined by Richard Dawkins and then popularized by figures such as Richard Brodie.

Although many authors conceptualize memes as virus-like, few explore the tensions created in transferring such a literal conceptual framework into a metaphorical framework only to map out afterward onto literal cultural phenomena. Similarly, the viral model assumes that the relationship between subjects and texts is largely passive, allowing only limited interpretive interventions for readers. Most proponents of meme theory use virology only loosely as a kind of inanimate contagion that requires a host to promote it through reproduction. Richard Brodie, for example, draws on his background as a motivational speaker to emphasize the meme-based importance of popularizing ideas so as to make them catchier and then evangelizing them to large populations. Brodie explains in *Virus of the Mind: The New Science of the Meme* that:

> In a future where mind viruses proliferate, the kinds of viruses I personally want to see win are viruses that raise people's quality of life. The way to make such viruses win is twofold: first, evangelize, evangelize, evangelize! When you come across memes you like, spread them consciously! Silence is death, to memes. Second, make a point of tying together all the button-pushing memes you can with the memes that raise quality of life. Point out how they help our children! Remind people this is a crisis! Serve them food! Offer them sex! Well, whatever. (210)

These thoughts suffice for a simplistic metaphor regarding how to think like a marketer, but Brodie's formulation does not provide much more than a commonsensical approach to texts and information, nor does it really explore how viruses work within his schema. One of the central flaws seems to be the conceptual dissonance between intention and uncontrollability, at least as far as the virus analogy is concerned; a person cannot simply will a virus to behave a certain way. Also, Brodie's conceptualization of "spreading ... consciously" the "memes you like" seems problematic because the personality in question that the ideas appeal to is likewise founded on socially constructed ideas. The virus

metaphor quickly breaks down as a pragmatic representation; but the rougher aspects of Brodie's model, however, do not invalidate a viral model for understanding information, texts, or culture. Scholars such as David L. Hull refine meme theory to incorporate viral characteristics in more meaningful and accurate ways, making cultural trends less about personal agency and more about systematic evolutionary change.

Part of the academic appeal of analogizing the elusive meme as a virus is that viruses represent horizontal transmission rather than vertical transmission. As David L. Hull explains in his essay "Taking Memetics Seriously: Memetics Will Be What We Make It," when scientists and theorists deal with gene-based selection in biological evolution, they distinguish between vertical transmission and horizontal transmission; moreover, Hull writes:

> In vertical transmission, genes are passed down from parents to their offspring regardless of whether the form of inheritance is sexual or asexual. Any other form of transmission is horizontal. In biological evolution the only form of genetic transfer that seems in the least horizontal is infection by viruses. A virus can pass from one organism to another in two ways: during the reproduction of its host and independent of that reproduction. In the first instance, this transmission might be termed 'vertical'. After all, it is proceeding from parent to offspring. When it is transmitted to any other organisms, including organisms that belong to different species, this transmission is horizontal. However, all of the preceding comments are made from the perspective of the host, not the virus. From the perspective of the virus, all of its genetic transmission is vertical, and with respect to the fitness of the virus, this is the perspective that counts. (57)

With Hull's definitions and theoretical formulations in mind, memes—and, by extension, the texts carrying them—that transfer through horizontal means work like propagating viruses. Such entities do not have a will or a consciousness aside from their own self-proliferating genetic code, but, as Hull points out, they still strive to perpetuate that

code's transmission. This transference, from our perspective, is horizontal, but from the viruses' perspective—assuming they had one—it is vertical because it moves their strain to a new generation.

Part of the underlying chill of *Ring* lies in this glimpse of the viral perspective, which can hardly be considered "alive" by most definitions and which prioritizes reproduction at any cost; what amounts to human death and disease through our horizontal transmission is their survival through vertical transmission. The ring virus at its basic level frightens us because, from the microscopic viewpoint, our infection is its sex. Moreover, since the ring virus parallels HIV in many ways, sex and death are mixed up on higher levels as well; spreading the victorious ring virus involves performing a kind of reproduction, although it takes the innocent and intimate form of bootlegging a videotape for a friend. Even though this video reproduction is not a directly sexual act, the metaphorical paradigm of *Ring*, in creating a supernatural version of the AIDS epidemic, requires an analog for sex, and analog video provides a model rich with meaning. Individual survival (which must inherently be selfish) relies on proliferating the virus, and proliferating the virus means creating a bootleg copy of the video, and bootlegging the video means a non-organic kind of sex. For Asakawa and others who have already watched the video, the options, vis-à-vis the videotape virus, boil down to fuck or be fucked.

2. Getting a Bootleg Up

Because Koji Suzuki's *Ring* concerns the imbedded information in both analog video and genetic code, it is appropriate that the urban legend style threat that drives most

of the fear in the tale relies on intersecting, multivalent codes within videotape as representations. The video virus mostly closely resembles HIV (and Suzuki regularly evokes this connection and the stakes involved in a global pandemic), and the damage that the video perpetrates works specifically like a retrovirus. Most viruses use the material within a host cell to replicate their own DNA until the cell lyses and unleashes the newly created viruses outward, but the retrovirus reverses the typical transcription of DNA into RNA by inserting its own RNA into a host cell in order to change into DNA within that cell's nucleus. In other words, the virus uses the material at hand in the cell to unzip its own code and transpose it within the cell. The novel's complicated central metaphor of the videotape virus retains characteristics of a retrovirus itself, in that the information it contains reinscribes our current understanding of video reproduction as a social signifying act.

The bootleg reproduction of the video virus presents thorny issues of interpretation. While many critics read video piracy as operating within an underground, anti-corporate realm of alternative entertainment, or at least a slightly subversive form of black market capitalism, the copying of the plague-ridden video in *Ring* is not merely rebellion against copyright ownership and mass media monopolies. Although Asakawa earns a temporary inoculation against the virus for his troubles in copying and distributing the videotape, this vaccine represents the spread of an infectious disease. Sadako's video seems almost entirely outside of the standard parameters of the dominant capitalist market, existing as it does in a boxless, unlabeled form, neither bought nor sold. Copying this unusual media product does not subvert codes of consumer passivity in the traditional sense, except that those who copy the video survive. As Catherine Grant and Tahani

Nadim note in their essay "'Working Things Out Together': The Joys of Bootlegging, Bartering, and Collectivity," channels of media distribution that do not filter through traditional corporate distribution provide a kind of egalitarian system of entertainment sharing; as the authors write: "The network of bootlegging is a way of relating to collaborators, audiences and guests that is as constitutive of the participants as it is a means to distribute artwork" (53).[2] The newly formed social network represented by those who have seen Sadako's viral video, however, rather than working like the illicit family-like community of those who share underground media, serves to alienate the various members, as the link that unites them represents a desire to pass the deadly curse outward, whether consciously or subconsciously.

The moral dilemma at the heart of the bootlegging in *Ring* is not the standard opposition between media powerholders and media proles in which we normally find contraband media reproduction framed; instead, bootlegging in the paradoxical ethics of the *Ring* universe aligns participants not against media monopolies but against humanity itself. In this light, bootlegging is not merely a nagging issue of properly adhering to copyright conduct or preserving the purity of intellectual property; the act of transcribing the virus to another videotape and passing it along is the social equivalent of knowingly spreading a sexually transmitted infection.

One of the central problems with analogizing a videotape to a virus, in both Suzuki's text and in the viral model I am employing here, is that, despite the many rich parallels Suzuki and others draw between the two, videos are much more ephemeral than viruses in their material structure in terms of the replication and transmission of

[2] The types of bootleg communities under discussion in Grant and Nadim's essay rely on mutual trust in the

information. Viruses are copied with very high fidelity, their coded information often looking exactly the same across many generations, but, as anyone who has tried to make a copy of a copied video knows, the material breakdown involved in vertical transmission from one video generation to the next increases exponentially. With both information-based media forms, such structural, material change uncoils randomly, unless some outside agent manipulates the data in either the virus's genetic code or the video's magnetic tape. When there is no agent evincing such change, there is no predicting how the mutations will occur. In *Touch: Sensuous Theory and Multisensory Media*, Laura U. Marks analyzes the particularities of how film and video compositions present different sensory experiences as they decompose. Any given video's decay is, she points out, as individual as a snowflake's pattern, producing random colors, lines, or, most appropriately, "TV snow." Marks details, in an essay entitled "Loving a Disappearing Image," how these disappearances through decay imprint a singular aura on the text, writing that:

> With disappearance, the work accumulates aura. Mechanically reproduced images supposedly lack aura, but as images decay they become unique again ... The scratches and unintentional jump cuts on our prints of X film are ours alone, and even video decays individually, in response to temperature, humidity, and the idiosyncrasies of playback machines. Of course, independent, experimental, and rare films and videos are already auratic, as anyone knows who has tried to replace lost home movies. Works that are not widely distributed are more like bodies that we protect assiduously than like simulacra. (92)

The instability of the video in Suzuki's *Ring*, its susceptibility to "temperature, humidity, and the idiosyncrasies of playback machines," means that Asakawa's original, from which he copies a bootleg and thus saves himself, becomes a precious, fetishized object.

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copying and trading, not on cash flow of the more anonymous black market purchase of bootlegs for profit.

Moreover, he tries to reclaim some of the imagistic informational loss that has taken place on the tape; he mourns the irreversibility of the decay and additional recorded imprinting. His grief over the transience of the video (the catalyst for his investigation) points to the larger limitations of the book's central metaphor as well as the analytical potential of the viral model. How can the permanence of viral information replicate and proliferate when it depends on unreliable material transmission?

While the videotape format has less fidelity and permanence than virus forms, the survival mechanism for the viral curse's code is essentially the same: prolonging "life" by reproducing. This constant transference might risk losing the curse's clarity—through unfaithful copying or deterioration of image and sound—but the promise of sustained existence through replication outweighs the threat of inaccurate duplication. Video reproduction through bootlegging leads to deterioration of the tape, but that does not prevent those who want to disperse a video text. In *Consciousness Explained*, Daniel Dennett theorizes that informational forms—like Sadako's ghost or curse or virus or video, or the self-perpetuating idea of all of these things—must stay in circulation through transference across and among media in order to guarantee the information's immortality. He writes:

> Memes now spread around the world at the speed of light, and replicate at rates that make even fruit flies and yeast cells look glacial in comparison. They leap promiscuously from vehicle to vehicle, and from medium to medium, and are proving to be virtually unquarantinable. Memes, like genes, are *potentially* immortal, but, like genes, they depend on the existence of a continuous chain of physical vehicles, persisting in the face of the Second Law of Thermodynamics. Books are relatively permanent, and inscriptions on monuments even more permanent, but unless these are under the protection of human conservators, they tend to dissolve in time. (205, italics in original)

According to Dennett's passage, the viral model is one that always requires outside energy for its preservation and transmission, just like inanimate viruses must rely on hosts for perpetuation, transportation, and transplantation. Texts and viruses may be "*potentially* immortal" or "relatively permanent," but they have no inherent guarantee within themselves to such durability, no safeguard against physical breakdown or extinction save for the dependable transfer of hosts who disseminate them. Perhaps such absolute parasitism is what makes viruses so scary (and thus the subject of a horror novel like *Ring*), since, despite viruses being the direct cause of certain diseases, the carrier of the virus is also partially to blame. This concept of virality applies both to a single text's spread within a culture as well as textual adaptations. Although the behaviors that spread viruses may appear involuntary or benign, there is conceivably some mechanism of desire, however subconscious or sub-cellular, that wants to spread the infection outward. The twist with *Ring* is that distributing the viral video's disease is always voluntary.[3]

For those who want to pass the copied videotape onward in order to survive, options are limited by social constraints. Decorum typically prohibits the passage of a video from one individual to another outside of traditional economic transactions. Few people would accept a videotape from a stranger on the street and watch it within seven days, especially when the content is unknown. Thus, the most likely method of transferring the virus comes through an appropriation of social or familial relations for the purposes of a bootleg-sharing community.[4] Normally, such communities of circulation—

[3] And yet, voluntary spread can contain accidental elements. Asakawa asks his friend Ryuji for help with analyzing the tape, and Ryuji requests a copy so he can study the video at home. Asakawa dubs the tape for Ryuji, saves himself, and indirectly kills his friend, all without any conscious malice.

[4] There are, of course, exceptions where individuals might watch an unknown videotape, one provocative example including the marketing campaigns for *The Ring* and *The Ring Two*, which I will discuss in the

relying as they do in this context not on cash flow but on trust and collective aesthetic enjoyment—foster an appreciation of certain sorts of bootleg aesthetics applied in the illicit copying, but in *Ring* each additional copy blurs and obscures the instructions the video contains for avoiding death.

In an essay about Todd Haynes's short film *Superstar: The Karen Carpenter Story*—banned for its copyright violation but kept alive through bootleg networks—Lucas Hilderbrand analyzes standard spectatorial relationships and bootleg aesthetics. He writes:

> Analog reproduction of the text, rather than destroying the original's aura, actually reconstructs it. Materially, the fallout of the image and sound mark each successive copy as an illicit object, a forbidden pleasure watched and shared and loved to exhaustion. Furthermore, the deresolution of the tapes formally becomes expressed on the tapes' surfaces, even as deterioration obscures the visual and audio information, thus frustrating standard spectatorial engagement with the narrative. (71)

As Hilderbrand notes, the spread of copies serves to deteriorate the quality of image and sound, demonstrating that the video is watched and copied fetishistically, making it "loved to exhaustion." The *Ring* videotape fosters deep-seated hatred rather than love, as its existence before the spectator represents a very direct death threat, but Asakawa watches the tape repeatedly, looking for clues to escape that threat, finding that the deteriorated copy he has watched "obscures the visual and audio information, thus frustrating standard spectatorial engagement." Asakawa's version of the videotape is flawed, replicated imperfectly by teenagers playing a prank on all subsequent viewers. Their peculiar "joke" contains layers of forbidden behavior: they are watching what they should not witness and recording over what they should not obscure. Their re-recorded

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following section.

version mutates the virus's information, and, as a result of the dubbing distortion, the video's ending promises the means of redemption without delivering:

> *Those who have viewed these images are fated to die at this exact hour one week from now. If you do not wish to die, you must follow these instructions exactly...*
>
> Asakawa gulped and stared wide-eyed at the television. But then the scene changed yet again. A complete and utter change. A commercial came on, a perfectly, ordinary, common television commercial ... A commercial for mosquito-repelling coils. After about thirty seconds the commercial ended, and just as another scene was about to start, the screen returned to its previous state. Darkness, with the last afterglow of faded words. Then the sound of static as the tape ended ... There was nothing else to say. One unintelligible scene after another, and the only thing he'd comprehended was that anybody who watched would die in exactly a week. And the part which told how to avoid this fate had been taped over with a commercial. (82)

In *Ring*, the analog reproduction, to use Hilderbrand's words, "rather than destroying the original's aura, actually reconstructs it," though in a distinctly different sense than Hilderbrand's application of the phrase. This meta-illicit dubbing obscures the tape's original information by accomplishing a reconstruction of the original's aura both through the capturing of intent (as a transmittable trauma) and through the use of a dubbed broadcast commercial (as a reference back to the power hierarchy of mass media). These reconstructions of video text require some unpacking, but I will approach the significance of the video re-writing before reviewing the reconstructed intentions lurking behind it.

This nasty trick of recording over the instructions with irrelevant information—which figures prominently in Suzuki's sequel *Spiral* as an irreversible mutation on the virus's genetic code, replicating to the next generation of copies—is one particular to video's malleable format. In the case of the recorded commercial, the original aura of malicious intent comes across not through a deterioration of the existing material but

through a positive inscription onto the video. The fact that video allows such possibilities represents, as Dennis Redmond notes: "a deeply plebeian and democratic art form. Designed for maximum accessibility to a multinational audience, they display many of the best features of the global aesthetic commodities they both occasionally mimic and savagely critique: flexibility, ease of use, and sheer entertainment value" (5). Although the cursed videotape's entertainment value is dubious at best, Redmond's commentary applies not just to the passive reception of the video by viewers but to the active engagement in recording new material onto the videotape as well. The democratization implicit in the video format means that viewers can participate actively in intensifying the odds against survival for future watchers who fall victim to the tape's horizontal transmission. And yet, such obscuring of the information, however democratic and creative it may be, results in the same interpretation and reception by new viewers, demonstrating that the virus is still passed along.

The replication-with-a-difference of the dubbing can involve the insertion of any new information, even if that insertion performs a violent erasure to vital parts of the old information in exchange for this new memetic proliferation. Given the imperfect condition of the videotape Asakawa finds, *Ring* posits him as a kind of memetic detective, working backwards to trace the mysterious virus to its origins, his task being more difficult because of the commercial disruption. As Hull notes, this kind of investigative reading of cultural objects—pulling apart form, content, and the different levels of data contained in both—proves troublesome to information theorists since such a "mess[y] problem turns on the asymmetry between the ease of reading the information contained in a meme into some application and the difficulty of the opposite inference.

Copying instructions is relatively easy. Inferring the instructions from the product is extremely difficult" (59). Asakawa must trace the video virus's genealogy backwards to search for clues on how to negativize its code within his system, and executing such an examination entails drawing a series of necessary distinctions between the video's form and content, linking the material history of its bootlegging lineage and the memetic history of the images, sounds, and ideas of its conceptual ancestry. Asakawa's training and background in investigative journalism, along with his various professional contacts, help him, but, as is usually the case with a detective narrative, Asakawa always already assumes that there is a pattern present for him to detect. Sadako, as the original impetus for the video transfer of disease and suffering, becomes the Typhoid Mary Asakawa must seek to uncover, but in order for him to trace the creation of the circulating bootleg video back to her, Asakawa investigates the traumatic cycle that led to Sadako's psychic broadcast, making himself into a detective of sources operating at once in the materialist, epidemiological, and psychological realms.

Part of the research difficulty for Asakawa (as well as for the roughly interchangeable "Asakawa figures" in the successive adaptations and sequels) lies in the fact that video as a medium allows for certain sorts of access while elusively withholding others. The search for origins through video is ephemeral, always beyond the grasp of perception. Tetsuo Kogawa explains this sensorial slipperiness in "Video: The Access Medium," where he writes that:

> The transmitter does not bring anything, but it does *relay* something. It literally *re-lays* something in a different context. Even in the transmission of a very simple image, innumerable information units are relayed, producing meanings that are both different from and similar to the source material. There is no original for the resulting similar

> (transmitted) images because the transmitter does not carry away anything intact. Instead, the transmitter does erase the origin. It substitutes an eternal circulation for origin. (57, emphases in original)

With Kogawa's formulation of video transmission in mind, Asakawa's investigation is doomed from the beginning because, much like the void of meaning within viruses themselves, video's form does not necessarily have any connection to its content, and vice-versa. Still, despite the video's bootleg distortion, over-dubbed "instructions," and the "eternal circulation for origin" inherent in the cursed tape's form, Asakawa manages to trace the transmission back to Sadako, demonstrating that the viral model assumes a certain transparency of form and interpretation within the act of reading, on both the part of producers and the part of consumers. While this assumption of transparency limits the viral model in ways I will address later, I first want to explore how the obfuscation possible within the rewritable videotape form impacts *Ring*'s diegesis before analyzing these implications in a more general sense.

The fact that the tape's "instructions" for postponing death have been recorded over by a commercial reproduces the random malice made by a deadly videotape virus in the first place, but the resultant new video replicates this hostility in a fashion that complicates the novel's central metaphor about the viral spread of media. While theorists such as Grant, Nadim, and Hilderbrand posit that not-for-profit bootlegs—and the semi-utopian communal ideals which are extrapolated from them—have a largely progressive, anti-capitalist valence, bootlegging is more ambivalent in *Ring*. On the one hand, the protagonist discovers that dubbing new copies of the videotape is the means to save himself and his family, which aligns bootlegging with a kind of heroism, but, perhaps more importantly, the bootlegging simultaneously represents a kind of betrayal not just to

the unwitting viewers who receive the viral spread but to humanity in general. The text creates a relationship to the commercial realm through this use of bootlegging and the recording of a commercial over the key segment of the tape, but that relationship has its own level of ambivalence. How exactly are we to read this re-taping? Although the teens recording over the original, author-ized video text serves to destabilize its message through a kind of *détournement*, the fact that the appropriation is of an advertisement reminds us where consumer options originate for most video watchers. What initially seems like a prank reveals that the commercial politics of the bootleggers are only operating within a limited framework of media choices. The rebellious kids will not topple any existing media structures; they are only promoting further manipulation. After all, for those who have witnessed the viral video, like Asakawa, survival comes at the expense of extending a species-wide threat, giving the video virus's carriers and copiers a terrific sense of survivor's guilt, which seems to have been Sadako's intention in mentally projecting the images in the first place.

3. The Ring Bearer

What exactly Sadako's willful intentions are—as well as what particular recipe leads to the possibility of enacting them—remains a part of the mystery that audiences must interpret as much as the texts' protagonists themselves. Clearly, there is undeniable malice, but how and why does it work? While the American movie versions (and, to a lesser extent, the Japanese movie versions) gloss over the issue of how the videotape was created in the first place, Suzuki's *Ring* unveils how Sadako gained the powers necessary to create a fatal video designed to spread itself through piracy. Such a process is,

naturally, complicated—it is not every day that people create killer video viruses, after all—and Asakawa must assemble the pieces of Sadako's résumé qualifications for bioterrorist video production over the course of the novel, leading to the final shocking climax, revealed at the story's end as well as the end of Sadako's miserable life.

Although my approach lacks the dramatic revelations of a mystery unfolding, I will provide these narrative chunks all at once. Sadako is capable of creating a viral videotape (and wants to do so in the first place) because: 1) she is psychic; 2) her psychic abilities helped her mother achieve national success until the media brought the family low by trumped-up charges of fraud, spurring Sadako's mother's suicide—by jumping into a live volcano—and Sadako's developing hatred for humanity; 3) her psychic abilities also allow her to project mental images onto photographic film, which she becomes so adept at doing that she builds her talents to 24 frames per second, allowing her head to transform into a dual video recorder and broadcast tower; 4) during a brief stint in an acting troupe, Sadako discovered that her psychic powers were strong enough to kill people, which she did to a few of the troupe's members, whetting her desire for destruction; 5) after Sadako's adventures in the big city, she was raped by a rural sanatorium's doctor (who, years later, claims he was compelled by supernatural forces against his will), who was infected with the smallpox virus, which he passed on to her just before killing her and dumping her down an old well; 6) through some mysterious process, the smallpox virus fused with Sadako, and their shared desire to destroy humanity somehow defies extinction; 7) finally, immediately before he raped her, the doctor noticed that Sadako was a hermaphrodite, a factor that, according to the book, makes her suited for being genetically combined with a sexless virus and wreaking havoc

on humanity. Following such a bizarre trajectory, Sadako's consciousness somehow remained intact while trapped at the bottom of the well, and developers eventually built a hotel over the sanatorium's grounds, including one cabin directly over the ill-fated well. While on vacation, a boy inserted a videotape into the hotel's VCR, directly above the well, and Sadako's undead, psychic consciousness transmitted a virus onto the magnetic tape. The boy never watched the tape, his family left, and the unfortunate teenagers stumbled across the unmarked videotape, which brings us back to the beginning of *Ring*. Thus, should readers want to replicate Sadako's success with replication of diseased videos, they simply need to be abused psychic hermaphrodite rape victims with overwhelming hatred for humankind dumped down a well above which someone someday will leave a videotape.

The film versions wisely do not allow themselves the time for such weighty exposition of all these details, though the Korean version keeps its supernatural villain hermaphroditic. Instead, the core of these ideas is whittled down to a vague sense that a young girl's hatred or insanity or unmediated evil could produce such a videotape. This final detail in the list above, the one the doctor/rapist reveals to Asakawa decades after the fact, leading to the speculation—it all makes sense now—that the smallpox virus crawled into Sadako's strands of DNA, which wormed its way into the spools of videotape, provides one of the novel's more unusual elements. Suzuki's narrative revelation serves to conflate several social phobias into a single, concentrated danger; Sadako represents a threat through her alignment with deadly disease and pervasive technology as much as through her alignment with an ambiguous gender identification. When Asakawa and his friend (and fellow video virus victim) Ryuji confront the now

withered doctor, he confesses to the rape, which he discusses with the detachment of his profession as well as the detachment he claims by being paranormally compelled to his actions; he describes the scene:

> "A ray of sunlight fell on the point where her thighs converged, clearly illuminating a small, blackish lump. I raised my eyes to her chest—beautifully-shaped breasts. Then I looked down again. Within her pubic mound, covered with hair, was a pair of perfectly developed testicles.
>
> "Had I not been a doctor, I probably would have been shocked silly. But I knew of cases such as this from photos in medical texts. Testicular feminization syndrome. It's an extremely rare syndrome. I never thought I'd see one outside of a textbook—much less in a situation such as that. Testicular feminization is a type of male pseudohermaphroditism. Externally the person seems to be completely female, having breasts and a vagina, but usually not a uterus. Chromosomally the person is XY, however—male. And for some reason people with the condition are all beautiful." (224)

As an individual with "testicular feminization syndrome," Sadako is very literally not what she appears; not capable of sexual reproduction, she merges with the asexual form of the smallpox virus, reproducing through the video, though through means that are still unclear. Although this passage appears as the final revelation about Sadako's past, what is perhaps more shocking is the sterile language the doctor uses as he claims that he "never thought [he'd] see one outside of a textbook—much less in a situation such as that." While this revelation is unexpected, it allows for a kind of symmetry to the text. The balance of creation and destruction, male and female, sex and death, all add to the text's generation and perpetuation of its own mythology.

To explain how Sadako's mythic ring of terror originated, Asakawa recaps on how her multivalent power position transformed into the current menace terrorizing him and his family:

> A woman's resentment toward the masses who had hounded her father and mother to their deaths and the smallpox virus's resentment toward the human ingenuity that had driven it to the brink of extinction had fused together in the body of a singular person named Sadako Yamamura, and had reappeared in the world in an unexpected, unimagined form.
>
> Asakawa, his family, everybody who had seen the video had been subconsciously infected with this virus. They were carriers. And viruses burrowed directly into the genes, the core of life. There was no telling yet what would result from this, how it would change human history—human evolution. (281)

This passage emphasizes the transformative nature of viruses as horizontal transmission, the possibility of mutating on such a broad scale as to reshape human evolution from "an unexpected, unimagined form." Here, the metaphorical construct of texts operating as viruses becomes literalized on yet another adaptive level; the videos as texts could reshape the course of human genetic evolution, stemming outward from a rare genetic condition that typically results in sterility rather than such wide-spreading fecundity and adaptation.

Unfortunately, Asakawa only understands the nature of the video virus after his friend Ryuji has succumbed to it and died; together, the two of them believed they had solved Sadako's riddle by tracing her past to the well that became her grave. They believed that uncovering her remains for proper burial was the key to releasing her unhappy consciousness, restoring the natural order of things, and breaking the curse of the virus they both harbored in their bodies. After Ryuji dies (past Asakawa's seven-day deadline), Asakawa contemplates what he did to break the curse inadvertently that Ryuji did not, the answer being that Asakawa made a copy and passed it on to his friend. Because Asakawa works so hard to uncover Sadako's backstory—and Koji Suzuki works so hard in creating it and integrating it into the narrative—*Ring* evinces a misplaced

obsession with origins. The "solving" of the tape's mysterious beginning provides no resolution, no cathartic release that brings everything back to "normal." The question of origins, the issue of helping Sadako rest peacefully, is a fat red herring swimming through the spools of videotape and thus through Suzuki's novel. What Asakawa overlooks in completing his investigative probe of the videotape's historical origins was that, from the viral perspective, origins are unimportant; viruses do not think about from whence they came, precisely because they do not think. Instead, it is the pattern of the process—where the virus now stands in its chromosomally programmed efforts to map its interior code ever outward—that matters.

Similarly, the subsequent adaptations do not necessarily point to their originary text. We can trace the chain of textual adaptation from one text to another, but the changes and similarities are much less significant than the structural pattern in which the narrative passes, virus-like, from one form to another, mimicking its subject matter in the process of transitioning between and among forms. Examining how the original videotape in the original story came to be is ultimately a futile process, as the artifact gestures outward to other origins before it, "*re-lay*[ing] something in a different context" while ultimately slipping past scrutiny. Beyond a certain point, the cause-and-effect narrativization breaks down, much like the clearest transmission of a viral chain can only be traced back so far. Still, in *Ring*, Asakawa understandably falls victim to the story of the tape's origin. Given such a video, especially with a literal deadline for decoding its meaning, an obvious first step to contextualize its text, narrativizing the narrative's history. That Asakawa is tricked into thinking Sadako is the key to escaping his doom is not faulty logic on his part but an extension of the traditional narrative logic employed in

most supernatural tales. In such stories, tracing their textual and psychological roots to the Oedipus narrative, something has thrown off the natural balance, resulting in a haunting or curse, and normalcy will return once that balance resumes, usually in the form of some release or acknowledgement of the past. The logic powering the curse in *Ring* is much less subject-centered—bearing the DNA imprint of a viral structure imposed on an unfeeling technology, rather than a ghostly touch of a once-living person—and, as a result, Asakawa's investigation, relying as it does on the psychoanalytic traditions of detective narratives, comes to a faulty conclusion as to how to negativize the virus.

While those who have seen any of the movies now almost instinctively center on the image of a dripping wet Sadako Yamamura (or Eun-suh Park or Samara Morgan, her Korean and American counterparts, respectively) crawling out of a television set with her hair obscuring her undead face, her victims in *Ring* all suffer only physiological effects, not ghoulish attacks. The movies must rely on a visually represented threat, but the book can convey the creepiness of a less tangible foe, such as a virus. Asakawa has difficulty adjusting to such a threat, preferring to think of it in terms of a subject's trauma, which can be narrativized and thus subdued. It is seemingly Sadako's consciousness, after all, that puts Asakawa into this bitter double bind so as to spread the trauma she experienced in life, replicating a Freudian melancholia that seemingly refuses to release from the mourning of death.

In his psychoanalytic detective work, Asakawa pieces together the mental suffering Sadako underwent during her lifetime; this theme replicates itself into all of the movie versions as well, though not all of them explore to what degree she (or her

international movie clones) must have suffered, or how disproportionate her revenge has become. The videotape replicates a kind of witnessing along with its viral curse. Sadako's traumatic testimonial, as obscured as it may be behind the trappings of the tape, projects her narrative onto others, making them feel what she felt (literally, the tape gives viewers haptic sensations and physiological reactions beyond its audio and visual elements), while it infects viewers with survivor's guilt at the same time. This aspect of the tape is peculiarly specific in its transmission of aura; everyone who has borne witness to the images and sounds on the tape has the virus and goes through the exact same set of emotional and physiological reactions. In this way, the tape usurps any attempt at interpretation or critical intervention, passing the virus along to passive victims.

All texts possess a certain degree of autonomy is that they can provoke a wide array of unexpected reactions in their audiences, but here the affect produced is uniform and beyond the receptive viewer's control, the epitome of a viral reaction. While Einstein's textual information proved to be autonomous in the sense that it was beyond his authorial control to inspire nuclear weapons (see Chapter One), here the video text becomes autonomous both from its creator—who cannot control its distribution directly—and its viewers—who cannot control their physical, bodily reactions to the tape. This uncontrollable audience reaction mirrors Brian Massumi's conception of the autonomy of affect, as outlined in *Parables for the Virtual: Movement, Affect, Sensation*, wherein he writes that:

> Affects are *virtual synesthetic perspectives* anchored in (functionally limited by) the actually existing, particular things that embody them. The autonomy of affect is its participation in the virtual. *Its autonomy is its openness.* Affect is autonomous to the degree to which it escapes confinement in the particular body whose vitality, or potential for

interaction, it is. (35, emphases in original)

In analogous fashion to Massumi's passage, Sadako's home movie concerns itself completely with its affective abilities to escape "confinement in the particular body whose vitality, or potential for interaction, it is." The viral model is particularly effective for meme theorists because it engages—sometimes rather obliquely—the notion of passing emotion along with texts, not just information. In the case of the videotape in *Ring*, the affect of Sadako's physical sensations translate directly into the viewer's experience, while the affect of the fear of death prompts the viewer to pass the experiential text along, robbing the next generation of viewers of their sensational autonomy just as easily as the tape might rob them of their lives. Likewise, the cinematic adaptations conform to the informational code while similarly attempting to spread the underlying fear. The code the viral videotape transmits is absolute, treating the spectator as a blank state, devoid of specificity in terms of both readerly comprehension and the ever-changing contexts of time and space that unfold with each additional screening.

Regardless of the viewer's agency, watching the tape bears witness to Sadako's trauma, making viewers into survivors, but those who bootleg the viral video become two-time survivors, with survivor's guilt for their complicity with diseased media. This repetitive process of trauma, survival, and guilt conforms to Cathy Caruth's Freudian reading of survival in *Unclaimed Experience: Trauma, Narrative, and History*, wherein she writes:

> Not having truly known the threat of death in the past, the survivor is forced, continually, to confront it over and over again. For consciousness then, the act of survival, as the experience of trauma, is the repeated confrontation with the necessity and impossibility of grasping the threat to one's own life. It is because the mind cannot confront the possibility of its

> death directly that survival becomes for the human being, paradoxically, an endless testimony to the impossibility of living. (62)

With Caruth's framework in mind, the bootlegged video represents not simply an audio-visual transmission or a viral transmission or even an informational transmission; the tape also enables a transmission of affect, which remains imprinted in the minds of the guilty survivors. Tracing the phenomenon back to its origins, in this particular case, is relatively futile because, as noted earlier, the Oedipal detective work Asakawa performs has no yield; there is no moment of revelation or release, only more guilt. There is a viral matrix at work in the videos, but there is no singularity to point to as unified, problem-solving origin. The pattern of the plurality is everything, while its origin is relatively meaningless, just as the movie adaptations signify.

This conceptualization—that the pattern of plurality trumps the issue of origin—provides a critical parallel between meme theory and trauma theory. As many contemporary theorists conceive of affect, the patterns that emerge from transferring affect have much in common with the kinds of colonizations viruses perform. Deleuze and Guattari observe, through a synecdoche that conflates various elements of psychoanalysis into the single term of Oedipus, that "Oedipus is always colonization pursued by other means, it is the interior colony..." (170). In this case, the psychoanalytic model itself is revealed as a kind of pattern creating its own sense of trauma. Thus, with the viral model, colonization takes place both within (as an extension of a subject's reception of a text) and outside (as a text "taking over" a given culture through its infectious popularity). And yet, the viral model has certain epistemological limitations on the subject of origin because the beginning point of memetic genealogies

inherently involve moving to a kind of ur-past, understanding a "virus of the mind" before there is a material record to trace.

In terms of understanding the process of adaptation, the viral model maps out a Darwinian assemblage in that its focus depends more on patterns, relationships, and systems rather than individual subjects, and, given this focus, creators and adapters are not so much possible origins as they are components of a systemic environment. Thus, while we can point to Suzuki as author of the *Ring* novels and progenitor of the whole host of *Ring*-related textual adaptations, his role, from the perspective of the viral model, is only a part within a complex system of influences, of ideas, narratives, and inspirations that came before. Similarly, the viral video may trace back to Sadako, but she can trace her own sort of viral genealogies back in multiple causal directions, which the adaptations after *Ring* also do. Edward Said observes in *Beginnings: Intention and Method* that investigating texts critically also necessitates struggles with the very notion of network, something always beyond individual creators; he writes:

> To what extent is a text itself not something passively attributable, as effect is to cause, to a person? To what extent is a text do discontinuous a series of subtexts or pre-texts or paratexts or surtexts as to beggar the idea of an author as simply producer? If the text as unitary document is more properly judged as a transindividual field of dispersion ... where does it begin if not in a "creative" or "producing" individuality? (58)

Thus, given complex systems—such as epidemiological, psychological, or textual systems—the process of making meaning depends on an epistemological web that relies on but moves beyond individual creators. The "transindividual field" poses challenges in that we have difficulty understanding environmental networks without ascribing individual, subject-centered agency.

Moreover, adaptations, as texts that always gesture beyond themselves to some other origin, problematize the issue of origins because, no matter who does the adapting, that text's producer is not the creator; in many senses, the outside, original text is, even if the texts' author is the same. Adaptation depends on the original text's success, separate and distinct from the author, within the textual network; the original text must flourish to some degree (sparking some creative inspiration or, often, sparking merely the hopes of further profit) in order for someone to undertake the process of textual adaptation. Thus, an adaptation is an investigation into the complex causes and origins found in the original for the purposes of adapting them to another form, in order to create a new text that flourishes in its own right, just like Asakawa copying his own bootleg version of the video. As Said, explains, however, this very concept of tracing back toward beginnings and origins is engaging because of the difficulty (perhaps even impossibility) of utilizing beginnings for meaning-making; he writes:

> As a problem for study, "beginnings" are attractive, first of all, because while one can isolate *a* beginning analytically, the notion of beginning itself is practically tied up in a whole complex of relations. Thus between the word *beginning* and the word *origin* lies a constantly changing system of meanings, most of them of course making first one then the other word convey greater priority, importance, explanatory power. (5-6, emphases in original)

Many narratives directly or indirectly focus a return to a beginning—or at least the idea of a beginning—to provide "explanatory power," solving mysteries or uncovering secrets. But the "whole complex of relations" involved in "the notion of beginning itself" applies to the process of adaptation between and among narratives as well, given that, much like the transmittable affect of the trauma-inducing videotape, the process of moving from one textual form to another involves a more complicated process than what a preliminary

investigation might indicate.

Textual adaptation requires interpretation. The creative investigation of the original text allows the text to be transformed and proliferated, but, like Asakawa and the videotape, the adapter must know how such proliferation is performed. The viral model's limitations are that, on the theoretical level of the system, there is no sense of agency, no interpretation need take place; the form is simply copied and watched, copied and watched. According to Dawkins and Brodie's conception of the mind virus notion, individuals absorb and pass on memes without much active intervention. This conception allows little room for alternate interpretations—which is why such virality works in explicating the *Ring*-related texts, dependent as they are on subjects watching a video passively and arriving at a uniform "reading"—but does it still have merit as an explanatory system for adaptation? The viral model illustrates how texts pass from one form to another with a seeming transparency while also allowing critics to expose that such a viral passage assumes a kind of blanket interpretation on the part of its audiences' reception. In other words, adaptations seem to flow forth as a function of a successful origin text, but such simplicity of transference is part of an illusion on the part of textual producers for consumers to take in along with the texts themselves.

In the *Ring*-related texts, there is only one interpretation of the video; one must follow its rules or die. The character of Noah in Gore Verbinski's *The Ring* remarks, after watching the tape at Rachel's insistence, that the frightening video "was very student film," adding after Rachel's frustration, "I'm sure it's a lot scarier at night." Regardless of Noah's criticism—an interpretation that the videotape is not scary—the viral tape still kills him when he does not make a copy. Likewise, through Verbinski's adaptation for

American audiences, there is also a seeming transparency; the American version is an adaptive interpretation that brings the text to a new setting, where, as studio producers anticipated, the cultural reception was similar to the success the earlier film had in Japan. While such a conservative conception as the viral model allows little room for fluidity in reception, interpretation, or adaptation, this viral pattern of transplanting one successful text to another form—of replicating "what works" while minimizing divergence—is the most prevalent type of adaptation. Just as the videotape in *Ring* yields the same results no matter who watches it (including Asakawa's preliterate son), producers and adapters typically assume that the process of adaptation is more about fidelity than change, exposing a new population to a similar product in hope of creating a similar outcome.

In terms of narrative interpretation, though, reception is hardly uniform. Individuals' critical comments could come from any number of perspectives. So, while meme theorists may formulate textual transmission as paralleling viral spread, there are explanatory gaps because adaptation and interpretation are neither transparent nor absolute. As with the teens in *Ring*, reception and meaning-making allow texts' readers to map new significance onto a text, whether metaphorically through interpretation or literally through alteration to the material form. Likewise, in the case of the ring videotape's replication and proliferation, textual transmissions function both metaphorically within the text (as the viral video's distribution provides the novel's central drive) and literally outside of the text (as the novel has spawned several material adaptations through movies, sequels, and remakes). This cross-cultural transference of the fear-inspiring media virus takes Koji Suzuki's textual anxieties about technology—and the bootlegging metaphor that complicates them—and projects the ring of exposure

outward to ever-expanding viral radii, performing an imitation of bootleg reproduction of its own.

4. The Ring Pandemic

One primary difficulty in analyzing texts according to the viral model is that the model's parameters reconfigure many common conceptions about texts. For example, the information—the code—of Sadako's viral video, to the extent we can even ascribe it with a sense of ownership now that it relies on the next generation of virus carriers, is not singular. That viral code, as the prankster teens demonstrate, is highly malleable, capable of mutating to the point where it no longer resembles the earlier generations' versions; and, due both to the problematic tracings of origin and to the multiple adaptive iterations, the code is inherently plural. Such information is distributed, enduring as a fractious multiplicity; none of the versions is complete unto itself. Likewise, Suzuki's *Ring* can no longer exist as an individual text; analyzing the novel invites analysis of the outward-spiraling radii of texts that the novel generated. *Ring* now "lives" only as a scattering, since it is also a part of the forms of *Spiral*, *Loop*, *Ringu*, *Rasen*, *Ringu 2*, *Ring 0: Birthday*, *The Ring Virus*, *The Ring*, *The Ring Two*, assorted short stories of Suzuki's that harken back to the imagined past before *Ring*, the graphic novels, the videogame version, and the numerous spoofs, references, homages, and marketing-related media. We may conceive of the textual virus contained in *Ring* as being the original, but that brand of thinking overlooks the plurality of its existence, as elucidated above. Like the videotape virus within the text, there is no singular strain we can point to as the source, and that limited mode of thinking disregards the potency of the texts' being as simultaneously

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One primary difficulty in analyzing texts according to the viral model is that the model's parameters reconfigure many common conceptions about texts. For example, the information—the code—of Sadako's viral video, to the extent we can even ascribe it with a sense of ownership now that it relies on the next generation of virus carriers, is not singular. That viral code, as the prankster teens demonstrate, is highly malleable, capable of mutating to the point where it no longer resembles the earlier generations' versions; and, due both to the problematic tracings of origin and to the multiple adaptive iterations, the code is inherently plural. Such information is distributed, enduring as a fractious multiplicity; none of the versions is complete unto itself. Likewise, Suzuki's *Ring* can no longer exist as an individual text; analyzing the novel invites analysis of the outward-spiraling radii of texts that the novel generated. *Ring* now "lives" only as a scattering, since it is also a part of the forms of *Spiral*, *Loop*, *Ringu*, *Rasen*, *Ringu 2*, *Ring 0: Birthday*, *The Ring Virus*, *The Ring*, *The Ring Two*, assorted short stories of Suzuki's that harken back to the imagined past before *Ring*, the graphic novels, the videogame version, and the numerous spoofs, references, homages, and marketing-related media. We may conceive of the textual virus contained in *Ring* as being the original, but that brand of thinking overlooks the plurality of its existence, as elucidated above. Like the videotape virus within the text, there is no singular strain we can point to as the source, and that limited mode of thinking disregards the potency of the texts' being as simultaneously

distributed, both culturally and materially.

Moreover, when we examine the *Ring*-related phenomena, the apparent origin of *Ring* as a text draws parallels (possibly serving as multiple points of originary inspiration) from such texts as David Cronenberg's movie *Videodrome*, Christopher Fowler's novel *Rune*, and, perhaps most obviously of all, Japanese folklore. Not only does the text spiral backwards in time from its publication date, the existence of *Ring*, like any virus, spreads through the plural; by virtue of its publication, the text manifested itself materially as an explosive memetic phenomenon. Like Sadako's videotape, this information could not spread fast enough—or profitably enough—in a singular form, which is why producers distribute as many copies as they think will rake in sales. Although when discussing novels or movies we usually say "I read that, too," or "I saw that, too," when almost always mean that we, too, have been exposed to a different copy, existing in a separate and distinct material space though most often technically the same, in terms of narrative.

In *Spiral*, Koji Suzuki's sequel to *Ring*, the author grapples with just such a plurality to the threat within the text, as does his anti-heroic protagonist Ando. The storyline of *Spiral* picks up almost exactly where *Ring* left off; Asakawa is driving with his wife and child to dub a new copy of the tape and save their lives when he crashes the car. Ando, as the local forensic pathologist, encounters the same anomalies in the patterns of death that Asakawa found with his niece and her teenage friends, only he scrutinizes the phenomenon with the help of the hospital's microscopes, employing empirical medical science rather than Asakawa's investigative reporting tactics. *Spiral* occasionally fudges the scientific accuracy of its microbiology and forensic pathology, covering a few plot holes with the blanket of the supernatural by attributing certain

impossibilities to "Sadako's extraordinary power," but Ando's application of the scientific method is fairly accurate and consistent (129). Ando notices that the sarcomas he discovers in the corpses of those infected by the videotape virus bear similarities to the smallpox virus, and he races to prevent a global smallpox pandemic, slowly uncovering the connections between the virus, the video, and Sadako Yamamura. Eventually, he pieces together the nature of the curse:

> Ando looked again at the photos of the ring virus. Vast numbers of them, piled on one another. When several specimens overlapped, they looked like unspooled, tangled-up videotape. The psychic Sadako Yamamura, on the brink of death, had converted information into images, leaving some sort of energy at the bottom of that well. The video had been born as a result of the detonation of that energy. It wasn't matter that was spreading, but information, as recorded on videotape and DNA. (204)

As Ando crystallizes the information he has assembled about the deaths of the virus-infected victims, he realizes that the culprit is "some sort of energy," which has been transmuted into "information, as recorded on videotape and DNA." With time, Ando traces the videotapes down, finding that, with the deaths of their victims, the virus ought to be extinct. But, as he exposes the pathological roots of the tape in another search for origins, Ando finds that the virus can survive through mutating, through evolving into forms even more plastic than video. Thus, in a new way, the threat is multiple, even at its source.

These multiple origins, however, do not keep the virus from mutating into other media forms, much like the first novel began its outward spiral in leaping from print to film. In the course of *Spiral*'s narrative, Ando discovers that Asakawa's reportage, stored in files on a disk, describe the videotape's bizarre sequences so accurately as to recreate their experience for the reader literally, "interpreting" the experience so effectively as to

recreate it. Using this high-fidelity writing (which leaves out the possibility for misinterpretation), the virus jumps from video to print in order to make fresh victims out of readers. After Asakawa dies, his greedy brother transforms the journalist's reportage into a (very familiar-sounding) horror novel, reshaping the events as fiction or, in this case, meta-fiction. Ando discusses the implications of this media spread with Ryuji, who, thanks to Sadako's power, is resurrected as a clone to reprise his role as devil's advocate from the previous novel. Their dialogue is grimly self-reflexive:

> "*Ring*'s sold over a million copies."
> "A million-seller, huh?" Ando already knew this. He'd seen it in newspapers. The book had already been through several reprints, a fact that was trumpeted in its marketing. But every time Ando saw the word "reprint" it made him think "replication." *Ring* had been able to effect a near-instantaneous mass reproduction of itself. There were now more than a million people carrying the virus.
> "They're even making it into a movie."
> "A movie? *Ring*?"
> "Mm-hmm. They cast the part of Sadako through an open casting call."
> "An open casting call?" Ando found himself reduced to repeating after Ryuji.
> The resurrected man broke into laughter. "That's right, an open casting call. And who do you think nailed the part of Sadako?"
> Ando didn't keep up on show-business news. "Tell me," he said. How was he to know who's passed the audition?
> Ryuji was almost doubled over with laughter. "Don't be such a dullard. You know her quite well."
> "Sadako...herself?" (275)

In this somewhat goofy and ironic fashion, the ring virus's unfurling narrative parallels the memetic journey of its own literary source material. It may be frightening to think of a deadly virus as somehow beyond containment, beyond media quarantine, but that frightening feat would be impossible without the parasitic human element within the various media industries who benefit from selling this diseased product to the masses.

The individuals who help the virus are as scary if not scarier than the virus itself, even when the part they play is unintentional.

While those who pass the videotape on engage in a kind of metaphorical rape, *Spiral*'s mutated version of the virus literalizes its predecessor's central menace by multiplying and inserting its genetic information into its female viewer victims' unfertilized eggs, performing a bizarre rape from within as each attacking virus contains a segment of Sadako's DNA. The victims then speed through an accelerated pregnancy—fast-forwarded to fit the viral video's seven-day deadline—and give birth to a Sadako clone, who emerges as asexual yet now ready to reproduce, yet another virus analog. The endpoint of this relentless attack on humanity will lead to the loss of genetic diversity as more and more people "watch" the tape—audiences dying or becoming impregnated or helping spread the tape's code at exponential rates—allowing Sadako to breed with the media to snuff out humankind. Ryuji explains it all to Ando, saying:

> "Just think how huge the media industry is, and how many people in it have already been in contact with the virus. Even if *Ring* itself is destroyed, the media is going to be transformed by people who have contracted the ring virus. Just as that videotape mutated into a book, it's going to get into every stream: music, video games, computer networks. New media will cross-breed with Sadako and produce more new media, and every ovulating woman who comes in contact with them will give birth to Sadako." (276)

While this totalizing and apocalyptic spin on the first book follows a central kind of viral pattern to its logical conclusion, it also manages to produce a corny extremism that feels more like laughable B-movie material than something that taps into an audience's primal fears.

Japanese moviegoers agreed. When *Ring* was adapted into a movie titled *Ringu*,

audiences loved it.[5] The movie departed from the novel, but not to such an extent that most of the book's fans would mind too much, holding true to the viral model of adaptation. Asakawa was changed from a male reporter to a female one; Sadako was changed from an adult hermaphrodite to a little girl; and Ryuji was changed from Asakawa's boyhood friend who is secretly a virgin and teaches as a bitter philosophy instructor to Asakawa's former lover who is secretly the father of Asakawa's child and teaches as a womanizing video production instructor. While such gender-bending textual changes may seem unusual, they follow typical horror conventions to have a female protagonist to play the role Carol Clover titles "the final girl," and, as mentioned above, audiences loved this narrative's viral recombination and adaptation of the novel. On the other hand, *Spiral*'s movie adaptation—titled *Rasen*—was panned by audiences and critics alike. The mutation could not thrive and so went extinct. Like *Spiral*, *Rasen* killed off *Ringu*'s characters, offering instead a bizarre science fiction villain and an equally bizarre forensic pathologist protagonist. *Ringu* loses Suzuki's hermaphrodite angle and never mentions a virus, whereas *Rasen* seems to revel in clinical details such as these. *Ringu 2* was the solution, giving audiences more of the same characters they had enjoyed before, continuing the storyline more "faithfully" from where it left off. This version is "faithful" at least in the sense that the same characters continue the same conflict from the first movie, although this choice violates the internal narrative logic—of infection, replication, and immunity—established in the first movie.

Since Asakawa has already confronted the viral video, unlocked the nature of its code, there is really no possibility for any additional encounters or adventures, according

[5] For simplicity's sake, I will refer to Suzuki's books as *Ring* and *Spiral*, while calling their corresponding

to typical narrative conventions anyhow. *Ringu 2* solves this problem with a fairly artificial extension that abandons both the videotape and the viral infection it transmits, grafting on dopey family drama as the spirit of Sadako begins to possess Asakawa's child, leading to the climactic moment when Asakawa must kill the child in order to save it. The American version, *The Ring Two*, replicates the cinematic storyline and basic feel—even keeping the same director, Hideo Nakata—for another trip to the well, so to speak. And, while *Ringu 2* and *The Ring Two* were not lauded with as much praise as their predecessor movies, neither was as vilified as *Rasen*. The narrative in *Spiral* (and thus *Rasen*) mutates the virus for a different cast of characters to discover and investigate, with the narrative ending as the apocalypse approaches; the narrative in *Ringu 2* (and thus *The Ring Two*) extends the conflict between Asakawa and Sadako (or their counterparts Rachel and Samara) separate and distinct from the viral framework of the video curse, ending with goodness and life triumphing over evil and death, at least for now. At the end, both strains of the narrative seem to have more or less hit dead ends in terms of their potential to generate further narratives beyond the boundaries established at their endings. Of course, as many movie franchises have demonstrated, the end never necessarily needs to be the end. As Isabel Cristina Pinedo notes: "violating narrative closure has become de rigueur for the postmodern genre. The film may come to an end, but it is an open ending" (29). Extending the narrative either in the direction of further viral complications (the *Spiral* route) or in the direction of further conflict with Sadako/Samara (the *Ringu 2* route) is a fairly elementary exercise, despite these narratives appearing to have more complete closure than the average postmodern horror genre exercise. Thus far, the only

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movies *Ringu* and *Rasen*, even though the titles translate as the same words.

follow-up narrative we have does not quite go in either of these direction; rather, the narrative cyclically twists back in on itself in Koji Suzuki's *Loop*.

In *Loop*, Suzuki cheats. He utilizes a narrative escape hatch for the apocalyptic corner he has written himself into through evoking virtual reality, mutating his video virus into a computer virus. Although the plot of *Loop*, like those of *Ring* and *Spiral*, is somewhat resistant to summary, the events center around a character named Kaoru, who lives in a world gripped by the ever-spreading Metastatic Human Cancer virus, which spreads like HIV through the population even as it spreads cancer cells in the host body faster than surgeons can cut them out. Worse still, the virus has adapted to other life forms, threatening to destroy all life on Earth. Early in the novel, Kaoru falls in love with a young mother who has the MHC virus—her son, who is further along with his MHC infection, is being treated in the hospital where Kaoru works—and the tragic couple eventually have sex (oddly enough on the little boy's hospital bed while he is gone for treatments and they have some time alone), guaranteeing the virus's transmission into Kaoru's system. Now, like the previous two Suzuki books, the protagonist has a viral deadline to beat; he must figure out how to beat the virus before it can claim his life or the life of his newfound love (the boy conveniently commits suicide). Kaoru follows some convoluted clues to the American Southwest, and, long novel short, he uncovers an underground virtual reality center named the Loop that has been simulating artificial life for decades and studying the resulting data patterns that emerge, including details on the artificial constructs of entities such as Asakawa, Ryuji, and Sadako. The video virus, which, up until this point, might have been supernatural but was always "real" now becomes "virtually real" as a computer virus that managed to escape the computer

program when a large chunk of data was exported. Kaoru discovers that he brought the ring virus out into the "real" world when his consciousness was extracted from the virtual reality program and given human form; he is the reincarnation of the virtual reality character of Ryuji. The reason Ryuji was capable of returning from the dead in *Spiral* was not that he was a villain; he was trying to help mankind by re-entering the program to extract the virus's pure form for the Loop team to study it and effect a cure to save the world.

The ring virus, no matter what form of transmission it takes, relies on the uniformity of interpretation discussed above; the viral model of adaptation applies here because, no matter how the virus adapts to new vehicles and environments, it yields the same results in textual recipients. This third installment of the *Ring* series is definitely the most hare-brained, but its kooky plot retains the viral threat through technology. And, unlike the previous books and movies, *Loop* manages to sidestep some of the former texts' narrative limitations. While Kaoru travels through plot holes as easily as he travels through virtual reality rabbit holes, his existence in textual form proves that the world still allows for more horizontal transmission of the viral products of *Ring* as a generative source. Suzuki's original novel continues to spawn mutated viral offshoots of narrative because consumers have proven themselves to be still susceptible; the media virus will not succumb to extinction until its popularity is no longer profitable.

5. Nostalgia for Impossible Origins, Preparations for an Impossible Future

Throughout all of Suzuki's books—as well as most of the movies based on them or derived from them—there is a constant striving backward to an origin that proves to be

either impossible or somehow unsatisfactory; likewise, their endings gesture toward futures that make narrative almost impossible by destroying humanity. *The Ring Virus*, the Korean movie version of *Ring* (and also the novel's most exact replication in adapted form), ends with Sun-joo—Asakawa's female, Korean counterpart—driving under a sky roiling with dark clouds that cast thick, ominous shadows over the landscape, implying that her choices may destroy an unsuspecting world. But, really, whether the story ends with the looming apocalypse or the global restoration of health, exploring the next step, besides representing a radical shift in tone and characterization, would not likely prove provocative for a narrative; these are endings.

Although these texts seem to achieve closure, they still adapt in new forms, though with mixed success. For example, after directing *Ringu 2*, Hideo Nakata shot a prequel called *Ring 0* based on one of Suzuki's short stories, and even the title itself signals an impossible return to a mythic originary source, hitting the narrative zero. The storyline focuses on an adult Sadako protagonist who struggles in an amateur acting troupe whose members keep mysteriously dying at the hands of a long-haired young girl who looks exactly like the Sadako fans recognize from the other two movies; Sadako investigates the phenomenon, only to discover that, when she was younger, her father somehow split her into two so as to contain her evil and prevent it from growing through administering drugs, making Sadako her own evil twin and ramming abandoned well-sized plot holes into the larger narrative while clarifying nothing. In adopting this narrative concentration, *Ring 0* obsessively mutates and recreates Sadako's origins, giving her multiple origins another divergent thread. The events in *Loop*, on the other hand, extend the possibilities from the impossible past of *Ring 0* to an impossible future

instead, one where the history established in the first two books is fictional even to *Loop*'s fictional inhabitants. *Loop* demonstrates through its infected virtual reality the (im)possibility to loop back to a time before the virus was unleashed, replacing horror (which focuses on portraying the everyday juxtaposed with something uncanny and terrifying) with the pre-stretched feasibility of science fiction (which allows for the Möbius strips of possibilities found in the virtual realities of *Loop*).

To keep earning profits, Suzuki must keep proliferating mutations of his viral narrative franchise, aiming for Dennett's "potential" immortality. Thus, Suzuki propagates his viral narratives pathologically, the texts feeding off social anxieties about diseases such as AIDS and cancer. Suzuki appears aware of his role as the biohazard bogeyman, as *Loop* explores the potential immortality of both cancer and virus forms:

> Normal cells in a Petri dish will only form one layer, whereas cancer cells will form layer upon layer. Normal cells reproduce in a flat, orderly fashion, while cancer cells multiply in a three-dimensional, disorderly manner. Normal cells have a natural limit to the number of times they can divide, while cancer cells can go on dividing forever.
>
> *Immortality.*
>
> Kaoru was fully aware of the irony in the fact that immortality, the object of man's deepest yearnings from time immemorial, was in the possession of this primeval horror, this killer of men. (65)

If Kaoru understands the irony of cancer's immortality, so too does Suzuki, who, in mutating his viral threat to graft onto cultural anxieties about carcinogens, seeks to reverse various epidemics' parasitism in his favor; his texts aim to override the "natural limit," seeking to "go on dividing forever," as those involved with the promotion of a series secretly hopes. In other words, Suzuki wants his texts to have just a fraction of the global fame attained by AIDS or cancer.

The unfortunate result of these reproductions on Suzuki's part, however, is the

same fate as that which ensues from the incessant duplicating of the viral video itself: deterioration of quality. Despite Suzuki updating the video virus as a computer virus, *Loop* is still a copy of a copy. I am not suggesting that sequels are never successful; instead, the implications here are that by constantly trying to reproduce an innovative idea through cloning and re-cloning its formula to bring it "back from the dead," much of the original innovation is lost. The basic genetic metaphor of the viral model becomes muddled at this point because it is difficult to quantify elements of fresh creativity. We might suggest reversing this genetically modified inbreeding by injecting Suzuki's series with new blood, but what exactly would that be in this case? From a critical perspective, continually reproducing the genetic makeup of the original text feels decidedly inferior; from the perspective of meme theory, the texts' popularity observes the law of diminishing returns over time. Not long after positing the concept of the meme in *The Selfish Gene*, Richard Dawkins fleshes out the limits of genetic and memetic immortality:

> When we die there are two things we can leave behind us: genes and memes. We were built as gene machines, created to pass on our genes. But that aspect of us will be forgotten in three generations ... Our genes may be immortal but the *collection* of genes that is any one of us is bound to crumble away ... We should not seek immortality in reproduction.
>
> But if you contribute to the world's culture, if you have a good idea, compose a tune, invent a spark plug, write a poem, it may live on, intact, long after your genes have dissolved in the common pool. (199, italics in original)

Clearly, Suzuki's work has "contribute[d] to the world's culture," but his novels—as well as the other associated media they inspired—are unlikely to achieve cultural immortality, mostly because the texts are linked to a technology that appears to be fading away.

As video is transferring into obsolescence as a medium, the scare factor behind the *Ring* texts, which revolve around video, become less and less everyday and more and

more quaintly antiquated. Given that all of the video games, movies, graphic novels, and novels rely directly or indirectly on video, even when they are transferred to DVD and even though video as a medium has fallen into disuse, these texts indulge in a form of what Laura Marks calls "analog nostalgia." As Marks notes in *Touch: Sensuous Theory and Multisensory Media*: "Paradoxically, the age of so-called virtual media has hastened the desire for indexicality ... Among digital videomakers, one of the manifestations of the desire for indexicality is what I call analog nostalgia, a retrospective fondness for the 'problems' of decay and generational loss that analog video posed" (152). Once again, even in the texts' concerns over material form, there is a sense that they are gesturing ever backwards, using this "analog nostalgia," to evoke a now-impossible past of all-analog origins (we cannot go back to an exclusive video culture), while also indicating an impossible future (we will never have an all-digital, analog-free culture). This mourning of a perishable past, a nostalgia for "'problems' of decay and generational loss," lies at the heart of Suzuki's leap outward with the diegesis of *Loop*; his narrative can no longer hinge on video technology if it is to remain current with readers.

Other texts in *Ring*'s string of viral vectors make similar signals toward the now-outdated status of a threat carried on videotape. On the DVD version of Gore Verbinski's *The Ring*, analog features bleed into the digital. Suggestively, hissing static and blurry tracking lines buzz onto the standard warning screen about federal laws prohibiting the illicit reproduction of the following movie, as though the videotape's elements could somehow bootleg themselves into a digital transfer. Such distorting effects are the result of videotape demagnetizing, and, as such, will never plague deteriorating digital video in exactly the same fashion. The fact that these crackles cover the federal prohibition in part

indicate the following narrative's obsessions with illicit reproduction, while also snapping the viewer out of the lull normally associated with the dull federal warnings, the scratches performing an Althusserian hailing of the bootlegging subject. But, although this momentary static smudge might expose certain subversive, underlying affinities with "bootleg aesthetics," its effect in the end is to reinforce the federal warning since, as I discussed earlier, the logic of the narrative mostly opposes bootlegging, associating it with the spread of irresponsibility, disease, and, ultimately, death.

After the tracking glitches during the federal warning, the DVD then proceeds to the DreamWorks logo, presenting more hisses and hitches, even a flickering image of the moon in the logo forming the first of the movie's many ring-based images, a threatening cue that, like the characters, perhaps we are about to die for having seen the ring. This visual in-reference works best only with those viewers who are already familiar with *The Ring*'s narrative to catch on to this almost subliminal insertion, a gesture to a kind of impossible origin. After all, there is the possibility that viewers recognize the ring image from the movie's marketing or the previous Japanese or Korean incarnations, but, then the logic of the "scare" is reversed; if viewers have already "seen the ring," they know it is not fatal. Likewise, this opening depicts an omen for an impossible future, one wherein those who see the ring eventually die as a result. Beginning the movie with this dissonant, paradoxical reference replicates the viral logic behind the movie's source material without openly stating it: The virus's past is unknowable, mired as it is in the analog, and the extension of its totalizing future, wherein the virus has succeeded absolutely and destroyed humanity, is similarly unknowable to any human eyewitnesses.

This video-style decay, right at the opening, the floating moment of the movie that exists before the movie, gestures toward a past as well as a future mired in death, illustrating how the medium of video itself is suffering and dying as a result. As Laura Marks notes in *The Skin of the Film: Intercultural Cinema, Embodiment, and the Senses*:

> Both film and video become more haptic as they die. Every time we watch a film, we witness its gradual decay: another scratch, more fading as it is exposed to the light, and chemical deterioration, especially with color film. Video decays more rapidly than film, quickly becoming a trace, a lingering aroma with few visual referents remaining. As the tape demagnetizes, lines drop out, and in analog video color becomes distorted. (172)

In this passage, given that it explicates video's "gradual decay," Marks posits that works on film and video are inherently about becoming "more haptic as they die," even when they do not signify such messages directly. *The Ring*, however, features a representation of such deterioration in a medium that breaks down in completely different fashion, gesturing back to a time when the movie's central threat—videotape—was the dominant medium, a moment that has already passed by virtue of the fact that the movie itself appears in digital. Thus, through *The Ring*, the viral videotape is doubly fetishized, in the senses of both Freud and Marx, even before the movie proper begins; there is a perverse, sexualized quality about the tape's capacity for reproduction, as well as a commodification of sorts that stems back to analog nostalgia.

Because *The Ring* was released when it was as a viral adaptation, it positions itself in the transitional space between analog and digital, much like the problematic representation of the virus. As a form, viruses are difficult to characterize, let alone analogize or narrativize; they do not fit into the binaristic logic of the digital (alive or dead?), nor do they conform to the format of the analog (what are they analogs of, besides

themselves?), and, though they seem to have strategies in their mutations or disseminations, they seem to function only as empty form. Despite this blank echoing of signification at the core of the central viral metaphor in the *Ring* series, the texts do implicitly posit the superiority of the analog over the digital, though not in absolute terms. Instead, the texts indicate the ever-changing flux that distinguishes the relationship between analog and digital, as explored by Brian Massumi in a chapter of *Parables for the Virtual* titled "On the Superiority of the Analog," where he writes that:

> The "superiority of the analog" over the digital alluded to in the title does not contradict this closing call to think the two together. It refers to the fact that the paths of their co-operation—transformative integration, translation, and relay—are themselves analog operations. There is always an excess of the analog over the digital, because it perpetually fringes, synesthetically dopplers, umbilically backgrounds, and insensibly recedes to a virtual center immanent at every point along the path—all in the same contortionist motion. It is most twisted. The analog and the digital must be thought together, asymmetrically. Because the analog is always a fold ahead. (143)

Given the perspective of Massumi's formulation, the impossible future nearly every entry into the viral matrix depicts, even at its most bleak, must rely on the analog. Even when Suzuki hypothesizes the apocalyptic end of global humanity in *Spiral*, he still returns to the analog, paradoxically, through the digital system found in *Loop*, where the virtual environment (and its infestation by a computer virus) "perpetually fringes, synesthetically dopplers, umbilically backgrounds, and insensibly recedes to a virtual center immanent at every point along the path."

It is precisely because the Metastatic Human Cancer virus—which originates from the Sadako computer virus, which is itself mysteriously free from origins in that nobody knows who created it—appropriately enough for a viral extension of previous texts, finds

a way to bleed from one reality into another, infecting wider and wider rings. Even in Suzuki's imagined, impossible future, the digital and analog must enter a dialogue wherein the two are "thought together, asymmetrically." Moreover, as Massumi also writes:

> Certainly, if there is one day a directly virtual digitality, it will have become that by integrating the analog into itself (biomuscular robots and the like), by translating itself into the analog (neural nets and other evolutionary systems), or again by multiplying and intensifying its relays into and out of the analog (ubiquitous computing). The potential for this becoming of the digital is missed as long as the relationship between the digital and the analog is construed in mutually exclusive terms, as if one entirely replaced the other. (142-3)

This interdependent evolution of digital and analog, operating in both Suzuki and Massumi's work, relies on the continuing interaction between the two conceptions, which, as Massumi notes, are not mutually exclusive terms. Thus, "analog nostalgia" is still a function of analog, a mourning that cannot take place in a solely digital landscape.

With this interactive context between analog and digital, the virus form within the texts' metaphors performs a kind of disruption; the viral does not fit, slipping past the quarantining barriers of conceptualization to erupt and infect elsewhere, making the narrativization of both its absolute past and absolute future impossible. The textual anxieties about technology and media focalize on the possibilities of viruses to defeat our defenses, carrying an affect of malice that both isolates social subjects and connects them in a ring of transferred infection. It is thus fitting that the viral narrative should spread across international borders like an pandemic. When Hollywood adapts foreign films for the purposes of remaking them into a more palatable form for American audiences, this cross-cultural transfer normally bears the mark of cultural imperialism; but, while *The*

Ring still smacks of American hegemonic domination, the transfer here also signifies Hollywood's welcoming desire to spread fatal disease, at least on the metaphorical level. And, although this viral adaptation was hardly viewed as malevolent by the excited American consumers buying into the phenomenon wholeheartedly, the marketing styles and strategies similarly adapted themselves to patterns of virality.

6. Viruses for Sale

For the latest installment in the procession of *Ring*-based books, movies, sequels, and remakes—the American movie *The Ring Two*—DreamWorks created a multi-faceted marketing campaign wherein certain influential individuals were sent videotapes to promote the upcoming movie. Such promotions are not unusual, but the method of this campaign was: rather than sending the tapes to reviewers to woo kind words, these tapes went to several people not overtly affiliated with publications but who would be likely to spread the word. This video was an unmarked, unlabeled tape containing the mutated video virus featured in the second movie. The video contains a series of disturbing images and sounds (which, true to the logic of movie sequels, are both new and yet somehow familiar), and they culminate in an image of a young woman crawling out of a well, followed by loud static, indicating the end of the tape.

The tape, of course, does not cut off there; a website flashes onto the screen, providing viewers with a gameplan of what to do next. Despite this video, as well as the movie it promotes, being several degrees removed from Suzuki's novel, it recreates the recreated aura of the commercial cutting off the instructions. This commercial is not selected from television broadcasts, but it is a commercial nonetheless, pulling viewers

out of the diegesis of the spooky, unnerving succession of images quite suddenly. If the previous minute and a half of footage was confusing or alien, this flash of the web address clearly re-orients viewers into a commercial framework. This tape is a promotion, but, like the teens in *Ring* who record a commercial over the instructions to avoid death, the aura is one of a malicious prank. Viewers have been tricked, and the commercial has crept into their consciousness so covertly that they might not recognize the role they play in the infectious hype. But the logic of this marketing campaign is such that, by appealing to ground-level consumers instead of just reviewers, word of mouth will move the marketing campaign along because the design represents a departure from traditional advertising.

The implication here is not that media-savvy consumers are more or less susceptible to marketing campaigns in general; instead, the idea is that a unique campaign will breach their "defenses" against the traditions of corporate marketing departments. In an essay titled "The Evolution of the Meme," Kevin N. Laland and John Odling-Smee explore how subjects screen out parts of the daily barrage of information to focus on that which interests them; they write:

> What determines whether a meme will spread? For Dawkins (1976), memes, like all replicators, spread if they have fidelity, fecundity, and longevity. In memetic discussions, each of these properties is usually treated as if it is an intrinsic characteristic of the meme ... In spite of an explicit analogy between memes and viruses (Dawkins 1976), memetics as a discipline has tended to concentrate almost exclusively on 'infectiousness' as the factor most responsible for why memes spread. However, the success of a virus depends not only on its *infectiousness*, but also on the *susceptibility* of its hosts, and on whether the *social environment* promotes contact between hosts. (134)

When discussing a text's power to latch onto consciousness, some discussion of

"*infectiousness*" instead of "the *susceptibility* of its hosts" indulges in an either/or debate akin to pondering the chicken or the egg, but these adaptive marketing messages are more infectious because they are aimed at susceptible hosts: everyday consumers. Moreover, "the *social environment* promotes contact between hosts" because the consumers' peers have similarly low barriers.

Although watching this tape—according to the logic established for American audiences in *The Ring*—means certain death within seven days, receipt of the tape is flattery: this viewer has been deemed someone both hip and trustworthy to pass on the message about the new movie. The implicit promise is that *The Ring Two* will be just as trippy and fun and cool and scary as the anonymous tape, but the studio also implicitly recognizes that none of these adjectives would apply if the studio itself applied them. This campaign is designed for media-savvy consumers who recognize conventional media promotion and respect deviations from it. The irony of this position, however, is that the approach is essentially the same as other marketing campaigns, just with the twist that the studio is aiming at the lower rungs of the hierarchy instead of just the reviewers. This strategy, of course, mirrors not only other marketing campaigns (including the marketing campaign for the first American version, which included stacks of unlabeled videotapes below a sign pleading "Watch these in seven days or I die"); it replicates the pattern of distribution that the ring virus itself takes through its own video dissemination.

But the anonymous tape was just one facet of the promotional campaign. The special promotional DVD copies of *The Ring* for sale just before the release of *The Ring Two* also included a bonus publicity video, titled "Rings." The content of this video, much like the unnamed tape sent out to potential influential parties, similarly implies an

underground community of those who are "in the know," positing a group of young, rebellious thrill-seekers who watch the ring videotape to see how long they can endure its effects before caving in and exposing the tape to someone else. These groups form rings of members to pass the tape along, the catch being that the last person in the ring has no escape hatch and needs to start a new ring. The video is likened to a drug, and the nightmarish hallucinations of the original American version—Gore Verbinski's *The Ring*—are thus just part of the trip. The implicit logic of the marketing campaign is that creating a unique urban legend mythology will generate buzz through word-of-mouth channels—or through word-of-mouse channels via the Internet (which features prominently in "Rings"). In still another prong of the marketing campaign, DreamWorks commissioned New Media Maze to construct a website for the international release of *The Ring Two*, wherein users provided the e-mail addresses and cell phone numbers of five of their friends; when the friends visited the site to watch a promotional video, their cell phones would ring, and a raspy voice would whisper, "Seven days," a reference that those familiar with the storyline would recognize. From there, those who had been on the receiving end of this cross-referential multimedia prank could enter their own contacts, generating exponential buzz for the movie wherein the consumers were marketing to themselves. Appropriately enough, this new arsenal of grass-roots tactics for media publicity is known as viral marketing.

In what has proved to be the most profitable (that is, best-selling) articulation of viral marketing, *The Tipping Point: How Little Things Can Make a Big Difference*, Malcolm Gladwell details how social behaviors parallel the patterns of epidemics.[6]

[6] See also *Viral Marketing: Get Your Audience to Do Your Marketing for You* by Russell Goldsmith,

Although Gladwell does not invoke the term "meme," his metaphorical framework mirrors the tropes of meme theorists. In describing his project, Gladwell states:

> *The Tipping Point* is the biography of an idea, and the idea is very simple. It is that the best way to understand the emergence of fashions, trends, the ebb and flow of crime waves, or, for that matter, the transformation of unknown books into bestsellers, or the rise of teenage smoking, or the phenomena of word of mouth, or any number of the other mysterious changes that mark everyday life is to think of them as epidemics. Ideas and products and messages and behaviors spread just like viruses do. (7)

Throughout the book, Gladwell utilizes this viral discourse to discuss how and why certain trends succeed. While Gladwell does not bill himself as a viral marketing theorist, viewing marketing texts as agents of contagion has spread infectiously, making Gladwell a success through the same methods he analyzes. Although Gladwell writes about how to apply his book's tactics to such socially beneficial ends as increasing literacy and curbing teenage smoking, the book is shelved in the marketing section, indicating which readers would benefit from it the most and, thus, how sales of the book would benefit the most. Gladwell claims: "I wrote my book without any clear expectation of who would read it, or what, if anything, it would be useful for. It seemed presumptuous to think otherwise" (262). Fortunately for the supposedly ingenuous Gladwell, the marketing department at Back Bay Books knew enough to market the book to marketers. As Gladwell illustrates both directly and indirectly, the figurative models behind new conceptions of word-of-mouth advertising rely on epidemic rhetoric, on thinking about how to pair maximize exposure with concepts that break down their receivers' resistance.

In essence, the idea behind this style of marketing is building a better virus, some idea so captivating and contagious that it inhabits the consumer's consciousness and

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Unleashing the Ideavirus by Seth Godin, and *Connected Marketing: The Viral, Buzz and Word of Mouth*

appropriates that individual communication channels for the purposes of disseminating information about the service or product in question. Gladwell explains, however, that consumers become skeptical when hyper-proliferation takes place. The key, then, to successful viral marketing—much like the most successful model for proliferating a virus—lies with manipulating subjects into transmitting the infectious agents either without realizing the level of manipulation or without being able to resist. Gladwell calls such resistance "immunity," and he writes that:

> Epidemics create networks as well: a virus moves from one person to another, spreading through a community, and the more people a virus infects, the more "powerful" the epidemic is. But this is also why epidemics so often come to a crashing halt. Once you've had a particular strain of the flu, or the measles, you develop an immunity to it, and when too many people get immunity to a particular virus, the epidemic comes to an end. I think that when we talk about social epidemics, we give far too little attention to the problems of immunity. (272-3)

In other words, the more pervasive marketing becomes in our everyday lives, the more resistant we will all become to its various lures and threats. Consequently, viral marketing posits that the best conduits for spreading information to consumers are their social channels, as consumers believe these communication paths are uncorrupted. With viral marketing, businesses try to outwit the increasingly savvy consumer who avoids hype, but has weak spots in his or her social interactions. Of course, if Gladwell's theory holds true, eventually "immunity" will kick in, making consumers just as leery of word-of-mouth hype as they are of shameless publicity and leading them to the society of individuals who are increasingly frustrated and alienated by media technologies, much like Suzuki depicts critically in *Ring*.

Revolution, edited by Justin Kirby and Paul Marsden.

At the time of *The Ring Two*'s release, however, consumers seemed happy to play along with the media marketers' games, provided they view the process as a game, not as a shrewd application of viral marketing. The New Media Maze campaign that combined an Internet preview and the ominous cell phone message caught on because it facilitated a frightening, fun game among friends. Like the teens in the original novel, in order for the marketing campaign to work effectively, its target audience would want to interact in the replication as a sort of forbidden prank. My claim here does not, of course, hold true for all viral marketing (there are many successful campaigns that are mostly undisguised pyramid schemes), but, in the case of promoting *The Ring Two*, the intended audiences—cynical young media junkies—demanded a bit more sophistication to carry the advertised message to their friends.

Dave Smith, the director of New Media Maze, explains the campaign's logic: "Once they've experienced the terror of the viral, we 'reveal' that in this instance it was just a wind up by their friend, and invite them to spread the fear by entering the details of five of their friends. In this way we create a viral effect" (www.imediaconnection.com/content/6672.asp). The marketing of the movie thus appropriates the same framework of systematic spread (and the latent paranoia about media and technology) that the movie contains within its diegesis, adapted from its predecessors all the way back to Koji Suzuki's novel. Although consumer/participants may have experienced "the terror of the viral," most likely only a few of them appreciated the multiplicity of this viral structure's lineage.

The anxieties behind "the terror of the viral" lie at the core of *Ring*, and since the viral spread of the narrative to other adaptations replicates the novel's structure as well as

its aura, the subsequent versions gesture toward similar apprehensions. And, though such fears somewhat change their significance as they shift from one cultural milieu to another, they demonstrate that this pattern of media proliferation exists throughout this global generational moment. In other words, the textual adaptations' technophobia and underlying media dread strike a chord with audiences as being relevant to this particular moment in time. Within a few years—a single generation for the human species—the media virus has transmitted itself horizontally, mimicking the kind of epidemic spread that bioterrorist cells, media publishing empires, and marketing departments alike all crave. The viral model is the common link that unites them. The numerous *Ring*-related texts' inherent fears of spreading the video virus all center on the effect it will have on the global community; as Asakawa considers passing the video on in *Ring*, he thinks:

> *What effect is this going to have? With my wife's copy and my daughter's copy, this virus is going to be set free in two directions—how's it going to spread from there?* He could imagine people making copies and passing them on to people who'd already seen it before, trying to keep the thing contained within a limited circle so it wouldn't spread ... As the secret traveled by word of mouth, it would be added to: "You have to show it to someone who hasn't seen it before." And as the tape propagated the week's lag time would probably be shortened. People who were shown the tape wouldn't wait a week to make a copy and show it to someone else. How far would this ring expand? People would be driven by an instinctual fear of disease, and this pestilential videotape would no doubt spread throughout society in the blink of an eye. And, driven by fear, people would start to spread crazy rumors. Such as: *Once you've seen it you have to make at least two copies, and show them to at least two different people.* It'd turn into a pyramid scheme, spreading incomparably faster than it would just one tape at a time. In the space of half a year, everybody in Japan would have become a carrier, and the infection would spread overseas. (280-1, emphases in original)

Asakawa's horrifying hypotheticals are the exact same global pattern of distribution marketing departments could only hope for as they strive to create messages capable of

"spread[ing] throughout society in the blink of an eye," propelled by word-of-mouth "turn[ed] into a pyramid scheme." This virulent propagation is exactly what marketers want, even utilizing a negatively charged discourse of pestilence and parasitism that promotes consumers "experience[ing] the terror of the viral" and "invit[ing] them to spread the fear." Viewers might wind up scared by the content of these media viruses, but few of them even consider the form, in which, if the viral marketing works, they will play a direct role in disseminating themselves as carriers. True to the viral model, the spread works best when interpretation is static and uniform.

The viral marketing campaigns of *The Ring Two*, however, represent only the most recent phase of the phenomenon of viral adaptation started by Koji Suzuki's *Ring*, since the media lineage includes Suzuki's two sequel novels, seven movies, a line of graphic novels, and an American video game. Moreover, the viral marketing campaign serves as a kind of microcosmic version of the patterns for cross-cultural viral media dispersal that the other media adaptations and serializations form. This series of adaptations, remakes, sequels, and prequels—as the media equivalent of a global pandemic—parallels both the marketing campaign consciously adopted by executives as well as the paradigms of distribution the viral videotape creates with each of the texts themselves. This movement from within the text to extra-textual proliferation and adaptation follows the model of viral contagion, moving from bodies to cultures.

This fidelity of pattern repetition reflects Francesco Casetti's theoretical analysis of textual transformations in film and literature titled "Adaptation and Mis-adaptations: Film, Literature, and Social Discourses," wherein he writes that:

[B]oth film and literature can also be considered as *sites of production and*

> *the circulation of discourses*; that is, as symbolic constructions that refer to a cluster of meanings that a society considers possible (thinkable) and feasible (legitimate). Consequently, film and literature are more revealing of the ways in which subjects interact with each other as either addressers or addressees, than of an author's ability to express him or herself. (82, italics in original)

The patterning in this passage is that texts create a discourse within themselves that reflects the larger schema of the contexts in which they find themselves. Thus, as the appropriately named Cassetti explains, the video cassettes bearing Sadako's curse project themselves outward in the same ways that other media franchises do, through subjects passing along their recommendations. Of course, Suzuki could only insert this pattern into his own text; he could not guarantee in advance that his novel would have such sweeping success. Moreover, Suzuki's text—while being a part of "the media" itself, just as the character of Asakawa is—seems to have a vested interest in merging the concept of media saturation with a sort of unholy terror. Thus, in the fusion of fear and media technologies, Suzuki appears to have a critical valence, reflecting a society obsessed with ever-expanding media permeation, but, given the prevailing adaptations of Suzuki's work, the text reads not as a critical reflection of contemporary trends but as an uncritical promotion of those trends in service of the narrative's marketability.

As with the synaptic model of the previous chapter, the viral model allows for certain forms of indirect address by authors through multiple generations of textual iteration and adaptation; and, just like the contextual redefinition of intentionality that takes place with the works of Albert Einstein in the synaptic model (wherein Einstein's textual calculations, despite his pacifism, are transformed into the possibilities of atomic weapons and the Cold War), the viral model applies to Koji Suzuki's work by redefining

his initial ideas through patterns of textual proliferation. As in the example above, Suzuki criticizes the media although he manipulates contemporary anxieties to effect his own success, so that the critical aspects lodged within the individual text of *Ring* may in fact be at odds with the eventual pattern adopted by the succession of *Ring*-related texts. What remains intact through all of the *Ring*-related texts is an underlying sense of sadism in the original text and its adaptations that, like many horror texts, seems to address audiences in ways that are emotionally, intellectually, and/or economically exploitative. Audiences are excited about paying to be a part of a viral spread, taking the "virus of the mind" in and passing it on to friends. If the experience leads to something less than fear, then the consumers are less than survivors, and thus, horror texts often aim, during the "fright" moments, to minimize the possibilities for alternative interpretations and reactions. Like Sadako's viral videotape, the goal is producing terror, which means that there is an underlying animosity within Suzuki's textual progeny that his audiences eagerly devour. Carol J. Clover reflects on this almost cruel relationship between horror creators and horror consumers in *Men, Women, and Chain Saws: Gender in the Modern Horror Film*, demonstrating that, of all film genres, horror achieves perhaps the most direct form of address to theater audiences, writing that:

> Judged by plot alone, the patterns of cheering and booing seem indiscriminate or unmotivated or both. It is when they are judged by the success or failure of the film to catch the audience by surprise (or gross out) that the patterns of cheering and booing fall into place. At such moments, the diegesis is all but short-circuited, and the horror filmmaker and the competent horror viewer come remarkably close to addressing one another directly—the viewer by shouting out his approval or disapproval not to the on-screen characters but to the people who put them there ... And, of course, horror films *do* attack their audiences. The attack is palpable; we take it in the eye. For just as the audience can be invited by the camera to assault, so it can be physically assaulted by the projected

> image—by sudden flashes of light, violent movement (of images plunging outward, for example), fast-cut or exploded images. These are the stock-in-trade of horror. (202-3, italics in original)

As Clover demonstrates in this passage, the aim of the horror movie is to attack, to produce a visceral reaction from the form and content of the horror film. And, clearly, the *Ring*-derived films rely on the tactics of visual assault that are "the stock-in-trade of horror." But, while less directly visual, Suzuki's *Ring* similarly depends on suspense and shock in its structure; the text tries to transmit affect of similar sorts to Sadako's tape. The attempt is a textual assault. Like Asakawa, Suzuki will survive and flourish by projecting this affect outward onto others.

It is hard to blame either Suzuki or his character Asakawa for their choices; few of us would choose sacrifice over success in the name of some abstract, lofty sentiments about what is best for humanity. Instead, Suzuki has written or collaborated on several more projects that expand Sadako's narrative ring, at the cost of the initial text's critical efficacy as well as the initial concept's metaphorical effectiveness. Most critics agree that the subsequent remakes work well, while the sequel novels and movies do not, or, to put it in the terms of the viral model threaded through this chapter, the mutations of the original strain are inferior replicators. In any case, as the multi-national media tie-ins indicate, Koji Suzuki has cashed in on a global scale, becoming part of the media rather than a subtle critic of it, and, to extrapolate the viral paradigm of *Ring* itself—resonant as it is with analogs of sex and HIV—to apply to the indirect form of address adopted by its creator, Suzuki has fucked over people across the globe.

Chapter Three: Monkey See, Monkey Do, Monkey Evolve, Monkey Write Screenplay: Symbiotic Textual Evolution in *Adaptation*

1. Symbiosis: So Happy Together

If you have seen *Adaptation*, then you know the process of writer's block, procrastination, and self doubt I faced in writing this chapter. *Adaptation* (directed by Spike Jonze, based on a screenplay credited to Charlie Kaufman and his fictional twin brother Donald) presents the stuttering, halting, frustrating process of creating an idea from a synthesis of other ideas, which is what I am attempting here through exploring a variety of theoretical lenses for understanding the movie and a symbiotic version of adaptation itself. One of the film's multi-layered moments features Charlie's fictional twin Donald singing The Turtles' "Happy Together" while the two prepare to spy on Susan Orlean as part of the "research" they are doing in the process of adapting her nonfiction travel memoir *The Orchid Thief: A True Story of Beauty and Obsession* into a screenplay. On one level, Donald's singing recalls and enacts screenwriting guru Robert McKee's generic advice to write theme songs into mainstream movie scripts to break up the tension, but the lyrics, about being "so happy together," underscore how disconnected and unhappy the brothers are (*Adaptation*). This disconnection stems in part from the philosophies that separate their approaches to screenwriting (Donald attempts to write no-brainer blockbuster thrillers while Charlie attempts more thought-provoking material), making the twin brothers separate from each other. More importantly, they remain similarly distant from Susan Orlean, both textually—this scene occurs right before *Adaptation*'s story veers off nearly as far as possible from *The Orchid Thief*'s source

material—and physically, as their voyeurism takes place from a safe distance. Yet, despite these complicated separations, *Adaptation* regularly demonstrates and explores the interconnections implicit in the process of textual and biological adaptation in that symbiotic associations emerge in both the form and content, which I utilize here as the theoretical basis for constructing a symbiotic model for understanding textual adaptation.

In contrast to the rigidity of the previous chapter's viral model, wherein the transmission presupposes a kind of uniformity of adaptation, a theoretical model based on symbiosis presents greater flexibility, as symbiosis itself represents a kind of slippage between absolute categories and the methodical iterations and replications found in the viral model. The media transmissions of the *Ring*-related texts are concerned with high-fidelity replication, as, for the most part, the adaptations are. But *Adaptation*'s Charlie Kaufman character avoids the reductive task of formulaic transmission and textual translation, and the diegesis Kaufman pens likewise bears little resemblance to *The Orchid Thief*. Instead, like the characters within *Adaptation*, the relationship between *The Orchid Thief* and *Adaptation* is one of coexistence with mutual benefit, an example of symbiosis. For example, parts of *Adaptation* are taken wholesale from *The Orchid Thief*, while a new edition of *The Orchid Thief* connects to the movie through a cover photo and a Charlie Kaufman-esque textual addition in which Susan Orlean interviews herself about how the process of adaptation has affected her and her work.

Thus, *Adaptation* and *The Orchid Thief* influence one another in a dialogical fashion, but what exactly is symbiosis? In its most basic definition, symbiosis is simply "living together," though such a relationship does not necessarily mean that the cohabitants involved are "so happy together." Instead, the umbrella term symbiosis

contains a wide range of relationship types, both positive and negative, unlike the almost exclusively negative relationship between a virus and a host. Lynn Margulis and Dorion Sagan—the mother-son team whose books have been very influential in promoting different biological facets of symbiotic theory—define symbiosis in their 2002 book *Acquiring Genomes: A Theory of the Origins of Species* with the following:

> Symbiosis is simply the living together of organisms that are different from each other ... Symbioses are long-term physical associations. Different types of organisms stick together and fuse to make a third kind of organism. The fusion is not random. Symbiotic relationships occur under specific environmental conditions. In some of these relationships, one partner in the symbiosis feeds off the other to its detriment and even death. Such exploitative associations are called "parasitic" or "pathogenic." They tend to be highly sensitive to environmental stress. The parasite that invariably and virulently kills its partner kills itself. With time and circumstance the nature of associations tends to change. (12)

While the authors' definition here appears fairly basic,[7] the concept of symbiosis in its broader application has been criticized heavily for its departure from the long-standing traditions of Darwinian thought about how species adapt, relying as those traditions do on change almost exclusively through natural selection. Symbiosis presents an alternative to genetic shuffling and generational change—and, as theorists like Luciana Parisi note, an alternative to sexual reproduction itself as a means of adaptation—a departure from most

[7] In many of the instances in which I use symbiosis in this chapter and the next, I am applying it as a kind of shorthand for an evolutionary model based on inter-species cooperation and cohabitation, which is, technically, a misapplication, as Margulis and Sagan's definition illustrates. Given that symbiotic processes mean simply "long-term physical associations," there is nothing that suggests cooperation. Instead, the two major forms of symbiosis break down as follows: endosymbiosis, or a relationship wherein one organism resides within the body of the other, and ectosymbiosis, or a relationship wherein the two organisms are physically separate from one another, connecting only at the surface of the body. Likewise, the coding of different types of symbiosis are: parasitism, an association that is beneficial to one organism and harmful to the other; mutualism, an association that benefits both organisms involved; commensalism, an association in which one organism benefits while the other is not affected; amenalism, an association that is harmful to one organism while the other is unaffected; and neutralism, in which both organisms are unaffected by their association. For the most part, when various authors, myself included, speak of symbiosis as being a cooperative union between two organisms, they are typically referring to symbiosis as a kind of mutualism.

interpretations of the works of Charles Darwin[8]. And yet, in terms of the project I have undertaken here to create and refine new and distinct models for textual interpretation based on principles of adaptation and proliferation, the rich abstractions and productive analogies generate more flexible patterns for analysis than the stricter Darwinian tenets of the viral model.

As I have already discussed, symbiosis is both a complicated process and complicated concept; in order to distinguish between how I am using symbiosis to discuss *Adaptation* and *The Orchid Thief* and how I use symbiosis to analyze the chain of *War of the Worlds* texts in the next chapter, I utilize the theoretical shorthand of "symbiosis" versus "macrosymbiosis." These terms have nothing to do with the size of the agents involved in the symbiotic relationship; instead, they refer to the scale and durability of that symbiotic relationship. In other words, the symbiosis taking place in the case of *Adaptation* is fairly limited in that it involves just a few figures and texts, as well as a limited, synchronic sense of scope, whereas the *War of the Worlds* texts rely on both a global and extraterrestrial cast, as well as a slew of texts, indicating a more systemic relationship across diachronic time. In the previous chapter's analysis of virality, the scale moves smoothly from local to global scope without substantial differences, with the exception of scale. In order to understand symbiosis on both lower and higher levels, however, we need to explore the distinctly different fashions in which symbiotic relationships work when they involve either individual agents or systemic populations, even though both cases fall under the larger category of symbiosis.

[8] This assertion does not imply, of course, that critical understandings of Darwin are fixed and unilateral, and I explore an alternative re-interpretation of the ending of Darwin's *On the Origin of Species* through my reading of *Adaptation* later in this chapter.

Due to the complicated symbiotic interweavings within *Adaptation*, the movie seems almost to defy summarization; any framing of it seems to oversimplify the ambiguities and ironies implicit in its deadpan delivery of cliché elements in the third act. Still, by way of providing orientation to those not familiar with the movie, *Adaptation* mixes fictional elements with nonfictional personalities, turning the screenwriter Charlie Kaufman into a character with a fictional twin brother Donald and including "real" people such as Susan Orlean, a writer for *The New Yorker*, John Laroche, a collector of rare orchids and small-time schemer, and Robert McKee, a screenwriting seminar speaker and author. The literal and associational relationships between and among personalities develop into more than the sum of their parts because, through their textual cohabitation within *Adaptation*, the symbiotic connections and tensions of their dialogue and actions reveal various insights about evolution and adaptation. The movie is not so much a cinematic adaptation in the traditional sense as it is a meditation on adaptation as a process, personally, biologically, and textually. Ostensibly based on Susan Orlean's book *The Orchid Thief*, *Adaptation* extends far beyond the scope of Orlean's material to fictionalize the text's author, her subject (John Laroche), and even her adapter himself (screenwriter Charlie Kaufman), departing far from the scope and/or intention of the book. The three "characters" become ensnared in the narrative muddle of three overlapping storylines: 1) Orlean's material about orchids, Laroche, and living passionately; 2) the neurotic process Kaufman employs while adapting, deconstructing, and reconstructing that material; and 3) the alternate fictional future for these characters (brimming with drugs, car chases, and guns) that *Adaptation* projects as the "natural" extension of their interdependent evolutionary development. While the bulk of the film's

narrative concerns itself with fictionalizing the process of adapting a nonfiction literary text into a mainstream movie, the ending indulges in a slew of cliché Hollywood conventions which, earlier in the story, some characters extol and other characters denounce, making *Adaptation* both self-aware and critical of blockbuster traditions. Such traditions as selling mindless, entertaining spectacles like commodities on the movie market seem to invade *Adaptation* itself, taking over the more pensive meditations with the high-energy chase sequence at the film's end, thus destroying Charlie Kaufman's frustrating, muddling process of writer's block, his blockbuster-loving "twin" Donald, as well as the limitless sprawl of his story itself.

Because *Adaptation* contains such clouds of meta-awareness, along with commentary on the evolution of personalities, species, and texts, it is an exemplary case for a meditation on how meme theory works; Kaufman almost makes this connection explicit by titled the feature *Adaptation* in that the story is about both biological and textual mutability. And, although there are certain tensions between the theories proposed by Richard Dawkins and Lynn Margulis in terms of what factors primarily drive evolution, I augment meme theory here with the threads of symbiotic evolutionary theory developed by Margulis, Dorion Sagan, and Tom Wakeford. These lenses reveal the symbiotic properties within *Adaptation*'s form and content, untangling some of the complicated threads of *Adaptation*'s criticism of Hollywood while also providing commentary on how texts such as Susan Orlean's book, Charlie Kaufman's script, and Spike Jonze's movie approach adaptation. Because the storyline of *Adaptation* stoops to the cliché ideas it criticizes, the movie synthesizes the process of adaptation that both Kaufman's script and his character are trying to explore and understand. In order to study

this process—much like the form and content of *Adaptation* are concerned with symbiotically fusing complex, evolving ideas—I link these theories to allow access into the complicated patterns by which ideas and texts evolve symbiotically, how they can be "so happy together."

2. Adaptation in *Adaptation*

As I have noted in the previous chapters, meme theory provides a conceptual framework for understanding the ever-shifting, discrete ideological particles involved in cultural genetics, providing a way of discussing culture and cultural products in terms quite similar to the study of evolution in populations of a given species. Much like the genes within a given pool, memes can mutate, adapt, and proliferate, spreading cultural DNA from text to text and person to person, changing meaning through different contexts and interpretations as they move through space and time. In *The Selfish Gene*, Dawkins writes that: "Cultural transmission is analogous to genetic transmission in that, although basically conservative, it can give rise to a form of evolution ... Language seems to 'evolve' by non-genetic means, and at a rate which is orders of magnitude faster than genetic evolution" (189). Yet even as he attempts to refine the concept of evolution in a realm other than biology, Dawkins compresses culture and language together in a way that blurs rather than clarifies the distinctions, as the definition itself shows the dependence we have on language both literally and figuratively as the means for understanding how we think about the ideas we formulate. Given the interconnections of language and culture, it seems as though Dawkins's neo-Darwinian model leaves something to be desired in that it suggests certain kinds of cooperation instead of

exclusively competition or antagonistic struggle for survival. Moreover, it is this same slipperiness between and among texts, cultures, and their meaning(s) that lies at the heart of the fictional Charlie Kaufman's struggle with his writing process.

Throughout *Adaptation*, Kaufman as character attempts to adapt *The Orchid Thief*, meeting disappointment time after time as he tries to fulfill the role of textual translator. Of course, to the extent that these failures provide comic, interesting material for audiences, Kaufman as screenwriter succeeds in every instance where Kaufman the character fails. As a fictional character, Charlie Kaufman has immense trouble adapting Orlean's text, in part because he cannot see the cultural forest of Orlean's book because of the verbal trees. His task, after all, is not about replicating the text with fidelity; he must adapt it to a more cinematic form. The gaps between the emotions Orlean's book creates in him and the task he has of forming those feelings into a Hollywood movie script with a coherent beginning, middle, and end illustrate how difficult the process of adapting a text from one medium to another can be.

Kaufman's task of adapting *The Orchid Thief* proves to be impossible if he is to leave Orlean's nonfiction book in its current, scattered, storyless form. A successful adaptation in this particular case means significantly altering the material; moving the text from one medium to another inherently does violence to it. At the same time, however, the character of Charlie Kaufman initially claims that he wants to avoid mutating the "purity" of Orlean's work at all costs. He wants to preserve facets of the book that defy the trends of contemporary mainstream Hollywood movies. What Orlean's book evokes in him and other readers is not an experience that "plays" well on film, concerned as *The Orchid Thief* is with what Kaufman in frustration calls "sprawling

New Yorker shit," in other words, ideas with a more difficult, complicated, and expansive sense of narrative than the timeframe of a feature-length film can address (*Adaptation*). Conceptually, the book is unfilmable; the characters are fascinating, but they do not *do* much in the sense of a Hollywood script and thus are difficult to adapt. At first, Kaufman believes these limitations to be assets; he initially claims during a conversation with producer Valerie Thomas that *The Orchid Thief* is "great, sprawling *New Yorker* stuff, and I want to remain true to that." Through the process of adaptation, Kaufman's source material initially feels to him like "great ... stuff" and then slowly transforms into "shit" as he does not know how to incorporate these musings into a film. While Orlean's meandering narrative strategies eventually frustrate his attempts at structure, Kaufman's original thoughts are that these features will mean that his script will out of necessity be provocative and fascinating.

To a large extent, *Adaptation* creates its symbiotic muddle of a narrative as a kind of middle. There are snippets of Orlean's thoughtful meditations, and they seem to grow and spill over organically onto the Kaufman-centered material around them, largely keeping what makes them provocative and fascinating to Kaufman. Controlling and limiting this sprawl appears to be Kaufman's chief anxiety, even though, as the opening voiceover announces, Kaufman has a slew of anxieties to choose from. In fact, Charlie Kaufman's interior monologue also suggests that this narrative middle has no beginning, either. We seem to start in the darkness of Kaufman's thoughts, mid-rant, and much of the movie devotes itself to obsessing with how to begin, which overwhelms Kaufman as the tensions between control and its loss, as depicted here, may in fact be as old as evolution and adaptation themselves. Existence, according to Charlie Kaufman, is just so

much digression. The cliché Hollywood ending is something of a necessary evil because, as artificial as its tropes are, the interactions of the texts and characters seem like fertile creative terrain but contain no real "action" that can end in a satisfyingly cinematic way. Orlean's material from *The Orchid Thief*, which Kaufman works so hard to keep "pure," is all about sprawl, or narrative middle. In fact, even when Kaufman reads *The Orchid Thief* to screenwriting guru Robert McKee, he misplaces the book's ending; once again, this textual slippage seems to be for dramatic purposes.[9]

But this nit-picking about the purity and fidelity of adaptation constitutes a digression of my own, without addressing the symbiotic valence of the digression itself as a strategy. *Adaptation*'s focus on the wandering of a narrative middle—as an interpretive adaptation of *The Orchid Thief*'s style and structure—performs a subversive articulation of conventional Hollywood narrative. By putting the "sprawling *New Yorker* shit/stuff" into a screenplay (and thus indirectly onto the screen) and talking extensively and critically about both the virtues and values of this style and structure, Kaufman satirizes the conventional Hollywood mode of discourse. More than just skewering Hollywood, though, *Adaptation* violates our expectations of how narrative presents itself. In *Loiterature*, Ross Chambers explores how narrative middles mimic the *flânerie* of the wandering, loitering subject, which in turn implicitly communicates a certain reassessment of values. The *flâneur* subverts through a form of wastefulness, through not

[9] Although *The Orchid Thief* ends without Susan Orlean ever seeing a ghost orchid, as Charlie Kaufman observes in *Adaptation*, he misquotes the ending to McKee, reading "... but a little fantastic and fleeting and out of reach" (*Adaptation*). This passage appears in the first fifty of *The Orchid Thief*'s 282 pages, nowhere near the text's end. It does, however, link up with Orlean's claim that she wants to see a ghost orchid before the end of her story's research, as the passage is part of her observation that orchid thief John Laroche's "life seemed to be filled with things that were just like the ghost orchid—wonderful to imagine and easy to fall in love with but a little fantastic and fleeting and out of reach" (41). The passage is a meditation as much on the fascinating obsessions of Laroche's life as it is about the appeal of the ghost

hurrying in beelines to destinations, and thus the digressive middle space of the loitering figure and loitering narrative can be productive, like the Charlie Kaufman character, from getting lost, getting turned around, getting unfocused and dilatory. In fact, Chambers conceives of such digressions as symbiotic, writing that what emerges from a study of digressive texts : "appears to be a vision of discourse, of human subjectivity, and of culture itself as sites neither of perfect order nor of absolute chaos but of a symbiotic and oxymoronic embrace of the orderly and disorderly, such that what defines them is a problematics of disjunction and aporia" (112). By balancing the writing's simultaneous wandering and pacing, Kaufman's adaptation of Orlean's sprawling narrative creates a "symbiotic and oxymoronic embrace" of tightly structured Hollywood screenwriting and the more erudite "sprawling *New Yorker* stuff." And, as a result, at many points in *Adaptation*, Kaufman can speak about how a movie version of *The Orchid Thief* will produce truth and beauty, things that, in Kaufman's view, Hollywood desperately needs more of to keep from appealing solely to the mass market's lowest common denominator.

In yet another symbiotic connection between disjunctive elements, Kaufman's own voiceover snippets intersperse Kaufman's base, lowbrow concerns with all of his concerns about inserting cultural sophistication into a Hollywood movie. His inner monologue concerns itself just as much with evolution on the individual biological level (how Charlie can be a successful sexual subject) as his script narrates evolutionary history in macrocosmic strata (how life on Earth evolved into its present state). Through the course of *Adaptation*'s unfolding, Kaufman's thoughts supposedly turn to higher orders of cultural adaptation, such as the purity of ideas, even though the movie's opening line is

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orchid, which Kaufman loses in context of the dialogue with McKee.

voiceover on a plain black screen, wherein Kaufman wonders: "Do I have an original thought in my head? My bald head?" (*Adaptation*). Such a question implies that, in terms of cultural influences, "originality" extends backward through human history via memetic transfers difficult to trace, and yet the after-question challenges not just the success of Kaufman's ideas but his social and sexual success as a lustful heterosexual male. The rest of his interior monologue continues in this vein of Kaufman's mind wrapping around his own genetic survival, his DNA's endurance through sex.

Through a series of neurotic observations about his own appearance vis-à-vis the likelihood of obtaining sexual happiness and fulfillment, Charlie Kaufman worries about his potential success, in evolutionary terms, for obtaining a mate and thus ensuring the generational survival of his own genetic code. These observations on his personal appearance and social awkwardness mirror the professional difficulties he experiences in adapting Susan Orlean's work into his own version of a screenplay. Kaufman constantly evaluates himself, reflecting on the disharmony between his personal cultural choices and their ineffectual results in finding him sexual fulfillment, as he continues with his observations during the film's opening:

> "Why should I be made to feel I have to apologize for my existence? Maybe it's bad brain chemistry. Maybe that's what's wrong with me, bad chemistry. All my problems and anxiety can be reduced to a chemical imbalanace or some kind of misfiring synapses. I need to get help for that. But I'll still be ugly, though. Nothing's going to change that."

His thinking concerns his own thinking, and we see that the potential success of both his memes and his genes relies on a "self" that is no more than a collection of randomly firing synapses, ideas and genetic code that push and pull in their own respective directions.

As the story of *Adaptation* grows and develops, the focuslessness of Kaufman's work, goals, and even identity spins him and his writing out of control until he confesses to his fictional brother that he has written himself—faults and all—into his own screenplay. Both "brothers" find such seemingly uncontrollable creation to be "weird," though it might better be described as schizophrenic in that Charlie feels his actions are somehow beyond his control (not to mention that the twin brother is also fictional and similarly seems to be beyond his control). This lack of control seeps throughout Charlie's life; his writing career mirrors his sexual exploits, spinning him around in unproductive, masturbatory circles as he tries to transfer the memetic ideas of Orlean's book into a script of his own. The only thing seemingly within his control is getting a grip on himself, quite literally through masturbation.

For most of the movie, we see Kaufman almost exclusively as a struggling, lonely screenwriter, and, instead of cultural success in the form of a completed screenplay or sexual success in the form of copulation, Kaufman's only reprieve from professional and sexual frustration seems to come from masturbation, a self-satisfying act that essentially admits his own failure. Likewise, Kaufman's private fantasies, which fuel his starved libido, represent fleeting, escapist inclusions of cinematic sex, something which Kaufman openly criticizes as pathetic superficiality in artistic terms and thus not worth having in his adaptation of *The Orchid Thief.* Charlie Kaufman claims that pandering to audiences' desire to see sex in movies lowers Susan Orlean's noble and beautiful prose, that putting in such low-culture material would compromise her ideas, even though Kaufman indulges in these sorts of sexual daydreams every chance he gets, including a masturbation fantasy about having sex with Susan Orlean herself.

Despite Kaufman's fitful sexual desire for Susan Orlean when he is alone with the book jacket for *The Orchid Thief*, the ideas and language inside the book are what he originally found attractive. Orlean's complex portrayal of the beauty of pure ideas is initially what prompts Kaufman to undertake the movie project. In the course of her nonfiction account, Orlean finds graceful splendor in such diverse sources as orchids, passions, obsessions, and Laroche's fascinating process of zealous serial commitment to fads and schemes he quickly outgrows. Finding these fascinations fascinating himself, Kaufman wants to adapt *The Orchid Thief* because its simplicity and purity escape such common cultural tendencies as relying on base consumer instincts and impulses to shuffle through shabby ideas. Orlean's prose avoids the slick trends most books depend on, such as the perennial reliance on gratuitous sex and violence to sell critically unchallenging texts to a numbly apathetic market, trends that are even more obvious in mainstream movies than the literary marketplace.

Kaufman thus attempts a critical stance of his own profession because he is disillusioned with the formulaic obsessions of Hollywood. His character holds nothing but disdain for rigid, marketing-based formulas such as Robert McKee's system of genre storytelling, and Kaufman claims that he does not want to "cram in sex or guns or car chases ... you know ... or characters, you know ... having profound life lessons. Or growing, or coming to like each other, or overcoming obstacles to succeed in the end, you know? I mean, the book isn't like that, and life isn't like that. You know, it just isn't. And ... I feel very strongly about this." Kaufman's adaptation, then, at the beginning of the film, aims at higher, nobler goals of bringing intellectual respectability to a commercial film as a means of rebelling against the lowbrow standards of the spectacle-

oriented, consumer-based drivel he sees in the sell-outs all around him. For those who enjoy the easy cultural handholds of Hollywood stereotypes, however, movies' "life lessons" generally make life more manageable. For example, John Laroche, Orlean and Kaufman's supposed subject, finds order and simplicity in his life through collecting, making his life "better" as he obtains more material things, like a Hollywood quest plot. Laroche's narrow focus provides an artificial sense of purpose, whittling down the world to a more manageable size.

Such a process of narrowing the world down to basic ideas and simple material goods, like Laroche does, depends on both a conservative perspective as well as an attitude of competition. In order for an idea to receive an individual's exclusive focus, it must beat all other competing ideas, revealing a kind of Darwinian pattern of existence as struggle, a pattern Richard Dawkins explicitly evokes in his formulation of the meme concept. Charles Darwin, after all, presents all of life as violent conflict in *On the Origin of Species*, where he writes:

> A struggle for existence inevitably follows from the high rate at which all organic beings tend to increase. Every being, which during its natural lifetime produces several eggs or seeds, must suffer destruction during some period of its life ... otherwise, on the principle of geometrical increase, its numbers would quickly become so inordinately great that no country could support the product. Hence ... there must in every case be a struggle for existence, either one individual with another of the same species, or with the individuals of distinct species, or with the physical conditions of life. (63)

Because Dawkins theorizes the meme in a Darwinian frame, ideas, concepts, images, and sounds (as well as the individuals who produce and profit off these things) all battle in fierce competition, "a struggle for existence." And yet, as I mentioned above, an exclusive focus on competition negates the potential for symbiotic cooperation and the

interconnected relationships established between Charlie Kaufman and Susan Orlean, both on the textual level as the authors of *Adaptation* and *The Orchid Thief* and the fictional level as characters within the movie.

On the surface, *Adaptation* initially conforms to the stark, Darwinian model of competition. John Laroche competes with other orchid collectors and businessmen, succeeding through open theft on a state wildlife preserve; Susan Orlean competes with other journalists and writers, succeeding through contracting a book and movie deal while stealing Laroche's story; and Charlie Kaufman competes with other screenwriters and filmmakers, succeeding through exclusive script contracts such as adapting *The Orchid Thief*, a kind of intellectual plundering in service of Hollywood. All three of these central figures profit through their aggressive, competitive strategies, getting ahead either in the literal marketplace or in the marketplace of ideas by beating other potential rivals.

Although most contemporary evolutionary theorists now assume that evolution does not have a particular goal or endpoint, Darwin claims that perpetual competition will eventually lead to absolute individual flawlessness, writing that "as natural selection works solely by and for the good of each being, all corporeal and mental endowments will tend to progress towards perfection" (489). This particular snippet of Darwin's writing, again from *On the Origin of Species*, even makes its way into *Adaptation* directly, as the character of John Laroche listens to Darwin's works on tape in his van when he first appears in the movie. From this very brief insertion of Darwin's thought, *Adaptation* as a text appears to align itself with this problematic conception of natural selection's paradigm of competition progressively leading towards perfection. While we may detect certain trends within evolution that seem to be improvements on what came before, not

all biological adaptations prove beneficial, let alone progressive over time. Certainly on the level of texts we do not observe such a bias toward hierarchical or progressive trends; few critics would argue that each textual adaptation is always better than the previous version. Instead of tending toward "perfection," textual adaptation may not be an improvement at all, or, as in the case of *Adaptation*, the result might be so different that there is no easy way to compare the literary text with the cinematic text, making notions like progress and competition unusually difficult to apply, given how categorically different the two texts are.

The tape recording of Darwin's writing in *Adaptation* stops not long after the quotation provided above, including only a few words from the next sentence before fading away as Laroche and his crew of Seminoles enter into the alligator-filled swamps of the Fakahatchee State Wildlife Preserve. These words begin the final paragraph of Darwin's book, but they also introduce an idea explored only peripherally within the rest of the widely influential text, reading:

> It is interesting to contemplate an entangled bank, clothed with many plants of many kinds, with birds singing on the bushes, with various insects flitting about, and with worms crawling through the damp earth, and to reflect that these elaborately constructed forms, so different from each other, *and dependent on each other in so complex a manner*, have all been produced by laws acting around us. (My emphasis)

Within this passage, Darwin introduces an idea that appears to be a departure from his prior conception of life as "a struggle for existence" by writing instead that bank teeming with diverse organisms might somehow be "dependent on each other" rather than exclusively locked in a savage competition.

For many decades after Darwin, scientists and theorists have clung to the

paradigm of competition as the fundamental tendency of life, but, more recently, some authors have revised this notion, exploring how the bases of existence and adaptive evolution may trace their intertwined roots back to cooperation. As Lynn Margulis writes in *Symbiotic Planet: A New Look at Evolution*:

> Symbiosis, the system in which members of different species live in physical contact, strikes us as an arcane concept and a specialized biological term. This is because of our lack of awareness of its prevalence ... We are symbionts on a symbiotic planet, and if we care to, we can find symbiosis everywhere. Physical contact is a nonnegotiable requisite for many differing kinds of life. (5)

In other words, although existence may entail certain kinds of competition, symbiotic exchanges are everywhere (Margulis details many of the relationships we rely on with the microorganisms inside us in our everyday lives), and, like the "entangled bank" Darwin discusses, there simply is not enough space for organisms to exist in absolute isolation from one another. We obviously cannot compete with all others; some level of cooperation or coexistence is mandatory, "a nonnegotiable requisite for many differing kinds of life."

Although this chapter's shift from more orthodox neo-Darwinism to symbiotic theory has a distinctly political flavor to it—favoring as it does cooperation over competition—such ideological capital is largely due more to the associations critics have given to the ideas than to the ideas themselves. As Tom Wakeford writes of symbiosis as it exists in the political realm of scientific theory in his 2001 book *Liaisons of Life: From Hornworts to Hippos, How the Unassuming Microbe Has Driven Evolution*:

> Historians of science have puzzled over why these fundamental [symbiotic] insights took so long to receive recognition. Primitive analytical tools, Pasteurian paranoia, and intellectual inertia are part of the explanation. But, tragically, the study of symbiosis also fell foul of global

> politics: world wars, nationalism, and anticommunism, to name a few. Symbiosis was invented as a purely scientific term, but it was fatally bracketed in the minds of its enemies with dangerous political movements ... Symbiosis became an international pariah subject, the victim of tacit textbook censorship and McCarthy-like witch-hunts among professional scientists. (17)

While we might take exception to such phrasings as labeling symbiosis "a purely scientific term," Wakeford's historicization illustrates how and why the intellectual outline of symbiotic evolutionary theory has been the scientific community's underdog. Much like Hollywood movies inherently support violent competition through the "sex or guns or car chases" of all-American capitalism and its blockbuster entertainments, so, too, is most of evolutionary theory predicated on a staunch adherence to a biological models that favor competition over cooperation. Symbiosis between and among organisms, however, represents a driving evolutionary force that obviates competition between agents who partner up, and, similarly, *Adaptation* seeks an alternative in which the movie adaptation of a book is neither "better" nor "worse" but distinctly different and mutually dependent.

Instead of manufacturing another adaptation designed only to compete along the pre-existing, traditional lines of the competitive Hollywood marketplace (and the larger system of American capitalism which John Laroche also subscribes to), Charlie Kaufman attempts something much more complicated: a symbiotic approach. Kaufman claims that he wants to revise the typical Hollywood tendencies toward dummying down and selling out (ideas which seem to be at the heart of Hollywood's obsession with box office receipts, as well as what elements in movies help them to succeed or fail). And, as a result of Kaufman's focus, the story of *Adaptation* moves along unusual lines that

symbiotically reshape boundaries and categories that mainstream Hollywood movies typically leave clear and unambiguous.

3. Successful Failure and Critical Stupidity

The concept of symbiosis—as a way of theorizing biological linkages—is also linked to certain representational ambiguities; the term disturbs both the borders of our categorical concepts and the permanence of biological boundaries that we rely on to formulate the evolution of discrete entities. Whether analyzing symbiosis or employing symbiosis as a theoretical tool for analyzing something else, there seems to be certain subtle shiftings that take place, a kind of symbiotic slippage. The idea of symbiotic slippage requires a flexible sense of subjectivity, a kind of living in the plural that most of us are ill-equipped to understand; such connectedness, whether across space or time, seems to trouble the comfort of the categories we need to make sense of temporality, causation, and competition. Within the context of *Adaptation*, this inherent interconnectedness manifests in unusual ways, such as Charlie Kaufman ranting about how his script must cover all of evolutionary history from the beginning of life on Earth up to the present, as well as through a cinema-friendly, visual way of understanding existence in the plural: the concept of two twins living together in a symbiotic relationship that alternates roles of "parasite" and "host" so that each benefits at different points in time.

Because Orlean's *The Orchid Thief* relies so much on the insertion of Susan Orlean's voice and herself as a "character" in the nonfiction reportage on Laroche—making the text a symbiosis of Laroche's experience and Orlean's experience—Kaufman

similarly inserts himself into *Adaptation.* Kaufman claims that his focus in bringing Orlean's book to the screen takes on a bolder adaptive task of looking at the larger superstructure within which he finds his symbiotic subject matter, as his voiceover narration states during a series of sped-up cuts:

> "It's a journey of evolution. Adaptation. The journey we all take. A journey that unites each and every one of us. Darwin writes that we all come from the very first single-cell organism. Yet, here I am. And there's Laroche. There's Orlean. And there's the ghost orchid. All trapped in our own bodies in moments in history. That's it. That's what I need to do: tie all of history together." (*Adaptation*)

He then narrates all of evolutionary history as a montage, which mirrors the montage the film has already shown near the beginning in response to Kaufman's pondering why he "is even here at all." Kaufman's narration describes the final product almost exactly (as we have already seen it earlier in the movie). But this larger focus eventually overwhelms him, and he abandons this approach, though both sequences remain in the film.

Such an inclusion of what Kaufman initially labels a failure, as well as his process of revision and the final cinematic product (though not in that order), suggests that, for Kaufman to "tie all of history together," he must necessarily appropriate materials that seem to be unhelpful or irrelevant to him and his story. Such appropriation parallels the complex process of a symbiotic relationship, where, from a certain vantage point, such inclusions would be detrimental, "parasitic" or "pathogenic," but, when viewed with a larger sense of scope in mind, these elements complement each other extremely well. Because *Adaptation* exposes the shifting, uncertain process of textual adaptation itself, instead of simply presenting the final product for the audience's approval, the method

seems to be symbiotic at its very core. Kaufman must include not just his life story along with Laroche's and Orlean's, but he feels obligated to throw in the life story of the planet as well, what is labeled as "Hollywood, California: Four Billion and Forty Years Earlier." Because the individual organisms bound up in the "journey of evolution. Adaptation. The journey we all take" are necessarily, as Darwin puts it, "dependent on each other in so complex a manner," telling the story of plants and humans who are "[a]ll trapped in our own bodies in moments in history" without indicating the larger scope of evolutionary development across time and space does not provide the whole, symbiotic story Charlie Kaufman wants his movie script to tell.

Some of the limitations of thinking in terms of Darwinian competition follow from rating interactions between individuals solely as either positive or negative. For example, when Charlie Kaufman rejects the traditions of Hollywood adaptation, saying "I don't wanna ruin [*The Orchid Thief*] by making it a Hollywood thing. Like ... an orchid heist movie or something, you know? Or changing the orchids into poppies and making it about drug running, you know? Why can't there be a movie simply about flowers?" he makes an explicit, negative judgment against Hollywood movies and their conventions. And yet, by the movie's end, Kaufman's script has incorporated all of these cliché elements. Though such story components are inserted in the service of straight-faced, subversive irony, *Adaptation* appropriates the ideas it initially criticizes, showing that, as a text, the movie is capable of the same process of adaptation Kaufman and the orchids undergo over time. Because the wave of Hollywood schlock engulfs nearly all of *Adaptation*'s third act—and precisely because the movie offers it without the customary wink or nudge Hollywood movies typically use to announce to the audiences that they are

kidding—the movie presents complications in the realm of interpretation.

The gradual shift in *Adaptation*'s style, tone, and message as the movie progresses into more and more trite territory near its end represents a challenge for critics, particularly if their interpretation relies, as mine has thus far in part, on the thorny language of evaluation, of "good" and "bad." Because *Adaptation* enacts a kind of textual symbiosis, the competition implied by "good" and "bad" criticism becomes confused, if it can be applied at all. After all, if we read the ending as "bad," does that mean that the first two-thirds were "good"? Since the Kaufman character explains that he wants to avoid a neat and tidy Hollywood ending, does the "sellout" ending of *Adaptation* become entirely ironic? Kaufman's richly complicated, symbiotic approach perplexes questions such as these, with their focus on "goodness," "badness," and irony. In a more straightforward, standard mainstream movie, such issues would be easier for interpretations to approach, but by focusing on symbiotic adaptation and incorporating it into the process of narrative adaptation, Kaufman turns his focus to large-scale systemic change rather than solely positive and negative evaluation.

The concept of symbiosis allows for a categorically different vocabulary, as Tom Wakeford observes about symbiosis in *Liaisons of Life*: "Symbiosis is such a useful word because it avoids the need to determine whether just one or both of the symbionts, such as the plant or the fungus, is the net beneficiary in any given situation" (129). Are the Hollywood clichés cohabiting with Charlie Kaufman's criticism as parasites, or vice-versa? Likewise, is Donald Charlie's parasite, or vice-versa? Is *Adaptation* parasitically leeching off of *The Orchid Thief*, or is its effect beneficial? The questions of which ideas, figures, or texts benefit more from their respective pairings becomes less important than

the fact that these concepts are symbionts, or singular entities locked into a symbiotic relationship. Here, too, Ross Chambers provides a sense of direction without conforming to traditional valuations of "parasites" as exclusively negative[10], instead favoring the parasite's ability to muddle and problematize convention. Chambers writes that:

> The parasite disturbs the conventional order of things, as the representative of everything that is other to it. But the parasite also—as in the classical figure of the *parasitus*—makes the party "go." Otherness, when it is seen as forming part of a given community, stands for all the mediations that are other than the community's business but without which its business could not get done; it's the intermediary through which social interchanges inevitably pass; and in that sense the parasite is indispensable. (41-2)

This "intermediary" function of the parasite strikes at the center of adaptation as a process; the screenwriter performing the textual adaptation—most often from literary to cinematic form—is often viewed as a marginal figure, however "indispensable." At the beginning of *Adaptation* we see Charlie Kaufman kicked off the set of *Being John Malkovich*, providing a visual allegory about how Kaufman occupies a peripheral, uncertain role, as much in his career as in his personal life. And, although *Adaptation* focuses on a dramatization of Kaufman's life, putting the marginal figure in the center only serves to add another level to the movie's other symbioses.

Still, as I mentioned above, perhaps the closest yet most indirect parallel to the symbiotic exchange of "parasite" and "host" lies in the relationship dynamics of Charlie and Donald Kaufman. The beginning of *Adaptation* presents Donald leeching off of his twin brother with no hope of leaving their shared living space except through the long-shot, quixotic plan of becoming a screenwriter like Charlie, but the unfolding story

[10] In *Loiterature*, Ross Chambers theorizes the parasite as a social agent rather than a biological one, although the metaphorization definitely seems to suggest a relationship to the problematic formulation of symbionts as falling into the categories of "host" and "parasite."

reverses the power dynamic in that Charlie relies on Donald's help to break out of his writer's block and literally wrestle with the subjects of Susan Orlean and John Laroche in the wilds of Florida's swampland. The form of the storyline likewise mirrors this adaptive transformation of their relationship, as the structure itself shifts from Charlie's initial focus on a sprawling, more artistically authentic script to Donald's cliché Hollywood obsessions with drug-running, car chases, and a violent *deus ex machina*, all indicative of "cheap" writing or narrative "cheats."[11] Perhaps the most suggestive insertion of Donald's influence comes not through the twins' dialogue or the gradual mutation of the narrative style and structure but through the words on the screen after *Adaptation's* credits.

Throughout the movie, Donald brags to Charlie about the influence McKee's seminar has had in helping Donald write his horribly cliché script, in which a cop, killer, and victim all turn out to be the same person, and, when Charlie asks how to solve the impossibility of such a spatial dynamic (the victim being tied up in a basement while the officer remains at the police station), Donald explains that such conundrums can be solved by "trick photography." In the course of *Adaptation*'s events, Donald sells his script, about which we have only heard only the briefest and trashiest summaries, but, after the death of his character, we finally get a sample of Donald's writing. After the credits, the screen reads:

> "We're all one thing, Lieutenant. That's what I've come to realize. Like cells in a body. 'Cept we can't see the body. The way fish can't see the ocean. And so we envy each other. Hurt each other. Hate each other.

[11] For a more thorough reading of narrative "cheats," please see David H. Richter's "Your Cheatin' Art: Double Dealing in Cinematic Narrative" in *Narrative* 13.1 (2005) 11-28. Although the article only briefly addresses *Adaptation*, Richter writes extensively on narrative authenticity vis-à-vis audiences' collective expectations.

How silly is that? A heart cell hating a lung cell."

— Cassie from The Three

Following this excerpt, the words "In Loving Memory of Donald Kaufman" appear before the final fade to black. Much like Charlie's attempts to "tie all of history together," Donald's script, as corny as it is, alludes to a larger framework of existence that allows for symbiotic slippage and unfixed identity. Much like the "cells in a body" analogy, the twins are both connected through their experiences in *Adaptation*, both to each other and to John Laroche and Susan Orlean, even though such encounters are fictional, self-reflexively self-indulgent, and poorly written. Yet even within this supposedly stupid script, there is this passage which reflects on the symbiotic interconnections between what might otherwise seem wildly disparate parties. There is a kind of larger sense of adaptive criticism to Donald's optimistic stupidity. After all, a movie cannot satirize something it does not address or include; *Adaptation* simply goes one step further by including "cliché" Hollywood writing alongside the "sprawling *New Yorker* shit" in a way that not only presents such material in the content but also in the form through *Adaptation*'s style and structure, which mutates as easily and fluidly as any of Laroche's greenhouse plants.

The adaptive style of Kaufman's writing (or perhaps more accurately the Kaufmans' shared writing)—both as a process described in the film and as a product demonstrated by the film—rightly concentrates on establishing symbiotic links between disparate personalities, ideas, and structures. This linking strategy seems to work both because the concept of adaptation proves central to what Kaufman, Orlean, and Laroche are all attempting with their work and because symbiotic adaptation mirrors what orchids

themselves do, orchids also being central to Kaufman, Orlean, and Laroche's work. In *Liaisons of Life*, Tom Wakeford's early examples of how and why symbiosis works focus primarily on how orchids operate symbiotically with the fungi on their roots. He writes:

> When it comes to making the most of [symbiotic] root-fungus alliances, orchids are perhaps the champions. Orchid seeds are so small that a million of them weigh just two grams. They contain nothing apart from an embryo and an aspiration to meet the right mold. For without the participation of their own dedicated species of fungal associate, orchid seeds cannot even successfully germinate in the wild.
>
> Even when fully mature, the orchid's root system appears pathetically small. Yet its fungal symbiont forms a large and dynamic foraging web that ensures the orchid's nutritional needs are fully met. In turn, it may receive small amounts of vitamins and nitrogen compounds from the plant. The orchid's generosity has well-defined limits, however. The plant keeps the fungus in check with natural fungicides, should it show signs of attempting to stray upward from its normal home inside the roots, to colonize the orchid's stem. (38-39)

As Wakeford demonstrates, orchids symbolize evolution's potential for extreme specificity, as well as one of the world's best adaptations in terms of creating a symbiotic relationship with another species. And, although Charlie Kaufman does not wind up making the "movie simply about flowers" that he initially claims to want from his efforts, *Adaptation* is in many ways following the conceptual model of the various symbiotic orchid species. The linkages Kaufman creates between his script and Orlean's book have a flowing, interactive quality about them akin to symbiosis, suggested in part by the fact that the different stories presented in *Adaptation* seem to bleed into one another seamlessly and form the types of alliances of which "orchids are perhaps the champions." Moreover, the symbiotic relationship established between Kaufman and Orlean, despite their limited personal interaction, parallels the symbiotic connections between Orlean and Laroche, as well as between Laroche and his orchid business, not just between orchids

and the existence they share with biological symbionts.

If Charlie Kaufman "feeds" off of source material originating from Susan Orlean and Susan Orlean "feeds" off of source material originating from John Laroche, Laroche seems to recognize his symbiotic role in the creative process, even if only obliquely and metaphorically. In one of the many interactions between Susan Orlean and John Laroche in *The Orchid Thief* that Charlie Kaufman captures through a revised paraphrase in *Adaptation*'s script, Orlean talks with Laroche about the loneliness of plant lovers, which leads to a conversation about why Laroche loves plants. In Orlean's version of the discussion, she writes:

> The image of this loneliness seemed to daunt him. He stopped talking about it and then started explaining to me why he loved plants. He said he admired how adaptable and mutable they are, how they have figured out how to survive in the world. He said that plants range in size more than any other living species, and then he asked if I was familiar with the plant that has the largest bloom in the world, which lives parasitically in the roots of a tree. As the giant flower grows it slowly devours and kills the host tree. "When I had my own nursery I sometimes felt like all the people swarming around were going to eat me alive," Laroche said. "I felt like they were that gigantic parasitic plant and I was the dying host tree." (18-9)

Although Laroche describes himself in language that evokes "exploitative associations," he also recognizes himself as part of a symbiotic relationship. And, despite the fact that Laroche sees this relationship solely in the terms of Darwinian competition by claiming that "all the people swarming around were going to eat me alive," wherein success for one organism comes only at the direct or indirect expense of another, this association between Laroche and his nursery workers also metaphorically illustrates the association between Orlean and Laroche. They are mutually dependent. She relies on him if she wants to get a story for *The New Yorker* (and, eventually, her own book *The Orchid*

Thief), and he relies on her if he wants to have his side of the story told to a wide audience. Laroche may be the source for this story, but the relationship is not quite as stark as the host/parasite image he invokes; theirs is a mutually beneficial symbiosis.

Much like Charlie Kaufman and his attempt to broaden his scope to "tie all of history together," Susan Orlean also stretches the concept of evolution seen in Laroche and his orchids to the larger picture, which, in her case, is narrower than "all of history" but still fairly large: Florida. Throughout *The Orchid Thief*, Orlean portrays Florida as a kind of evolutionary hothouse, mutating without end, as if the fluid relationship of the organisms living there could emerge in a higher, macroscopic pattern reflecting its microscopic components.[12] In one of her many meditations on the nature of Florida, Orlean writes:

> The wild part of Florida is really wild. The tame part is really tame. Both, though, are always in flux: The developed places are just little clearings in the jungle, but since jungle is unstoppably fertile, it tries to reclaim a piece of developed Florida every day. At the same time the wilderness disappears before your eyes: fifty acres of Everglades dry up each day, new houses sprout on sand dunes, every year a welt of new highway rises. Nothing seems hard or permanent; everything is always changing or washing away. Transition and mutation merge into each other, a fusion of wetness and dryness and unruliness and orderliness, nature and artifice. Strong singular qualities are engaging, but hybrids like Florida are more compelling because they are exceptional and strange. (9)

The "exceptional and strange" qualities of Florida surface throughout Orlean's prose in *The Orchid Thief* and, in fact, inform the structure of the book, which is itself a hybrid and thus close to but not quite: crime tale, autobiography, popular science, biography, and travel narrative all rolled into one. In this way, the form and the content of the book are both adaptive, even before the scope of a movie script was first considered by studio

[12] For a more thorough discussion of emergence in complex systems, please see chapter five.

executives or Charlie Kaufman.

These diverse, disparate genres of writing, like the relationships between fungus and orchid, orchid and Laroche, Laroche and Orlean, integrate all through *The Orchid Thief* in ways where "[t]ransition and mutation merge into each other," making the book difficult to grasp when reading it, let alone adapting it. As Susan Orlean writes in the foreward to *Adaptation: The Shooting Script* (credited to Charlie Kaufman and the fictional Donald Kaufman)[13], she faced many of the same challenges that Charlie Kaufman, as screenwriter and as character, faced in the writing of his script. She explains her position:

> It was not the easiest book to write. I was far away from home, lonely, hot, and worried. What was the book about? Was it about orchids? Was it the biography of John Laroche, orchid thief? Was it about passion in general? If that were the case, how could you write a book about something abstract like passion? There were times when I was driving across the pancake-flat Florida scrub land in my rental car, when I really wondered what I had gotten myself into. It would be easier to write a genre book—a murder story, a memoir, a crime tale—anything with a conventional narrative arc that followed logical and predictable steps toward climax. Why didn't I do that kind of book? Was it too late to scrap this orchid folly and do something more normal? (viii)

The book as a whole is much more ambitious—for both its author and its readers—for not being "a genre book" that would produce "something more normal." The structure of Susan Orlean's writing reflects the ever-shifting, symbiotic nature of her subject matter, and, in order to adapt that same relationship (even while extending beyond the content), Charlie Kaufman's script-writing likewise transforms and adapts in similarly intricate and tangled patterns.

[13] To date, "Donald Kaufman" is the only fictional personality to receive an Academy Award nomination.

4. The Hollywood Ecosystem

The personalities of Charlie Kaufman, Susan Orlean, and John Laroche are not the only "real-life" characters to be symbiotically absorbed by *Adaptation*'s script as major players; the tendency of Hollywood genre movies to pander and oversimplify gets its personification in the screenwriting guru Robert McKee, who helps both of the Kaufman brothers with their blocked writing processes with some good, old-fashioned formulaic advice. McKee appears flamboyantly in *Adaptation* as the feverish messiah to an excited, desperate cult of would-be screenwriters, promising easy answers for cracking the cliché codes of Hollywood movies, right down to providing his own set of Ten Commandments for writers. For example, when Charlie Kaufman confesses to Robert McKee in *Adaptation* that he wants to present *The Orchid Thief* "simply, without big character arcs or sensationalizing the story," McKee responds with his own brand of whispered wisdom: "I'll tell you a secret. The last act makes a film. Wow them in the end, and you got a hit ... Find an ending. But don't cheat. And don't you dare bring in a *deus ex machina.* Your characters must change, and the change must come from them. Do that and you'll be fine." Part of the irony of this dialogue lies in the fact that, at the very ending, an alligator jumps out of the swamp and kills John Laroche, who is about to kill Charlie Kaufman, thus fulfilling both the "wow" at the end *and* the *deus ex machina* McKee warns against. But this irony is trumped by the fact that McKee's advice itself is a *deus ex machina*, too. McKee passes on a life lesson, both announcing to Kaufman how to cheat and letting him get away with not changing his character from within himself. So, despite Kaufman's initial resistance to the formulas of Hollywood genres and the advice of so-called "insiders" like McKee, the plot of *Adaptation* still privileges McKee's

knowledge and treats his confidential tip as the turning point for Kaufman's bizarre writing process, the ideas benefiting Kaufman even though he initially resisted them, enacting a kind of symbiotic synthesis.

Unlike the conception of memes as viruses—which are always malignant and parasitic—this chapter's symbiotic model provides a wider set of metaphorical tools for understanding the cultural particles transmitted through texts, not coded exclusively as positive or negative. With these possibilites in mind, Daniel Dennett's formulation of memes as neutral representations fits more accurately my discussion of the various symbiotic relationships within and connected to *Adaptation.* In *Consciousness Explained,* Dennett writes that:

> To human beings ... each meme vehicle is a potential friend or foe, bearing a gift that will enhance our powers or a gift horse that will distract us, burden our memories, derange our judgment. We may compare these airborne invaders of our eyes and ears to the parasites that enter our bodies by other routes: there are the beneficial parasites such as the bacteria in our digestive systems without which we could not digest our food, the tolerable parasites, not worth the trouble of eliminating (all the denizens of our skin and scalps, for instance), and the pernicious invaders that are harder to eradicate ... (204)

Although Dennett's conceptualization here seems to be more tolerant than Richard Dawkins's theorization of memes as "viruses of the mind," Dennett still falls back on the language of "beneficial parasites" rather than on much more synergetic and cooperative language, such as considering memes to be symbiotic helpers. It is this kind of double occupancy in terms of valence that informs the relationship Charlie Kaufman has with the ideas of Robert McKee.

True to the pattern within symbiosis that allows for the mutual benefit of both individuals involved, McKee benefits as much from Kaufman's insertion of his

fictionalized persona into *Adaptation* as Kaufman does. *Adaptation* provides an enormous advertisement for Robert McKee's *Story* books and seminars. And, by the film's end, the movie has reinforced McKee as guru and softened its earlier portrayal of him as a buffoon scamming desperate losers seeking fame and fortune as Hollywood screenwriters. In fact, McKee seems either to disregard or to misinterpret the role he plays in Kaufman's screenplay, as he writes in the "Critical Commentary" at the end of the shooting script that the nonfiction characters in *Adaptation* (such as himself) were "hijacked and epitomized to play various roles in the chaotic drama of Kaufman's psychic life" (132). Moreover, not only does McKee understand himself as being literally appropriated into Charlie Kaufman's mind in a reversal of Kaufman's earlier *Being John Malkovich*, McKee believes that he is the ultimate authority ruling over Kaufman's psyche: "his Super-ego, his nagging conscience" (133). Given this framework, McKee does not perceive himself as a symbiotic equal, as his version of Hollywood is characterized in gradations of winners and losers. Instead of a neutral symbiotic synthesis, McKee's framework appears more concerned with Darwinian competition; he has entered Kaufman's script as the authoritarian ruler, putting McKee higher on the Darwinian food chain of Hollywood competition, not any sort of symbiotic equal but instead "his nagging conscience," capable of dispensing influence yet unwilling to absorb it. Yet, with symbiotic relationships, the process of symbiosis wins out, not necessarily one party or the other, a notion McKee overtly eschews in his own writing.

In order for Robert McKee to solidify the notion of textual adaptation as competition rather than symbiosis (which overlooks many of the complications and ambiguities Charlie Kaufman explores in his script as a writer and as a character), McKee

writes in his "screenwriter's bible," *Story: Substance, Structure, Style and the Principles of Screenwriting*, that adaptations are essentially about competitions between the creator in one medium and the creator in another. In *Story*'s section about cinematic adaptation, for example, McKee addresses the impossibility of translating "pure" ideas from one text to another, explaining that:

> Attempts to adapt "pure" literature fail for two reasons: One is aesthetic impossibility. Image is prelinguistic; no cinematic equivalences or even approximations exist for conflicts buried in the extravagant language of master novelists and playwrights. Two, when a lesser talent attempts to adapt genius, which is more likely? Will a lesser talent rise to the level of genius, or will genius be dragged down to the level of the adaptor? (367)

For McKee, adaptations are always coded as positive or negative, "a lesser talent ris[ing] to the level of genius" or "genius be[ing] dragged down to the level of the adaptor." *Adaptation*, with its inclusion of the conventions of "lesser" talents and a certain "level of genius" without explicitly judging or announcing this transition, appears to be an entirely different species of adaptation from what McKee is writing about, something not so competitive.

At the core of meme theory, there exists a gesture at a self-less subject moving in a constant, ever-changing adaptive system. Individuals are collections of ideas pulled and synthesized from other sources, all of which are in flux. This abandonment of a singular, unique, and unattached self can explain not only why Kaufman's fictional self, his fictional brother, and his non-cinematic self are all equally fallacious as single, "real" identities, but also why, despite Kaufman's initially rigid stance on resisting the consumer-driven cultural trends of Hollywood, the film indulges in its last third in the cliché formulas of the worst genre movies. In the larger sense, Kaufman's personal

failures as an artist and his failures as a lust-driven, heterosexual single man fuse as part of another adaptation and appropriation on the part of formulaic Hollywood capitalism. In order to make this movie adaptation of *The Orchid Thief*, the source material must be perverted, mutated in order to stay financially competitive in the evolutionary soup of the Hollywood mass market economy. So while the ideas of Orlean's book have been adapted into the script, Kaufman has adapted in a way that allows him to fuse his work with the Hollywood formulas he despises, and, as an end result, his script succeeds.

The intermixing of traditional Hollywood ideas and nontraditional, anti-Hollywood ideas within *Adaptation* gestures beyond the movie and indicates the capacity for individual change as a sort of symbiotic adaptation. Earlier in the movie, in the Kaufman-scripted paraphrase of the dialogue only hinted at by Orlean's prose, John Laroche muses at an orchid show with Susan Orlean, explaining his favorite feature about plants: "You know why I like plants? Because they're so mutable. Adaptation's a profound process. It means you figure out how to thrive in the world." Although the movie dialogue does not contain Laroche's direct metaphor about being a host or source or symbiotic player in any larger processes, Laroche's conclusion that adaptation means "you" learn how to thrive seems to mean that people can and should adapt along similar lines to plants. Charlie Kaufman's script—and *Adaptation* as a movie—has adapted to Hollywood standards; it has "figure[d] out how to thrive in the world," earning academy awards and international acclaim.

As critical and snobby as Kaufman's attitude toward Hollywood is throughout *Adaptation*, he is still a Hollywood screenwriter, symbiotically bound to the very moviemaking machine he condemns. His living depends on Hollywood, and Hollywood

depends on him and other screenwriters for its living, as the all-encompassing term "living" here links finances to continued existence, or survival in evolutionary terms. The Hollywood system, as a collaborative, corporate effort, sustains itself with symbiotic relationships to all of the creative individuals who come together to make a movie, and, by following the rules and traditions established by that system, Charlie Kaufman has found a way to survive and thrive, as his finished script and the resulting finished movie indicate. And yet *Adaptation*'s ending rings false for its total commitment to this brand of Hollywood artificiality, partially because such artificiality has been so directly criticized by the Kaufman character himself, recalling Susan Orlean's response to Laroche's comment about the mutability of plants: "Yeah, but it's easier for plants. They have no memory. You know, they just move on to whatever's next. But a person, now, adapting's almost shameful. I mean, it's like running away." The symbiotic adaptation of *Adaptation*, embracing as it does a sensibility opposed to Kaufman's early stance, seems "like running away" because the total falseness of its Hollywood escapism seems incompatible with the more subtle intellectualism of the rest of the movie.

But this mingling of "good" and "bad" movie concepts is precisely the point of how and why movies mutate in the first place: to appeal to audiences' tastes, to succeed, "to thrive in the world." In a way, the ending of *Adaptation* implicates the viewer as much as it does Hollywood. The formulaic rules of moviemaking are based on what appeals to mainstream audiences, and, if the products of those rules were not popular, moviemakers would adapt. *Adaptation*'s ending reminds viewers that Hollywood's conventional practices are based primarily on box office receipts, which is an implication of movie-going audiences as much as it is an implication of niche-driven studio

production and marketing. If we as consumers did not pay to see movies with "bad" endings and the cliché ingredients discussed earlier, Hollywood would stop making them. Hollywood studios, producers, moviemakers, and agents are all connected to the ticket-buying public in a web of symbiotic relationships. Moreover, these Hollywood power brokers are perhaps even more connected to their audiences than they are to the screenwriters, their subjects, or their subjects' subjects, as is the case with Kaufman, Orlean, and Laroche. The nice and neat closure *Adaptation* provides can serve as a critical reminder to audiences that, if they do not like such "bad" endings, they should stop voting with their dollars for those types of endings to succeed. The early criticism within the movie's dialogue helps establish the irony later in the movie, and, as a result, the audience is free to observe the action with the detachment of a critic who might criticize audiences' tastes as much as the moviemakers' choices to cater to them.

Because *Adaptation* calls attention to movie conventions, its "bad" ending, the failure on Kaufman's behalf as a writer, does not ring true. The movie encourages us to be more aware through its unfolding, suggests that we can adapt and question the movie clichés that audiences typically absorb much more passively. The characters' choices within *Adaptation* stretch beyond the scope of their originally defined personalities, making us suspect each of their personal adaptations. Orlean is not a drug-abuser; Laroche is not a Hollywood anti-hero; Kaufman is not an intrepid protagonist trailed by his loveable, goofy sidekick twin brother. To intensify these characters through an artificial conflict to the death in the metaphorical murk of Florida's fertile, ever-changing swampland is to allow audiences to realize that the various narrative failures at *Adaptation*'s end might somehow transcend themselves.

The characters become so extreme, so over-the-top, so "Hollywood" that they transform into caricatures capable of deconstructing themselves. The ending feels like an appropriation by cookie-cutter studio marketing in that it formulaically applies all the corny tropes of mass-minded, superficial entertainment. But, in adapting the characters from the personalities we have come to care about over the course of the film into the cardboard archetypes of low-rent Hollywood action movies, Kaufman and the other filmmakers show that the film's ending is an intentional artistic artifice. The film serves as a representation of an artistic failure of an artistic failure. The movie *Adaptation* delivers the "wow" finish that executives and audiences clamor for, even as it undermines that desire by exposing it for the superficial, unsatisfying outcome it truly is, an absolute, industry-wide mockery that can only take place when delivered with a straight face.

Chapter Four: Invasion of the Bacteria: Larger Symbiotic Orders in *The War of the Worlds* and Its Adaptive Textual Legacy

1. When Aliens Attack

One cannot approach *The War of the Worlds* without discussing aliens. In this section, however, I hope to complicate and fuse the various meanings of "alien" so as to synthesize a new, multivalent understanding of the word that accurately reflects the macrosymbiotic focus I invoke here. Unlike the previous chapter, which dealt with symbiosis mostly on the level of individual textual and social symbionts (John Laroche, Susan Orlean, Donald and Charlie Kaufman, as well as *The Orchid Thief* and *Adaptation*), this chapter explores the concept of symbiosis on the systemic, population-wide level, as the term "alien" itself suggests. Although this chapter centers primarily on texts directly and symbiotically connected to H. G. Wells's novel *The War of the Worlds*, many of the comments can extend outward to inflect the subsequent homages, parodies, and reconfigurations of the alien invasion narrative as a kind of population in and of itself. In some senses, now that we have multiple versions of *The War of the Worlds* in varying different contexts, it is almost as though such textual iterations cannot be separated from a reading of the original novel, as though the meanings from new texts, like bacteria, infect backwards through time as well as the more conventional, linear string of influence, reinforcing the concept that symbiosis, especially on the macro level, has the capacity to trouble otherwise fixed borders and boundaries through its implicit ambiguity and instability.

Given this framework where texts' significations can bleed backwards across diachronic time and accumulate more meaning into the original version than an author

could have conceptualized given his own limitations of time and space, the latter day texts serve as "aliens" capable of invading the original and coloring its reception in diverse contexts. Within these texts, however, "alien" does not exclusively bear such extra-textual reference. Instead, I propose here that, when examining *The War of the Worlds* and several of its adaptations—primarily the 1938 Mercury Theatre on the Air radio play, the 1953 Byron Haskin/George Pal movie, the late 1980s television series, and the 2005 Steven Spielberg movie[14]—the term "alien" can still move fluidly among various registers of meaning, shifting in conceptual space and scope. After all, regardless of the magnification with which we view the "aliens," they are always "space invaders," whether operating on interplanetary, global, or microscopic scales. "Alien," as I utilize it in the service of a symbiotic reading of these texts, means concurrently: foreign to planet Earth, foreign to a given nation or dominant culture, and foreign to the human body.

Perhaps one of the best reasons for the long-lived popularity of Wells's novel is that, like the word "alien" itself, the core metaphor of *The War of the Worlds*—its aliens—has rich cultural resonance precisely due to its ambiguity. Like Wells's narrator, we "scarcely know how to speak of it" because the representations of the aliens are always mysterious, tense, and unknown (146). If humans could study the alien culture more fully, if diplomatic communication were possible, then the aliens would not be quite such a menace beyond the barriers of our comprehension. In *Alien Chic: Posthumanism*

[14] I have scaled down the list of texts under examination to create a more manageable analysis. Some of the texts that I regretfully leave out are the two other 2005 *War of the Worlds* movies, Jeff Wayne's 1978 rock musical version, the computer game based on Jeff Wayne's musical, the numerous illustrated versions, graphic novel adaptations, and comic book versions. Likewise, I could not incorporate all of the movies directly or indirectly inspired by *The War of the Worlds*, either, such as the spoofs, recontextualizations, and homages found in *Earth vs. the Flying Saucers*, *Invaders from Mars*, *Independence Day*, *Signs*, *Mars Attacks!*, etc., not to mention the countless other novels, movies, video games, and television shows influenced by Wells's invasion narrative.

and the Other Within, Neil Badmington writes that the contemporary shift in popular culture from aliens as fearful monsters to aliens as nostalgic, pleasant creatures still serves to separate and distinguish what is "alien" from what is truly "human," even though it has the veneer of a more loving relationship, or "chic" (which he adapts from Tom Wolfe's *Radical Chic & Mau-Mauing the Flak Catchers* as a way of allegedly supporting an ideological concept while still holding it at a distance). Badmington writes:

> Alien Chic, then, is a defence mechanism, a trend with which 'we' reassure 'ourselves' about who 'we' are at a moment of immense uncertainty. When 'our difference from machines and animals is no longer obvious, 'we' turn to the alien for its instant difference ... 'We' love 'Them', and loving 'Them' as a 'Them' confirms 'Us' as 'ourselves' ... 'Alien love', in the end, is structurally similar to 'alien hatred' in its carving up of the world into binary oppositions ... Alien Chic is a humanism. (90)

Given this framework, there is always a subtle, hostile dialogue between what is alien and "Us," even though such dialogue appears to be normalized through familiarity.

"Alien," then, is always in flux across cultural space and time. The aliens invade and colonize the hapless Earthlings, while simultaneously being colonized by orders of meaning by the natives. In Wells's narrative, the aliens are Martians. These Martian invaders, before dying from the microbial invasion of Earth's own bacteria into their alien systems, can effectively map onto all sorts of contemporary cultural anxieties, from the threat of world war in both H. G. Wells's 1898 novel *The War of the Worlds* and in Orson Welles's infamous 1938 radio adaptation, to Soviets destroying California during the Cold War in Byron Haskin and George Pal's 1953 film version, to terrorists attacking New York in the wake of September 11th in Steven Spielberg's 2005 film version. The model of these adaptations' cultural transference, while having parallels to the infectious

disease that lays the aliens low in every single version, does not work like the viral model of chapter two. Whereas viruses tend to work within a single generation and spread quickly through space, bacteria work through both horizontal and vertical transmission, making their invasion across both space and time. And yet, as I mentioned above, invoking bacteria as a metaphor brings a unique set of complications in that, unlike viruses, the concept of bacteria can hardly be so starkly positive or negative. In other words, if the adaptation of *War of the Worlds* texts literalizes the bacterial metaphor and language within Wells's text, that process of literalization produces a much more ambiguous lineage that complicates our understanding of the basic units of change in evolution. Through the following readings of *War of the Worlds* texts, there is a flux of meaning between the two evolutionary paradigms of Darwinian competition and symbiotic cooperation, as their application often relies on interpretation, much like the concept of "alien" itself, which, as mentioned above, can signify on multiple levels of magnification, from the microscopic to the global.

With these multiple connotations in mind for "alien," the term invites an ascription of absolute otherness, a concept that seems to serve as metaphor or analog for *something else* that the readers or audiences find threatening. In fact, the aliens transform over time and through multiple textual iterations from Martians in Wells's novel to aliens from far more vague and unknown reaches of the universe in the television series and Spielberg's film version, making the threat more ambiguous and thus more malleable for audiences' interpretations. Even within Wells's source text, the Martians are so "alien" that they appear beyond description, so menacing that they threaten to escape even our most basic defenses of language. In *The War of the Worlds*, Wells's anonymous narrator

attempts to depict the Martians as:

> the most unearthly creatures it is possible to conceive. They were huge round bodies—rather, heads—about four feet in diameter, each body having in front of it a face ... In the back of this head or body—I scarcely know how to speak of it—was the single tight tympanic surface, since known to be anatomically an ear, though it must have been almost useless in our dense air. In a group round the mouth were sixteen slender, almost whiplike tentacles, arranged in two bunches of eight each. These bunches have since been named rather aptly, by that distinguished anatomist, Professor Howes, the *hands*. (146, italics in original)

The anatomy and appearance of the Martians is so completely foreign that Wells's narrator finds himself almost unable to communicate this alienness coherently, relying instead on structural stumblings in his sentences to convey his inability to write rationally about something so alien. We only have a vague sense of what the Martians are—or even look like—because Wells leaves the narrative report open to the horrors of his readers' imaginations, putting the burden on them to figure out "the most unearthly creatures it is possible to conceive." The words seem to reflect the unknowable, something so insidious that the concept can move beyond our understanding so that, even with our inability to perceive or conceive of the creatures, they can still destroy us, much like the infecting microbes that have so long bothered microbiologists all the way back to Louis Pasteur, even though (or, perhaps, because) so few others could similarly "see" the danger.

2. Antiseptic Cultures, Symbiotic Planet

The aliens under discussion in Wells's narrative (and the novel's adaptive progeny) move fluidly in their signification from mirroring microscopic threats to appearing as a threat to the entire planet; Wells's aliens obviously originate from another world, but their invasion parallels an infection. Kirsten Ostherr frames these parallels

between body, nation, and planet in *Cinematic Prophylaxis: Globalization and Contagion in the Discourse of World Health*, where she discusses the 1953 cinematic adaptation of *The War of the Worlds* and other alien invasion movies of the period, writing that: "In this discourse, bodily invasion is collapsed with geopolitical invasion, and both are treated as processes of contagion" (121). Ostherr theorizes that, overall, such a collapse serves an inherently conservative function, explaining that: "the question of whether a foreign (immigrant) body would be treated as human or alien has long been at the core of discourses of immigration and disease," making the "alien" as a "foreign (immigrant) body" always already a potential source of death and destruction (98). The background of Ostherr's readings of invasion narratives, couched as it is within the framework of world health, stems from a critical reading of the prevalent discourse about disease and infection that has dominated most of twentieth century cultures' attitudes microorganisms, as rooted in the influential works of Charles Darwin and Louis Pasteur.

Many texts on microbiology tend to be alarmist, cautioning against invisible "alien" threats[15], and this tone harkens back to an old intellectual alliance between the theoretical models of Louis Pasteur and Charles Darwin. Both thinkers conceptualize life as a perpetual struggle for survival against adversaries both outside and within the boundaries of species, a competition directly prompted by violence and indirectly prompted by sex. More specifically, Darwin frames such efforts to outfight and outbreed

[15] To read more about the anxieties surrounding microbiology, see Philip M. Tierno's popular science book *The Secret Life of Germs: Observations and Lessons from a Microbe Hunter.* Although Tierno also indicates that "the cycle of life requires the action of germs at every stage" and that "germs were the initial building blocks of evolution," throughout much of the book he constructs alarmist hypotheticals, likening everyday life to a deadly struggle of which we are mostly unaware (7). For example, Tierno writes in detail about two hypothetical men entering a public bathroom, one washing his hands and living a happy, healthy life and the other not washing his hands and contracting Ebola (12). And yet, despite Tierno's mind-boggling examples and nervous hypotheticals, the book's central discourse relates to much larger patterns in

competitors in *On the Origin of Species*, writing that:

> A struggle for existence inevitably follows from the high rate at which all organic beings tend to increase. Every being, which during its natural lifetime produces several eggs or seeds, must suffer destruction during some period of its life, and during some season or occasional year, otherwise, on the principle of geometrical increase, its numbers would quickly become so inordinately great that no country could support the product. Hence, as more individuals are produced than can possibly survive, there must in every case be a struggle for existence, either one individual with another of the same species, or with the individuals of distinct species, or with the physical conditions of life. (63)

In other words, organisms struggle because of physically limited resources; the only prospects for organisms lie in competition. In Pasteur's research, the issue of survival is refocused to microscopic, positing that such struggles take place among competing organisms within our bodies as well as without, invisible to the naked eye but deadly to humans nonetheless.

Within the widely influential essay "The Germ Theory and Its Applications to Medicine and Surgery," Louis Pasteur explains, based on his research, that:

> we are able to understand what has before seemed so obscure; we can see how putrescible fluids can be inoculated by the dust of the air, and how it is that putrid diseases are permanent in the world ... [W]hat must be insistently demanded? The absolute proof that there actually exist transmissible, contagious, infectious diseases of which the cause lies essentially and solely in the presence of microscopic organisms. (114)

Moreover, Pasteur observes: "that the germs of microscopic organisms abound in the surface of all objects, in the air and in water" (110). Thus, with Pasteur's insights, Darwin's "struggle for existence" takes place even on levels most humans never perceive. The implications of combining Darwin and Pasteur's scientific worldviews are that all of life is a violent struggle for dominance, inter-species and intra-species, on both the

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contemporary science about how life itself works.

macroscopic and microscopic levels.

Pasteur was able to draw his discoveries back to the world outside the microscope, however, in that he perceived the political realm and the microbial realm as parallel. For Pasteur, the discourse of bacterial infection was itself infectious and could be mapped outward to parallel descriptions of the movements and behaviors of masses of people, and such masses, when viewed from Pasteur's conservative perspective, were themselves invasions. As David Bodanis frames the cross-fertilizations of meaning between Pasteur's politics and his influential perspectives on microbiology, the parallels between microbes and mobs were ever-present in the scientist's mind. Bodanis writes in *Web of Words: The Ideas behind Politics* that:

> Pasteur had a horror of democracy. There was ordered society, which was good, especially if led by a strong man, and there was also a curious anti-society, a disordered thing of raw uncultivated bodies: the mob. That was a collection of small infecting creatures that decent people didn't ordinarily see, but which was always there, ready to pounce, to enter our society and take over and grow ... The language of Pasteur and conservatives generally against the masses of the people was almost exactly like the language Pasteur had developed to use against bacteria. Both were everywhere, small swarming things ready to strike, to grow and propagate. (16-7)

Throughout the rest of the book, Bodanis traces the rhetorical conflation of the masses and bacteria over the course of the twentieth century, illustrating how much of the political leadership on both the national and international level similarly posits that people—when massed and therefore undesirable, whether poor or just "other" by virtue of nation—are in need of a kind of antiseptic control, limiting them when eliminating them outright is for one reason or another unfeasible. Although Wells's narrator in *The War of the Worlds* speaks before the dawn of the twentieth century, his perspective

reflects a comparable paradigm. The global violence and nationalistic zeal of the twentieth century does not analogize well with a model that posits webs of intersecting cooperation within, between, and among species; indeed, political views have long overshadowed symbiotic theory, especially the furthest reaching extension proposed by Lynn Margulis, as she champions her own version of James Lovelock's Gaia hypothesis.

Although the basic idea behind the Gaia hypothesis is relatively simple—that Earth's various ecosystems can be collectively conceptualized as a global ecosystem analogous to a single, living organism—theorists such as Margulis must work to clarify the secularized, de-mystified versions of the Gaia theory, separating it from popular "Earth mother" misconceptions.[16] Margulis's model of Gaia, as she points out, is simply viewing symbiosis on the planetary scale. In the prologue to *Symbiotic Planet: A New Look at Evolution*, Margulis quickly addresses "how symbiosis jibes with Gaia" by citing:

> a wisecrack of a wonderful former student of mine named Greg Hinkle ... Before receiving his Ph.D., Greg knew and taught that symbiosis is simply the living together in physical contact of organisms of different species. Partners in symbiosis, fellow symbionts abide in the same place at the same time, literally touching each other or even inside each other ... Greg quips, "Gaia is just symbiosis as seen from space": all organisms are touching because all are bathed in the same air and the same flowing water. (1-2)

From this framework—or, to use a more appropriate term, worldview—the interconnected planetary ecosystem regulates itself in spite of, perhaps because of, its

[16] In fact, Margulis has written explicitly to counter the secular appropriation of Gaia as New Age goddess, stating in *Symbiotic Planet* that: "Gaia is neither vicious nor nurturing in relation to humanity; it is a convenient name for an Earthwide phenomenon: the regulation of temperature, acidity/alkalinity, and gas composition. Gaia is the series of interacting ecosystems that compose a single huge ecosystem at the Earth's surface. Period ... Life, especially bacterial life, is resilient. It has fed on disaster and destruction from the beginning" (120).

constant flux and change in ways that parallel the unified life functions of complex individual organisms.

This assertion that the fundamental character of life lies in interdependence, however, is starkly at odds with the neo-Darwinian competition Richard Dawkins explains is at the core of life. In *The Extended Phenotype: The Long Reach of the Gene*, Dawkins again explores how DNA and algorithmic processes inform nearly all aspects of behavior. While these "extended phenotypes" create conceptual webs that basically encompass the globe in an ever-adapting matrix, Dawkins is quick to distinguish his formulation from the problematic Gaia hypothesis.[17] Dawkins holds so closely to his neo-Darwinian convictions that, in order to treat the Earth as a unified whole, there must be comparable competitors, other planetary organisms that either fail or succeed, thus expanding the paradigm of the "survival of the fittest." According to Dawkins, the lack of such evidence points to this perspective's invalidity: "For the analogy to apply strictly, there would have to have been a set of rival Gaias, presumably on different planets ... In addition we would have to postulate some kind of reproduction, whereby successful planets spawned copies of their life forms on new planets" (236). In this vein, Dawkins's conjecture-as-counter-argument depicts a kind of interplanetary Darwinism that resonates with the *War of the Worlds* texts and, curiously enough, resembles Pasteur's microscopic universe.

In *Slanted Truths: Essays on Gaia, Symbiosis, and Evolution*, Lynn Margulis and Gregory Hinkle respond to Dawkins's assertions through an essay entitled "The Biota and

[17] Dawkins writes that: "There is a risk ... that such talk of adaptation on a global scale may call to the reader's mind the fashionable image of the ecological 'web', of which the most extreme manifestation is the 'Gaia' hypothesis of Lovelock ... The comparison could hardly be more misleading" (234-5).

Gaia: One Hundred and Fifty Years of Support for Environmental Sciences." Here, they assert that: "Richard Dawkins' (1982) claim that the Gaia hypothesis cannot be true because there is no evidence for competition between Earth, Venus, and Mars is reflective of neo-Darwinism's preoccupation with the romantic, Victorian conception of evolution as a prolonged and bloody battle" (215). From this back-and-forth exchange, it would seem as though there can be no dialogue between the theories of Dawkins and Margulis, at least as those theories apply to the questions of competition and symbiosis.

However, the adaptive textual legacy of Wells's writings, both in *The War of the Worlds* and some of his nonfictional texts, demonstrates that we can utilize Dawkins's conception of the culturally evolving meme with Margulis's expansion of symbiosis to a global, macrosymbiotic level. This synthesis involves a theoretical symbiosis, allowing us to examine multiple levels of textuality, moving from the microscopic metaphors within a text to the symbiotic appropriations of cultural contexts between and among texts over time. My analysis here details how H. G. Wells' *The War of the Worlds* could present "competition between Earth ... and Mars" as interconnected, holistic, planetary ecosystems, while also reflecting a Darwinian "preoccupation with the romantic, Victorian conception of evolution as a prolonged and bloody battle." Within this complicated, interconnected theoretical paradigm, the tensions between microscopic threats and symbiotic linkages correlate that of cultural threats. In turn, Wells's text and the subsequent adaptations refocus the magnification of the established microbiological discourse outward, zooming to global threats, moving along levels of alterity from body to nation to planet.

This sense of microscopic mystique, aliens operating like bacterial masses on the

bodily, national, and global level, carries through many of the textual adaptations, picking up on the strains of microbial anxiety floating below the surface of Wells's novel, where the aliens reproduce asexually, like bacteria, the narrator writing in awe of an incident where a "young Martian ... was found attached to its parent, partially *budded* off" (148, italics in original). The patterns of the aliens operating like a bacterial infection carry through to the late 1980s *War of the Worlds* television show as well, which includes the narration of Harrison Blackwood, in the first season's opening credit sequence, saying: "In 1953, Earth experienced a war of the worlds. Common bacteria stopped the aliens, but it didn't kill them. Instead, the aliens lapsed into a state of deep hibernation. Now the aliens have been resurrected, more terrifying than before. In 1953, aliens started taking over the world. Today, they're taking over our bodies" (*War of the Worlds* 1988). The invasion of the aliens, within the diegetic universe of the television series at least, is part of a diachronic planetary infection, as the television adaptation absorbs and includes the mythology of previous adaptations into its own storyline; the 1953 movie represents an earlier invasion by the aliens, which, because of the severity of this global trauma, no one in the present remembers. This collective amnesia, coincidentally convenient for the narrative logic of the series, also extends to the 1938 broadcast by Orson Welles and the Mercury Theatre on the Air, and the events of the earlier movie and radio play bubble up into some of the episodes' central plotlines. Although such moments of intertextuality are fun for the fans, this timeline indicates the adaptability of something "alien" to contexts, showing how the alien infection affects diachronic culture. Moreover, the particular type of invasiveness adhered to in the television show's revision of the alien menace serves to threaten identity not just on the planetary level. This threat is "taking

over our bodies," destabilizing the critical boundaries between "us" and "them," on the individual, corporeal level, as well as the national and global levels, because we can no longer trust our fellow Americans, or even fellow humans, not to be carrying the invaders within them.[18]

In Steven Spielberg's 2005 movie version, now titled simply *War of the Worlds*, there are similar analogies to bodily and national invasion, though they take place before the full-scale interplanetary interaction gets underway, through brief allusions connected to the deadbeat dad protagonist Ray Ferrier's estranged children. While dropping off their son and daughter, Ray's ex-wife tells him: "Robbie's got a paper on the French occupation of Algeria due Monday, which he's yet to begin," and, after Ray's daughter Rachel gets a splinter in her finger, she assures him that "When it's ready, my body'll just push it out" (*War of the Worlds* 2005). These two ephemeral bits of dialogue provide metaphorical parallels to the alien invasion about to take place in that, whether discussing the struggle between the French colonial power and the Algerian insurgency or the encounter between a sliver and the defenses of the body's epidermis, the results are the same: the local defenses will win out and expel the invasive enemy, as well as any threat of possible colonization or infection. And, with both instances, it is not some decision-making, hierarchical executive branch that dictates the expulsion; rather, the invaders are repelled by the collective force of low-level agents operating defensively from the bottom up rather than the top down, much like the microscopic strategies of bacteria. In other

[18] Because of the new dynamic of aliens physically taking over humans' bodies, the television series owes nearly as much to *Invasion of the Body Snatchers* as it does to *The War of the Worlds*. Moreover, as the aliens and their covert, government-funded human counterparts are fighting secretly in episodic, small battles, the "war" of the title seems misleading, though "The Skirmishes of the Worlds" obviously does not have the same ring to it.

words, within the various *War of the Worlds* texts, the concept of individual human agency is called into question both by the invaders and what kind of defenses it takes to beat them, creating a kind of moral relativism that traces its roots back to the critical focus found even in Wells's novel.

3. "Darwin *ex machina*"

From the beginning of *The War of the Worlds* to its end, Wells relies on this discourse of microscopic disease, a kind of bacterial language that he applies to both the humans and the extraterrestrial aliens in his narrative, making the focus too broad for any one identity and thus shifting the scope to the "worlds" of the title as characters. The humans in the novel are relatively superfluous, existing primarily as targets for the Martians' futuristic weapons and barbaric savagery. Almost all of the characters who have the privilege of receiving names die horrible, grisly deaths, while the narrator, his wife, and his brother all remain anonymous spectators whose narrative function is solely to survive and witness the events. Obviously, many other anonymous characters are fated to die, too. There is nothing particularly virtuous or unique about the characters to survive; these figures may be resourceful at times, but so are other individuals who wind up dead, replacing any conventional virtue with dumb luck.

The various protagonists in all the versions of *The War of the Worlds* do not successfully combat or directly confront their alien enemies; they are saved by a *deus ex machina* in the form of germs attacking and killing the invaders. These bacteria operate in the greater service of humanity, though they clearly do not have the capacity to realize the consequences of their actions. Rather than having a god step into the narrative to

solve the cowering Earthlings' problems at the end of *The War of the Worlds*, H. G. Wells creates an evolutionary *deus ex machina*, or a "Darwin *ex machina*": the Martians die off because they have not adapted to the bacteria inhabiting everyday humans, making *Homo sapiens* the "fittest" by default of surviving. While this ending poses a certain sort of scientific realism, the effect of ending the narrative with germs as the ultimate victors instead of the humans is somewhat less than satisfying by the typical conventions of narrative. Wells announces this final anti-climax in language that obscures his affinity for science over religion, a paraphrase of which enters into almost every adaptation of the novel, regardless of its medium; in its original textual form, Wells writes:

> And scattered about [the landscape], some in their overturned war-machines, some in the now rigid handling-machines, and a dozen of them stark and silent and laid in a row, were the Martians—*dead!*—slain by the putrefactive and disease bacteria against which their systems were unprepared; slain as the red weed was being slain; slain, after all man's devices had failed, by the humblest things that God, in his wisdom, has put upon this earth. (195, italics in original)

Although the rest of the passage—and, indeed, the pages surrounding it—focuses on subtle points about the roles bacteria have played in the evolution of humankind, there is no avoiding the fact that Wells here puts "God, in his wisdom" behind everything, making the Martian invasion play out like just another component in Intelligent Design. In the Orson Welles/Mercury Theater on the Air radio broadcast, and in the Steven Spielberg and Byron Haskin movies, this insertion of God is further emphasized by its delivery being voiced by the voice-of-God narration of Orson Welles, Morgan Freeman, and Sir Cedric Hardwicke, respectively, and the Haskin version goes so far as to stage this final revelation in a church and follow it with a heavenly choir singing "Amen."

The "Darwin *ex machina*" that Wells writes into the ending of *The War of the*

Worlds problematizes the narrative in several ways at once, as it appears to signify that humans have some control over Earth's fate through their ultimate survival, which the rest of the novel questions severely. Humanity's survival was never part of the "war" that brought the Martians down; the bacteria were the only agents whose fighting yielded any results. Likewise, the competition implied by humans surviving while the Martians die, even though the Martians prove to be superior in all other aspects, illustrates for Wells that the only meaning behind humankind's survival lies in the species diachronic survival and coexistence with bacteria. The range of Wells's evolutionary focus seems to leave non-evolutionary conceptions of God out of his portrayal entirely by mentioning "our prehuman ancestors" as part of an evolutionary continuum that makes humanity's survival in the face of invaders incapable of destroying native bacteria "inevitable." If humans are the "winners" of this interplanetary "war," it is only because so many of them died so long ago in the past that no one today has any memory of the fight.

Although the "war" against the Martians is couched in the language of competition, the "Darwin *ex machina*" I am applying eventually unravels itself because the Darwinian focus is subsumed by symbiotic association. These bacteria, after all, have killed billions of humans as well as many of "our prehuman ancestors," and yet they are now integrated into our systems, essential to the survival of our daily life functions. We have a symbiotic relationship with the bacteria, whom Wells calls "our microscopic allies." Moreover, the regulatory function of the bacteria in service to the global ecosystem, despite Wells's claim that such an ecosystem is humanity's "birthright," show the Earth adjusting minute aspects of its environment with little overall impact felt by the numerous human deaths recollected in the book. This macroscopic view, as well as the

title itself, suggests that neither the bacteria nor humankind "win" the war, but that Earth does after its planetary dominion has been threatened by an alien invasion. In other words, the world saves itself. This extrapolation of the story to global implications traces the symbiosis between humans and bacteria to the level of Gaia, echoing Margulis's claim in an essay titled "A Pox Called Man" in *Slanted Truths* that: "Gaian environmental regulation is achieved largely by the origin, exponential growth, and extinction of organisms" (255). The alien invaders threw off the planet's environmental balance, and so they met with the global ecosystem's counterattack through the microscopic defense of bacteria, much like the microorganisms within our bodies defend the integrated whole. In *The War of the Worlds*, despite the Martians seeking to eliminate the planet's human occupants, the human casualties were simply caught in the crossfire between the invaders and the bacteria seeking to destroy them. As Margulis continues on in "A Pox Called Man," "Many species, especially those in the four nonanimal kingdoms, do not need humans to take care of them and would not blink if we drove ourselves to extinction tomorrow" (257). This assertion brings us back to the complicated "Darwin *ex machina*" structure of the novel's ending in that the dumb luck of evolutionary survival is apparently even more blind than Wells envisioned it. Although I have already established that the characters survive regardless of the virtues they do or not do possess, from the bacterial perspective, all of humanity's virtues are moot.

Given that bacteria operate in microscopic masses without identifiable intentions, it is fitting that, at least in Wells's novel, humans are largely indistinguishable from one another. In a sense, there are no real characters in *The War of the Worlds*, just simplistic vessels for enduring and transmitting affect, which moves, appropriately enough, through

the population like a contagion. These contagions of affect—frequently coded with the discourse of nationalism, such as when the masses call upon the military and the government to destroy the invaders—mirror the microscopic movements of bacteria in bodily systems as well as the macroscopic trends of the humans on the surface of the Earth, who spend most of the novel losing to the interplanetary affliction of the Martians. For much of the narrative, Earth as a system is being invaded. While the alien attackers seem to have a special interest in killing humans (as the self-proclaimed dominant species), they annihilate pretty much everything they come into contact with, and, along with their advance, they release the red weed. Wells's narrator explains that:

> Apparently the vegetable kingdom in Mars, instead of having green for a dominant colour, is of a vivid blood-red tint. At any rate, the seeds which the Martians (intentionally or accidentally) brought with them gave rise in all cases to red-coloured growths. Only that known popularly as the red weed, however, gained any footing in competition with terrestrial forms. (150)

The Martian threat here is not limited solely to the violence inflicted by the Martian machines; even the plants from their ecosystem are part of the environmental onslaught, which even the narrator does not know whether the aliens do this "intentionally or accidentally." Thus, all of Earth as a collective ecosystem is threatened by this alien presence, and the complex, interdependent organisms are thrown out of balance and threatened with extinction by this biological warfare. Gaia as an entity, all of Earth, has caught a cold from Mars that is wiping out Earth's native plants and animals at tremendous rates, and the only things capable of destroying the invaders are more invaders, though they work at the microscopic level as disease-spreading bacteria against which humans have already developed immunity.

From the opening words of *The War of the Worlds*, Wells establishes the narrative's shifting scope across these orders of magnification (body to nation to planet), and with such invocations the novel reframes humans and their experiential realm as "other" by describing their patterns as though through a microscope. Wells famously opens the story by stating that:

> No one would have believed in the last years of the nineteenth century that this world was being watched keenly and closely by intelligences greater than man's and yet as mortal as his own: that as men busied themselves about their various concerns they were scrutinised and studied, perhaps almost as narrowly as a man with a microscope might scrutinise the transient creatures that swarm and multiply in a drop of water. With infinite complacency men went to and fro over this globe about their little affairs, serene in their assurance of their empire over matter. It is possible that the infusoria under the microscope do the same. No one gave a thought to the older worlds of space as sources of human danger, or thought of them only to dismiss the idea of life upon them as impossible or improbable. (9)

Wells's narrator first announces that the alien threat has superior intelligence to humankind, intelligence that allows the Martians to examine and study Earthlings with as little sympathy as we might feel while observing "the transient creatures that swarm and multiply in a drop of water" through a microscope ourselves. Humanity here is equated with infusoria, bacteria as easily wiped out by "the older worlds of space" as the microorganisms are which our bodies defend us from every day. Likewise, Wells's phrasing implicates humanity's arrogance by bitterly doubting their "infinite complacency" while swarming "over this globe about their little affairs," directly invoking the nation through a parallel between the microscopic teeming masses and "their assurance of their empire over matter." Granted, this "empire" seems to relate to the empirical observations of the sciences rather than the British Empire, but it is not long

before the threads of colonialism emerge from the Martians' invasion plan, which is founded as much on the patterns of bacterial colonies as it is on the patterns of international colonies.

Many critics, such as Julian Cornell, read Wells's portrayal of the Martians nearly conquering the Earth as a metaphorical indictment of British colonialism, the imperial ideology being something which Wells's criticized more openly and directly in other texts. Because the foundations of colonizers' perceived superiority over the indigenous peoples of the world relied heavily on eugenicists' mis-adaptation of Darwinism, the colonial project was inherently bound up in a kind of racist, elitist Social Darwinism that equated whatever "undesirable" categories the ruling powers found necessary to oppose with the bacterial masses Pasteur so vehemently hated. H. G. Wells recognized this appropriation of Darwin's science as fallacious, and, in the course of the attempted interplanetary colonization that takes place in *The War of the Worlds*, the colonizing countryside of Great Britain is subjected to the violent rule of a superior nonnative power. And yet, as the bacterial counter-colonization demonstrates, for Wells, biological Darwinism trumps Social Darwinism. In "All's Wells that Ends Wells: Apocalypse and Empire in *The War of the Worlds*," Cornell writes that:

> Throughout the text, Wells expands upon these themes [opposing Social Darwinism], attempting to undermine the reader's belief in the supremacy and invulnerability of the British war machine, by placing him or her in a position subordinate to its might. The narrator's point of view, as expressed through his vivid recounting of his flight from the aliens' onslaught, is from the vantage point of the oppressed, of the colonized subject's helplessness before a technologically superior military force. Thus, *The War of the Worlds* is involved, through its spectacle of Martian bombardment, in examining the use and display of political power, specifically in relation to the formation, and perpetuation, of empire. (426)

Because Wells's novel shifts so easily from one level of magnitude to another, the text complicates the established tenets of what is right and good in both body and nation while spinning his yarn about the fate of the planet. After all, from the Pasteurian perspective, within each of these levels (body, nation, and planet), whatever is outside of the definition of "us" is a threat, and, conversely, whatever is a threat is therefore by definition "alien." Instead, Wells puts us, through the narrator's point of view, into "the vantage point of the oppressed," allowing a complicated process of identification to take place that also eventually allows us to perceive bacterial diseases as "our microscopic allies." These binary reversals of perspective allow us as readers to participate in Wells's reimagining of the globe as a symbiotic system to such an extent that, given a focus macroscopic enough, killing our enemies amounts to killing ourselves.

By fusing Julian Cornell's reading of Wells's critique of the politics of nationalism and colonialism along with my current reading of the micropolitics of bacterial infection and symbiosis, a new theoretical lens emerges wherein H. G. Wells's text reveals the same sorts of discourse strategies employed by Louis Pasteur and, as David Bodanis notes, many writers who followed Pasteur's rhetoric. Although those who supported British colonialism also typically supported the notion that the superiority of white, Western civilization justified invasion and domination, Wells's novel positions all of humanity as inferior to the aliens, making Great Britain—and the reader, by extension—part of the "infusoria," the insignificant teeming masses that are easily exterminated by outside intruders. Bodanis notes that, according to rhetoric initiated by Pasteur, the common thinking with respect to masses of "bacteria-like" people was:

> If unpleasant entities such as the people or bacteria had to exist, then they must be kept firmly in their place. The people, and especially the workers, were safe only if kept in passive Catholic trade unions, or state-run clubs, or other trustworthy bureaucratic bounds. The bacteria, in all their unpleasant and quick-to-grow varieties, were safe only if restricted to one slot in the Great Chain of Being, that of the decomposer of dead bodies, destroying order only after all life in it had naturally gone, and returning its atoms to the soil for rebirth. Outside of that, though, and they were terrible. (17)

With the type of thinking Bodanis describes in this passage—the rhetorical conflation of the masses with the microbes in order to "shrink" both their enormity and their significance—politicians create a kind of microscopic subaltern. Wells, as an outspoken Socialist, inverts this political dynamic by depicting an extraterrestrial race of aliens superior to all humans, relegating all of humanity into the microscopic subaltern that Bodanis writes was initially developed by Pasteur and carried along by leaders as diverse as Josef Stalin and Joseph McCarthy.

Wells applies this rhetorical strategy of "shrinking" opponents into the microscopic subaltern, except that, instead of wielding these tactics against the nation's poor or the native peoples abroad, he directs it at all human beings, thus deconstructing the imperialist claims that colonialism is a natural phenomenon merely unfolding in the political realm. Obviously, few readers interpret the alien invasion as "right" and "natural" due to the mental and technological superiority of the Martian race. By the end of Wells's narrative, however, "nature" unravels the aliens' biological superiority. The alien bodies have no defenses against alien bacteria, making the marauding Martians, in the end, the microscopic subaltern, and, by doing so, Wells establishes a science fiction tradition of figuring the invading aliens as a contagious disease threatening to envelop and infect the planet. Instead of the formerly helpless humans (or even the seemingly

insignificant bacteria) being the microscopic subaltern, the Martians themselves end up as the unknown, ambiguous, and powerless microscopic subaltern: threatening and deadly during invasion, yet "safe ... if restricted to one slot in the Great Chain of Being."

Although Wells's novel proceeds along these different levels of magnification from body to nation to planet, the coding available to the microscopic subaltern is always by its very definition ambiguous; while Wells might label the germs in his novel "our microscopic allies" or "putrefactive and disease bacteria," the bacteria themselves do not play a part in the signification process, nor can the attacked humans fully comprehend the exact intentions of the Martians with whom they have a severe communication barrier (as Wells demonstrates with the release of the red weed discussed earlier). Likewise, does Wells's narrative represent the triumph of competition through the aliens' death, or does it portray the success of symbiosis in that human systems are biologically compatible with—and even fundamentally dependent upon—bacteria, as well as the larger Earth ecosystem of Gaia? The difficulty and confusion of these ideas lie largely in the realm of interpretation and context. Depending on the theoretical framework we apply to *The War of the Worlds*, the text yields support for disparate conceptions about the nature of evolution. In part, this central ambivalence within Wells's novel—which, like the scattering of red weed seeds, may have been performed "intentionally or accidentally"—undermines some of the social criticism that Cornell and others discover within the narrative. After all, if the humans remain alive while the Martians die, confining the aliens to the microscopic subaltern, then the supremacy of human domination of the Earth is threatened but ultimately victorious.

Despite the fact that *The War of the Worlds* ends with the lowly bacteria saving humankind, Earth's humans are saved nonetheless; even though Wells illustrates humanity's "infinite complacency" and arrogance throughout most of the novel, allowing the alien colonizers to succeed in their conquest of the globe would have limited the success of the novel, leading Wells's ideas to extinction through unpopularity. Because the first-person, past-tense narrator is human, we know that the aliens must fail in destroying the globe's human population, and thus, because the complacent humans who survive until the narrative's end get to live complacently once again, the novel's critical parallels—between the aliens' destructive invasion and the upper classes' domination at home and abroad—become muddled by the final outcome. The narrator's clearest suggestion that humans may not always be the masters of the planet that they currently are comes through an ambiguous conjecture in the epilogue (following a suggestion that humans can—and should!—colonize other planets): "It may be, on the other hand, that the destruction of the Martians is only a reprieve. To them, and not to us, perhaps, is the future ordained" (208). Although Mike Davis calls *The War of the Worlds* "Wells's great anti-imperialist allegory," the ending creates problematic implications for Wells's critique of British colonialism, unleashing as the novel's closure does a certain strain of ambiguity with respect to humans' relative places in the social and ecological pecking order (290). In this way, the "Darwin *ex machina*" of the aliens' defeat through bacterial infection may be one of the few threads connecting the story's closing with the criticism of human complacency at the beginning: the novel informs readers that their individuality and virtue have just as little to do with their salvation as they do with the seemingly random threat that drops down on them from the sky. Their species just lucked out at the

Darwinian crapshoot thousands of years ago, but that "moral" does not address directly or indirectly the justification for colonialism.

4. Microscopic Ambiguities, Macroscopic Implications

The fact that so much of Wells's *The War of the Worlds* relies on the interpretive stance of readers and critics to map out the meaning of the novel—through understanding its open-ended metaphors, narrative movements, and rhetorical structures—provides access to insights about how symbiosis plays out, even with respect to memes. More specifically, although most current models of meme theory hypothesize that meme consumption is largely passive, we have seen in the previous chapters that such a limited model of exchange between a reader and a text does not fully encapsulate texts' potential for rich interaction with their audiences. Still, if we are to follow the lead of other meme theorists' discourse about memes as infections, then to what extent can a subject be resistant to memes? As I have mentioned already, Richard Brodie suggests quarantine, but such a method does not address strategies for opposing memes to which we have already been exposed. We cannot "unread" a text or "unwatch" a movie. Texts we have experienced are already parts, however large or small, of the collection of influences that compose our minds. Much like the process of symbiosis, the text enters and becomes a part of the subject, however antithetical that text may seem to any given subject's individual orientation.

With *The War of the Worlds*, for example, we have the two descriptions of microbes as "putrefactive and disease bacteria" and as "our microscopic allies," even though the bacteria undergo no change in orientation, save that they occupy the bodies of

the Martian invaders. Context, of course, must play a part, but so, too, does the act of interpretation, the light within which we view these tiny life forms. If texts can operate and adapt analogously to bacteria, then the process of resisting them lies in how we interpret them because, as with the example discussed above of the microscopic subalterns, memes do not "mean" anything without their hosts, just as texts are nothing without readers. Interpretations serve their own function as a part of the continuum of adaptation. In this way, my "adaptation" of H. G. Wells's *The War of the Worlds* in this chapter, while it may not be as famous as Steven Spielberg's, operates along similar lines of contextualization and interpretation, the process of absorbing the original and synthesizing a new symbiotic product by adapting it with my own mental material. Certain aspects of intention and theme may be lost or mutated, but such observations about those aspects' changing elements require yet another interpretation and, thus, further adaptation.

Without the polyphonous dialogue of interpretation-as-adaptation, a limitation of readings allows for certain figures to assume more power by their interpretations being more "right" or more "official" merely by the default of other voices not being heard, giving those few interpretations a sort of memetic "Darwin *ex machina*" by letting them survive through no particular virtue of their own. Because the flux of such interpretations is limited by the critical lack of dialogue, the ideas stagnate. And, as John Stuart Mill has observed, stagnant ideas are dangerous ideas if for no other reason than that they continue on unchallenged; Mill writes: "However unwillingly a person who has a strong opinion may admit the possibility that his opinion may be false, he ought to be moved by the consideration that however true it may be, if it is not fully, frequently, and fearlessly

discussed, it will be held as a dead dogma, not a living truth" (37). With Mill's formulation, the "living truth" of an idea relies heavily on its continued circulation. Limitations on dialogue, interpretation, and adaptation, then, serve an essentially conservative function, much like Pasteur's conception of a hierarchical leader controlling and limiting both masses and microbes. David Bodanis explains that fear of the unknown and alien microbial masses—whether foreign enemies, foreign diseases, or foreign ideas—inherently depends on authoritative figures, writing:

> That's what is special, and eternally dangerous, about Pasteur's bacteria. They are invisible. The enemies, the sources of evil that they predicate, are ones which ordinary people cannot make out, however closely they peer or stare. You need specialists to find bacteria, men with microscopes and university training. You also need specialists to find the conceptual taint, conceptual threat, and its possible sources of infection. (38)

Along with the distrust of the masses Bodanis describes here is of course a faith in a strong central power, capable of limiting dissent by limiting alternative interpretations and thus keeping possibly threatening ideas from forming discordant adaptations (potential "living truths") to that power's otherwise unquestioned "dead dogma."

Of course, to the extent that we can extrapolate theories about microscopic behavior for application to analyses of macroscopic social and political patterns, the symbiotic model undermines the notion that there are singular selves disconnected from other subjects and capable of being "specialists" to rule over "ordinary people." Instead, there exists a certain kind of conceptual relativism allowing for potentially antithetical parties to coexist, even mutually benefit, not just on the level of social entities but also on the level of their texts. Tom Wakeford, explains how, through the symbiosis of bacterial sex, even the bacterial species line is crossed, making potential partners for sexual

merging and genetic exchange out of not just "competing" individual organisms but even organisms classified as members of entirely different species. Wakeford elucidates that this fluidity of genetic exchange—both horizontal and vertical—allows for bacterial masses to be linked according to complex levels of organization in ways that thinkers like Pasteur never recognized; he writes that:

> To take a radical view, bacteria may one day be found to be so genetically cross-linked as to make them all members of a single species. This megaspecies would therefore possess just one global genome, which transferred itself fluidly between its different constituent types. Whether or not this stretches the concept of a species too far, local bacterial communities certainly employ genetic and metabolic mechanisms, *almost like a collective brain*, which enable them to find solutions to almost every ecological problem. Genes favorable to a particular niche are genetically shunted to strains that survive only if they receive the genetic information on time. (151, my emphasis)

Given Wakeford's model for complex bacterial exchanges on the microscopic level, symbiosis has the capacity for a kind of aggregated thought or collective brain. And, as with the ideas espoused by Dorion Sagan and Lynn Margulis, symbiotic connections between and among texts ought to have similar implications for patterns on the macroscopic level as well. But what would the textual equivalent of the Gaia global ecosystem look like, exactly? The answer depends on how we conceive of "Gaia" to begin with since, as Lynn Margulis points out in *Symbiotic Planet*, there are "weak" and "strong" versions of the theory, as she writes:

> Physiological chemistry, what we call metabolism, results from the activity of living beings. Just how closely linked the chemical systems of Gaia are remains a matter of debate. "Weak Gaia" holds that the environment and life are coupled; they coevolve. Few disagree. Many scientists dismiss this idea as old news. "Strong Gaia" states that the planet with its life, a single living system, is regulated in certain aspects by that life. (123-4)

Much like the diverse interpretations of Gaia, there have been many intellectual forays into how we can conceive of information or texts on a global systemic level, some of them even incorporating the Gaia metaphor in their very conception.

Peter Russell is one such theorist of the global information network, who indulges considerably in the Gaia spiritualism against which Margulis has spoken so vehemently. In *The Global Brain Awakens: Our Next Evolutionary Leap*, for instance, Russell discusses how the speed with which contemporary technologies deliver texts across the globe will eventually allow the networks of humankind to emerge as a functioning collective brain for Gaia. In the book's epilogue, titled "Beyond Gaia," Russell writes that: "If humanity were to evolve into a healthy, integrated, social superorganism, this transformation could signal the maturation and awakening of the global nervous system. Gaia might then achieve her own equivalent of self-reflective consciousness, and a new level of evolution, the Gaiafield, might emerge" (315-6). Although Russell posits his informational variation on the Gaia hypothesis as a sort of futurist conjecture (and a bizarrely anthropomorphic and eccentric one at that), the "Gaiafield" provides an interesting counterpart to the theoretical discussion here about the possibility for textual symbiosis. In other words, the concept of a "Gaiafield," as a textual/informational term, mirrors the global component to the symbiotic model under discussion.

The idea that there are possibilities (some might even argue necessities) for a global informational network is not new, despite Russell's unique adaptation of the Gaia hypothesis to theorize an emergent superorganism based on collective humanity; in fact, H. G. Wells himself explores the notion of a worldwide web of encyclopedic information in *World Brain*. Within this text, a collection of essays and lectures about creating a

global information system or "World Encyclopaedia," Wells explains, in a 1937 speech entitled "The Brain Organization of the Modern World," that: "A World Encyclopaedia will have by its very nature to be what is called *liberal.* An Encyclopaedia appealing to all mankind can admit no narrowing dogmas without at the same time admitting corrective criticism" (78). Once again, as with Mill, we observe the invocation of "dogma" as crippling the flow of ideas, regardless of its individual worth; a concept as fluid and dynamic as a "Gaiafield" or a "World Brain" or a "World Encyclopaedia," no matter which ideas are included and regardless of which forces within the collective drive the most change, must inherently be mutable enough to undergo constant adaptation through conceptual linkages, perpetual inclusion of new ideas, and ceaseless re-evaluation and skepticism of its own source materials. As a result of these models for global information systems relying on progressive principles, the emergent forms, despite their utopianism or impracticality, contain a kind of organic interactivity; humans, their technologies, and their information will all be similarly merged through the next step of terrestrial evolution and leave behind the restrictive limitations of the past, so the reasoning goes. This lithe, almost mercurial framework for organic informational exchange, in both Wells and Russell's variations, provides a superstructural system that parallels bacterial symbiosis, while also furnishing a metaphorical framework for analyzing the uniquely interdependent relationship between texts and contexts within a given cultural moment. After all, as a logical extension of the notion that texts' readers perform individual interpretations-as-adaptations, the concept of an informational "Gaiafield" allows texts to emerge both as products of their cultural context and shapers of that context.

As I have demonstrated through an analysis of the viral model of adaptation, part of the anxiety behind meme theory is the issue of fidelity during the process of textual transfer—the tension between the intention of texts' authors and their textual offerings' capacity for being mis-adapted, misinterpreted, or otherwise misapplied—but, within this framework of a global informational system, reliant on the collective interpretations of the masses to determine meaning, texts as cultural products are determined much more by their popular reception than by the alleged intentions of their creators. Given this symbiotic paradigm, the example of Wells's *The War of the Worlds* serves the part of microbial invader into the planetary cultural/informational network, and, as a result, the text is subject to the ever-changing revisionary contexts of the global culture. Thus, much like Margulis's representation of "Strong Gaia," the symbiotic understanding of texts supposes that the global culture is regulated by its texts and, conversely, inflects those texts with new meaning by the constant flux of collective reinterpretation. Through this symbiotic interaction on the macroscopic level, Wells's text—with its anti-colonialism, its scientific focus, and its anonymous narrator—can be adapted and reinterpreted into other versions that are fully supportive of globalization (otherwise known as Americanization, the cultural imperialism of the United States), organized religion, and protagonists who stand out as wholly individualistic and disconnected from the chaotic masses of humanity as microscopic subaltern. These changes to the scope, content, and ideological orientation of Wells's *The War of the Worlds* demonstrate the process of cultural symbiosis in textual adaptations across differing temporal contexts, and such alterations mirror, in their own way, the bacterial invasion of the planetary invaders, a textual subversion operating from within. In other words, one of the first

narratives of a hyper-aggressive alien invasion—attacking social institutions as violently as the invaders themselves did—has since evolved through various textual adaptations into a tale existing in symbiotic harmony with the very institutions it once denounced, which, appropriately enough for such a bacterial focus, is enough to make you sick.

5. The Right to Bear Germs

While symbiosis clearly has a spatial component, there are temporal elements as well, especially as the concept of macrosymbiosis within and between the *War of the Worlds* texts demonstrates how the symbiotic relationships adapt over diachronic time. After all, in order for us to define a relationship as symbiotic, there must be some sort of extended temporal durability, or else the brief interaction could hardly be labeled a relationship. With *The War of the Worlds*, which has remained in print since Wells first published it in 1898, we have an excellent example of a textual entry into the larger social matrix that has succeeded by demonstrating its durability over diachronic time; the novel's central concept provides something worthwhile enough to the rest of the global textual system—which I am using in place of such complicated and possibly overlapping terms such as "Gaiafield," "World Brain," or "Textual Society," even though these terms also contain different levels of scale—that two exist in a mutually beneficial symbiotic relationship. Likewise, *The War of the Worlds* serves specific cultural functions through its many adaptations in various media by providing ongoing commentary on both global politics and technology, largely due to the highly malleable concepts at the core of Wells's text. Although the textual adaptations may redirect the critical commentary or ideological orientation established in Wells's novel (redirections that, in some instances,

appear antithetical to the foundations of Wells's original text), these changes have allowed the permutations of the text to survive and flourish, while still providing critical cultural assessments of their own. This section's explication of how and why many of these textual modifications occur—along with what types of insights these changes provide for understanding the interactions between cultures and texts, as well as understanding the symbiotic model itself—first requires that I begin with an exploration of how the temporal configuration within the narrative structure of Wells's *The War of the Worlds* has allowed the text to succeed across diachronic temporality through the narrative's potential adaptability.

Within any potential, uninitiated symbiosis, there exists also a possible threat, as the two parties involved are unknown to one another. This complicated dynamic, which, by its very nature, relies on time in order for the interconnected agents to understand whether the symbiotic relationship is positive or negative, is illustrated on multiple levels throughout Wells's *The War of the Worlds* and its various progeny. For example, in all of the versions, the people of Earth do not know at first how to respond to the appearance of extraterrestrial life; some are eager to hate and fear the alien species, some want to welcome them with peace and acceptance, but the majority are wary to appraise the arrival too soon, preferring to "wait and see." The key factor to the critical assessment of the characters within the different *War of the Worlds* texts is time to reflect, combined with evidence beyond the simple first impression, and this concept applies also to the criticism of these texts themselves, despite the trumpeting of "instant classics." Most symbiotic relationships—unless they are ended by environmental strain or other factors that intensify the antagonism between the involved parties, causing one party to destroy

the other—are judged as symbiotic primarily through their ability to withstand the test of time. The uncertainty evidenced at the beginning of *War of the Worlds* texts, however brief, resonates because humanity does not know whether it is dealing with friend or foe, much like, during the immediacy involved in an initial encounter, microbes do not know any more about what to expect from one another than readers can say what they think of texts.

This uncertain initial encounter between the texts' characters (casts which, thus far, are primarily British or American) and the aliens mirrors the ambiguity and instability with which we typically encounter the unknown; this indeterminate state, which is a function of both inadequate information and insufficient time, is the source of many, if not most, narratives' tension. The figure of the alien, as the previous section demonstrated, evokes potential symbiotic meldings on the bodily, national, and global levels—whether such symbioses are thought of as threatening loss of identity or as beneficial enhancement of identity—and thus constitutes a redefinition of identity on some spatial level. The first tentative interactions with something "alien," however, also represent the overlapping temporal matrices of present and future. In *The Science Fiction of H. G. Wells*, Frank McConnell observes that, despite the past tense narration of Wells's novel, for the diegetic reality of *The War of the Worlds*, the "Martians represent not just an invasion from space, but an invasion from time, from the future of man himself" (128). These textual projections into the future, wherever and whenever the various versions of *War of the Worlds* occur, allows the text and its adaptations to speculate on the potential threats of "superior technology," nor matter what technological developments are

underway in the contemporary culture.[19] This clash can be perpetual, not just because the future never arrives, but because it is always removed from what "we" believe now. These creatures are alien because they are somehow "beyond our time," as Julian Cornell writes:

> By transporting his bloodthirsty agents of our hypothetical future into the bourgeois present, Wells seeks to confront the reader with the political implications of empire building. The ambiguous use of temporality, of time *as* place, leaves the reader with the sense that the future is still undecided, still open to reorientation and reinterpretation. In the film version and its progeny, the Martians do not typically represent our pre-ordained future but imagine an Other in our present who needs to be vanquished in order to affirm "our" values. (427)

As Cornell asserts, the speculative futurity of the ever-adapting texts taps into the fearful possibilities of what contemporary cultures want to deem as hostile, colonizing forces: a threatening symbiosis with an "other" outside of "our" humanity (which is, of course, culturally determined), a concept on which to hang our metaphors for cultural outsiders such as the Germans plotting World Wars I and II as implied in H. G. Wells's novel and Orson Welles's radio broadcast, the communists menacing nuclear annihilation throughout the Cold War as alluded to in the 1953 Byron Haskin film version, and terrorists among us planning to destroy us from within as suggested in the 2005 Steven Spielberg film version.

The apprehensions at the foundation of *The War of the Worlds* are easily adaptable to a variety of cultural circumstances, and the various adaptations of the

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[19] The primary exception to this assertion about commentary on contemporary culture stems from the 2005 Timothy Hines movie version, titled *H. G. Wells' The War of the Worlds*, which places the temporal frame of the action in Wells's Victorian England. While this instance theoretically seems like an intriguing anomaly worth analyzing, the shoddy, low-budget execution of the Pendragon Pictures movie is far from engaging, despite its fanatical fidelity to Wells's novel. I leave the task of its explication to some other, more forgiving critic, and I will just summarize my views on the movie by stating only that the acting, cinematography, and special effects contain a level of quality so low as to be on par with the work of Ed

novel—from movie to comic book to video game to radio play to television to homage to parody to rock opera—precisely because of their ambiguity and uncertainty about what is "superior" to the contemporary moment. These adaptations tap into the technological and ideological phobias specific to each of the adaptations' contemporary culture at the time of their creation and release. For example, the heat-ray Wells describes in his novel has molded itself into both the 1953 and 2005 movie versions quite effectively to demonstrate the invasive fears infecting the populace at large. Wells describes the Martians' heat-ray as a spinning mirror, writing that:

> Forthwith flashes of actual flame, a bright glare leaping from one to another, sprang from the scattered group of men. It was as if some invisible jet impinged upon them and flashed into white flame. It was as if each man were suddenly and momentarily turned to fire.
>
> Then, by the light of their own destruction, I saw them staggering and falling, and their supporters turning to run. (31)

What precisely happens in this passage is unclear, suffice it to say that the heat-ray somehow burns people to a crisp. This ambiguity works well to keep the narrative recurring in its many different adaptations since this terrifying technology can substitute easily into other forms.

In George Pal and Byron Haskin's 1953 version of *The War of the Worlds*, the heat-ray evokes nuclear anxieties as the three men it kills at the beginning leave behind only discolored shadows of ash, not entirely unlike the streaking shadows left in the wake of the American atomic bombs dropped on Hiroshima and Nagasaki. These menacing Martians echo the intense paranoia and all-American jingoism of the Cold War, where the fears about Soviet nukes prompted Americans to build essentially worthless bomb shelters and teach their children the likewise pointless duck-and-cover drills which Dr.

Wood, though lacking Ed Wood's enthusiasm and entertainment value.

Forrester and the rural Californian sheriff employ in order to evade the flashing waves of atomic heat delivered by the alien spacecraft, Forrester shouting: "Jump! Get under cover!" In an entirely different context, though still fraught with strains of both patriotism and paranoia, Steven Spielberg's 2005 version projects the heat-ray into a distinctly different set of cultural circumstances. Ray Ferrier's wide-eyed daughter Rachel asks him if the aliens are terrorists, and, while the answer is no, the movie does its best to solidify that analogy. The heat-ray in Spielberg's movie transforms human bodies into ash instantly, leaving poor Ray to run around the streets of New York while accumulating layer after layer of gray dust, and thus Spielberg summons images of 2001's terrorist attacks on the same city to maximize the movie's ability to terrorize audiences.

Even while gesturing toward futurity, these adaptations reflect their contemporary cultures as part of a temporal chain linking all the way back to Wells's novel, while also, of course, shaping their contemporary cultures to some degree by updating the Wells's text and commenting on the present time. To a certain degree, all texts perform this function of both reflecting and shaping their cultural contexts, which Edwina Taborsky explains in *The Textual Society* while describing how we use texts as conduits for forms of social energy and change; she writes: "The means of changing a group logic is by the input and subsequent organization of more energy ... Therefore, literature must be considered a method of both expressing current reality and accessing generative energy. As such, it must be capable of expressing the normative and using those same norms to bypass its regular meanings" (22). While these comments apply to "literature" in general, adaptations, specifically those that follow the tenets of the symbiotic model I am constructing and applying in this chapter, have a unique relationship in that their dialogue

is not just between text and social institutions but between text and source as well; again, to some extent, all texts are contextual and intertextual, but with adaptations those ties are codified more overtly. In the case of *War of the Worlds* texts, the adaptive iterations grapple with the tension of the temporal gap between source text and offshoot by taking the novel's aliens out of their environment of past futurity and projecting them forward technologically, often using the most sophisticated audio-visual technologies available at the present moment of production. These adaptations occur across a wide variety of cultural and temporal moments, but, given their subject matter, they are in some ways about time itself, as even the original structure employed in Wells's novel implies a degree of temporal paradox, at least as the unknown pertains to the tensions of a first-person text obviously narrated by a survivor.

The uncanny reassurance built into the narrative structure of Wells's novel is that the narrator speaks of events in the past tense; given the manner of speaking this narrator employs, we as readers know that he must have survived to tell his tale, meaning that the Martians must not have been entirely victorious in their conquest of the Earth. Still, despite the assumptions we can infer early on in the text, the novel creates a significant amount of tension by flirting with the total destruction of humankind as we know it. This tension within the *War of the Worlds* texts stems from the narrative stripping away the power and efficacy of nearly all of the institutions on which we rely, temporarily undermining the confidence audiences normally have in everyday establishments. While the texts subvert this faith in society at large, the narrative form simultaneously indicates that normalcy will return eventually, a subtle promise that reassurance will in time be restored. Mostly, this narrative guarantee to reestablish confidence—giving the audiences

back their "infinite complacency"—results from audience recognition of the formulas applied within the *War of the Worlds* narrative structure, recognizing that this structure promises a dramatic turn-around for the underdog Earthlings. Moreover, if audiences do not recognize the narrative codes, they can still enjoy themselves because, in order for the text—whether movie, novel, television show, or comic book—to be bound within a certain scripted timeframe, there has to be an ending already established for humanity's fate, and the audience members know that there was no alien invasion underway when they first started the text. Of course, this temporal narrative conundrum, as well as the "infinite complacency" it allows audiences, is not absolute across forms; after all, Orson Welles and his Mercury Theatre on the Air famously circumvented it in their 1938 radio broadcast of Howard Koch's adaptation of *The War of the Worlds*.

Although cultures across the globe now treat almost all of their various media with greater skepticism as a direct or indirect result of the famous Halloween broadcast, this initial experiment in the mockumentary form provided a way around the chronological limitations of narrating the end of the world, as well as a way to adapt the H. G. Wells text by updating the narrative context to the technological innovations of contemporary society in both the form (the radio transmission bringing the text into homes across America) and content (the humans fight back with their most sophisticated army bombing planes from Langham Field). Orson Welles's broadcast, especially because it took the form of a news broadcast interrupting an entertainment radio broadcast, allowed for a sort of perpetual present tense for encounters with the Martians. The radio play's design carefully involves the listeners as part of the action, to the extent that one witness, Mr. Wilmuth who owns the farm where the first alien cylinder crashes,

admits that, much like the listeners at home who have been subjected to the lulling effects of a boring Princeton academic droning on about Mars, he "was listening to the radio and kinda drowsin', that professor fellow was talkin' about Mars, so I was half dozin' and half..." ("The War of the Worlds" 1938). To be fair to boring academics everywhere, the character of Professor Pierson (who is voiced by Orson Welles and eventually becomes the first-person, past tense narrator of the broadcast, after the excitement of Mars practically destroying Earth) is helped by Ramón Raquello and his orchestra in lulling listeners into "half dozin' and half..." The very design of the broadcast is paced in such a way that listeners "tune out," either literally or figuratively, only to tune back in to hear that alien lifeforms are destroying Grovers Mill, New Jersey, and are well on their way to mowing through the rest of the world.

By including this bit of self-reflexive awareness, the radio broadcast acknowledges its own content, ostensibly giving audience members a "real" person who, like them, was just listening to the radio until an alien invasion transformed passive listeners into the active protagonists in an interplanetary war. Moreover, if Mr. Wilmuth is a sympathetic character —or if Carl Phillips, the radio announcer interviewer who serves as a narrator for the action, can be a figure for audiences to identify with—there is no foregone conclusion for the war between Earth and Mars, as the temporality of a past tense survivor narrative is replaced by the present tense of the radio broadcast, during which both Wilmuth and Phillips are killed. The Mercury Theatre on the Air similarly exploited the opportunities of form that radio allowed their production, not just by telling the story with a mortal narrator, but by updating *The War of the Worlds* to the exact moment of the present, a temporal impossibility in the text's original print version.

The present tense, contained within the script's improvisational style of dialogue and the actors' naturalistic delivery, further suggested the "reality" of radio news broadcasts, stimulating the audience's imagination as much with lines depicting the aliens like "Ladies and gentlemen, it's indescribable. I can hardly force myself to keep looking at it, it's so awful" as Wells does by similarly claiming the Martians are so alien as to be beyond verbal description (citation). The ambiguity of the radio report allows the audience to imagine the worst. Because of the broadcast's urgency, however, conveyed by the present-tense reportage and accentuated by Phillips fumbling and admitting he "can't find words," the threat becomes much more frightening in that the relentless present tense of the broadcast allows for less control, less time for reflection, which makes the "monster or whatever it is" a Rorschach-like reflection of what the listeners fear most. Perhaps the moment in the radio play that is most shocking for its tension of indeterminacy, though, is Carl Phillips narrating his own death; rather than hearing him die, the audiences at home were subjected instead to abrupt silence, following an announcement by Carl Phillips that the flames sparked by the Martian heat-ray were rapidly spreading toward him. The narrative design encourages listeners to believe the worst, and this assumption is supported by the reverse psychology of the announcer at the studio claiming "circumstances beyond our control" and "difficulty with our field transmission" while transitioning to a piano interlude, professional calming techniques that would ring false for listeners. Much like the assertions of Professor Pierson near the beginning of the broadcast stating that there is no life on Mars and that all of the evidence the announcers continue to bring up is coincidental, the denial of the radio staff is overdetermined, indirectly encouraging audiences to believe the opposite and imagine the

worst precisely because they were hearing that the worst was not happening.

Because Welles's production of *The War of the Worlds* trusted its audiences' distrust of "the official story" from radio newsmen, listeners' skepticism worked to make the broadcast more "real" instead of suspect. Given that the heat-ray demonstrates certain contemporary concerns in the two film versions discussed above (the Cold War threat of atomic weapons destroying the West Coast and the terrorist menace capable of coating New York in the ash of dead bodies), the technological concerns wrapped within the radio version of *The War of the Worlds* appear to be about the potential anxiety within the form of radio itself. Through the radio play, the capacity for terror contained by radio as a medium demonstrated that the "alien invasion" was in fact carried by the textual form of the broadcast, capable of invading homes across America as effectively as any Martian technology described in Wells's novel or Welles's program. In fact, at the end of the Halloween broadcast, Welles confesses that the dramatic radio adaptation just performed was the Mercury Theatre's "own radio version of dressing up in a sheet and jumping out of a bush and saying 'Boo!'" and that, because they could not "soap all your windows and steal all your garden gates by tomorrow night ... we did the next best thing. We annihilated the world before your very ears, and utterly destroyed the C.B.S. You will be relieved, I hope, to learn that we didn't mean it, and that both institutions are still open for business." With his characteristic dry wit, Orson Welles informs listeners that this destruction is all a Halloween prank and makes a satirical jab at the Columbia Broadcasting System; within this gesture, though, whatever implicit or overt criticism we may detect, Welles serves to reify the form of radio, the very medium of terror he has just directed at his own audience, giving "the C.B.S." as much power and solidity as the world

itself since "both institutions are still open for business," equating the two through lumping them together and beginning the trend taken by other adaptations of *The War of the Worlds*: undercutting the social criticism by championing the institutions and the global power structures which the texts previously "destroyed."

With this pattern of temporal unfolding in place, the initial "threat" of the text eventually proves to be favorable, even friendly, by the narrative's end, demonstrating that, given the right temporal frame, this erratic text—whether invading audiences' consciousness through print, radio, television, or cinema—proves to be just as symbiotic and beneficial to the world's existing institutions as the invading bacteria taken out of humankind's threatening past to become their "microscopic allies" in the present's precarious encounter with the future. Because the adaptations of *The War of the Worlds* play with the temporal groundwork laid in Wells's novel, the uncertainty of the text as a threat mirrors the metaphorical paradigm of memes I have been using to analyze the novel and its adaptations. Both the theoretical framework and the texts themselves posit that encounters with "aliens" are ambiguous interactions forcing us to "wait and see" in order to assess the utility of the content in question.

But where does this drafting of a symbiotic model for memes get us in terms of *The War of the Worlds*? The diachronic transmission of *War of the Worlds* texts itself mirrors systemic bacterial evolution, as the adaptations of the text emerge and re-emerge as entertainment that both distracts audiences from the contemporary paranoia while also transmitting such anxiety into the narrative's open-ended metaphors. As the example of the heat-ray demonstrates, the stresses of the political and cultural realms translate into the aggression within the text, much like Margulis's bacteria attack primarily when the

outside environment is most hostile. Unlike viruses, which transmit horizontally across space through a single generation, Wells's space invaders paradoxically transmit across time through several generations, in a similar fashion to the numerous generations of bacteria that remain in both Earth's ecosystem and the bacterially dependent systems of our own human bodies. Even though the various textual versions of *The War of the Worlds* each portray destruction on a global scale as entertainment, the adaptations almost always have the effect of unifying the audience and solidifying its oversimplified collective beliefs by giving it an enemy that always remains "alien" and outside of humanity.

Whether on the level of body, nation, or planet, there is always a dialogue between and among collectivities, and, for those interested in keeping strict boundaries, the inherent competition made possible by adapting Wells's narrative—and the "alien" metaphors that go along with it—serves the function of reinforcing the illusory concept of absolute boundaries, paradoxically through a kind of diachronic cultural symbiosis. The *War of the Worlds* textual concept, which carries the illusion of opposition through its "alien" enemies, has been incorporated as part of the textual organism because it allows for the perpetuation of certain sorts of the nationalism (sometimes masquerading in the form of "planet as nation," or globalization, which usually means Americanization anyway). Taborsky discusses the capacity for texts to serve these sorts of normative functions, writing that: "Society is a dialogical text ... A key function of the text is its establishment of common, which thereby means social, definitions of reality" (161). And if texts and contexts are in constant dialogue, *The War of the Worlds* seems to keep coming up in conversation because of its unique ability to engage the fascinations and

fears we have about a unified identity, whether defining "reality" as a body, a nation, or a world.

War of the Worlds texts play with that process of identification by exploring the potential, as well as potential threat, found at the edges of a given culture's conceptual framework of spatial and temporal boundaries, and these areas of instability form the zone of potential symbiosis, which is a new "becoming" between different species, a way to break down the concept of species altogether by undoing it. In a sense, this process, by which *The War of the Worlds* becomes more than a single text and its adaptations all feature distinctly different characters, plot events, and settings, describes a kind of symbiotic evolution, but, as Margulis and others have explained, this evolution is not defined in the sense of a linear, progressive history as evolution is usually framed in Darwinian terms. This form of evolution is something else. The symbiotic process, which is somehow both more and yet less than the product, is defined by time, and thus the dialogue established by the reappearance of *War of the Worlds* texts centers on why we need to come together now, in response to some identity-exploding threat. In *A Thousand Plateaus: Capitalism and Schizophrenia*, Gilles Deleuze and Félix Guattari elucidate that this operation of destabilizing and redefining identity, this "becoming" is:

> not an evolution, at least not an evolution by descent and filiation. Becoming produces nothing by filiation; all filiation is imaginary. Becoming is always of a different order than filiation. It concerns alliance. If evolution includes any veritable becomings, it is in the domain of *symbioses* that bring into play beings of totally different scales and kingdoms, with no possible filiation ... If there is originality in neoevolutionism, it is attributable in part to phenomena of this kind ... in which it ceases to be a hereditary filiative evolution, becoming communicative or contagious. (238, italics in original)

With Deleuze and Guattari in mind, *War of the Worlds* texts operate like this

"communicative or contagious" evolution, like the symbioses the texts lay out as part of the relationship between bacteria and human body, human body and society, society and planet. This "becoming" features many of the same temporal uncertainties of "alien" encounters, in that both are not always teleologically determined; instead, "becoming," as an encounter between identity and alien, engages in the tensions of creating a perpetual present. Although my analysis here does not entirely eschew the filiation and linear historicization Deleuze and Guattari condemn, the component I have tried to emphasize is the alliance and interdependence which is unique to symbiosis and alien to the narrativization of evolution solely as a competitive project.

To some extent, symbiosis undermines even these definitional categories of competition and cooperation, as the biological process transforms from time to time along this spectrum; we have seen this modification within the *War of the Worlds* texts themselves, wherein the hostile "alien" is incorporated in order to serve distinct cultural and symbolic functions. This process of incorporation, of "becoming" as discussed by Deleuze and Guattari, operates simultaneously along biological, textual, and political lines, which we see operating within *War of the Worlds* texts and within their interactions with cultural contexts, creating and sustaining the tension between competition and symbiosis. H. G. Wells himself noted in *The Science of Life*, which he co-wrote with Julian Huxley and G. P. Wells, that, with the right kind of perspective, the very concept of symbiosis contains the potential for antagonism; the authors write that:

> The phrase "hostile symbiosis" has been used to describe the state of our own tissues—all of the same parentage, all thriving best when working for the common good, and yet each ready to take advantage of the rest, should opportunity offer ... Every symbiosis is in its degree underlain with hostility, and only by proper regulation and often elaborate adjustment can

> the state of mutual benefit be maintained. Even in human affairs, partnerships for mutual benefit are not easily kept up, in spite of men being endowed with intelligence and so being able to grasp the meaning of such a relation. (932)

This passage moves fluidly from a discussion of symbiosis between lower lifeforms and the relationship between human beings, much like the commentary within *The War of the Worlds*, as I have endeavored to show, flows between and among microscopic and macroscopic levels, jumping between individuals and collectives to illustrate the connectivity. Similarly, later in *The Science of Life*, the authors explain that: "The truth is that animals or plants can no more live in 'splendid isolation' than can nations. Every organism is part of a network of relationships, biologically tied to a host of others" (935). Clearly, this scientific concept has implications for the political realm—or, perhaps instead, is inflected by it—and the connectivity of the global environment is undeniable, no matter how much nations may want to overlook it in favor of the "splendid isolation" that the illusion of impermeable borders offer.

Although Wells (along with his co-authors) discusses biological interconnections in *The Science of Life*, the discourse also gestures outward to social and political ramifications, crystallizing similar patterns to those which he formulated in the textual interconnections of *World Brain*. The global textual network he envisions in *World Brain* also seeks to break down the deceptive intellectual boundaries we have established; instead, Wells calls for a symbiotic synthesis of ideas, no matter how "alien," for the purposes of creating:

> a reconditioned and more powerful Public Opinion. In a universal organization and clarification of knowledge and ideas, in a closer synthesis ... of what I have here called a World Brain, operating by an enhanced educational system through the whole body of mankind, a World Brain

> which will replace our multitude of unco-ordinated ganglia, our powerless miscellany of universities, research institutions, literatures with a purpose, national educational systems and the like ... We do not want dictators, we do not want oligarchic parties or class rule, we want a widespread world intelligence conscious of itself. (xvi)

Just as the biological components of Wells's formulation of symbiosis gesture toward a global system of interconnectivity, so too do the ramifications of informational and textual organization in Wells's writing expand to the worldwide level with the hopes of strengthening the collective experience of humanity. Moreover, Wells stresses that this experience, in properly symbiotic fashion, must be organized from the bottom up, not top down. In other words, this "World Brain," the informational equivalent of a biological Gaia, must operate, like the bacterial masses Pasteur feared and Wells transformed into the hero of his novel, according to structures of organization and power emerging from the democratic strategies of symbiotic micropolitics. In other words, according to Wells, this symbiotic process, viewed as part of a larger system, can generate more effective order than competitive hierarchies, no matter how "alien" this process might initially seem to those who have been led by antagonistic authorities for so long.

Finally, in addition to biological and textual versions of order through cooperative synthesis, Wells also formulates such a global conceptualization of symbiosis in the political realm, under the banner of socialism. For Wells, the idea of humanity-as-organism applies as much to textual and political levels as it does to the biological realm. The species, he seems to suggest, ought to acknowledge its inherently interconnected nature and promote the potentiality of symbiotic relationships for the purposes of maximizing the social good. For example, in *First and Last Things: A Confession of Faith and a Rule of Life*, Wells writes that: "*The essential fact in man's history* to my

sense is the slow unfolding of a sense of community with his kind, of the possibilities of co-operations leading to scarce-dreamt-of collective powers, of a synthesis of the species ... a common general purpose out of a present confusion" (92, italics in original). Despite Wells's claim that his thoughts are neither "sentimental [n]or mystical," this formulation appears to be of a somewhat spiritual nature, as even the title of the book indicates. At the same time, though, thinking of humanity as a collective organism corresponds to political possibilities that, despite a utopian lack of pragmatism, would allow for symbiosis as a global system.

As with the biological definition Wells puts forth in *The Science of Life*, a symbiotic global order would still involve competition. In *First and Last Thing*, Wells also explains that:

> Competition is a necessary condition of progressive life ... Perhaps in my anxiety to convey my idea of a human synthesis I have not sufficiently insisted upon the part played by competition in that synthesis ... I contemplate no end of competition. But for competition that is passionate, egoistic and limitless, cruel, clumsy and wasteful, I desire to see competition that is controlled and fair-minded and devoted, men and women doing their utmost with themselves and making their utmost contribution to the specific accumulation, but in the end content to abide by a verdict. (218-9)

Wells does not continue on to explain how to maintain the tensions of competition without letting such competition slip into "cruel, clumsy and wasteful" forms. Much as we have seen with the defining boundaries of bodies and nations, the problem with Wells's global orders is that they do not generate competitive friction with any sort of "alien."

Like the America capable of creating aliens within the 1953 *The War of the Worlds* movie as part of a Cold War context of communism vs. capitalism and like the

America capable of creating aliens within the 2005 *War of the Worlds* movie within the context of globalization which pits terrorism vs. freedom, Wells's orders of global symbiotic synthesis—on the biological, textual, and political levels—seem to require an outside antagonist for the symbiotic synthesis to work. The central obstacle to Wells's theorizations of humanity-as-organism, an idea that still requires the cultivation of competition, is that he does not provide an outside competitor or enemy against which humanity can compete. Thus, for the global order to be complete and still compete, we need an outsider. If we adhere to Wells's logic, realizing humanity's full collective potential requires something "alien" to our global order—call it "Gaia" or "Gaiafield" or "World Brain" or simply "Earth"—for the purposes of maintaining competition, bringing the Gaia concept full circle to Richard Dawkins's idea that: "For the analogy to apply strictly, there would have to have been a set of rival Gaias, presumably on different planets." In order for the global order to accomplish its full potential, it needs an "alien" outsider with which to compete, which is perhaps the peril and the promise inherently couched within Wells's novel and the numerous adaptations and why we regularly return to the influential notion of inciting a war of the worlds.

Chapter Five: Complexity, Emergence, and the Adaptive Serial Iterations of George Romero's "Brainless" Zombie Movies

1. The Zombie Paradigm

The foundational premise of George Romero's zombie movies—*Night of the Living Dead*, *Dawn of the Dead*, *Day of the Dead*, and *Land of the Dead*—appears to be simplicity itself: the re-animated dead are trying to kill the living, who are trying to survive. Despite international popularity and critical acclaim, the idea of the zombie movie, even in Romero's case, always seems to have little "brainpower" behind it. The enjoyment these films offer appears to be exclusively visceral: content concerned with literal viscera as well as visceral affect for the audience's consumption. And yet Romero's zombie movies offer such meta-critical examinations of such visceral pleasure in that Romero's most negative characterizations go to the racist, ignorant rustics who enjoy killing zombies for sport. All four of Romero's *Dead* movies provide disapproving commentary on people who kill for pleasure, as if to indicate that the movies' audiences—if they engage with Romero's movies on no more complicated a level than merely visceral spectacle—are no better than the depraved, violent rednecks. Such damning portrayals of violent zombie killers, even though these characters typically do not command much time on screen, invites us as viewers to analyze the texts before us more carefully. Indeed, through the lens of a critical and collective reading of Romero's *Dead* series, these zombie movies reveal a system of aggregated thought and adaptive, emergent evolution.

As noted above, the apparent simplicity of zombie movies depends on the

definitional boundaries of the categories presented (dead, undead, and alive) as well as the relatively unsophisticated behavior of the undead. Although the definition of "zombie" changes slightly throughout the *Dead* series—and shifts almost completely when defined across other zombie movies—my usage of the term here refers to the reanimated dead who have minimal motor skills and communicative functions; zombies can be destroyed only through damage to the brain, and they seek to consume otherwise healthy humans. Yet Romero's series regularly problematizes these absolute classifications; the living characters quickly and unceremoniously die or transform into zombies from as little as a single bite from an existing zombie, and the zombies regularly exhibit characteristics of the living, particularly in their collective problem-solving skills. Part of the inherent terror in all of the *Dead* movies erupts, not from the zombie attacks themselves, but from the chilling, almost reflective moments when we as an audience have time to consider an undead character's approximation of humanity. For example, when Fran looks through the department store's glass door in *Dawn of the Dead* to watch a pacified zombie stare back at her as though through a mirror, the two of them sit on the floor, merely looking. There is no actual scare or shock, but the moment appears as a time of self-definition via interaction with a member of an outside category, which itself invites a sense of the uncanny.

Although all of Romero's zombie movies present a nihilistic world where political order and nearly all social institutions have eroded, the survivors are always negotiating and debating about their situation, and, while the discussions may not often be philosophically circumspect, this interactive deliberation reinstates a kind of new political order. As Fran learns later in *Dawn of the Dead*, the remaining humans constitute a much

greater threat than the slow-moving zombie mall-walkers. This climate of negotiation about approaches to managing categorically different types of groups parallels the definitions of political power Giorgio Agamben analyzes in *Homo Sacer: Sovereign Power and Bare Life*, wherein the fundamental political distinctions between forms of humanity stem from the differences between "bare life" and the good, just life, a life fundamentally defined by the political realm. In the case of the *Dead* movies, the "bare life," that which is excluded from humanity, becomes more obvious; the stakes involved in ascribing these definitions are higher, even as the terms in which they are defined become much more crude. As Agamben outlines these political distinctions, this project relies upon "the exclusion (which is simultaneously an inclusion) of bare life [*una esclusione (che e, nella stessa misura, un'im-plicazione) della nuda vita*]" (7). In other words, the terms of political power rely at their core on this tension of exclusion/inclusion between political life and a powerless, speechless, and undifferentiated subaltern, milling about in living dead without language. With Romero's *Dead* movies, the bare life becomes still more bare, stripped down to the most basic, essentialized instinct with no apparent organization.

Andrew Norris explores Agamben's formulations in an essay entitled "Giorgio Agamben and the Politics of the Living Dead," which, despite its title and its inclusion in the present discussion, has nothing to do with zombies. Norris explains of the ever-changing, relational nature of bare life to political life that: "Politics thus entails the constant negotiation of the threshold between itself and the bare life that is both included within and excluded from its body. But such a threshold is hopelessly unstable, as is signaled by the fact that politics is both the passage from bare life to itself and what lies

beyond this passage" (45). Given this reframing of Agamben, Norris explains that the threshold between bare life and political life fluctuates. Such oscillation may appear to be a one-way movement in Romero's series, as we primarily see undead characters get killed and living characters move to dead or undead categories; yet the collective actions of the zombies characters, viewed across Romero's cinematic installments, attain a greater sense of sophistication akin to the higher cognitive functions of those in the living category. Such complexity and increased capacity becomes possible not through the isolated, individual actions of the zombie characters, but, in terms of the movies' intertextuality and adaptability as well as in terms of the movie characters' collective behavior, the collective elements demonstrate emergence.

Unlike either of the symbiotic theoretical models of the previous two chapters, emergence is not necessarily a phenomenon that negotiates between members of different species. Instead, at its most basic level, emergence means multiple agents working independently yet adding up to a larger, more complicated collective that contains features and patterns that derive from its individual constituents and yet proves to be unpredictable at the lowest levels of organization, given those constituents' characteristics. Emergence is similar to symbiosis in that both involve multiple agents somehow working in tandem—through the unique conditions and tensions that arise from an interaction that is neither quite cooperation nor quite competition—to achieve something none of the parties involved could accomplish as singular, disconnected entities, though emergence is by definition more complex than that.

Given that the common usage of some of the terms I utilize in this chapter, as conceptual conflations, conflicts with the intended meaning of the terms I am using here,

I need to clarify, with outside support, the terms "complexity," "self-organization," and "emergence" as well as how they relate to one another and what zombies have to do with them. To begin with, complexity is something that most people understand intuitively, as it directly or indirectly affects nearly all facets of their everyday experience. We take complexity for granted. A complex system is one which is not simply understood through the properties of its components; instead, through the interactions of agents in a complex system, we can observe something new, some aspect of the larger design that was not inherent in the initial arrangement or composition of the smaller parts. In *Complexity and Postmodernism: Understanding Complex Systems*, Paul Cilliers explains that, although we blur the meanings of complex and complicated in common parlance, the two concepts are categorically different; in order to elucidate the differences between "complex" and "complicated," Cilliers writes that:

> If a system—despite the fact that it may consist of a huge number of components—can be given a complete description in terms of its individual constituents, such a system is merely *complicated.* Things like jumbo jets or computers are complicated. In a *complex* system, on the other hand, the interaction among constituents of the system, and the interaction between the system and its environment, are of such a nature that the system as a whole cannot be fully understood simply by analysing its components. Moreover, these relationships are not fixed, but shift and change, often as a result of self-organisation. This can result in novel features, usually referred to in terms of *emergent properties.* The brain, natural language and social systems are complex. (viii-ix, italics in original)

Although this passage already indicates the interconnected nature of complexity, self-organization, and emergence, the opening formulations of Cilliers's book help to explain that understanding complexity means understanding a kind of plurality. Complexity can only exist on the individual level to the extent that we misunderstand "individual," as

Cilliers demonstrates by labeling the brain as a complex system of cells rather than a singular entity or identity. Thus, the rudiments of synaptic model of adaptation I formulate in the first chapter contrast with the larger pattern of complexity in emergent adaptation I discuss here. The exchanges between any two neurons is not complex because the neurons, as agents within a complex system, are interacting locally, but the patterns of neural activity that result from such small, local connections have larger implications on the brain as a complex system. In fact, most explanations of emergence, in order to maximize clarity, rely on the constituent parts being simple, even "relatively stupid elements," according to Steven Johnson's *Emergence: The Connected Lives of Ants, Brains, Cities, and Software* (18).

It is while discussing about the crystallization of complexities in city neighborhoods and human brain that Johnson writes:

> What features do all these systems share? In the simplest terms, they solve problems by drawing on masses of relatively stupid elements, rather than a single, intelligent "executive branch." They are bottom-up systems, not top-down. They get their smarts from below. In a more technical language, they are complex adaptive systems that display emergent behavior ... The movement from low-level rules to higher-level sophistication is what we call emergence. (18)

The simple rules of zombie existence allow for just such "bottom-up" emergence of intelligence; there are no hierarchical structures.[20] In fact, it is in this structural realm where the zombies actually excel: as a threat, they are nothing if not "relatively stupid,"

[20] As additional examples of emergent patterns, Johnson analyzes how the adaptive "learning" of pattern formation inserted in such technologies as TiVo and the recommendation program for Amazon.com also demonstrate emergence (211-6). As consumers choose their favorites, these technologies draw up correlates to predict "recommendations" based on the consumer choices of the past. Such correlation may effectively conform to genre lines (consumers who like certain horror movies statistically tend to like other horror movies), or it may be inexplicable by conventional means (consumers who like *Day of the Dead* might statistically also enjoy *The Sound of Music*), but the important thing to remember about these emergent patterns, whether they seem like a "fluke" or not, is that the networking patterns represent self-

and yet their lurching, brainless strategies provide them with a certain level of adaptability, allowing them access to a certain kind of collective, problem-solving brain. For example, a single, lonely zombie does not pose much of a threat, but a whole horde of them is a formidable obstacle.

Romero's zombies are clearly without an "executive branch," instead being a "bottom-up" system that represents an overall lack of overarching control. As Jamie Russell writes of this nihilistic dissipation in Romero's *Dawn of the Dead*: "Romero paints this world as increasingly 'headless': law and order have vanished; the television and radio signals have been switched off; no one is in control anymore" (93). The lack of top-down direction conforms to the definitions presented by Cilliers, Johnson, and others for a complex system, as the agents are directed by their simplistic interior rules rather than an imposed sense of order. Despite critics such as James B. Twitchell claiming that "The zombie myth seems flawed by its lack of complexity," the zombies are close to defining examples of uncomplicated agents in a complex, self-organizing system (261). None of the zombies are complex or complicated unto themselves, but as a collective system, they are; similarly, any one of Romero's movies is not complex in isolation, but collectively they carry a greater sense of complex patterning.

2. Emergence ... from Beyond the Grave!

One of the central problems in discussing how any text does what it does is that texts do not and can not *do* much of anything. Despite critics—including myself—often referring to texts as having strategies and voices, even the broadest definition of "text"

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organization in a complex system: emergence.

typically does not allow for such a sense of independent subjectivity on the part of the text in question; rather, it is the relationship between a text and its reader that transcends the lifelessness of representation. Audiences animate texts. And, given this kind of resuscitation through the reading of a representation, we thus treat texts as being the origins for the affect we trick ourselves into feeling through ignoring representational limits. In other words, our collective attitude toward texts is that of them being inanimate objects capable of moving us, not entirely unlike any one of the popularly represented undead, returning to life and empowered somehow by the vitality of those already living. This observation is not to say that we ought to avoid the common trope of assuming texts perform certain tasks despite their status as inanimate objects; instead, I invoke this representational instability as a means to address the tensions inherent in analogizing texts to living organisms, which I do throughout this dissertation. After all, how can texts evolve when they are wholly dependent on their creators and audiences, incapable of doing anything, let alone changing? Because texts occupy this kind of liminal space between active, animate status and passive, inanimate status, they operate in similar fashion to the category-defying undead, and, because of this metonymical and metaphorical connection between the undead and the texts that depict them, I read certain sorts of textual evolution as paralleling a sort of zombie evolution.

As the basis for my commentary on adaptive textuality as it pertains to the long evolutionary lineage of the undead, I choose to discuss the highly popular canon of George Romero's zombie movies: the uniquely atemporal *Dead* series of *Night of the Living Dead*, *Dawn of the Dead*, *Day of the Dead*, and *Land of the Dead*.[21] Through

[21] In addition, Romero will release *Diary of the Dead* in 2007, and this installment also presents difficulties

these films, we can observe a kind of unfolding of order, a type of pattern formation akin to emergent evolution. At the end of *Night of the Living Dead*, a field reporter interviews Sheriff McClelland about the nature of the zombie threat, asking "Are they slow-moving, chief?" McClelland replies by saying "Yeah, they're dead. They're all messed up." Moreover, the sheriff claims that the individual zombies present "no problem," explaining that "If you have a gun, shoot 'em in the head. That's a sure way to kill 'em. If you don't, get yourself a club or a torch. Beat 'em or burn 'em. They go up pretty easy" (*Night of the Living Dead*).

The zombies present few difficulties as individuals—they are "slow-moving," "all messed up," and "pretty easy" to kill—whereas when they congregate, their local interactions add up to a more structurally sophisticated challenge to human opponents. Through the idea of an emergent system, however, this relatively high level of individual mortality has little effect on the life of the larger patterns of emergence. As Johnson notes, "The persistence of the whole over time—the global behavior that outlasts any of its component parts—is one of the defining characteristics of complex systems. Generations of ants come and go, and yet the colony itself matures, grows more stable, more organized" (82). In other words, killing zombies has little impact on the overall effectiveness of their adaptive, collective, little potential to change the emergent patterns. Because the zombies are a collective intimidation, the nature of their menace invites analogies to a species-wide danger threatening the environment of other species competing for the same resources: in other words, the human characters. Similarly, despite the fact that Romero focuses on certain key zombies as memorable for their look

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of temporal classification as it revisits *Night of the Living Dead* from the perspective of a different set of

or function, there is no single zombie leader. The closest figures we have are "Bub" from *Day of the Dead* and "Big Daddy" from *Land of the Dead*, without whom it would be difficult to narrativize patterns of emergent behavior.

These "hero" zombies more or less serve the function of demonstrating for audiences how the zombies adapt over time, something difficult or perhaps even impossible to illustrate in different editing sequences without a single figure to provide visual continuity. If we were to see different zombies progressing through different stages of adaptive learning, we might not recognize that any sort of adaptation to the local environment is in fact taking place. Paradoxically, we need to see something like the moments of realization for "Big Daddy" as an individual to stand in for collective learning. After all, his learning patterns stand in for the undifferentiated mob when, in different contexts, "Big Daddy" slowly pieces together information while he 1) picks up a machine gun, 2) accidentally fires it, 3) intentionally fires it, 4) teaches a fellow zombie how to fire it and aim it at enemies.

At different points in all of the movies, we witness zombies finding new pathways and overcoming obstacles, primarily through trial and error, but we might mistake all of these minor successes as random, disconnected, and coincidental, if they were not presented within the framework of an individual's development, recognizable only through making certain specific agents within the collective recognizable. And while different figures within the zombies masses serve as temporary "leaders" for those around them to imitate, the strength is that such "leaders" are inherently replaceable because the model of emergent behavior through distributed intelligence is not hierarchical. In each

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characters.

movie, some bumbling zombie—not solely Big Daddy or Bub—discovers something while obeying the unsophisticated internal rules all zombies follow, after which the rest of the horde follows suit. In other words, the uncomplicated behaviors add up to a savvy collective brain system, much like the undirected actions of ants lead to advanced models of stark mathematical accuracy. And this distributed intelligence, through its ever-increasing complexity of design, becomes more structurally sophisticated as the agents making up the system both become more numerous and become more experienced. In other words, the system evolves and adapts, even though any given iterative interaction is relatively simple.

When we discuss evolution, we are inherently discussing complexity on both the microscopic and macroscopic levels. The relationships of the components—which, as Cilliers notes, are "not fixed, but shift and change ... result[ing] in novel features"—may allow for something new, actualizing something previously virtual, but that does not mean that evolution or increasing complexity are necessarily progressive. For example, if a zombie wanders off alone into unexplored territory—as is the case with the bespectacled Hare Krishna zombie[22] in *Dawn of the Dead*, who shuffles through the door of the human protagonists' hideout in the mall—the result might be the discovery of a fresh victim, or it might mean death. In the example from *Dawn of the Dead*, the Hare Krishna zombie does in fact discover Fran, who is alone and frightened, although he is killed before he succeeds in his attempts to bite her, showing that his exploratory efforts

[22] George Romero's zombies are always a diverse cross-section of society, transformed into zombies wearing an eclectic mix of outfits suggesting their backstories: clown costumes, bridal gowns, football uniforms, etc. Likewise, the zombies exhibit a wide spectrum of ages, weights, and races. The breadth of this variety in backgrounds seems to suggest the same randomness that also constitutes the zombies' behavior; the collective's conduct is as diverse, undirected, and unstructured as the backgrounds of its

are neither progressive for his collective nor himself. All four of the movies in question feature repeated incidents where the zombies fail and are killed, often with gruesome violence, but this overall lack of evolutionary fitness seems thus to call additional attention to the various adaptive successes of the collective horde.

One of the key features of complexity is that changes resulting from a complex system are impossible to predict in advance, and, as such, any claims to "progress" result from a narrativization of the process after the fact. Obviously, because the films in question are narratives themselves, not accurate depictions of evolutionary phenomenon, they demonstrate "progress" in the course of their exposition, even if such "progress" is colored by Romero's bleak and sometimes humorous nihilism. And, despite the popularity of claims that evolution is inherently progressive, I hope to avoid such oversimplifications in my own analyses and explications here. Again, I must reiterate that evolution, even in its earliest formulations, resists progressive logic, allowing as it does for dead ends in evolutionary fitness, such as extinction, domestication, and unhelpful aberration.

Rémy Lestienne, in "Chance, Progress and Complexity in Biological Evolution," explains that evolution is not the teleological project that many misinterpret it to be, writing that:

> We are in the habit of attributing the triumph of the idea of progress in evolution to Darwinism, just as it's sometimes said that Darwinism is the chance of variations, plus selection. Such abbreviated versions are caricatures, and very unfair to Darwin. In fact, he harbored an instinctive distrust of the idea of progress ... Darwin advocates *systemic* chance. For him, there is not water-tight partition between chance variations and selection, or, more precisely, this partition is only impermeable in one direction. Selection has not influence over variations; variations are not

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constituents.

> brought about by a tendency toward "progress." On the other hand, variations can and do strongly influence the conditions of selection. Thus if the conditions of selection impose from the outside a rigid and evolutive framework, what can result is an evolution that takes on the appearance of progress, despite the completely random nature of the variations. (42, italics in original)

As Lestienne illustrates, the Darwinian system relies on certain sorts of random chance, from which orders of complexity may emerge. In this sense, "selection" is somewhat misleading, as are many terms utilized in discussions of evolution—including, perhaps, "evolution" itself—though common vocabularies may not currently possess commonly shared alternatives. Zombies, or any other given population, may evolve without necessarily becoming more complex. The vocabulary for communicating about complexity and emergence has several constraints, given that complexity requires discussion that must be thought 1) in terms of certain sorts of plurality; 2) without the direct, linear, and temporal logic of cause and effect; and 3) as a series of constant, hovering interactions between actualities and virtualities. But, hopefully, as Cilliers demonstrates with "[t]he brain, natural language and social systems," this discussion will prove beneficial, illustrating emergence through the explanation.

Moreover, separate and distinct from my textual analysis, this exploration demonstrates its own entry into the complex system of texts as actualities and virtualities. After all, the fate of the discussion I begin here does not ultimately lie in my own hands; instead, its success as a text relies on the self-organizing properties of the textual matrix it enters. In other words, if these ideas in this chapter spark a trend within a larger, complex textual collective, that trend may illustrate that such the system within which it operates is self-organizing. Much like the paradox of meme theory, wherein the success of a

particular meme is almost always divorced from the standing of its author, the paradox of explaining complexity is that I am severely limited in my abilities to direct the reception of my ideas. As N. Katherine Hayles writes of the meme metaphor, "If the idea of a meme is itself a meme ... this means that [Richard] Dawkins creates an idea that he claims has an agency of its own, and the success of his individual creation is ensured by erasing his role as creator" (157). In other words, a larger, complex collective determines the concept's adaptive success, not the origin.

One cannot willfully initiate self-organization within a system. Despite the well-meaning efforts of the living humans in *Day of the Dead* and *Land of the Dead*, attempting to teach, domesticate, or otherwise control the zombies proves futile. The zombies as a systemic force do not always learn what they are taught, and many of them learn more than their instructors want them to understand. Rather than being directed, complex systems engage in self-organization in order to change their internal structure either spontaneously or adaptively, through the interactions of their constituent parts, as a means of managing or responding to the environment. Once again, Cilliers clarifies how self-organization relates to complexity, writing that:

> Self-organising systems *increase* in complexity. Since they have to "learn" from experience, they have to "remember" previously encountered situations and compare them with new ones. If more "previous information" can be stored, the system will be able to make better comparisons. This increase in complexity implies a local reversal of entropy, which necessitates a flow of energy or information through the systems. (92, italics in original)

What Cilliers's overview of self-organization indicates is that, on occasion, given that self-organizing systems can "remember," "make better comparisons," and "tend to age," they exhibit behavior that appears to give the system a kind of agency, despite the fact

that the system itself is made up of agents. Thus, the self-organizing system at times behaves like an organism itself (much like how the collective zombie system often operates as a single, sprawling unit). At other times, a complex, self-organizing system may operate within a single organism, such as the human brain's neurons engaging in local energy exchanges to develop larger patterns (much like how one individual human brain can "out-think" the zombie mob because it requires less time for the trial and error process of the "brainless" zombies acting out repetitive). The principles of both the human brain and the zombie collective, however, rely on the exact same processes.

So, through the lens of evolution, species can function like a self-organizing system, illustrating how, often after many generations, species "learn" something (how to fly, use tools, weave webs, etc.) that no single organism within that species could have ever really learned in a single lifetime. Self-organization can occur on multiple levels, leading self-organizing systems to create additional self-organizing systems, all the while ascending ladders of complexity through the process of emergence. Likewise, if we are to treat each of George Romero's *Dead* movies as a kind of generation unto itself, we can observe systemic changes and the resulting complexity from these changes. Although these four movies form a "series," they hardly suggest a sequential nature (except for the progression inherent in their titles, moving from *Night* to *Dawn* to *Day*) as none of the movies recognizes any of the other movies' characters, any overarching timeline, or any clear-cut spatial continuity. As such, the movies seem to defy neat categorization; they are not exactly sequels, nor quite adaptations, and they hardly fit the label of being remakes.[23]

[23] Similar problems of sequential orderings emerge from such "series" as Sergio Leone's so-called "Man

There is a kind of paradoxical repetition to this "non-sequential series," as the audience consumes the same narrative which is simultaneously wholly new and distinct. Most movie sequels and series avoid this episode approach, the exceptions being certain episodic and monadistic movie series, such as the James Bond franchise or Philip Marlowe movies, which are as much adaptations of what worked in the previous movie as they are adaptations of the novels of Ian Fleming and Raymond Chandler, respectively. Events in these episodic series rarely link over to current texts from predecessor texts, and it is not unusual for characters to be swapped in or out, or be played by different actors. Yet unlike the Bond and Marlowe movies, Romero's *Dead* series, we do not really even feature the same characters at all. The only sense of perpetuation we have from one text to the next stems from the collective figure of interest—whether viewed as group protagonist or mob antagonist[24]—is the zombie.

The *Dead* movies occupy that peculiar temporal unfolding that is already familiar—yet uncanny—to audiences familiar with most of the "series" from comic books or radio and television shows, where time passes and yet the beginning of each entry in the "series" starts in the same place. The initial situation in each *Dead* movie is already a given set of circumstances familiar to viewers (with the possible exception of

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with No Name Trilogy": *A Fistful of Dollars*, *For a Few Dollars More*, and *The Good, the Bad, and the Ugly*; Sam Raimi's *The Evil Dead*, *Evil Dead 2: Dead by Dawn*, and *Army of Darkness*; and Robert Rodriguez's take on Leone's spaghetti westerns: *El Mariachi*, *Desperado*, and *Once Upon a Time in Mexico*. In their own ways, the entries within each of these textual lineages depicts more of an emergent repetition with variations than new adaptations, remakes, or sequels.

[24] Clearly, an ambiguity of identification underscores the curious pleasures of the zombie movie, as the climactic visuals center almost as often on the violent destruction of humans as on the violent destruction of the zombies. Given that this violence is some of the most extreme and most popular gore depicted in the cinema, the vicarious thrill of the special effects-powered bodily destruction (of zombie and human alike) seems, like Badmington's "alien chic" from the previous chapter, to have the ability of transforming the gruesome zombies into champions of sorts for being the catalysts for the violent struggle we have the pleasure to witness, whether they win or lose.

someone wholly uninitiated watching *Night of the Living Dead*), so the setup, no matter how grimly apocalyptic, bears a kind of nostalgia, a gesture to a past that is also somehow disconnected from the text in question. This kind of "setting as resetting" is, as I have mentioned, a familiar trope in various contexts such as film franchises, series, television shows, and comic books. In analyzing "The Myth of Superman," Umberto Eco addresses this phenomenon of "resetting" the narrative scenario and how such an engagement with a narrative produces a kind of pleasure; he writes that:

> Narrative of a redundant nature would appear ... as an indulgent invitation to repose, the only occasion of true relaxation offered to the consumer ... Is it not also natural that the cultured person who in moments of intellectual tension seeks a stimulus in an action painting or in a piece of serial music should in moments of relaxation (healthy and indispensable) tend toward triumphant infantile laziness and turn to the consumer product for pacification in an orgy of redundance? (21)

In this passage, Eco addresses how "an orgy of redundance" can placate a narrative's consumers, precisely because its formulas and tropes are already all too familiar. On the other hand, this supposed "pacification" through repetitive narrative "resetting" can carry with it certain amounts of "intellectual tension" as well because, while a critic like Eco might argue that overfamiliarity of zombie movies' redundant settings turns audiences into zombies themselves, these numerous iterations allow patterns of emergence to unfold from the plurality of understanding the texts' collectivity. Texts such as Romero's *Dead* series, as seemingly simplistic, uncomplicated components of a system, prove to be deceptive in that they are adaptive while retaining the veneer of being thoughtless "org[ies] of redundance." In fact, the supposed simplicity, the nonsequential interchangeability of Romero's zombie movies is what allows them to "get their smarts from below" through the emergence of complex patterns.

Moreover, Eco addresses the narrative holding patterns of repetitive series—through the lens of Superman comic books—by examining the paradox of character actions. Even though characters in textual series undergo changes and developments, the paradoxical demands of the narrative require characters to balance this development through absolute compartmentalization, leaving the episode relatively disconnected from the "resetting" that is always taking place. Eco writes that any time a figure within an episodic serial narrative accomplishes something, such as Superman overcoming an obstacle, "the character has made a gesture which is inscribed in his past and weighs upon his future. He has taken a step toward death, he has gotten older, if only by an hour; his storehouse of personal experiences has irreversibly enlarged. *To act*, then ... means to 'consume' himself" (16, italics in original). The peculiar possibilities allowed by the structure of the zombie narrative, however, reverse this paradigm in that the zombie characters, while they may decay, cannot take any additional "step[s] toward death." Instead, the possibilities of their narrative suspension prove absolute by their categorical defiance of mortality. While most serial characters, consume themselves through the unfolding of events, the zombie, appropriately enough, utilizes the narrative event as an opportunity to consume others, both figuratively through the passage of narrative time Eco cites and, of course, literally through the spectacles—decaying bodies devouring still living bodies—that have become the gory trademark of zombie movies, within the Romero canon and outside of it.

This cannibalistic consumption taking place within zombie movies serves to metaphorize the tensions exposed in the narrative obstacles of the "non-sequential series." How can the narrative be adapted or remade or serialized without simply "cannibalizing"

it, consuming it and killing it through repetition? After all, audiences may have certain sorts of nostalgia for what has come before in a narrative series, but a text that is too directly repetitive becomes dull. To appease the consumers both of the narrative and within the narrative, textual series need to figure out the appropriate amount of fresh blood. Thus, the emergent variations within Romero's *Dead* series seem to gesture toward the problematic aspects of the narrative logic of sequels and prequels; unless authors conceive of their texts as structured into multiple parts (and perhaps even then), their attempts at sequels serve only to recapture some of the success of the original text. This kind of recapitulation concerns a kind of adaptation. The sequel in many senses adapts the original. By revisiting the same characters or settings or situation, the follow-up text adapts the narrative into something new yet always already familiar. However, with the problem narratives of "non-sequential" series like Romero's *Dead* movies, this kind of logic based on familiarity is disturbed. Does *Dawn of the Dead* really take place at the dawn following *Night of the Living Dead*? Despite the evidence of the titles, the visual cues tell us otherwise, as there is a ten-year gap between the characters of the two movies in terms of fashion and hairstyle, as well as social and cultural changes, like the popular development of "one of those new indoor malls" (*Dawn of the Dead*). While these cues are subtle, they still cast doubt on the temporal structure implicit in the series, which seems to be more episodic than linear, following as it does an entirely different set of characters in an entirely different location.

George Romero's zombie movies do not unfold in linear fashion the way we most often conceive of any textual series; there is no sense of progression through cause and effect. Nothing that any of the human characters do in one movie has any impact on the

events of the others. The zombies may change, but, even when they do, we only observe a handful of individuals that distinguishable from the rest of the collective, and they also do not carry over from one movie to the next, which might indicate some kind of progression. In fact, Romero has spoken out against the paradigms of social or political meaning in which critics often frame his films, particularly the first: *Night of the Living Dead*, claiming that he "never meant to preach anything" and going so far as to assert that there are no "new thoughts, certainly no solutions, and not even any new questions in my films" (quoted in Gagne 5). Romero's assertions, however, serve as a strong foundation for the allegedly "mindless" ways in which evolution itself works. As mentioned above, evolution is not by definition progressive; it cannot be teleological, as "evolution" only signifies algorithmic change over sequential iterations. That said, the *Dead* series conforms to a different kind of transmission, one in which we do not witness characters undergo life changes through a historical stretch of sequels. Romero's zombie movies are more like repetitions with variations, a suitable scope for examining how change can produce patterns through ordering processes that gradually unfold. And yet the collective zombie character goes through subtle yet key metamorphoses from film to film, adapting and evolving as though it is mutating and evolving over time, "learning" as a species through emergence. The stakes in my reading of the zombies "learning" involve developing a sense of how we understand textual evolution in a series of seemingly disconnected movies, as well as a way of tracing emergent patterns in seemingly random data through examining the changes undertaken by a collective character in multiple textual settings, moving from instinct to memory to trainability to independent learning. Before exploring this model of emergent textual evolution wherein adaptation works, like

the different levels of symbiosis, as an explanatory framework for conceptualizing a matrix based on plurality rather than individuality, however, we should examine the larger textual matrix within which Romero's *Dead* series operates.

3. The Complicated Genealogy of the Dead

Generally, critics do not frame zombies as relating to any larger sort of evolution, either in terms of textual adaptation or biological adaptation. Jamie Russell explains that:

> For all their lack of finesse or style ... the living dead have been a constant presence in horror films since the 1930s with a filmography that includes many critically-acclaimed and popular films ... So why hasn't the zombie even been treated seriously? Partly it's because the living dead lack an established literary heritage. Dracula, Frankenstein's monster, Dr. Jekyll and Mr. Hyde and even the Wolf Man can boast a lineage that stretches back to Gothic fiction, European folklore and ancient legends. (7)

As Russell explains, zombies exhibit an overall lack of literary predecessors; early written texts about zombies are nonfiction rather than horror novels, such as William Seabrook's anthropological accounts of Haitian culture in his 1929 text *The Magic Island.* Also, in Russell's list of more "legitimate" monsters—"Dracula, Frankenstein's monster," etc.—the threat is singular and iconic rather than distributed and undifferentiated, which somewhat accounts for the zombie's second-class status as a monster. It is as though the patterns created by mystical oral accounts of Caribbean zombies developed into fictional filmic accounts through a cultural analog of emergence itself. In any case, we can trace the textual genealogy of Romero's *Dead* movies through both its material distribution and its textual adaptation, both tracings involving a more substantive connection to the emergent model of evolution.

As with any text or series of texts, Romero's *Dead* series exists within a larger matrix of meaning, and, when we examine this kind of textual genealogy in terms of its influences and imitators, starting with the relationship between *Night of the Living Dead* and *I Am Legend*, the lineage incorporates all of the models proposed by this dissertation. The previous section's assertions about the relationships between and among the different models for describing and theorizing textual adaptation and evolution do not by any means imply that any of the models proposed in this dissertation are mutually exclusive. Synapses, after all, operate individually and as a system, much like individual symbionts can operate systemically through large-scale symbiosis. Likewise, viral movement can function on the local, individual level as an infection or on the global level as a pandemic, spiraling outward from cells to organisms to populations to continents. In the case of Romero's *Dead* movies themselves, the movement of the series most directly relates to an emergent model of evolution, which, as detailed above, can connect back to the brain-based synaptic model to the extent that individual, local synapses comprise a larger sense of emergent, systemic behavior.

Romero's movies serve as exemplary cases for understanding emergence because they demonstrate emergence in the collective actions of the zombie multitude and in the collectivity of the series, but, in the case of *Night of the Living Dead*, even the film's legal and material distribution provides an example of emergence. Like the unpredictable behaviors of the zombie masses, *Night of the Living Dead* as a text can be unearthed almost anywhere; *Night* freely turns up in television programming, midnight movie screenings, and video bargain bins everywhere, much moreso than most mainstream movies. *Night of the Living Dead* is so widely accessible because the movie is now part

of the public domain. When the film's distributor, Continental Releasing, changed the film's title from *The Night of Anubis* to *Night of the Living Dead* very late in the post-production schedule, the title card on the release prints did not contain a copyright notice, allowing any distributor to release it as part of their public domain offerings and thus cannibalistically feed off of Romero's success. Kevin Heffernan explains the dilemma in an article titled "Inner-City Exhibition and the Genre Film: Distributing *Night of the Living Dead* (1968)," where he writes that:

> To Romero's horror, the film seemed to pass into the public domain after Continental folded in the 1970s ... In the 1980s, at the dawn of the video era, the film turned up in virtually every public-domain video catalog. The years of lost revenue attributable to this oversight were responsible for the filmmakers' decision to regroup for a color remake in 1990 and a rescored DVD release of the original black-and-white version in 1999. (75)

Although the filmmakers never saw the full profits of their enterprise as a result of this copyright error, *Night of the Living Dead*'s virtual omnipresence through this error has played a positive role in the movie's visibility and its ability to influence larger trends within the horror genre.

Yet even before the video market boomed, *Night of the Living Dead* seemed to erupt in movie theaters as well, as the movie spread into most of local theaters' available timeslots as part of Continental's attempts to saturate the market. As Heffernan also recounts, audiences and critics such as Roger Ebert were very distraught that *Night of the Living Dead* was playing to matinee audiences filled with young children who found themselves traumatized by the horror displayed on the screen. Due to distribution shortages, many smaller local theaters, especially those that served inner city populations, tried to fight back, as Heffernan writes:

> with an eclectic mix of programming that included not only subsequent runs but kiddie matinees, huge multitheater saturation openings of genre films, and films from the nascent "adults-only" distribution network. The controversy surrounding the initial release of *Night of the Living Dead* was the result of Continental's misguided efforts to place the film in the inner-city [neighborhood theaters], horror-matinee, and multiple-opening situations simultaneously. (60)

In other words, because there were so many screenings of *Night of the Living Dead* available to potential viewers, what might have been a limited, local popularity spread throughout a much greater, more diversified population, giving more access to like, dislike, or ignore the movie, much the same as the copyright problems allowed greater access. And, because *Night of the Living Dead*'s content offered a vastly different experience from the horror movies that came before it—prominent gruesome violence, a relatively uncompromised black protagonist, and a nihilistic environment where heroic characters without dignity and for no real reason, meaning that no one was safe—the popularity of *Night of the Living Dead* managed to change the genre of horror, which, like the movie-going population that heartily ate up *Night*'s unconventional offerings, is, after all, a complex system.

Because the zombie concept is inherently bound up in issues of population, control, and proliferation, the ironies of Romero's debut film marketing, distribution, and loss of profits to the public domain resonate all the more sharply. Such resonance, however, does not imply any sort of cause and effect; the fact that *Night of the Living Dead* mirrors aspects of its content in the market history of its distribution does not gesture toward some endemic connection. Similarly, a text's saturation of access does not necessarily lead to emergence. Instead, the parallels from the examples of *Night*'s copyright and screening debacles offer a context for the collective reading of the *Dead*

series and the emergence it contains in its form and content, which follows in the next section. Prior to this explication, however, it is important to contextualize in similar fashion the larger textual network of influences within which George Romero's zombie series operates, not because it pertains to the framework of emergence but because this much larger scope includes components conforming to all of the adaptive models I discuss in previous chapters. The larger textual lineage of *Dead* series—texts that it influenced and texts it claims as influences— incorporates all of the models I discuss in this project, primarily when we examine the connections between George Romero's *Night of the Living Dead* and Richard Matheson's novel *I Am Legend.*

Although Romero's movie franchise has developed its own distinct rules and style, the concept of the zombie movie did not originate with *Night of the Living Dead*; while the *Dead* series resists a single explanation or confined location for the zombie outbreak, earlier films—such as *White Zombie*, *I Walked with a Zombie*, and *The Plague of the Zombies*—focus on voodoo and witchcraft as causes for the local, fairly contained zombie encounters. Rather than cite these movies as the primary influence on *Night of the Living Dead*, however, most sources connect *Night* with the novel *I Am Legend.* For example, Paul R. Gagne explains in *The Zombies that Ate Pittsburgh: The Films of George A. Romero* that:

> It was Romero who came up with the idea for *Night of the Living Dead.* A few years earlier, he'd written a short story loosely inspired by *I Am Legend*, Richard Matheson's novel about the last human in a desolate world of plague-spawned, zombielike vampires ... Romero's story has never been published and was untitled when he wrote it. He has since referred to it as "Anubis," after the Egyptian god of the dead ... Romero describes "Anubis" as an allegory about what happens when an incoming revolutionary society—in this case, the mass return from the grave of the

> recently dead, whose sole purpose is to feast on the flesh and blood of the living—replaces an existing social order. (24)

As Gagne details, the undead antagonists of *I Am Legend* are vampires, not zombies, and the most solid associations between *Night of the Living Dead* and *I Am Legend* appear from the two texts sharing a contemporary timeframe instead of a gothic or exotic past, their focus on pragmatic, science-based explanations with a minimum of mysticism, and the antagonists attacking the severely outnumbered survivor(s) in a suburban American residence.[25] Nearly all other elements of the two texts are completely dissimilar, and, as such, Romero's "loosely inspired" short story and further removed movie adaptation conform to the synaptic model. In other words, the subject matter, style, and structure of *Night of the Living Dead* and *I Am Legend* may asymptotically approach one another, but the differences—like those found between and among the texts discussed in the first chapter—suggest a textual evolution that does not conform to most conventional definitions of "adaptation," much like the entries in Romero's *Dead* series seem not to fit into the established categories of adaptation, remake, revision, or sequel.

The extreme distinctions between the two texts, in fact, prompted Richard Matheson to respond to *Night of the Living Dead*—for which he received no royalties, as the "loosely inspired" nature of Romero's movie did not require him to purchase the right from Matheson—with a critical disavowal, claiming in an interview that he found *Night of the Living Dead* "kind of cornball" (Weaver 307). Of course, Matheson's judgment aside, because *Night of the Living Dead* commands this synaptic relationship to *I Am Legend*, Romero's debut film—and, by extension, the rest of the *Dead* series—connects,

[25] For additional commentary connecting *Night of the Living Dead* to *I Am Legend*, see John Russo's *The Complete Night of the Living Dead Filmbook* (6-7) and J. Hoberman and Jonathan Rosenbaum's *Midnight*

however loosely, to *I Am Legend*'s own textual matrix. Aside from the "loosely inspired" adaptation arising through *Night of the Living Dead*, Matheson's novel thus far has two more "official" adaptations: 1964's *The Last Man on Earth*, starring Vincent Price, and 1971's *The Omega Man*, starring Charlton Heston, representing viral and symbiotic adaptations, respectively.[26]

While *Night of the Living Dead* represents a synaptic adaptation of *I Am Legend*, the other two adaptations conform to the other models I discuss in the earlier chapters; *The Last Man on Earth* retains a viral faithfulness to Matheson's novel, while *The Omega Man* creates a more symbiotic relationship by grafting Matheson's premise onto a quite different story featuring infected antagonists who are neither quite vampires nor quite zombies. Despite the close narrative relationship between *I Am Legend* and *The Last Man on Earth*—stemming in part from Richard Matheson's in writing the screenplay—Richard Matheson also repudiates this seemingly viral replication, replacing his writing credits with the pseudonym Logan Swanson. Matheson's desire to dissociate himself from *The Last Man on Earth* makes a bit more sense than his criticism of *Night of the Living Dead*, as *The Last Man on Earth* has not proven particularly successful with either critics or popular audiences. Although Sidney Salkow's direction of *The Last Man on Earth* suffers from budgetary limitations and the attendant lip-synching difficulties of dubbing dialogue onto footage of the predominantly Italian-speaking cast, the movie has its moments of evocative grace such as the shuffling intruders bashing ineffectively at the

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Movies.

[26] The third cinematic adaptation of *I Am Legend* will be released in 2007, starring Will Smith as the "last man on Earth" character, which, interestingly enough, performs the same narrative revision George Romero conducted in *Night of the Living Dead* by replacing Matheson's white protagonist with an equally strong, capable black character.

door (echoed in *Night of the Living Dead*) and the abandoned public spaces strewn with the occasional random corpse or now-useless material goods (referenced in Danny Boyle's post-9/11 reinvention of the zombie movie: *28 Days Later*).

Additionally, *I Am Legend* extends back to its own set of textual influences, primarily a symbiotic relationship to Bram Stoker's *Dracula*, which also extends macrosymbiotically to a whole host of vampire legends, myths, and lore which inspired Stoker's text, as well as to the wide variety of dramatic and cinematic adaptations of *Dracula* (from F. W. Murnau's *Nosferatu: A Symphony of Horror* to Werner Herzog's *Nosferatu the Vampyre* to the Universal Studios Dracula movies to the Hammer Studios Dracula movies to Francis Ford Coppola's *Bram Stoker's Dracula*, as well as assorted others) which were inspired by Stoker's text in turn. Beyond these adaptive connections through *I Am Legend, Night of the Living Dead* also provides its own textual legacy, not just through the *Dead* series I have been discussing but also through inspiring other zombie movies, some of which claim in their own ways to be connected to *Night of the Living Dead* themselves. For example, John Russo, part of George Romero's creative/production team on *Night of the Living Dead*, splits off from Romero's canon to form his own series through producing *Return of the Living Dead* and that movie's four sequels. Likewise, when *Dawn of the Dead* was released in Italy with the new title *Zombi*, it spawned its own imitators, starting with Lucio Fulci's *Zombi 2* (sometimes known in the United States as *Zombies 2* or, more commonly, just *Zombie*) and continuing with an additional two sequels. And, finally, as if this genealogy were not complicated enough, there are two remakes of *Night of the Living Dead* (one directed by Tom Savini and "authorized" by George Romero's involvement and the other remake,

shot in 3-D, unaffiliated with Romero, and made possible due only to the 1968 film's botched copyright ownership), a parodied version of *Night of the Living Dead* (featuring a new recorded soundtrack also made possible by the original film's copyright debacle), a remake of *Dawn of the Dead*, a parody in *Shaun of the Dead*, an "unofficial sequel" in *Day of the Dead 2: Contagium*, and numerous homages such as Danny Boyle's *28 Days Later*.[27]

What accounts for this extremely diverse network of textual adaptations and connections? In part, the adaptability of the vampire and zombie traditions serves them well in a variety of contexts. Robert Neville, the hero and final survivor of a global plague of vampirism in Richard Matheson's *I Am Legend*, muses on the phenomenon himself, providing a form of meta-commentary on the origins of the novel in which he un-self-consciously exists, reading directly from *Dracula*:

> "The strength of the vampire is that no one will believe in him."
>
> Thank *you*, Dr. Van Helsing, [Neville] thought, putting down his copy of *Dracula* ... It was true. The book was a hodgepodge of superstitions and soap-opera clichés, but that line was true; no one had believed in them, and how could they fight something they didn't even believe in?
>
> That was what the situation had been. Something black and of the night had come crawling out of the Middle Ages. Something with no framework or credulity, something that had been consigned, fact and figure, to the pages of imaginative literature. Vampires were passé, Summers' [sic] idylls or Stoker's melodramatics or a brief inclusion in the Britannica or grist for the pulp writer's mill or raw material for the B-film factories. A tenuous legend passed from century to century. (28-9, italics in original)

Although Matheson cites Stoker claiming that vampires' central strength is their unbelievability, the laundry list of "superstitions and soap-opera clichés" and "grist for the pulp writer's mill or raw material for the B-film factories," much like my previous list

[27] Yet another remake is also in the works; a new version of *Day of the Dead* will hit theaters in 2007.

of texts directly and indirectly connected to *Night of the Living Dead*, holds that the real success, from the perspective of textual evolution, is the popularity of the core myths extending back all the way to the Middle Ages. Despite Count Dracula's social status as an aristocrat, Matheson's characterization of vampire tales is distinctly affiliated with mass culture, neither high-class literature nor high-class cinema. George Romero similarly aligns his zombies with the lower classes, claiming that "The zombie for me was always the blue collar kind of monster. I mean, he was us" (*American Nightmare*). While there have been other critical interpretations that read Romero's zombies as shambling allegories for the proletariat[28], this apparent interconnection between zombies and the undifferentiated masses proves pertinent—on the texts' structural level rather than solely through the movies' representational content bearing metaphorical resonances—to the project of understanding emergence.

In addition to zombies being "the blue collar kind of monster," Romero asserts that the problems he perceived with the older zombie films was that "it was always, you know, the [zombie] guy out doing the work while Lugosi was up in the castle. But what always intrigued me was, well, you're not going to be able to control them. You're not going to be able to get them to go take the garbage out for you" (*American Nightmare*). Just as the long list of almost uncontrollable sequels, remakes, and "unauthorized" media distributions demonstrates, just as the numerous returns of the repressed zombies breaking through barriers and invading the humans' shelters demonstrates, and just as the narrative "rules" of the zombies are always in flux and thus unclassifiable as the creatures

[28] Most critics read Romero's politics as inherently progressive, as suggested by *Dawn of the Dead* channeling anti-consumerist rhetoric through its shopping mall setting, but in *Pretend We're Dead: Capitalist Monsters in American Pop Culture*, Annalee Newitz reads the zombie figure as the ultimate

learn through collective intelligence, the problem with these zombies is that "you're not going to be able to control them." It is precisely because the zombies cannot be contained by authoritative top-down systemic control—through any single "Lugosi" figure or even through a group acting as the "executive branch"—that the hordes work so effectively as a collective species, both metonymically as analogs for the textual products in which they appear and narratively as systemic catalysts for the action found in the storylines.

Through these collective characters of the zombie hordes, we can watch and understand how the local interactions of individual agents add up to larger designs. Johnson explicates the concept of emergence in the case of social insects by writing that:

> While there's no single key to the success of the social insects, the collective intelligence of the colony system certainly plays an essential role. Call it swarm logic: ten thousand ants—each limited to a meager vocabulary of pheromones and minimal cognitive skills—collectively engage in nuanced and improvisational problem-solving ... Their knack for engineering and social coordination can be downright spooky—particularly because none of the individual ants is actually "in charge" of the overall operation ... *Local* turns out to be the key term in understanding the power of swarm logic. We see emergent behavior in systems like ant colonies when the individual agents in the system pay attention to their immediate neighbors rather than wait for orders from above. They think locally *and* act locally, but their collective action produces global behavior. (74, italics in original)

Appropriately enough, these global patterns determined by local actions can be "downright spooky," and there is something both chilling and fascinating about watching the zombie agents slowly overcome a particular obstacle. This phenomenon, however, is only increased when viewed within the context of an even larger scope, such as looking at the series as a whole, where we can see the patterns undergo paradigm shifts between and among the texts.

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metaphorical underclass in both capitalist and colonialist frameworks (108-11).

5. The Young and the Brainless

Return of the Living Dead III, an entry in John Russo's spinoff series from Romero's *Dead* movies, tells the Romeo and Juliet story of a young man who reanimates his recently deceased girlfriend using secret government technology on his father's cover military base, only to undergo tragic suffering as the girlfriend slowly turns into a zombie hungering for human brains. While the movie proves fairly peripheral to the corpus of Romero's zombie movies—following as it does the different narrative rules established by *Return of the Living Dead*—one of the seemingly unimportant toward the end of the movie proves critical. The teenager's father, speaking with his fellow officers about the zombie girlfriend's relatively intact subjectivity, says: "Colonel, the fact that she was cognitive proves that the living dead aren't just animated flesh. It proves that they have an inner life" (*Return of the Living Dead III*). The implications of this comment drive at one of the thorny philosophical issues Daniel Dennett addresses along with various aspects of meme theory in *Consciousness Explained*, where he writes that:

> According to common agreement among philosophers, a zombie is or would be a human being who exhibits perfectly natural, alert, loquacious, vivacious behavior but is in fact not conscious at all, but rather some sort of automaton. The whole point of the philosopher's notion of zombie is that you can't tell a zombie from a normal person by examining external behavior. Since that is all we ever get to see of our friends and neighbors, *some of your best friends may be zombies.* (73, italics in original)

Dennett notes that philosopher's zombies are not the shambling, mute, flesh-eating undead that populate movies such as Romero's *Dead* series; instead, they are a kind of inverted Turing test, wherein interrogators can only observe exterior phenomena even though there may be "no one home upstairs." In other words, philosopher's zombies

exhibit no signals that they have no consciousness, that their brains are not exactly the same as ours.

Dennett takes issue with philosophers like Thomas Nagel and epiphenomenalists who propose the philosopher's zombie as a hypothetical in order to demonstrate that any other consciousness is something almost mystical and beyond the realm of observation.[29] And yet the problem with subjectivity, memes, and consciousness is that intentionality remains destabilized, something not knowable in its absolute form. In fact, Dennett himself observes earlier in the text that "the trouble with brains, it seems, is that ... [n]o part of the brain is the thinker that does the thinking ... and the whole brain appears to be no better a candidate for that very special role. This is a slippery topic. Do brains think? Do eyes see? Or do people see with their eyes and think with their brains? Is there a difference?" (29). As Johnson has explained about the brain, the larger collective pattern is emergent and indivisible if it is to remain intelligible as a pattern. The problems with consciousness arrive with these disparate senses of scope; we cannot consider a neuron conscious any more than we can consider a city neighborhood conscious, and yet, at the same time, neither one is entirely divorced from consciousness. So, whether the entity in question is a philosopher's zombie appearing to be a regular human yet without consciousness, or a Romero zombie mutely wandering and solving problems collectively, or something in-between, like a Russo zombie from the *Return of the Living Dead* series

[29] Dennett explains that, while it acceptable for philosophers to rely on fictional hypotheticals (85), the creation of the philosopher's zombie opens up aggressively solipsistic presuppositions about the consciousness of others (he cites similar assumptions that have led to discrimination against women and Jews) (406). Thus, he finds the musings on the philosopher's zombie to be bankrupt, except to disprove them, writing that: "If we were to declare that *in principle*, a zombie is indistinguishable from a conscious person, then we would be saying that genuine consciousness is epiphenomenal *in the ridiculous sense*. That is just silly ... dangerously silly, for it echoes the sort of utterly unmotivated prejudices that have denied full personhood to people on the basis of the color of their skin" (405, italics in original).

squalling loudly for brains to consume ("Braaaaains!"), the entity is categorically different from a standard, conscious person, and yet the collective actions of both conscious people and brainless zombies can add up to adaptive emergence, a kind of problem-solving brain in the plural.

Because the most basic definition of emergence is the process by which simple rules result in complex pattern formation, even the brainless can appear brainy if there are enough of them performing repetitive tasks with even the slightest conceptual room for variation within local actions. Within these most rudimentary parameters, emergence can take place in a variety of spatial and temporal contexts, ranging from the diachronic, global phenomenon of animate species' evolution to the synchronic, microscopic phenomenon of neurotransmitters firing and forming thoughts. After all, as mentioned above, both the workings of the human brain and the workings of a large collective of human brains demonstrate emergence. On the level of texts, obviously individual authors utilize the complex systems of their own brains, but narrative itself gestures toward larger patterns as well, as any given example locates itself within some kind of textual collective such as genre or contemporaneous periodization or another category of interdependence. Self-organizing assemblages exist within textual and cultural systems just as much as they emerge in all sorts of other complex systems, and, through examining examples, we can observe the macroscopic patterns' impact through individual texts, like those of Romero's "brainless" *Dead* movies. Likewise, just as complex systems can impact one another on a spectrum of scales, the complex systems of zombie populations within one of the series entries influence still higher levels of order through demonstrating emergence through the textual system of the series as a complex collectivity.

The movies in question provide illustrations of how these orders of complexity progress from one level to the next. Like the zombies, the texts superficially appear to be uncomplicated in their singular forms. For example, in *Night of the Living Dead*, the zombies—called simply ghouls by the diegetic media within *Night*—possess only the basic rudiments of instinct. They fear fire, they want to attack and eat the living, and the most sophisticated ones occasionally use simple tools. Yet already in this first movie we have a conception of these individual agents as a collective system. One of the newscasters announces that: "There is an epidemic of mass murder being committed by a virtual army of unidentified assassins. The murders are taking place in villages and cities, in rural homes and suburbs with no apparent pattern nor reason for the slayings. It seems to be a sudden general explosion of mass homicide." By labeling the zombies as "an epidemic" without any "apparent pattern," the report seems to defy interpretation while also inviting it. Although *Night of the Living Dead* contains the thin rationalization by government scientists that all of the mayhem stems from something to do with a returned probe from Venus, the other three movies in Romero's *Dead* series wisely avoid such simplistic cause-and-effect closure. Instead, like the baffled reports, there is no singular cause to explain the "sudden general explosion of mass homicide" without "apparent pattern."

Even with the seemingly random nature of the zombies' distribution and collective behavior, their simplistic actions have a cumulative effect when viewed across the evolving steps each of Romero's movies take. Essentially, these changes boil down to patterns of emergent complexity, moving through movie to movie from instinct to memory to trainability to independent learning. Each of the "Dead" series represents the

variations possible during the tension between one sort of phase transition and another, as with the zombies of *Dawn of the Dead*, who act based on collective memory, moving to the zombies of *Day of the Dead*, who are trainable precisely due to their ability to remember; each entry explores what happens at the edge of a paradigm shift for the zombie agents as a species. Luciana Parisi elucidates how emergence works as an adaptive strategy that moves beyond simple, linear generational change, writing that:

> variations are not actualities accumulated and transmitted through sexual reproduction. On the contrary, as recent theories of evolution that embrace the molecular dynamics of organization argue, variations emerge through the parallel networks between populations and territories poised at the edge of a phase transition from one state to another. Selection does not impose an order of fitness on these networked relations. Rather, it is immanent to their regulatory circuits because it acts at their differential degrees of complexity. (33)

The emergence, according to Parisi, happens at the network level during these moments of tension or stress between shifts. As I explained above, these shifts are both cognitive and corporate; the zombie evolution requires us to think of their masses as a collective brain.

In the gap between the first movie and the second, the zombies develop memory systems, some sort of instinctual recall that reminds them that they want to go to the mall. When Fran and Stephen look over the edge of the mall rooftop down to the zombies milling around below, as though waiting for the Christmas shopping season to begin, Fran asks: "What are they doing? Why do they come here?" Stephen replies: "Some kind of instinct. Memory, of what they used to do. This was an important place in their lives." The zombies' behavior is still attributed to instinct, as with the first movie, although the rules underlying this behavior in *Dawn of the Dead* now incorporate some form of

memory, though that memory is defined by and through social grouping. The individual zombie agents at this point do not remember how to drive cars or program computers, but they somehow remember that their herd likes to go to the mall. The bizarre, egomaniacal scientist Dr. Millard Rausch characterizes these zombies' collective abilities in a television news broadcast, saying that:

> "The normal question, the first question is: are these cannibals? No, they are not. Cannibalism in the true sense of the word implies an interspecies activity. These creatures cannot be considered human. They prey on humans. They do not prey on each other; that's the difference. They attack and they feed only on warm flesh. Intelligence? Seemingly no reasoning ability, but basic skills remain from a remembered everyday life. There have been reports of these creatures using tools. But even these are the most basic, the use of tools as bludgeons and so forth. I might point out that even animals have been known to adopt the use of tools in this manner. These creatures are nothing but pure, motorized instinct."

With this speech, then, Dr. Rausch distinguishes the zombies as an entirely separate species, not intelligent but capable of memory, which, contradictorily, makes them slightly more than "pure, motorized instinct." As the final climax illustrates, when a zombified Stephen remembers how to get into his former group's hideout in the mall and leads the other zombies there, instinct gains a much more purposeful complexity when it is directed by shared memory.

Romero explores and expands this capacity for memory in *Day of the Dead*, where Dr. Logan spends his time training zombies to perform simple tasks, with the hopes of eventually teaching them not to attack humans, his efforts working as an alternative solution to military force. He justifies his actions by saying that: "We don't have enough ammunition to shoot them all in the head. The time to have done that would have been in the beginning. No, we let them overrun us. We are in the minority now,

something like 400,000 to one by my calculation." The cross-species problem of competition for spatial resources needs a new solution, and Dr. Logan, known to the derisive soldiers as "Frankenstein," devises an alternative through exploiting the zombies' inherent trainability, which, appropriately enough given his nickname, ends not in progress but in the eventual doom of the underground military base. Because the zombie horde of *Day of the Dead* has such massive numbers, all possible of solving simple tasks individually—as suggested by the operant conditioning of "Bub" and Dr. Logan's other experiments—the rigidity of the extreme authoritarian military is no match for the unpredictability and fluid adaptability of its collective zombie antagonist. The destruction comes not so much because the zombies can be taught to perform simple tasks as it does through the overall arrogance of the base team thinking that they as a species could completely control another, supposedly inferior breed. Although the zombies appear to be much slower and less intelligent—the soldiers routinely refer to them as "dumbfucks" rather than zombies—they are capable of solving problems in the plural in much more complex fashion than the fractious microcosm of human culture can.

Land of the Dead poses perhaps the strongest case for emergent intelligence through collective behavior, as through the course of the movie's events, the undead hordes move beyond the need for top-down hierarchical training. Instead, they learn how to learn independently and distribute that intelligence collectively throughout the groups they form, making them a social network that, like the ant colony or the slime mold, borders on being a distributed organism, or plural as singular. Riley accounts for the shift by saying that: "They learned how to work together." Although the development of this trait of interconnectivity raises thorny issues for the consistency of Romero's narrative

"rules" across the movies, the ever-shifting complexities of the zombie's paradigmatic patterns of behavior mirror diachronic evolution, not on the genetic level (Romero has never led us to believe that the zombies propagate sexually)[30] but on the plane of cultural adaptation. Many times in these movies, there is a comparison, direct or indirect, between the humans and the zombies, often accompanied by a character saying some variation of Riley's observation that "They're just looking for a place to go. Same as us." In that sense, these movies, when understood as a collective network, as I frame them here, present patterns for thinking about how collective mass intelligence works in our cultures and groups. These emergent complexities, while offering, as Romero says, no "new thoughts, certainly no solutions, and not even any new questions," can present us with new models for conceptualizing collective behavior.

Although Romero uses certain "hero zombies" that seem to lead the action in all four movies for the purposes of following the steps of narrative logic, the collective behavior of the zombies is key because of its relative directionlessness. The use of "Bub," "Big Daddy," "Zombie Stephen," and other easily distinguished zombie characters serves as a kind of cinematic shorthand to recognize the steps of the collective swarm. Through the parallel editing, viewers might lose sight of where the zombies are and what they are doing, without a figure to watch progress through space and time. In

[30] Filmmakers other than George Romero have taken up the question of zombie sexual reproduction. Peter Jackson's absolutely abject, over-the-top zombie horror-comedy *Dead Alive* (originally titled *Braindead* in his native New Zealand) depicts "zombie sex" between a zombified clergyman and a nearly decapitated zombie nurse. The zombie nurse then gives birth to a zombie baby who provides some of the movie's most memorable comic relief, as well as its most horrific gore. Despite this case of "zombie sex," the bizarre, almost cartoonish narrative logic behind Jackson's movie, however, seems to be the exception that proves the rule as to the limits of many horror conventions, featuring as *Dead Alive* does: anthropomorphic, crawling zombie viscera; a zombifying Sumatran rat-monkey; and a gigantic zombie matriarch whose oversized womb manages to devour her adult son only to have him emerge again in a victorious, bloody second birth that would raise even Freud's eyebrows.

other words, these figures serve as imagistic markers to help audiences recognize patterns within mass behavior.

Even though overcoming obstacles may seem like some form of progress, the patterns of evolutionary fitness are not quite so simplistic, as there is always that tension involved in the individuals' evolutionary success. In other words, humans and/or zombies may solve a puzzle without surviving longer than the next five minutes. Instead, the progress, to the extent that we can even call it that, lies only in the increasing complexity of the collective. Through this lens, the theories of evolution and complexity present themselves through the examples of Romero's zombie movies, and vice-versa. All four movies contain little resolution on their own, but collectively they demonstrate emergent change from low-level interactions leading to increasing systemic complexity. So, although critics have long championed Romero's subtle employment of social criticism in his zombie movies, these movies also reveal complex illustrations of cultural and informational theory and evolution as well.

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