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Introduction

Reading Like a Thermian

In all the sacred books, we should consider the eternal truths that are taught, the facts that are narrated, the future events that are predicted, and the precepts or counsels that are given. In the case of a narrative of events, the question arises as to whether everything must be taken according to the figurative sense only, or whether it must be expounded and defended also as a faithful record of what happened. No Christian will dare say that the narrative must not be taken in a figurative sense.

—Augustine of Hippo, *The Literal Meaning of Genesis*

Anthony, you're such a nice guy, too bad your head is full of junk.

—a professor in graduate school, to the author

By Grabthar's Hammer, by the suns of Worvan, you shall be avenged!

—Dr. Lazarus to dying space nerd Quellik, in *Galaxy Quest*

In the 1999 film *Galaxy Quest*, a group of television actors—survivors of a thinly veiled version of *Star Trek*—meets a cadre of fans that takes science fiction very seriously. Dressed in silver spandex, sporting identical bowl-cuts, the same earnest expression on their faces, the fans approach Jason Nesmith, the William Shatner of the tale, to beg his help in dealing with an interstellar warlord. Though the fans actually *are* aliens from another planet, they have appeared at a *Galaxy Quest* convention, where everyone dresses as an alien, and the Thermians, as they are called, blend right in. Though Nesmith dismisses them at first, he and his crew discover that the Thermians are not faking it. Having studied the show after errant radio waves reached their planet, the Thermians have built a faster-than-light ship, transporter technology, and an entire civilization based on *Galaxy*

Quest. As Mathesar, the Thermian leader, explains: “All you see around you has been taken from the lessons garnered from the Historical Documents,” revealing the central gag of the film. The Thermians have misread a television show with mediocre production values as a chronicle of actual events. The plot devolves from the ironic consequences of this mistake, but the fictional nature of the show does not detract from its ability to shape a civilization. In Mathezar’s words, the tale of the crew’s “courage and teamwork and friendship through adversity” saves the Thermians and their actor friends from themselves.

The charm of *Galaxy Quest* lies in its allegory of the audience, both inside and outside the film. The Thermians stand for *Star Trek* fans who invest enormous amounts of intellectual, emotional, and material effort in inhabiting the world of the show, so much so that fan culture becomes a subcreation, a counterculture. This phenomenon has been described by anthropologists and new media scholars at length, and there will be no attempt to duplicate it here (Jenkins 2006; Jenkins et al. 2013). Instead, I focus on the Thermian gambit, which illuminates the “relevant conundrum” of the reader who takes popular culture unironically as a way of thinking about modernity, social justice, and the nature of the good life. By mistaking fiction for documentary, the Thermians make a mistake that nearly kills them. Then, they discover a greater fact, that the show can be figuratively true, a storehouse of questions, values, heuristics, visions, and ethics. This is what scholars mean when we call such stories *myths*: not false accounts of natural phenomena or misrepresentations of reality, but narratives that figure a culture’s ideals and its methods for dealing with the most important existential problems. Since classical antiquity, a school of thought called *euhemerism* has interpreted myths as historical material transformed into story for the sake of memory. While there are, no doubt, important ways of understanding *Galaxy Quest* as memory, it is not a memory of the past, but a memory of a better future, an instrument for making that future real. The utopian projects of popular culture need to be treated with respect. Though countless modern stories, from *Peter Pan* to *Beetlejuice*, emphasize the power of belief in making a story real, it is not that the narrative otherworld takes the place of the primary world, but that readerly investment is an instrument of self-transformation. If wielded communally, it becomes an instrument of environmental transformation as well. This strategy of inhabitation as a method of transformation is precisely

what I mean by *reading like a Thermian*, and *Nerd Ecology* depends on it as a foundational premise.

At this point, one might reasonably ask, after Dr. Lazarus, the ersatz Mr. Spock: *By Grabthar's Hammer, why all the fuss?* Popular culture has received a good deal of attention from the social sciences, philosophy, cultural studies, and media studies. What is at stake in these efforts, however, is not the meaning of pop culture, but the significance of human behavior surrounding that meaning. Ethnographies of fandom tend to take such an approach. (When fans want to believe the myth, when Australians claim to *be* Jedi, the academy does not know what to say.) Sociology engages fan cultures because fan behavior tells us something important about the nature of social groups and the production of meaning. Likewise, cultural studies of pop culture reveal important truths about the construction of gender, class, and race in contemporary society. Academics also use pop culture to communicate issues in their own disciplines to a wider audience. Open Court's *Pop Culture and Philosophy* series examines *The Lord of the Rings*, *The Matrix*, *South Park*, *Buffy the Vampire Slayer*, and other artifacts of pop culture in order to introduce problems in philosophy itself. The object of study provides exempla that teach us about the Black Monoliths, such as Kant, Hegel, and Aristotle. While there is much to recommend these approaches, they remain instrumentalist, treating pop culture as a means to an end. (Studies of *Buffy the Vampire Slayer* tend to be the exception to this rule—more on this in Chapter 5.) If my approach here betrays a vital interest in results—what pop culture allows us to understand and to do—that interest is embedded in the art itself, which, in the case of *Star Trek*, has always believed that styrofoam rocks and bad special effects are a gateway to eternal verities. This is the crux of the matter, the place where the ridiculous fosters the sublime. Opponents of popular culture as a kind of thinking have objected to the quality of the material itself. They deny the possibility that cheap materials are capable of shouldering the heavy burdens of meaning. Like theologians debating the capacity of the elements to mediate divine grace, such critics dispute the claim that popular matter fuels stellar results. To use the formal language of philosophy, they approach popular culture with a hermeneutics of suspicion, an a priori distrust in its substance. If one wishes to apply a hermeneutics of trust—to read like a Thermian—one must first recognize the objections to such a method.

Debates about the value of vernacular culture date at least as far back as Dante's treatise *De vulgari eloquentia*, in which the author of a *Comedy*, later called divine, was obliged to argue that an Italian possessed powers equal to spiritual epic. The ambition of the *Comedy* was to fashion a peer of Vergil's *Aeneid*, which was an attempt to fashion a peer of Homer's *Iliad*. Six centuries after Dante, the British poet Matthew Arnold wrote *Culture & Anarchy* to support the idea that literature in English could produce "sweetness and light," reason and insight, in contemporary readers (42). In the twentieth century, the argument about popular materials took an economic turn, as Marxist critics such as Walter Benjamin, Theodor Adorno, and Max Horkheimer warned that "mass culture" was becoming a tool of fascist propaganda. These arguments are storied, and cannot be rendered here in detail. However, sociologist Herbert Gans summarizes them as four "negatives" of popular culture:

1. *The negative character of popular culture creation.* Popular culture is undesirable because, unlike high culture, it is mass-produced by profit-minded entrepreneurs solely for the gratification of the paying audience.
2. *The negative effects on high culture.* Popular culture borrows from high culture, thus debasing it, and also lures away many potential creators of high culture, this depleting its reservoir of talent.
3. *The negative effects on the popular culture audience.* The consumption of popular culture content at best produces spurious gratifications, and at worst is emotionally harmful to the audience.
4. *The negative effects on the society.* The wide distribution of popular culture not only reduces the level of cultural quality—or civilization—of the society, but also encourages totalitarianism by creating a passive audience peculiarly responsive to the techniques of mass persuasion used by demagogues bent on dictatorship. (Gans 29)

These objections are not easily dismissed. The first objection, about the profit motive, is repeated with the advent of the summer blockbuster at the movies. With every mass shooting in a schoolyard comes the fear that violent media produce violent behavior in viewers too young, undisciplined, or unsophisticated to resist the lure of imitation. (This fear goes back to Plato and the *Republic*.) The second objection is evoked whenever federal funding for the arts and humanities arrives on the Congressional chopping block: the NEH wars of the 1980s, centered on performance artists like Karen Finley and visual art like *Piss Christ*,

take this form. The third objection imagines that popular genres are glandular; high genres, cerebral. Adventures, farces, cartoons, telenovelas, and the like are aimed at the audience's desires and emotions, which are assumed to be free of ethical content. Exposure to these genres creates soft hearts and mushy brains; ultimately, this critique centers on the inferiority of the sentimental relative to the intellectual. The final objection, which arose in response to Nazi Germany and gained strength during the Cold War, has weakened in the face of the Internet and its ability to circumvent the will of dictators. At the same time, the rise of Internet bullying and a hyper-mediated youth culture transpose this critique into a local key: the dictators of the schoolyard have taken to Facebook.

These warnings cannot be dismissed out of hand. As Ron Salkowitz demonstrates in his study of the San Diego Comic-Con International, nerd culture is big business: "Once despised as subliterate and corrupting, [comics and related products] now command the money and attention of some of the largest corporations on earth" (Salkowitz 4). In this sense, the Frankfurt School's fears of mass culture have materialized on a scale they could not have imagined, making their critiques newly relevant. It is possible for the most strident defender of popular culture to recall situations in which each critique pertained. Instead of arguing for their irrelevance, I will argue against their common premise: that contemporary audiences are too stupid and childlike to contend with the persuasive power of popular media. One of the ironies of the Marxist critiques of popular culture lies in their furtive alliance with the guardians of elite culture. Aristocrats and revolutionaries are prey to similar illusions about the stupidity of the people, it seems: even the most subtle antagonists of popular culture fail to imagine the tools of critical inquiry that allow audiences to resist propaganda. At their worst, critics foster an ethic of paternalism that threatens the notion of the democratic citizen as political agent. Here we encounter the Thermians again: one should read like a Thermian, I believe, because these aliens possess the capacity for reflection, self-awareness, and self-correction. When Mathesar is tortured at the hands of the villain, he realizes that he has misunderstood the crew of *Galaxy Quest*. When his people face death, they see that they cannot rely on fictional heroes to save them. Rather than turning on the actors as frauds and betrayers—a serious charge in a Dantean lineage—the Thermians affirm their faith in

Galaxy Quest as an unfinished political project—like modernity according to Jürgen Habermas. It remains for the gentle cephalonerds to teach warlord and human alike the power of courage in action.

To understand how the Thermians changed their attitude toward the Historical Documents and saved their own lives, it is helpful to appeal to philosopher Paul Ricoeur and his ideas of *first* and *second naïveté* in *The Symbolism of Evil*. Ricoeur's hermeneutic phenomenology stresses the production of meaning through the encounter of readers with texts. Meaning is not hard-wired into texts by authors, nor are readers free to understand texts in any way they wish. Rather, the act of interpretation arises in the meeting of readers and texts in particular contexts, as a result of distinct histories. In terms of interpretation, the present is neither the slave to the past nor its master. The meaning of a text as a whole is the sum of all its interpretations that can be reasonably fashioned from all of the reader-and-text encounters throughout its history, as well as all the meanings that might be fashioned during future encounters. When Ricoeur applies this approach to biblical narratives, he distinguishes between the attitudes of the original and later readers. The original readers, he believes, were characterized by a "first naïveté," in which the narratives were encountered as literally true, as observable history. However, as natural and interpretive sciences developed, both in the ancient and the modern worlds, it became more difficult to encounter the histories of Israel or the Church as a simple record of events. For Ricoeur, the historical-critical tradition of the Enlightenment represents a *felix culpa*, a happy fall into interpretation as the path to meaning. It is possible, he says, to attain a second naïveté, an ability to encounter the text after a dark night of meaning. This is not a recovery of the original innocence, however:

1. Does this [second naïveté] mean that that we could go back to a primitive naïveté? Not at all. In every way, something has been lost, irremediably lost: immediacy of belief. But if we can no longer live the great symbolisms of the sacred in accordance with the original belief in them, we can, we modern men, aim at a second naïveté in and through criticism. In short, it is by *interpreting* that we can *hear* again. Thus it is in hermeneutics that the symbol's gift of meaning and the endeavor to understand by deciphering are knotted together. (351)

Though contemporary exegetes might question the status of any original innocence, we have certainly lost it by now, and we can treat Ricoeur's theory as a kind of myth for criticism. His approach is characterized by a theoretical recursiveness: the Torah-narrative of the expulsion from paradise and the calling of Israel out of Egypt—the narrative *The Symbolism of Evil* attempts to interpret—provides the method for its own interpretation. Reading is first an expulsion, then an exodus, then an arrival in another land. For Ricoeur, this is no contradiction, but a fulfillment of his concept of the *hermeneutic circle*, which holds that a community approaches the interpretation of a sacred text within the frame of its collective experience. Meaning is not created *ex nihilo*, but takes place in the primal Deep of history, which it helps to organize. Since the history of interpretation is part of history in general, one is never alone in a walled garden before the advent of language. We depend upon prior interpreters and the community of interpreters in the present. The medieval Christian technique of fourfold exegesis, based on older rabbinic strategies, recognized this principle from the beginning. The truth of the text always exceeds its status as a record of observable facts, though this is not the same as saying that no events in scripture actually occurred. One way to understand nerd culture, then, is as midrashic art that retells sacred narratives that contain their own instructions for interpretation. (The number of times nerd culture draws upon biblical and other sacred narratives for authority makes this analogy less implausible than it seems, as I endeavor to demonstrate throughout the book.) Nerd culture becomes sacred, or “most precious,” and nerds behave in cultic, if not cultish, fashion, because of the capacity for midrash to address the situation of the present, including the ecological crisis.

For this reason, the understanding of nerd culture in ethnographic terms, as a function of fans whose behavior is autochthonous, or in hagiographic terms, as a function of auteurs whose creations justify themselves, is inadequate. The most productive work in media studies, “convergence theory,” and “fanthropology” acknowledges the role of audience as cocreator of nerd culture (Condry 2013; Jenkins 2006, 2008; Jenkins, Ford and Green 2013; Lunning 2010). The hermeneutic component to this approach emphasizes readers, both individuals and communities, as the locus of interpretation. In literary studies, such an approach is called *audience-oriented criticism* or *reader-reception theory* (Suleiman and Crosman 1980). In asking the central question, “Do Readers Make

Meaning?” Robert Crosman explains that “meaning” refers simultaneously to: (1) what the writer intended to say with the text; (2) what readers understood the text to say; and (3) the value of what was said (Crosman 149–150). An influential line of poststructuralism dismisses the first definition entirely; formalist and new historicist approaches, for different reasons, minimize the second definition, while ethical criticism attempts to champion the third, with mixed results so far. My own approach takes all of these definitions seriously, including the inevitable tension among them. In the case of the *Star Trek* films, for instance, the preeminence of *Star Trek II: The Wrath of Khan* among fans was made possible only by the displacement of creator Gene Roddenberry’s vision of an achieved utopia, resulting in a titanic argument between fans and creator about the meaning of the future itself. (Though there is an important difference between the writer and the author in poststructuralism, it is difficult to dismiss either when the writer is still alive to argue for his own intention.) Recalling Augustine, we might say that a crisis erupted about the literal meaning of the Genesis Device. Indeed, it is the tension between intention and reception, and reception and value that drives much of the interpretive process itself. Crosman explains that the text provides “words, ideas, images, sounds, rhythms”—and, in the case of fiction, characters and plots—but readers create meaning through a process of paraphrase, translation, and retelling that constructs the value of the text in the present (Crosman 152). Reading like a Thermian privileges the process of nerd interpretation that creates meaning in the context of nerd life. Nerd ecology—the response of nerds to the biopolitical forces that constituted them—entails a reading of nerd texts in light of the ecological crisis, the ultimate context of nerd existence in the twenty-first century. This is what the Thermians do with the Historical Documents of *Galaxy Quest*. When the community discovers that the founding texts of its civilization are “lies, deceptions”—Thermia has no concept of fiction—it comes to recognize their value as figuration that retains the power to refashion their planet in a resilient form. *Galaxy Quest* is an evolving metaphor for events that have happened, still happen among them, and might happen in a future that Thermians realize together. In this sense they achieve what one might call, with apologies to Ricoeur, a “second nerdiveté.”

The story of the Thermians is an allegory of nerd culture itself. In counseling us to read like Thermians, this book makes a larger claim: that the Matter of

Nerdland is relevant not only to its denizens, but also to our incipient planetary civilization as it grapples with ecological crises. At the end of *Galaxy Quest*, the Thermians fly off as a self-determining people ready to rebuild their world. Meanwhile, their actor friends crash-land at a science fiction convention in Southern California. Life on Earth reasserts itself, and so does *Galaxy Quest*, renewed for another run on television with a new look and a few key changes. Along with the original cast, there is a new character, played by “Jane Doe,” a Thermian who came to Earth after falling in love with Tech Sergeant Chen. To bowdlerize Marianne Moore, *Galaxy Quest* becomes an imaginary starship with real aliens in it. Jane Doe, an alien who takes the shape of a human playing an alien in a television show, is the final figure of the nerd reader, who inhabits the story to change her own shape and changes the shape of her world. As fanboy Brandon says, after his heroes call for advice about their own ship, “I *knew* it was real!”

But what is “it”? Octopus people? The collapse of civilization? Planets in peril? This sounds like a job for ecocriticism, a school of literary and cultural criticism that attends to the interplay between literature and the environment, the noösphere and the biosphere. Though the ecological tropes and environmentalist themes in popular culture suggest a rich field of inquiry for this subject, forays into popular culture have been, at best, sporadic, even if the metafield of the environmental humanities is taken into account. Even if one grants the aesthetic inferiority of popular culture, as I do not, there are many important reasons to attend to its treatment of nature, culture, and planet. In *Environmentalism and Popular Culture* (2009), Noël Sturgeon argues that “contemporary U.S. popular culture is a rich arena” for developing questions about the politics of nature: “First of all, it is an important place to look for dominant cultural narratives” in which Americans reflect upon our own normative stories about the world. “Second, U.S. popular culture is a worldwide commodity, exporting ‘American values’” to other cultures and polities, which adapt, reject, and transform them. “Third, because of its wide impact, U.S. popular culture is an important arena for oppositional activists to enter in order to convince, persuade, and mobilize others to their cause” (Sturgeon 6). One has only to examine the successful 2014 Greenpeace campaign to persuade LEGO to abandon its contract with Shell Oil to confirm Sturgeon’s claims. In a viral video watched over six million times, Greenpeace depicted an

Arctic wonderland made from LEGO in the style of the blockbuster *The LEGO Movie* (2014). As a Shell oil rig drills the Arctic sea floor, the camera pans across the wonderland, now inundated by a rising pool of petroleum, drowning Arctic owls, fish, polar bears, fishermen, small children, soccer players, and the stars of *The LEGO Movie* itself. In the background, a sad voice sings “Everything Is Awesome,” the hit theme song of the film, emphasizing the moral ironies of petro-culture. At the end of the video, viewers were asked to sign a petition calling on LEGO to abandon petroleum as a source for their children’s toys. The campaign was a success, and LEGO dropped the contract with Shell. Sturgeon’s analysis predicts this kind of event by employing a cultural studies methodology that considers culture as an expression of ideology and hegemony. Individual cultural artifacts are understood as expressions of their political moment and the relationships among cultural producers, consumers, regimes of political power, and the resistance to such power. Given its roots in sociology and Critical Theory, this kind of cultural studies approach explains the place of cultural artifacts in large-scale flows of economic and political power, both within nation-states and in international flows of global capitalist production. It maintains the distance of the social sciences from the object of inquiry.

Though influenced by cultural studies, I take a different approach in *Nerd Ecology*. In this book, I begin with the question: why does nerd culture contain so much ecological content? I distinguish *nerd culture* from popular culture in several ways. Nerd culture is the literary and mass media production of the discourse of the nerd, the unpopular adolescent who is intellectual, socially awkward, and physically deficient. Much of popular culture has nothing to say about nerds, but “nerd” was produced by mass culture, as I argue in Chapter 1. In a second sense, the artifacts fashioned and favored by nerds themselves, nerd culture contains ecological content because “nerd” is an implicitly ecological category, denoting a kind of prey; a loser in the social-Darwinian struggle for existence; social effluvia, garbage, or filth; and the machine-as-nonperson. When nerds embrace a cultural artifact like *Star Trek*, or ascended fans create new art, like *Buffy the Vampire Slayer*, the ecological discourse of the nerd appears as both first-order content and second-order reflection. Nerd ecology constitutes a means of producing nerds and a means of reflecting upon the means of production. Though “ecology” has been inflected with philosophy

since Ernst Haeckel coined the terms in 1866, it is helpful to affirm Eric Otto's distinction between modern ecology as a biological science, which cleaves to the distinction between fact and value, *is* and *ought*, and the political sense of ecology, which Otto terms "transformative environmentalism" (Otto 21). The latter descends from the "home economics" or "euthenics" tradition of Ellen Swallow Richards, which emerged in crowded immigrant cities in the Northeastern United States in the early twentieth century. In this form, it anticipated urban ecology and the discourse of public health. A second branch emerges from professional Anglo-American conservationists, such as Rachel Carson and Aldo Leopold, in the mid-twentieth century, as they drew ethical conclusions from the practice of conservation biology (Otto 21–26). A third tradition, environmental justice, emerges in the wake of the Long 1960s and the struggle for social justice in the Civil Rights, Black Power, Feminist, LGBT Liberation, Labor, Chicano Liberation, Anti-Toxics, Anti-Nuclear, and American Indian Movements. Environmental justice movements in the Anglophone world, which seek to address the sources of environmental racism, ecological imperialism, and other structural injustices, resemble the "political ecology," *écologie politique*, and Die Grünen movements in Europe and its postcolonial interlocutors. All three traditions of ecology as an ethos—public health, conservationist, and environmental justice—recognize an ineluctable connection to cultural history, political context, communal and individual subjectivity. Consequently, my method of reading nerd culture depends heavily on traditional literary strategies of close reading, hermeneutics, formalist analysis, and intellectual history, as well as the work in literary theory from the past fifty years, including Critical Theory, semiotics, anthropology after the turn to writing, ethnography, feminist theory, critical race studies, media studies, and liberation pedagogy. Using this toolbox, I interpret the rise of nerd discourse and the beginnings of nerd culture as socio-ecological events: "nerd" arises in an American culture obsessed with physical and genetic vitality as an aspect of national greatness; with consumer culture and its waste; and with machines as the perfect servants. Failure within this system makes one unpopular—both rejected and unpeopled—making it necessary to find a way out of the nerd condition. I understand Chris Hardwick's term *nerdism*, the lifeway of the cunning nerd, as a means to that end, and I advocate for metahumanism—a nerdist practice of planetary defense—as the next iteration

of nerdism in ecological context. This book represents my attempt to foment an ecocritical conversation about the culture of the unpopulars as a rich soil for the germination of environmental cultures and ecological politics in the age of planetary emergency.

In Chapter 1, “Nerd Ecology,” I trace the rise of nerd discourse in American literature, television, and film. *Nerd* begins as a slur directed at adolescent boys who are bookish, unathletic, sickly, and otherwise socially unacceptable. I understand this category as a product of the American eugenics movement, which arose in the late nineteenth century under the influence of social Darwinist categories of the inferior race, the diseased immigrant, and the superior stock of “native” Anglo-Nordic citizens. Though eugenics fell out of fashion after World War II because of its association with Nazism and genocide, the culture of white supremacy continued to advance eugenic practices by other means, such as sterilization programs for the poor and the mentally ill. The use of the American school system as a training ground for the next generation of virile American men and their future wives meant that children who did not conform to standards of physical vitality and reproductive vigor were stigmatized as deficient and unacceptable. Social awkwardness, athletic failure, and introversion marked one as a kind of social garbage and mechanical servant in the American culture of consumption and technological mastery. These qualities give rise to the classic nerd visual stereotype, which popular culture reproduces in the 1970s and 1980s in male, female, and multiracial forms. At the same time, the cultural circulation of nerd discourse stimulates the formation of self-conscious nerd communities, often organized around specific interests, including the fan communities studied by ethnographers such as Henry Jenkins and Constance Penley. With the rise of personal computing and the advent of the World Wide Web, isolated nerd communities gained a technology that allowed for greater communication and the formation of virtual communities. “Nerd” becomes appropriated during this period as a term of self-affirmation, and the culture industries begin to respond to the purchasing powers of nerd communities, including families of nerd parents who transmitted nerd culture to their children. The stereotypes of social failure, cultural garbage, and mechanical apathy are challenged as nerd cultures form narratives of nerd revenge and transformation. This leads to a semiotic system of nerd categories, tropes, and narratives that resonate with

ecological meaning. A canon on “unpopular culture” begins to form to express nerd values, interests, and concerns. This canon contains so much material that one book cannot contain it, and therefore there will be no treatment of such obvious elements of nerd culture as the first *Star Wars* trilogy, *Doctor Who*, anime, video games, or conventions. I chose artifacts that produced a series of ecological questions and dilemmas to which the next set of artifacts might respond, highlighting the intertextual nature of nerd culture, but also its internal tensions and ruptures.

In Chapter 2, “Stellar Cosmopolitans,” I employ Ursula Heise’s concept of eco-cosmopolitanism as a means of understanding the cultural project of *Star Trek*. Eco-cosmopolitanism is the philosophy that one’s primary loyalty should be to the community of all creatures, rather than one’s country (or planet) of origin. I take Mr. Spock as an exemplar of the empowered nerd in a science fiction narrative that constructs a multispecies community on a galactic scale, a practice I call “stellar cosmopolitanism.” Spock’s project of stellar cosmopolitanism is rooted in his Stoic philosophy of conforming oneself to universal reason by going to the stars, a journey that produces a sympathy for all beings that manifests in Spock’s role as mediator or ambassador between the human crew of his starship, *Enterprise*, and the new civilizations they encounter. This mediation is symbolized in the trope of interspecies telepathy, which reaches even lifeforms based on silicon, such as the Horta in the episode “Devil in the Dark.” As the half-Vulcan, half-human hybrid, Spock connects humans with their others to establish mutually beneficial relationships that end in galactic citizenship. This pattern is disrupted by the eugenic villain, Khan Noonian Singh, a Sikh tyrant from the twentieth century who embarks on a path of conquest once the *Enterprise* revives him. The eugenic villain is the natural enemy of the stellar cosmopolitan, and much of the power that drives their conflict derives from this ideological contradiction. Eugenics and egalitarian democracy do not go together. Though it begins in the original series, Khan’s threat extends into the *Star Trek* films, from *The Wrath of Khan* through *The Voyage Home*. In the latter film, Spock’s cosmopolitanism turns back to Earth, as the capitol of the United Federation of Planets is threatened by its own blindness to intelligent life in the seas. In this film, the probe trying to cleanse Earth of all life was looking for Humpback whales, which went extinct two centuries before. The *Enterprise* journeys to the past, where Spock makes

contact with two captive whales and convinces them to go to the future to save life on Earth. His argument with a cetacean biologist, Dr. Gillian Taylor, about the ethical problem of owning an intelligent species exemplifies *Star Trek's* trouble with the incorporation of nonhumanoid life into its polity. The further a species gets from humanoid form, the more difficulty the Federation experiences with inclusive world-building. Though every version of *Star Trek* engages in interspecies dialogue, the limits of form manifest as an enduring interest in the absolute transcendence of material, embodied life. The notion that humanoid evolution leads inevitably to the achievement of pure mind, apart from any body, undermines the project of stellar cosmopolitanism as a multispecies alliance. The ecological consequences of such metaphysical dualism disguised as a false evolutionary end reinscribe the eugenic threat at another level, threatening the project of the Federation from the inside.

In Chapter 3, "The Destruction of the Sky," I trace the trope of the false or ruined sky through a number of contemporary works concerned with virtual worlds as threat and refuge. Postmodern cultural theory has been highly suspicious of virtual worlds. Jean Baudrillard's theory of simulacra holds that the postmodern is characterized by the increasing autonomy of simulated worlds, which threaten to disengage entirely from any shared "reality." Fredric Jameson understands postmodern aesthetics as an exercise in paranoia and schizoid sensation for similar reasons. It is the new discipline of game theory that sees, in the work of Jane McGonigal, a way to "gamify" the problems of the real world as strategy for testing solutions that are finally applied in the world. This tension between false delusion and dialectical refuge manifests in *The Animatrix*, a sequel to the Wachowski siblings' *Matrix* trilogy. In these animated shorts, we learn that the conflict with the machines began when artificial intelligence (...) first arose in a class of robotic laborers. These workers sued for citizenship in cosmopolis, but the request was violently rejected by human nations. A spiral of violence ensued, and in a last-ditch effort to destroy the machines, humanity destroyed the sky by blocking out the sun. This caused the machines to turn to humans as a power source, necessitating the Matrix as a means to pacify their human prey. In Thomas Pynchon's detective novel, *Bleeding Edge*, the nerd refuge of the dark web parallels the wildlife refuge of Isle of Meadows in New York Harbor, shielding nerds and other wild creatures from the depredations of twenty-first century capitalism. The dark web acts as a

true, though endangered, sanctuary against the destruction created by a global economic system that turns the whole world into a simulation through its pretense that the human economy can function independently of the economy of nature. In Suzanne Collins's *The Hunger Games*, the denouement of climate catastrophe has played out, leaving North America ruled by the fascist state of Panem, which still burns coal and enslaves coal miners. The enslavement is enforced through gladiatorial games in which the children of Panem fight each other as punishment for past rebellions. Katniss Everdeen, the protagonist, begins the next rebellion by shattering the false sky of the arena, freeing her peers as a sign that resistance to a fossil-fueled fascism is possible. These examples reveal the agonistic relationship in nerd culture between "real" and "simulated" environments, raising the question of the ethical status of environmentality itself. What is the proper relationship between "reality" and the created worlds of art in the context of ecological crisis?

Chapter 4, "The Great Music," answers that question in terms of J. R. R. Tolkien's legendarium and his theory of enchantment articulated in the essay "On Fairy-Stories." Tolkien's cosmogony repudiates the extreme metaphysical dualism of a fallen material world set against a realm of pure mind. In "The Music of the Ainur," the first book of *The Silmarillion*, Tolkien elaborates a musical genesis, in which the gods perform a symphony before time and space at the prompting of the One. The One makes this music into matter, and the gods behold a cosmos, which they enter in order to dwell inside their own music. This cosmos, Eä, which contains the Middle-earth of *The Lord of the Rings*, embodies an intrinsically good and beautiful creation that is neither a prison nor a delusion. In "On Fairy-Stories," Tolkien codifies this system as a model of artistic creation. The art of true magic consists in enchantment, the creation of what he calls "Secondary Worlds" of art inside the Primary World. Secondary Worlds are enchanted because it is possible to inhabit them, as the Ainur dwell in Eä. Secondary Worlds have a dialectical relationship to the Primary World: from the worlds of art, it is possible to judge the "real" world, affirm it, and improve it. Secondary Worlds accomplish this by providing escape, consolation, and eucatastrophe. Escape, for Tolkien, denotes a legitimate flight from disaster, not an avoidance or betrayal of responsibility. Once inside a Secondary refuge, it is possible to be consoled by the beauty and goodness found there. These virtues interact with the Primary

World through the eucatastrophe, the unexpected joy at the end of the story that temporarily breaks the frame of the narrative, revealing something better than had been unimaginable, rather like Katniss's destruction of the false sky of the arena. Narrative eucatastrophes point to the incursion of the Second Music of the Ainur in the First. The Second Music is foretold in the legendarium as the end of history in Eä, when creatures will join the Powers in recreating the world. These moments of recreation are already happening in history when apocalyptic destructions, like the work of Sauron, are overthrown. Tolkien's legendarium thereby offers the possibility of a counter-apocalypse, a resistance to destruction and our stories of its inevitability, that can guide us in the task of ecological restoration of Earth in the age of climate catastrophe. The centrality of *The Lord of the Rings* to the canon of nerd culture reveals new resources for nerd ecology in its battle against the liquidation of the world. The proleptic nature of the Second Music indicates the need to develop strategies of resistance to Powers that threaten the world with destruction in the present.

Chapter 5, "Slayer and Signal," examines the work of writer-director Joss Whedon in producing nerdist culture that addresses the need to form communities of resistance to corrupt institutions and social norms. I call Whedon's television shows *Buffy the Vampire Slayer* and *Firefly* nerdist or metanerd narratives because they depict nerd culture, enact nerd tropes and narratives, or treat nerd themes. Whedon himself has made no secret of his classic nerd influences, such as Saturday morning cartoons, *Star Trek*, H. P. Lovecraft, and comic books. If there is one theme that unites his work, it is empowerment through unpopularity. In *Buffy the Vampire Slayer*, the title character is a popular high school girl who falls into a Gothic world of vampires and demons in southern California when she is called to be the "Slayer." The Slayers belong to a line of female vampire hunters who are magically granted superhuman strength, speed, reflexes, coordination, and access to prophetic dreams. However, in gaining those powers, she loses social capital in a high school culture dominated by hierarchies of race, class, sexuality, and other social forces. These forces are personified as the monsters Buffy and her nerdy friends, the "Scooby Gang," must defeat in order to survive into adulthood. These demons are organized into a system of damnation led by a central villain in each season called the "Big Bad [Wolf],"

which is sometimes an individual and sometimes a corrupt social institution such as the military-industrial complex. These evil archons plot to overthrow human civilization in an apocalypse that returns the Earth to its primordial hellscape. Thus, the problem of teenagers navigating sociopolitical corruption becomes formulated as an environmental issue, that is, a struggle between the preservation of a human habitus and the descent into cruelty, suffering, slaughter, and a hellish sort of global warming. I argue that the greatest demon of the show is Gender, specifically, the patriarchal institution of gender roles that turns men into dominators and women into victims. This demon is never named, but it informs the show from the beginning, starting with the basic reversal of the helpless female victim into the heroic Slayer. Buffy and the gang must save the world from an apocalypse organized by the demons of fallen social institutions in a world where the forces of good are occluded for gendered reasons. The defense of the planet begins with the defense of the self in high school-as-hell. In *Firefly*, and its subsequent feature film, *Serenity*, Whedon picks up these themes of corrupt social institutions in a science fiction framework. A band of space misfits journey through a solar system in a distant future to discover the truth behind a young woman, River Tam, with extraordinary mental and physical powers. Ultimately, River leads them to a lost planet, Miranda, which was the site of an experiment in political pacification after a war. The “Pax,” a behavior-modification drug, is released into the atmosphere of Miranda, with two disastrous results: the death of the population through inertia, and the production of a group of hyperaggressive survivors, the Reavers, who turn cannibal and haunt the outer reaches of the stellar Alliance. The task of the *Firefly* crew is to transmit the visual records of this environmental disaster to the interplanetary media after battling their way through Reavers and government forces. The key to justice is the mediation of knowledge through digital, interplanetary means. This is the “signal” the crew must send to alert cosmopolis to the cost of its Pax. Here, the figurative forces of social corruption become literal, and it becomes easy to see that one of Whedon’s enduring interests is to turn nerd culture toward questions of environmental justice. This struggle always involves characters that transform themselves into the kind of person who can resist injustice in the kind of community that supports this transformation, a tropic cascade that Whedon learned from superhero comic books.

In Chapter 6, “Icons of Survival,” I approach the visual figure of the planetary defender through two traditions of the American comic book: DC Comics and its tradition of the *icon of virtue*, and Marvel Comics and its tradition of the *figure of metamorphosis*. In the DC tradition, the body and costume of the superhero are rendered as neoclassical figures of moral heroism. DC heroes are drawn perfectly proportioned, brightly colored, and intensely charismatic in order to represent an ideal such as truth, patriotism, or justice. In terms of the ecological virtue of planetary defense, the archetypal hero is the Green Lantern. Green Lantern appears in two main versions, each with a particular relationship to virtue. The Green Lantern of the Golden Age of Comics, Alan Scott, is a train engineer who finds a magic lantern that grants him superpowers, a kind of Aladdin for the industrial age. In his most recent incarnation, Alan Scott appears as the CEO of an international corporation who is called into service by the green fire of the Earth itself. Scott focuses this fire through the wedding ring he was going to give his boyfriend, Sam Zhao, until he died in a train accident. The power of the ring is also the power of Alan Scott’s love for Sam Zhao, uniting planetary defense and gay liberation. The queering of environmental virtue represents a dramatic step away from the traditional hero of virtue in American comics. The Silver Age Green Lantern is a member of an intergalactic corps of “space cops” who patrol the universe using the power of their rings, which run on the virtue of will or courage. These Lanterns form a multispecies organization that is far more nonhuman than anything in *Star Trek*: there are plant, animal, and mineral Green Lanterns, a smallpox virus, and an entire planet named Mogo. The Green Lantern Corps imagines what it would be like if planetary defense were embodied by every species capable of wielding the virtue of courage. In later stories, when other rings powered by other virtues are created, this radical pluralism increases exponentially until the variety of Lanterns exceeds the capacity of the comics page to represent them. This decentering of human and humanoid Lanterns produces a new understanding of virtue, its sources, and its communities of planetary defense.

The Marvel tradition of the hero of metamorphosis bears a different relationship to the heroic body and costume. Because Marvel breaks the link between the virtue of the hero, the shape of the body, and appearance of the costume, Marvel heroes can change appearance without changing the nature of their power. A Green Lantern and a Violet Lantern are powered by

will and love, respectively, but Spider-Man's virtue of responsibility remains constant as his costume shifts. The Marvel tradition allows heroes a more dynamic relationship to their own virtue, and thus the appearance of the planetary defender evolves as the character develops. The archetypal heroes of evolution are the X-Men, mutants who were born with powers rather than called to service. I trace the trope of mutation and its relationship to individual character arcs through three X-Men: Ororo Munro/Storm; Kurt Wagner/Nightcrawler; and Kitty Pryde/Shadowcat. I argue that Storm's appearance shifts with the different abilities she employs to defend the world, creating a correspondence between power and appearance. As a mutant whose demonic appearance means he cannot pass as human, Nightcrawler embodies an anti-iconic relationship between heroism and aesthetics. Shadowcat, whose power is difficult to represent through visual means, offers no relationship between appearance and virtue. These characters trace different narrative paths through a process of learning to understand and control their powers in defense of the world, making the trope of mutation a wide net to catch as many readers as possible in its system of heroic signs.

Using the X-Men and Green Lanterns as examples of the many paths to ecological virtue, I argue in the conclusion, "Mutatis Mutandis," that nerdist practice offers us new narratives, characters, tropes, and metaphors for the creation of environmental cultures of planetary defense. There is plenty of material: we need only take nerd culture seriously as a matrix of meaning. I call the application of nerd culture to ecological heroism *metahumanism*, adapting the idea of the superhero as metahuman, a person who moves beyond the current human condition. *Beyond* means different things in different contexts, but it does not mean a rejection of the Enlightenment tradition of human rights and the dignity of the human person. It does not refer to the Nazi appropriation of Nietzsche's idea of the *Übermensch* as a model, but recognizes the ironizing of the Superman idea in Superman himself, who embodied the spirit of American immigrants fleeing the oppression of Nazi eugenics. Instead, metahumanism asks us to notice the rich ecological content of nerd culture, and to take it seriously as a resource for environmental culture in an age of planetary emergency. The figures of the nerd, the nerdist, and the metahuman do not represent a line of succession or a transcendence of one condition in favor of a better one. Each mode of the unpopular condition

exists at the same time for individual persons and communities. However, the nerdist and the metahuman suggest that the same qualities that produced nerd stigma can also be the font of new possibilities of planetary defense, new ways to affirm cosmopolis, avert the apocalypse, and cultivate a life of flourishing for all species on Earth.

This is the promise of reading like a Thermian.