

Practicing Science Fiction

CRITICAL ESSAYS on WRITING,
READING and TEACHING
the GENRE



Edited by

KAREN HELLEKSON,
CRAIG B. JACOBSEN,
PATRICK B. SHARP
and LISA YASZEK



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Preface

Karen Hellekson

This edited volume seeks to add to the academic literature related to reading, writing, and teaching science fiction. By presenting these ideas together, we hope to show the synergy between these modes of engagement and analysis. No edited volume has addressed the intersection among these three topics, although they regularly produce lively discussion in the SF classroom, at professional SF meetings, and on SF studies discussion groups.

Although this book ranges widely in topic, the central notion of SF holds it together, with the concerns of reading, writing, gender, and media used to distance and critique concerns of interest to those interested in intellectual growth. Most of the essays' authors come from a critical literary background, and the essays provide close readings of exemplar texts. We think that the teaching section will be of particular interest because most other texts about teaching SF are annotated fiction anthologies, not analyses of concerns about the intersection between world and word — a gap that the essays in this section seek to fill. The authors discuss how science fiction texts lend themselves to teaching things other than SF literature. The writing section will also be of particular interest because it is not a how-to, like most books are about writing and SF, but rather analyses of inscription and reinscription of knowledge and tradition through reading and writing. Finally, the sections on media and women contain close readings of exemplar texts related to larger issues such as female agency, memory, and ecodystopia that are usefully articulated through the distancing of SF.

The first section, on teaching, places analytical and pedagogical research next to each other — unusual because teaching is usually relegated to a separate sphere, including separate conventions and journals. It is rarely part of

a larger discipline-wide conversation. These essays' placement in a volume that also includes textual analysis places pedagogy on an equal footing with textual analysis. In addition, the mode of discussion of pedagogical concerns in this volume traverses far: science fiction may be the object of study, as in an English class on the topic of science fiction, but SF is also used as a tool in other disciplines, such as biology, physics, or in this case rhetoric, to illustrate particular principles. Section editor Craig Jacobsen concludes, "A profound understanding of science fiction means realizing what science fiction can be made to reveal about the world."

Reading and writing are the topic of the volume's second section. Science fiction exists in an uncomfortable gap between science and the humanities. Section editor Patrick B. Sharp notes, "The attempts of some to divide the sciences and humanities into two cultures ignore the fact that both contribute to the same system of genres that circulate throughout our culture." An analysis of this system is the subject of the essays in this section, which use close readings and analysis of the literary-scientific nexus to show that the juxtaposition is a profitable one. SF remains a genre of mediation between these two expressions of meaning.

The volume's third section, media, focuses on analyses of specific examples of nonprint media. These analyses of two episodes of a TV show, a graphic novel, and Brazilian dystopian film provide postmodern analyses of text, memory, and reality. Although print is a privileged medium of expression, other modes are effective at showing science fictional engagements with difference. Science fiction thus transcends the medium of transmission. Section editor Karen Hellekson notes that media texts, which may include ancillary content, such as Web content or podcasts, as well as the primary source, are "endlessly generative and self-reflexive," contributing to megatexts of reading and writing that these essays are in turn a part of.

The final section focuses on analyses of texts by women. Works by Joanna Russ, Ursula K. Le Guin, and Octavia Butler all receive close readings. The essays add to the breadth of reading and writing by linking the work of women writers to science and technology. Section editor Lisa Yaszek notes that the work of these women means "that there are alternative scientific, social, and sexual orders that might enable people to survive and even transform dominant technocultural relations." The essays explore notions of gendered, transformative agency and power.

Taken together, these essays gesture toward a mode of analysis related to confrontation of difference. Science fiction's displacement results in rup-

tures amenable to analysis: they may be used to teach, to read, to write, to analyze. In so doing, we create a critique that addresses literature, science, technology, and self—in short, we create a critique of culture and our place in it.

We are indebted to the Science Fiction Research Association for its support of this project. This volume grew out of the 2008 SFRA conference held in Lawrence, Kansas, and we thank the SFRA board for their help: Ritch Calvin, Adam Frisch, Donald M. Hassler, Rochelle Rodrigo, and Lisa Yaszek. Karen Hellekson, with the assistance of Craig B. Jacobsen, Patrick B. Sharp, and Lisa Yaszek, handled the academic track programming; this group saw the preliminary versions of many of these essays before their extensive revision for this volume. The essays received extensive and thoughtful comments from the reviewers, Neil Easterbrook and Farah Mendlesohn; their support for this project is gratefully acknowledged. We also thank Brian Attbery and Joe Sutliff Sanders for their help reviewing papers in their specialties.

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PART 1. TEACHING

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Introduction: Teaching with Science Fiction

Craig B. Jacobsen

Introductions to sections within an edited collection often seek to contextualize the essays that follow within their critical traditions, highlighting the ways in which they engage ongoing scholarly conversations. Such contextualization assumes a preexisting and identifiable body of published scholarly work that examines the same subject texts or uses the same critical methodology. This scholarly paradigm works fine for introducing analytical or theoretical essays, which confront, explicitly or implicitly, their precursors. In fact, such contextualizing introductions help to construct the sense of continuity within a discipline, to identify connections that may or may not have been intended by the writers, to define the boundaries of the conversation. The assumption of continuity often breaks down, however, when introducing essays on teaching. The metaphor of the conversation is particularly problematic when talking about the scholarship of teaching science fiction.

The scholarly record of teaching in a subject area is often largely divorced from that discipline's central scholarly tradition. All fields of scholarship support regular publications that disseminate research within that field, but not all fields support journals entirely dedicated to publishing essays about instruction, which provide a venue denied by journals that publish only pure research. In the humanities, edited collections gather studies of texts, authors, periods, movements, theories, nationalities, themes, or media, but mostly decline to include studies of teaching and learning, which are relegated to separate, and often less prestigious, "teaching of" collections.

Slow-to-change tenure and promotion processes at research-oriented institutions, which establish hierarchies of status for publication, have helped to keep the parallel traditions of study and teaching separate, as have traditional notions of the responsibilities of faculty at teaching colleges, where there may be few incentives to publish. Add to these forces the distinction made between scholarly presses and textbook publishers, and the gap between research and instruction persists.

Certainly there are signs that the divide may be slowly closing. Research institutions, responding to student demand and external pressure, have increased their attention on teaching. Teaching schools, anxious to improve their reputations, encourage faculty to publish more. The Scholarship of Teaching and Learning (SoTL) movement, inspired in part by Ernest Boyer's *Scholarship Reconsidered: Priorities of the Professorate* (1997), seeks to increase the legitimacy of pedagogical research by encouraging rigorous analytical methodologies to assess the effectiveness of teaching strategies. Such approaches can improve the status of scholarly essays on teaching by including data collection on learning outcomes alongside the anecdotal evidence often included in pedagogical studies. Though growing, the SoTL approach has yet to become pervasive in the humanities where scholars (unlike those in the physical, biological, and social sciences) are often less comfortable with data collection and analysis methodologies than they are with textual analysis. So although there is hope for a continuing rapprochement between research and teaching scholarship, the gap remains.

In many fields, the segregation has led to journals dedicated solely to instruction. Publications like *College English*, *International Review of Economics Education*, *Chemical Engineering Education*, and *Teaching of Psychology* provide a venue for discipline-specific scholarship on teaching. These publications often serve as the transition point where recent research is integrated into existing course structures. Unfortunately, science fiction studies is neither a large nor coherent enough field to support publication of a journal dedicated solely to science fiction pedagogy, and the science fiction journals that publish analytical and theoretical essays only infrequently address instructional concerns, usually within the context of special issues or under other exceptional circumstances.

Even without dedicated journals, a history of the teaching science fiction in higher education might be constructed from the infrequent journal articles, conference proceedings, anthology introductions, memoirs, and full volumes that specifically address teaching science fiction. The scholarly his-

tory of teaching science fiction literature and film in college stretches back four decades and includes books and essays by such science fiction luminaries as Jack Williamson, James Gunn, and Samuel R. Delany.

The scholarly tradition of teaching *with* science fiction is every bit as important as the scholarly tradition of the teaching *of* science fiction, but much more difficult to trace. Pedagogy that uses science fiction texts as a tool, rather than as the subject, appears in a wide range of disciplines that have only dim awareness of one another. It seems unlikely, for example, that Andrea Bixler's essay "Teaching Evolution with the Aid of Science Fiction," published in the journal *American Biology Teacher* in 2007, was influenced by Charles A. Liberko's "Using Science Fiction to Teach Thermodynamics: Vonnegut, Ice-nine, and Global Warming," which appeared in the *Journal of Chemical Education* in 2004. The reasons for the fragmented condition of science fiction pedagogy scholarship seem obvious: biology teachers are most interested in using science fiction to teach biology, and physics teachers are most interested in using science fiction to teach physics. The essays address different primary audiences, so their publication in journals that target those audiences seems natural, if regrettable for the difficulty such publication realities cause for anyone trying to survey the pedagogies of teaching with science fiction across disciplines.

The fragmented publication history of science fiction pedagogy would be natural if the publication of science fiction criticism were somehow unified by audience. A quick look at the table of contents for most issues of two scholarly journals in the field of SF, *Science Fiction Studies* and *Extrapolation*, demonstrates that they publish a wide range of critical and theoretical essays. Few science fiction scholars are equally interested in, or equally prepared to assess, the value of scholarship on the novel *War of the Worlds* (1898) and the comic book series *Watchmen* (1986–87), but publishing studies of each side by side raises no eyebrows. Old patterns of segregation persist because they come to seem natural, and this, as much as tenure and promotion systems, or distinctions between research versus teaching faculty, or any other institutionalized mechanism, keeps the scholarship of science fiction pedagogy separate from the scholarship of science fiction as a genre.

Fortunately, volumes like this one can help to close the gap by publishing analytical and pedagogical research alongside one another. There is as much to be learned about science fiction pedagogies by reading essays about teaching in unfamiliar disciplines as there is to be learned about science

fiction theories by reading essays analyzing unfamiliar narratives. The essays in this section present pedagogical approaches to three different educational challenges. They do so by drawing in part on the critical tradition of science fiction as a narrative genre, and in part on the pedagogical traditions of their disciplines.

Jen Gunnels's essay, "Grokking Rhetoric through Science Fiction: A Practical Examination of Course Construction," explores how first-year composition students can be taught principles of rhetoric through analyses of the rhetoric inherent in science fiction stories. In doing so, she engages a conversation on the nature of persuasion, and how best to teach it, that has a publication history nearly 2,500 years long. Gunnels argues that science fiction texts offer the potential to engage student interest in ways that more canonical literary texts might not, and that many science fiction texts' rhetorical nature can be made clear to students who find it difficult to see the implicit persuasion within texts from other genres. She presents a three-layered approach. First, students examine a secondary text that presents an argument about the nature of science fiction as a genre, attending to both the essay's argument and the rhetorical strategies used in making that argument. Students also analyze a science fiction narrative for its implicit and explicit persuasive elements before constructing their own arguments about the relationship between the primary and secondary texts. Gunnels demonstrates that such layered reinforcement of rhetorical concepts can help students grasp both classical rhetorical concepts and more contemporary models of persuasion like those offered by Stephen Toulmin.

Michael J. Klein's essay, "Incorporating Science Fiction into a Scientific Rhetoric Course," also addresses the teaching of rhetoric, but specifically the teaching of the rhetoric of science to undergraduate students from a range of scientific and nonscientific majors. Klein's approach synthesizes the classical rhetoric of Aristotle with the more recent scholarship of science and technology studies. In teaching students to understand how the construction of scientific knowledge is an ongoing process of persuasion and negotiation, Klein provides students with a working understanding of rhetorical principles, and uses science fiction as a device for examining the ways in which science is portrayed and discussed in a culture.

Klein's pedagogy incorporates essays from scientific journals, rhetorical analyses of those essays, and science fiction novels supplemented by additional texts. The juxtaposition of such texts allows students to recognize the constructed nature of both science itself and portrayals of science in science

fiction narratives, and to recognize the role of rhetorical strategies in such constructions.

Jason W. Ellis, in his essay “Revealing Critical Theory’s Real-Life Potential to Our Students, the Digital Nomads,” presents a kind of reversal that crosses the analytical/pedagogical divide and demonstrates the reciprocal nature of the two realms of science fiction scholarship. Rather than using poststructuralist and postcolonial theories to analyze Mike Resnick’s science fiction novel *Ivory: A Legend of Past and Future* (2007), an approach firmly within the tradition of the scholarship of science fiction, Ellis uses the science fiction narrative as a pedagogical tool, a device for teaching poststructuralist and postcolonial theories to undergraduate students.

Like Gunnels and Klein, Ellis’s selection of science fiction texts as objects of study is in part motivated by a desire to engage students in ways that more traditional academic texts might not. Specifically, Ellis argues that undergraduate students’ status as digital nomads provides them with a connection to both science fiction texts and theories of nomadism and rhizomatic resistance that help to make these complex concepts more accessible. Just as Gunnels’s and Klein’s pedagogies take advantage of the rhetoric inherent in science fiction narratives, Ellis’s pedagogy uses the genre’s complex relationship to both colonial and postcolonial assumptions.

Ellis engages Resnick’s novel, and its generic and cultural contexts, as a device for teaching students to apply the theoretical approaches of Edward W. Said, Michel Foucault, Gilles Deleuze, and Félix Guattari to a narrative text. Once able to use such analytical tools on a subject text, students are better prepared to see the implications of these theories in their own lives as digital nomads. Armed with such knowledge, Ellis argues, students are better equipped to negotiate the power structures inherent in their use of technology.

Together, these essays illustrate the value of science fiction as a pedagogical device. Each of these authors identifies the desire to increase student engagement as an important reason for incorporating primary and secondary science fiction texts into their courses. Each also describes a synthesis whereby the inherent qualities of science fiction as a genre can be engaged alongside the critical tradition of another field. None of this, of course, comes as a surprise to science fiction scholars. The genre’s generation of cognitive estrangement makes it perhaps uniquely qualified to provide college students with the critical distance necessary to recognize the complexity of the worlds that they must learn to navigate.

These essays also demonstrate that pedagogical studies are integral to, rather than tangential to, the scholarship of science fiction. Understanding science fiction requires more than just being able to dissect a story or novel, or apply a theoretical viewpoint to a film. A profound understanding of science fiction means realizing what science fiction can be made to reveal about the world.

1

Grokking Rhetoric through Science Fiction: A Practical Examination of Course Construction

Jen Gunnels

ABSTRACT.— Traditional teaching methods and materials for core curriculum all too often leave the student disengaged, or worse, confused. A text's placement in the Western canon does not automatically make it accessible or engaging. It can leave the students bored and unconnected, and it can give them an inaccurate perception of rhetorical thought and the writing process. That is not to say that the canon is not important—it is—but often undergraduate core courses, especially mass courses such as rhetoric and composition, fall back on the same few texts. A reliance on canonical material—canonical to the instructor, but often unfamiliar to undergraduates—splits student focus between understanding the materials used to illustrate the concepts and the concepts themselves. A more accessible literature has the potential to free the student to concentrate on the new, often complicated, ideas being presented, and science fiction in particular can engage students who are studying core subjects by providing exemplar texts that clearly and compellingly illustrate major fundamental points. Here, I examine the use of science fiction in teaching basic undergraduate rhetoric and composition, and I reenvision its implementation. I include basic rhetorical elements that a course should cover, and I analyze a sample assignment, a brief rhetorical analysis of Tom Godwin's 1954 story "The Cold Equations," to illustrate basic rhetorical tools and wider arguments affecting rhetorical choices.

Most students roll their eyes and groan at the thought of a rhetoric and composition course. How do you make something like this palatable? Meaningful? Understandable? Useful? Perhaps even fun? The answer to

these questions may lie in using SF as a starting point for examining the ideas underlying basic rhetoric. Courses can focus on common SF themes — technology, aliens, utopias/dystopias — by tracing their use in classic and more recent fictive works. Doing so can illustrate for students that the attitudes and rhetorical strategies deployed on a single topic evolve to reflect those of the culture producing the work. In addition, many thoughtful, well-written essays on SF make it possible to use SF as a rhetorical teaching tool in even more direct ways. These nonfiction scholarly essays present the opportunity to illustrate different types of rhetorical arguments, the deployment of rhetorical tools in their construction, and the wider conversation they are a part of. A course focused on broad SF themes has the potential to incorporate many types of writing that illustrate, in varying ways and with varying levels of directness, rhetorical strategies.

SF can be used to effectively foster a familiarity with rhetorical construction and the writing process. Science fiction's construction possesses an advantage because its structure is eminently rhetorical — classically so, in fact. The story gives a premise (a thesis, or “what if”), and science (as it is or could be known) supports the premise to a logical conclusion. Like rhetoric, “science fiction ... is a methodology and an approach” (Maltzberg 39). Similarly, rhetorical tools and principles provide a methodology and approach for articulating types of argument.

Of course, different institutions have different requirements and different desired outcomes for the student; composition requirements may fall under the purview of writing across the curriculum programs, or they may fall under speech and communication, English, or a dedicated composition program. However, an understanding of basic rhetorical skills and forms is useful, regardless of major, and the strategies I suggest here could augment many programs that focus on writing across the curriculum. The suggestions made here are just that, and of course the needs of the program should be integrated into course planning. Still, the undergraduate student taking a rhetoric course should be capable of recognizing and creating four types of argumentative forms: arguments of definition, arguments of quality, causal arguments, and proposals.¹ Students in different disciplines may use a specific argument form more than others. Science majors are more likely use arguments of definition, causal arguments, and proposals. Majors in the humanities might use all four but turn to qualitative arguments more often. The thrust of the course should be teaching the students to create well-structured rhetorical arguments using the appropriate rhetorical tools for a specific

audience and topic. The course should also stress that the choice in rhetorical form, tools, and analysis should be determined, shaped, and influenced by the argument's audience. Science fiction can be brought to bear in accomplishing all of these goals. SF presents an overarching theme or idea that likely falls into one of the four argument types above, and analyzing character, place, and plot within the structure of the narrative can reveal the different types of rhetorical tools that the author deploys in making that argument.

Choosing Texts

The first argument type mentioned, the definitional argument, can be used to form the basis for understanding the other types of argument. Usually, knowing what something is or is not will dictate other arguments, such as assessing its qualities, understanding causal elements, or making proposals.² Paul Kincaid's essay "On the Origins of Genre" makes an excellent first assignment. Kincaid examines how to define the slippery term *science fiction*, and he then applies that definition to specific pieces of literature. Kincaid's piece follows a straightforward pattern of rhetoric common to definitional essays. He traces past definitions, noting how they apply to but fall short of the subject. Kincaid follows this with his definition — or, in this case, his inability to define SF — noting, "It is only by looking at why these definitions fail that we can start to consider what it is that makes science fiction indefinable" (43). Kincaid's exploration of how to define what is and what is not science fiction, following Wittgenstein in *Philosophical Investigations*, uses the concept of "family resemblances," which clearly illustrates the basic principles of a definitional argument (47). Its construction requires the writer to compare the specific subject to subjects in a group and assign it a place, or not, within a category — to use the essay's example, "X is a sport, but Y isn't" (47). Kincaid notes that a test for any definition is including everything that is needed and excluding everything that is not. Science fiction, he points out, comprises a broad range of disparate plots, settings, and characters. Some deal directly with science or scientific exploration, and some do not. Yet most people rely on resemblances to agree that all these works are SF, even if these resemblances are inexact.

After reading the essay, students might write a conventional essay defining SF, or they might use Kincaid's definition and apply it to a work of their choice, constructing their own definition of SF. Within SF, however, possi-

ble applications of definitional arguments open to include applying definitional argument to a specific element of a text. Such an assignment could involve reading C. J. Cherryh's *Foreigner* (1994). The student would then delve into the way language defines terms within different cultures, in this case the notions of love and *man'chi*, where misunderstanding a definition can prove fatal. The Atevi do not understand the concepts of *like* or *love*. For them, personal relationships are bound in a complex set of associations that do not necessarily have a human equivalent. Another assignment might use Joanna Russ's *The Female Man* (1975) to interrogate socio-cultural definitions of gender and the masculine/feminine dichotomy. Students might provide a new definition of male/female and masculine/feminine on the basis of narrative elements. In these two examples, by completing the assignment, the student can see that terms are bound by culture, history, and discipline. For example, the word *strange* means one thing for physicists and another for literature majors, illustrating the importance of defining terms. Science fiction provides an endless supply of real-world cultural, religious, and political ideals to use in exploring definitional arguments.

Although I have suggested a few texts that I find particularly well suited for these explorations, an overwhelming amount of material exists, and choosing between them can be difficult. Of course instructors will exercise their own judgment depending on the needs of the university, its students, the teacher's interests, and the needs of the class. Having made this caveat, I recommend a textbook I have used in the past. Andrea A. Lunsford, John J. Ruskiewicz, and Keith Walters's *Everything's an Argument* (currently in its fifth edition) accessibly introduces the various argument types and provides the basic tools needed to construct them. It is a good text to lay out the guiding principles that the fiction readings are meant to illustrate. I have also discovered that sharply limiting the example material better serves the class because it permits more focus.

Structuring Arguments

Regardless of the example texts chosen, students should understand that all argumentative elements follow from both the subject and the audience, and to this end, students must be conversant with the purposes or goals of argument (to inform, to convince, to explore, to make decisions, to

meditate). Science fiction encompasses these goals and readily conveys the occasions for argument, roughly classed as forensic (past) arguments, which includes alternate histories, such as Philip K. Dick's *The Man in the High Castle* (1962), and science fiction mysteries, such as Brian Stableford's *Inherit the Earth* (1998). The course must also illustrate deliberative arguments, which often rely on forensic arguments. Deliberative arguments utilize projections, extrapolations, and reasoned guesses — precisely what SF does. After understanding forensic and deliberative arguments, the student can progress to exploring which lines of argument work best to sway a particular audience on a particular subject. On the surface, science fiction may seem to use only factual lines of argument, but it does use others — emotion, values, and character — although sometimes to emphasize factual elements.

Ideally, the course also teaches the methodology for structuring Toulmin arguments, which seek to persuade. This informal method illustrates the construction of arguments that can be expressed in a thesis statement. One begins with a preferably controversial and debatable claim to which supporting reasons are attached. The crucial step is learning to state the warrants supporting particular arguments. The warrant is the connection, often unstated and assumed, between the claim and the supporting reason or reasons (Lunsford, et al. 84–86). The course should explore further elements — qualifiers and backing, and grounds and conditions of rebuttal — but most undergraduates should be able to master the above material.

As I mentioned above, instructors may choose to utilize common topics or themes within science fiction — aliens, time travel, robots, AIs run amok — to examine SF's own special rhetoric. These themes can also be viewed and analyzed as warrants, or the unstated and assumed connection between a claim and its supporting reasons. Often warrants are cultural assumptions, and themes can be a vehicle for foregrounding these assumptions. Further, because SF deploys specific themes in different ways across the genre, each can represent multiple types of warrants in addition to representing grounds, lines of argument, and backing. For instance, the theme of artificial intelligence receives very different treatments in Harlan Ellison's "I Have No Mouth, and I Must Scream" (1967), William Gibson's *Neuromancer* (1984), Neal Stephenson's *Snow Crash* (1992), and Robert J. Sawyer's *WWW: Wake* (2009). Each can be used as a way to explore cultural/historical portrayals of artificial intelligence and to assess how warrants support the work's deployment of the topic.

Case Study: “The Cold Equations”

Here, I briefly illustrate a simplified practical application of rhetorical analysis by using Tom Godwin’s “The Cold Equations,” a short story first published in *Astounding Science-Fiction* in 1954 and often anthologized. In the story, a pilot, Barton, discovers a stowaway on board an EDS ship on an emergency medical relief mission. Regulations and physics dictate that any stowaways discovered go out the airlock, but this is complicated by the stowaway in question being a young woman, Marilyn, who is ignorant of the rules. What results rhetorically exemplifies a causal argument with the following claim:

Existence required Order and there was order; the laws of nature, irrevocable and immutable. Men could learn to use them but men could not change them.... The laws *were*, and the universe moved in obedience to them.... Then men of the frontier had long ago learned the bitter futility of cursing the forces that would destroy them for the forces were blind and deaf ... laws that knew neither hatred nor compassion. The men of the frontier knew ... *H* amount of fuel will not power an EDS with a mass of *m* plus *x* safely to its destination [462–63].

Our warrant: One cannot change the laws of physics, even if we believe there should be exceptions. Godwin’s narrative specifically states this as “culturally” known on the frontier of space and so known to the Barton and his colleagues, but unfamiliar to the stowaway girl.

Barton’s point of view drives both the argument and the rhetorical choices. Immediately, the narrative leads the audience to understand that frontier laws and rules must be obeyed, as a literal matter of life and death. When Barton discovers the presence of the stowaway, although he has not yet seen him or her, the reader may already be persuaded to take the pilot’s side on the issue of chucking the idiot out the airlock. Marilyn’s appearance, however, changes the argument’s nature. Cultural assumptions, or warrants, about the general narrative dictate that the audience wants, even expects, her to be saved. Marilyn’s emotional argument — that she hid on board to visit her brother, whom she had not seen in ten years — compounds audience sympathy. Yet even as she admits her reasons, she cannot plead full ignorance: “I didn’t want to wait another year when I could see him now *even though I knew I would be breaking some kind of regulation* when I did it” (452, italics mine).

The subsequent emotional argument put forth by her, and by Barton,

as they attempt to find a solution wrenches the audience. Barton's continued return to logic and fact seems heartless, even though the reader understands how torn he is. In the end, he leaves off logic as a counterargument — it does not work in convincing Marilyn, nor does it particularly work for the audience. The reader wants the customary miracle of classic adventure narratives and Hollywood endings. Instead, Barton counters with a combination of both fact and emotion referencing in the situation of the sick, dying men on the planet:

This ship is carrying *kala* fever serum to Group One on Woden. Their own supply was destroyed.... Group Two — the crew your brother is in — is eight thousand miles away.... The fever is invariably fatal unless the serum can be had in time, and the six men in Group One will die unless this ship reaches them on schedule.... If you stay aboard your added weight will cause it to use up all its fuel before it reaches the ground. It will crash, then, and you and I will die and so will the six men waiting for the fever serum [457].

He implies that Marilyn's selfishness dooms not only her, but also Barton and the sick men. This line of argument ultimately wins her over — though with understandable reluctance. Marilyn remains a victim, but with this line of argument, her decision elevates the inevitable result to self-sacrifice.

Some readers find the ending too brutal; others find the adherence to the situation's physics satisfying. Either way, the story exemplifies structuring an argument and illustrates how argumentative lines can sway (or not) an audience. Godwin's story has met with much exception. Some, such as James Gunn, point to the story as an SF benchmark; others raise serious doubts and questions concerning the warrants supporting the story's argument. Such debate could potentially serve as the subject matter for the bulk of a rhetoric course. After reading the story and analyzing the narrative, students can progress to the secondary sources lauding or criticizing Godwin's work. In doing so, they begin to see that rhetoric is a conversation, whether within the text itself or between texts. Often these secondary sources can help open up warrants within the narrative.

In her introduction to *The Savage Humanists*, Fiona Kelleghan outlines the specific objections of several SF authors to "The Cold Equations." Most rebuttals aim at the thesis and its supporting warrants. Kelleghan, in defining "savage humanism," points to their collective dislike of Godwin's "The Cold Equations" and its rhetoric. A lengthy exchange involves "a veritable orgy of postmortem," which takes place in the *New York Review of Science Fiction* beginning in February 1993 and continuing for several issues. Her query to

contributors yielded the opinion that the either/or of physics is not really an either/or in the story. Kim Stanley Robinson points to Damon Knight, whose assessment of the situation neatly refutes both the main thesis and the warrant. Knight points out that there are enough nonessential materials on board, mentioned in the text, to equal the weight of the girl. These might have been jettisoned instead, thus saving the girl and ameliorating any need for continuing this line of argument at all. The close involvement of authors, critics, and fans of science fiction has led to lively arguments that are useful in showing students multiple approaches to rhetoric on a single subject.

Another critical approach to the story, Sherryl Vint and Mark Bould's essay "There Is No Such Thing as Science Fiction," contains a clear, multifaceted refutation of "The Cold Equations." The essay, which surgically dissects the uninterrogated warrants of Godwin's story, examines "what is at stake when anyone asserts that SF is a *thing* with a single, clear and unified identity" (43). Specifically, they question the cultural assumptions behind elements the story takes for granted. Beginning with the laws of physics forming the story's thesis, they point out that the story conflates natural law with the law of man. Nature does not dictate that Marilyn should be jettisoned; the powers behind colonial expansion do. The essay questions the education system that leads to Marilyn's ignorance, the political body that gives precedence to colonial expansion over human relationships, and the negative results of a woman's presence both in the space of the story and SF in general. For instance, I mentioned earlier that the audience wants Marilyn to be saved, and the story intentionally evokes audience sympathy early in the narrative. Vint and Bould, however, illustrate how some critics and elements within the story itself brand empathy as incompatible with science fiction.

However, as our discussion of some of the various ways in which the story can be understood demonstrates, it is not through any "essential" characteristic that it achieves its canonical status within the genre. Rather, the story's meaning and relative status — whether triumphantly or regretfully as an exemplar of (a certain kind of) SF (in a certain period) — results from an ongoing process of negotiation as different readers read it differently [48].

The warrants, or assumptions, driving the narrative and making it a part of a genre do not exist *a priori*. Genre categories come into being after the fact, and the historically and culturally determined elements of genre are in constant flux. Vint and Bould's close reading of the warrants within "The Cold Equations" reveals both the ephemeral nature of genre and the importance of questioning warrants within a rhetorical argument.

Writing and Reading Rhetoric

Even as students tease apart elements of rhetoric, the structure of course assignments and teaching material should stress a demystification of composition. Writing is a process. Students, for whatever reason, often do not view it this way. Unfortunately, the instructor walks a fine line between trying to rush through as much material as possible and helping the students actually develop a writing process. Breaking the composition process into at least three steps (topic proposal, rough draft, and final draft), with each step producing multiple drafts, is one way to emphasize writing as process. Requiring students to turn in a one-page topic proposal allows the instructor to stop any problems before they snowball. In turn, students begin to understand that they do not just sit down and write; the process involves planning and research. A topic proposal sheet includes assignment-specific questions for the student to answer. This initial step in the writing process allows the student to see that writing is constructed. In addition to feedback on their proposal, the student produces two drafts—a rough draft and a final draft—that both receive commentaries from the instructor. Further, paper assignments need to receive peer reviews in class as part of the drafting process. Roundtable discussions provide useful feedback in two ways. First, the student examines the work of a peer as a reader, which sets up a two-way understanding (student as writer, student as reader) that audience determines an argument's construction. Second, the peer review emphasizes writing as part of a conversation, albeit one on paper. Revision gets short shrift in both writing courses and writing across the curriculum.³ Including this in the course and in various forms not only reassures the student that learning to write well is possible, but also results in a final product of a higher quality.

Enormous inroads have been made in admitting popular fiction into traditional programs, but the material is still treated primarily as literature. Occasionally professors will utilize the literature to help serve as example of literary theory. Such courses are extremely effective. Why? Frances Auld pointed out during a panel on teaching horror at ICFA 2008 that literary theory is often difficult to grasp because it is usually applied to unfamiliar examples.⁴ Nothing bogs down understanding like using the unfamiliar and confusing to explain the unfamiliar and confusing. By utilizing a familiar example—in Auld's case, horror narratives—she eliminated one confusing factor in teaching theoretical ideas. Regardless of genre, there will be some

difficulties. Not every student will enjoy the choice of SF, and their attitudes may range from vague disinterest to active dislike. And as in any course, a few students will fail to be engaged by the material. Even so, the structure and content of the material will still be familiar to them. In addition, students who dislike or are indifferent to the material can examine their reaction from a rhetorical standpoint. If the purpose of rhetoric is to persuade the audience, then how did the SF text fail in its rhetoric? The dislike provides a vehicle for examining the close relationship between audience and the elements of rhetoric used in an argument.

Perhaps the best arguments for the use of popular genres in rhetoric classes are accessibility and participation. Students readily understand rhetorical constructions and conventions when applied to things that they know—even more so when they are of concern or importance to them. For instance, students readily understand the visual rhetoric used in advertisements, even if the terminology is unfamiliar. They see it every day and have been acculturated to its interpretation. Students fail to produce compelling arguments involving subjects that they care little about or find confusingly unfamiliar. Part of the mystery of their lack of engagement may lie in the base materials used to demonstrate the construction of rhetorical arguments.

Science fiction in the rhetorical classroom can show students that they are already somewhat familiar with the discipline's tools and concepts. This surmounts one obstacle, that of unfamiliarity, so students can pay even greater attention to new ideas and terms. Students can and do produce complex commentaries on the material and on each other's work. Science fiction can illustrate both sides of an argument, thus displaying the flexibility and utility of rhetorical tools in persuasion. Additionally, through the interaction of SF authors, critics, and fans, students begin to understand that writing is a dialogue and that they may sometimes be jumping into the middle of a conversation already in progress. Although at first their approach will tend toward the tentative and unsupported, students do eventually realize that teasing apart the aspects of rhetoric will provide them with tools useful not only for the rest of their college career, but for their analysis of the world around them.

NOTES

1. These may vary according to departmental requirements.
2. I have used the definitional essay as the first assignment followed by the qualitative, causal, and proposal papers. Qualitative arguments require the ability to define in

order to compare, causal arguments are based on both definition and qualities as applied to a situation, and a proposal will require all three. Other instructors may find a different assignment order works better for their own purposes.

3. For an excellent revision source, see Richard Lanham's *Longman Guide to Revising Prose* (2006).

4. Auld's panel addressed utilizing horror in teaching aspects of literary criticism and theory, but the same principles apply to both science fiction and rhetoric.

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2

Incorporating Science Fiction into a Scientific Rhetoric Course

Michael J. Klein

ABSTRACT. — Many of the scientific and technological achievements of the past century were prefigured by writers of speculative or science fiction. The scientific and technological achievements we view as commonplace (e.g., the Internet, wireless communication, advances in reproduction) were often discussed by literary authors decades before their “discovery.” Conversely, advances in science and technology drove authors to further their speculations and logically extend the discoveries of the day in their writing. In that spirit, I decided to expand the traditional canon of works I used in a scientific rhetoric course to include works of science fiction. The students in the course compared and contrasted the representation of science and scientists in fictional and factual accounts, examined the ways in which texts become important to a culture and a discourse community, and identified the means by which science informed science fiction, and vice versa, during the past century. I found that for undergraduates, the addition of literature made the concepts of scientific rhetoric more accessible and fostered greater conversation between students studying different subjects. The students in the humanities and social sciences used the literary works as a stepping stone to understanding the discourse within the scientific community. Conversely, students in the sciences and engineering recognized and appreciated the humanistic elements of science by seeing parallels in the works of fiction. These results speak to the benefits of increased dialogue among disciplines that address the concepts of science and technology.

The roots of science fiction are commonly thought to originate with the publication of Mary Shelley’s 1818 novel *Frankenstein*. SF’s place in the academy as a legitimate field of study has a much shorter tradition. The first science fiction course taught for credit was at Colgate University in 1962, and by the 1970s, universities were offering more than 500 courses annually

in the field (Williamson 375). A study published in the journal *Science-Fiction Studies* in 1996 found a similar number of courses on science fiction, speculative fiction, fantasy, and utopian studies in North America (Evans and Mullen).

Over the past decade, there has been an increase in the both the number and types of courses that use science fiction as a means of exploring the curriculum. Institutions such as the University of Kansas and the University of Liverpool grant degrees in science fiction studies, while the University of California at Riverside, among others, houses a large science fiction research collection (Davis and Yaszek 190).

Even with a large number of course offerings, James Gunn, science fiction author and scholar, writing in 1996, states that “science fiction courses may have to be smuggled into the curriculum under the pretense of serving other, more easily sanctioned purposes” (377). This is surprising, because as Gunn notes, “the kind of subjects that can be taught through science fiction involve all of the social and physical sciences, history, ideas, futurology, religion, morality, ecology, reading skills, and many others” (377). With this flexibility inherent in science fiction, it seems logical that the study of it would prove beneficial for many types of courses that did not have a literary focus.

Here, I describe the use of science fiction in such a class: a course designed to teach undergraduate students from a variety of disciplines about concepts in the field of scientific rhetoric. The addition of science fiction to the curriculum allows students to gain an understanding of both the content of scientific inquiry and the means of communicating scientific information to a general audience. In this way, the students gain a better understanding of the ways people in science and those talking about science use persuasion.

Combing Rhetoric with Science and Technology Studies

Rhetoric of science combines rhetorical analysis with science studies. Rhetorical analysis (or criticism, as it is called in speech communication programs) seeks to understand how an artifact, such as speech, text, video, or picture, conveys meaning to its audience (Foss 6). The field traces its roots to the Greeks and the practice of delivering public speeches. More than

2,500 years ago, Aristotle codified rhetoric as a discipline in his work *On Rhetoric*. Aristotle saw rhetoric as a means of ascertaining the truth about a topic through persuasion. This put him into conflict with the Sophists, a group of philosophers who believed that rhetoric was a means of making knowledge and fashioning the truth. Thus, for the Sophists, the truth was malleable and contextualized, with rhetoricians having the power to shape the truth as they saw fit (Crowley and Hawhee 10–11).

Aristotle, however, saw rhetoric functioning as a mixture of a method and a practical art, a means of ascertaining a truth already present in the world (12). In *On Rhetoric*, he differentiated between three branches of rhetoric: epideictic or ceremonial (to commemorate or blame for a past action), judicial or forensic (to accuse or defend a present course of action), and deliberative or legislative (to exhort or dissuade a future action). These different types of speaking occasions, along with the audience hearing the speech and the purpose of the speech, would help rhetoricians shape their approach in making an argument.

According to Aristotle, rhetoricians must prepare their rhetorical act by going through five steps: invention, the brainstorming of ideas focused on a subject; arrangement, the organization of the ideas; style, the use of appropriate language; memory, the memorization of the speech; and delivery, the presentation of the speech to an audience. Invention would also involve the use of *topoi*, or “places,” predetermined topics that would help the rhetorician support a thesis.

In formulating the type of material and the means of presenting that material to their audience, rhetoricians would need to make three distinct, yet sometimes interrelated, types of appeals. The first would be an appeal based on logic, or *logos*. *Logos* would dictate the content of the speech, the types of ideas used, and the ordering of the information to make it most persuasive. Yet logic alone was not enough to persuade an audience—a deficiency, according to Aristotle. Rhetoricians also need to use *pathos* and *ethos*. *Pathos* is an appeal to emotion present in the audience members. For example, a rhetorician might evoke the feeling of national pride by discussing victory in war. This example would resonate on an emotional level with the audience.

Ethos, on the other hand, is an appeal based on the credibility of the speaker. Such credibility is demonstrated by being knowledgeable about the subject matter under discussion, by being fair in the treatment of opposing viewpoints, and by being honest. For example, a speaker advocating for war

might still concede that going to war will have some drawbacks — lives interrupted, potential for death for those sent to fight — to demonstrate an understanding of the consequences involved with warfare. A rhetorician with an established *ethos* was much more likely to be successful in persuading the intended audience.

The study of rhetoric has had a long and valued history; it was part of the *trivium*, along with grammar and logic, a set of required courses in the medieval university. In contrast, science and technology studies (STS) is a relatively new interdisciplinary field of inquiry, dating back only about thirty years. STS, however, does come from a longer and robust tradition of history and philosophy of science programs in both the United States and western Europe, particularly the United Kingdom. By using a humanistic perspective, STS examines the way science creates knowledge (questions of epistemology) and the way scientists go about conducting science (questions of production).

STS practitioners use a variety of intellectual frameworks to understand science as an institution and human enterprise. For example, some within the STS community adhere to a social constructivist view of science, which posits that science is a social act that produces nonnatural results (Sismondo 51). In other words, what we know about the natural world is mediated by human perception and experience.

At about the time STS established itself as an independent field of inquiry, a movement within the human sciences, the rhetoric of inquiry, got underway. The rhetoric of inquiry paid “increased attention to language and argument in scholarship and public affairs,” taking “special interest in the accounts that scholars give of their own research” (Nelson et al. ix). A form of the rhetoric of inquiry spread to the constituent departments of STS (history, philosophy, and sociology), and eventually to the STS discipline as a whole.

Labeled as the rhetorical turn in science studies, the development of scientific rhetoric as a subfield of inquiry within STS added another means of investigating science as a societal institution and as a human endeavor. Early practitioners primarily focused their analysis on the works of great scientists. For example, John Angus Campbell’s study of the writings of Charles Darwin and Michael Halloran’s analysis of the papers of Watson and Crick examined the use of language by scientists in primary texts. These articles established the rhetorical nature of science through scientists’ writings, but not the actual activity of science.

The field's emphasis shifted in the early 1990s, moving from an examination of how scientists established authority and persuaded their audience to the rhetorical nature of science as an institution. Three different methods of scientific rhetorical inquiry could be recognized. Campbell and Benson label these three methods the radical program, espoused by Alan G. Gross; the moderate program, held by Lawrence J. Prelli; and the literary moderates, exemplified by Peter Deer and Jack Seltzer (74). Although the methods shared an ideology that analysis of language was vital to understanding the scientific enterprise, practitioners differed on just how much of science was rhetorical. Some, like Gross, believed that all science was rhetorical in nature. For example, the very methods used by scientists in their study of nature had rhetorical significance because all inquiry was mediated by language. Others, like Deer, focused on the actual language of scientists in scientific reports, thinking these were the best places to locate persuasive acts by scientists.

A decade later, the field had undergone a shift in its mode of inquiry. Criticism by the rhetorician Dilip Parameshwar Gaonkar helped precipitate this move. In 1997, Gaonkar criticized the rhetoric of science for being too "thin" (33). He leveled this charge because rhetoric was originally developed as a method for producing persuasive discourse in the form of short speeches, not analyzing them. Additionally, rhetoric was never meant to be an interpretive tool for the criticism of entire texts. According to Gaonkar, using rhetoric in this fashion would yield nothing of interest.

In response, a second generation of rhetoricians of science addressed the limitations Gaonkar exposed in the work of the first generation (Gross 14). For example, Jeanne Fahnestock extended the scope of rhetorical analysis of science by looking at figures of speech beyond metaphors. In addition, Leah Ceccarelli examined the effectiveness of interdisciplinary communication in the sciences. Studies such as these adhere to the rhetorical tradition; they also do "not suffer from the vagueness of a theoretical terminology tethered to the needs of production" (Gross 19).

Even with this shift, a key tenet of the rhetorical analysis of science remains: science is not just about discovering facts found in nature. Although some in the science studies community would argue that even "facts" are constructed (because disciplinary bodies must agree on what counts as a fact, which facts are more important than others, and so on), most rhetoricians of science agree that what occurs in science is a process of negotiation and persuasion on the part of scientists. By adhering to the conventions of the

discipline — carrying out research in a prescribed method, attending conferences, publishing results in accredited journals — scientists use a form of rhetoric. Rather than just presenting facts, scientists ultimately use persuasion in accomplishing their goal of getting others to believe in the significance and validity of their findings.

Scientists in training at the undergraduate level find this concept — that science is not just the observation and description of nature — hard to accept at first. As students learn about science through traditional methods, such as reading scientific textbooks and carrying out experiments that others have replicated repeatedly, they get the impression that scientists solely discover facts about nature, not persuade others of the validity of those facts. Thus, they tend to disregard the rhetorical aspects of their professions — aspects that they will eventually need to master to be successful scientists and researchers.

The Relationship of Scientific Rhetoric to Science Fiction

It is important (and necessary) to introduce students to the norms and values of a discourse community before expecting them to operate successfully within that community, as I have argued elsewhere. Although my observations were originally based on teaching technical communicators to create documentation in a medical environment, the same holds true for those wishing to understand any type of complex materials. In the case of rhetoric of science, this is a twofold process: understanding rhetoric as a concept, and then applying that concept to a field of science understood by students.

Those new to the field of rhetoric must learn about the role of language in everyday affairs. Argument, in the classical sense, functions as a series of logical statements made by individuals on different sides of a controversy in order to persuade others that their position is the correct one. In essence, it is negotiation leading to consensus. Although this concept of language as a means of arbitrating differences in the world may appear to be self-evident, the ability to analyze language in order to tease out argumentative threads is not immediately clear or intuitive to undergraduate students. At James Madison University, where I teach, writing and rhetoric instructors spend an entire semester with first-year students training them to analyze and construct argumentative texts.

Throwing science into the mix makes comprehension even more diffi-

cult. Recent studies in scientific literacy indicate that most people — 72 percent — in the United States lack a basic awareness of the workings of science as an institution and process (Michigan). This lack of understanding, coupled with a basic unfamiliarity with the role of language in different rhetorical situations, makes comprehending the principles of scientific rhetoric difficult even for the best of students.

Although it seems commonsensical to add a unit on public perceptions of science and the media's role in science dissemination to a course on scientific rhetoric (because the two topics are part of a larger science studies focus), what seems less obvious is interweaving science fiction into the course. However, including fictional accounts of science and technology, juxtaposed with their real-world counterparts, gives students a point of entry into the ongoing discourse about the role and function of science in our culture. The popularity of the science fiction genre, especially in film, also provides something familiar to students, making them more comfortable with, and ultimately agreeable to, the new concepts and ideas they will encounter in the course.

The inclusion of science fiction in a nonliterature course has a long tradition. As early as the 1970s, publishers have produced science fiction readers as an “additional approach” to nonliterary fields (Katz et al. v). Recently, faculty members have not only used science fiction in courses, but they have also documented these endeavors. Christopher S. Rose, a professor of biology at James Madison University, has written about his experiences using science fiction films in the classroom to teach students biology. Although Rose believes that “movies will never meet the standards for accuracy and plausibility demanded by professional scientists,” he notes that “the kinds of connections between movie and real world science ... present opportunities for teaching important ideas” (53). Additionally, in writing about their science and science fiction degree course at the University of Glamorgan in Wales, Mark Brake and Rosi Thornton discuss the use science fiction as a means of better understanding science because they believe “knowledge of science is fundamental in a participatory democracy” (31). They also understand that “the genre of science fiction has always been used as a way of examining the relationship between science, technology, and society” (32).

There is an additional reason for the incorporation of science fiction into a scientific rhetoric course. Science fiction has played a critical role in inspiring scientists in their research. Books such as Robert Bly's *The Science in Science Fiction* (2005) and Robert Lambourne, Michael Shallis, and

Michael Shortland's *Close Encounters?* (1990) convincingly argue that science and science fiction reciprocally influence one another. Thus, introducing science fiction into a course on scientific rhetoric is a logical choice. It adds to the value of the course, especially given the relationship between science fiction and science and technology studies (Davis and Yaszek 181).

Teaching Science Fiction in a Course on Scientific Rhetoric

In the fall of 2005 and again in the spring of 2006, I had the opportunity to teach a scientific rhetoric course to groups of undergraduates at two different universities. The original inception of the course was as an honors seminar for any interested undergraduate student at James Madison University. The course was housed in the writing program and affiliated with the university honors program. Students who joined the class came from a wide variety of disciplines, including the humanities and the social and physical sciences. Soon after developing this class, I learned through a professional organization that faculty in the science and technology studies program at the University of Virginia were looking for someone with a science studies background to teach a course specifically for undergraduate engineering students. The program wanted to offer a course that had both a cultural and scientific component. I met with STS faculty, who liked the idea of scientific rhetoric course that incorporated science fiction and thought it was an excellent application of science studies.

For most of the students, the course was their first exposure to the concepts underlying rhetorical criticism, the scientific topics under consideration, or sometimes both. Thus, the course I taught functioned on two levels: as an introduction to both scientific rhetoric and specific scientific subjects. In both courses, students regularly attended, were highly engaged in the classroom, turned in assignments demonstrating clear thinking synthesizing ideas introduced in the course, and went above and beyond the requirements of the class.

Both courses followed the same structure: a full sixteen-week semester, meeting two days a week for seventy-five minutes each day. A longer class period — rather than the traditional fifty-minute course — was preferable to allow time to explore the topics and promote extended discussions. For each course period, students were given assigned readings. Their home-

work sometimes required short, low-risk writing assignments to initiate discussions. For example, students would develop both a question and a statement about the reading to share with others at the beginning of class. These assignments had the added benefit of ensuring that students carefully read all works in advance and thought about discussion topics. Class sessions would begin with a lecture-style format in which I introduced the topic, but the majority of class time was spent in classwide discussion or in student presentations. As a result, much of the information students gained was from peers.

The course was divided into four four-week units, each centered on a different scientific topic, to make the course material as accessible as possible to students. Some of these units complemented the academic experiences of the students in the course. When teaching the course with students from a wide variety of academic backgrounds, I picked topics that had relevance for their everyday lives. Most students had only a basic understanding of the scientific concepts involved (usually from a one-term science course) before enrolling in the course, so an explanation of the science complemented any explanations in rhetoric.

Instead of trying to match selections directly to a student's major, I chose to cover topics from popular media or ideas that they may have to grapple with in the future. In these cases, students had some previous exposure to at least the idea of a topic. For example, we discussed evolution in the context of intelligent design and genetic engineering as a technology that could affect the future of society. These are issues that students would need to be familiar with in order to engage in thoughtful conversations with others or appropriately deal with in their personal lives. For the version of the course taught just for engineers, I adapted the course to include a topic tailored to their academic interest: artificial intelligence. In both cases, what students learned in the class gave them the tools to gather information and make informed decisions later in their academic and personal lives.

Units contained readings from three types of genres: a primary-source reading in a scientific discipline in the form of a short journal article; a rhetorical analysis of the scientific article, also in the form of a short article; and a work of science fiction on the same or a related topic, usually in the form of a novel. A film or additional readings from journals or excerpts from books complemented these initial materials; I chose these to provide a cultural and historical context for the unit's topic. Students completed assignments that would relate, but not be limited to, the reading material.

In the first unit of the course — “Science Fiction, Science Fact, and Culture” — students examined the roots of science fiction, its relationship to science, and public perceptions of science and scientists. Materials for this unit are listed in Table 1. The Campbell and Benson essay provided the students context for the development of scientific rhetoric as a field of inquiry. Likewise, the selections from Aldiss and Lambourne et al. provided an historical context of science fiction, tracing the evolution of the genre from its beginnings in Shelley’s work. As well as reading Shelley’s text, students read excerpts of Turney’s examination of the influence *Frankenstein* has had on culture. Finally, the students learned about the role of science fiction in informing and shaping the public’s perceptions of science by reading articles about science and literature from an issue of *Public Understanding of Science*. Coupled with these readings were the first three assignments of the course, as shown in Table 2.

TABLE 1. MATERIALS FOR THE COURSE
“SCIENCE FICTION, SCIENCE FACT, AND CULTURE”

Brian Aldiss, *Trillion Year Spree* (selections)
John Angus Campbell and Keith R. Benson, “The Rhetorical Turn in Science Studies”
Robert Lambourne, Michael Shallis, and Michael Shortland, *Close Encounters?* (selections)
Public Understanding of Science 12 (representations of science in literature and film)
M. Z. Ribalow, “Script Doctors”
Mary Shelley, *Frankenstein*
Jocelyn Steinke, “Cultural Representations of Gender and Science”
Jon Turney, *Frankenstein’s Footsteps* (selections)

TABLE 2. ASSIGNMENTS FOR THE COURSE
“SCIENCE FICTION, SCIENCE FACT, AND CULTURE”

Theory Statement 1: In a two-page document, argue for a definition of science fiction (“Science fiction is...”). Argue in the negative as well as the positive (“Science fiction is not...”). Support these claims with evidence from the readings and class discussion.

Theory Statement 2: In a two-page document, argue for a definition of science (“Science is...”). Argue in the negative as well as the positive (“Science is not...”). Support these claims with evidence from the readings and class discussion.

Article Analysis: In a three-page document, examine an article on the public understanding of science, analyzing what argument the author is making, how the author uses evidence to support the argument, and the context and effectiveness of the argument on the audience. Prepare a fifteen-minute presentation to share your findings with your classmates.

The theory statements gave students the opportunity to think about how they (through a societal lens) define and comprehend the relationship between the literary genre of science fiction and the institution of science. The students needed to define their terms fully in order to answer this question. By accomplishing this, the students articulated and defended their personal positions, their first small step into making arguments about science.

The article analysis made the students focus their attention closely on a reading by analyzing it for purpose and intended audience. In essence, they were performing their own rhetorical analysis of the material. At the same time, by presenting their findings to the rest of the class, the students constructed their own arguments, using their newly found rhetorical skills to persuade others. Thus, this assignment gave students the chance to deconstruct someone else's argument while constructing their own.

To an audience used to studying science as a human activity, the use of literature to understand another activity based in language — science — would probably not come as a surprise. However, I did encounter some resistance from the students to the idea of using science fiction to understand and explore the field of science and scientific rhetoric. The engineering students were especially skeptical, and curious, about how they could learn about science through literature. Traditional undergraduate students think science is observing nature and recording events. After all, this is how they are taught as beginning scientists — to record and report. However, science fiction is also the interaction of science and language. It is not that far removed from science, another genre that deals with science and technology. Science fiction serves as a stepping-stone for students to make the intellectual leap from seeing the interaction of language and science in a genre they are at least somewhat familiar with to the idea of science having a sizable language component.

On the basis of student feedback, I found that students ultimately found the incorporation of science fiction into the course a welcome addition to the more traditional material. Although engineering students in particular were initially more resistant to idea that science was a social activity based

in language, once they grasped this notion, they embraced the use of science fiction and the rhetorical nature of science. Seeing science as a means of negotiation added a new layer to what they were studying. Students in the humanities, although more accepting of science fiction, were less affected because they didn't make such a giant leap — they were already predisposed and more comfortable with the idea of science being based in language.

The addition of scientific concepts could be problematic for some faculty teaching a course like this who do not have a background in the sciences or are not comfortable with teaching science. In such cases, the use of science fiction also helps the faculty member preparing for the course in much the same way it helps the students: by serving as an introduction to the scientific topic. This introduction to the scientific material through literature will help ease the faculty member into gaining the information they need to be proficient in discussing the scientific concepts with the students.

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3

Revealing Critical Theory's Real-Life Potential to Our Students, the Digital Nomads

Jason W. Ellis

ABSTRACT.—I propose a reading of Mike Resnick's science fiction novel, *Ivory: A Legend of Past and Future* (2007), that engages critical poststructuralist theory and postcolonial theory for the purpose of providing a way to advance these theories in relation to the here and now of college undergraduate students. *Ivory* simultaneously promotes and challenges the practices of Orientalism, but my purpose is to engender further discussion regarding potential solutions to the problem of Orientalism presented in the text. Nomadology and rhizomatic resistance may provide a means to solve the problem represented in the novel. *Ivory* represents these concerns by showing how the fictional problem and its solution in fact epitomize our everyday digitalized and online existence. The novel explores models and provides examples of the online technologies that digital nomad students may use for self-empowerment and personal protection from the encroachment on their lives by the state and by global capital.

Life, itself, does engage in combat. *It is combat itself.*

—Françoise Proust, "The Line of Resistance" (2000)

The extrapolative power of science fiction to bridge worlds — the real and the fantastic, the sciences and the arts, the extrapolative and the pragmatic — makes it a significant pedagogical tool in the increasingly technologized twenty-first-century classroom. As a hub of various fields of thought and study, science fiction is a literature well suited to safely land our students on the rocky shores of critical theory while simultaneously revealing the importance of theory and its vocabularies to our students' everyday

lives — lives that are involved in combat, whether realized or not, with political interests and global capital. These issues are even more important in postcolonial literature and theory classes. Here, I demonstrate the usefulness of Mike Resnick's postcolonial science fiction novel, *Ivory: A Legend of Past and Future* (2007), as an object of discussion in the undergraduate classroom that easily integrates into an engagement of complex critical theories by Edward W. Said, Michel Foucault, Gilles Deleuze, and Félix Guattari. *Ivory* is the starting point for a much more elaborate classroom engagement of issues relating to the lives of our students as digital subjects,¹ and it provides a site for critical theory to cross into the realm of their daily lives.

Science fiction is invaluable to discussing postcolonial critical theory and its real-world importance for many reasons, all of which relate to the interconnection of science fiction to colonialism and postcolonialism. John Rieder argues in *Colonialism and the Emergence of Science Fiction* that “science fiction exposes something that colonialism imposes” — that is, that early science fiction developed within the discursive limits of the nineteenth and early twentieth centuries (15). Colonialism has left its trace within what Rieder calls the “genre’s texture, a persistent, important component of its displaced references to history, its engagement in ideological production, and its construction of the possible and imaginable” (15). As part of the genre’s emergence, science fiction is thematically concerned with othered identities, in good and bad ways, but ways that always maintain the tension between subjectivity and objectification. As Wendy Gay Pearson notes, “Post-colonial theory and science fiction seem as if they should be two sides of the same coin — or yin and yang. Both, after all, rest upon and are to some sense consumed by the idea of the ... Other” (186). Science fiction is thus uniquely placed to allegorize the colonial past as well as current postcolonial conditions. Important, well-recognized science fiction texts that fall into this category include Ursula K. Le Guin’s anti-Vietnam war novella *The Word for World Is Forest* (1976), Ian McDonald’s celebration of a future India in *River of Gods* (2004), and Neill Blomkamp’s allegory of South African apartheid, the film *District 9* (2009). Resnick is also well regarded in the circle of postcolonial science fiction story authors, particularly for his collection of stories about an African utopia that tries to extricate itself from European technologies and worldview, *Kirinyaga* (1998). I specifically chose a text by Resnick because he maintains a celebratory yet problematic relationship with his African subject matter as a white American author.² Of Resnick’s many works, I chose *Ivory* because it permits engagement with a wide range of cen-

tral postcolonial theories by Edward W. Said, Michel Foucault, Gilles Deleuze, and Félix Guattari within the span of short, exciting, and well-executed novel.

In the sections that follow, I will first briefly describe Resnick's novel and discuss the ways in which it presents a problem that is revealed, but that remains insolvable or irresolvable, with Said's theory of Orientalism. Then I relate how the issues raised in the novel represent larger real-world concerns for the erosion of privacy and agency in an increasingly digital and Internet-dominated world. I show how these concerns may be addressed with the groundbreaking work by Deleuze and Guattari's theory of nomadology. And in the concluding section, I delve further into the function of the nomad's war machine to disclose the promise and pitfalls of socially empowering Internet technologies.

Ivory and the Limits of Orientalism

Resnick's *Ivory* is a far-future treasure hunt that relies on the technologies of surveillance, record keeping, and massively interconnected databases of information that span the known galaxy. It begins when the last remaining African Maasai, Bukoba Mandaka, approaches the big game researcher, Duncan Rojas, to locate and facilitate the reacquisition of the historically notable Kilimanjaro elephant tusks.³ Rojas relies on an artificially intelligent computer, a crystal on his desk that "glows brightly" and tells elaborate stories about the history of the ivory tusks that are based on its extensive access to a galaxy-wide network of information, to track down the mythic twin pieces of ivory (40). Within the narrative structure, the Kilimanjaro elephant tusks obviously signify Mandaka's lost Maasai heritage, and Rojas's computer represents power-knowledge over the colonized Maasai via history, heritage, and artifacts, including the elephant tusks. Therefore, Rojas's AI relies on the discursive formations found in databases (themselves loci of power relations), which form the wider network of power relations that Said establishes in his theory of Orientalism.

Rojas's computer virtually traverses a vast network of databases in its search for information, or discursive statements relating to the fate of the elephant tusks. Foucault theorizes in *The Archaeology of Knowledge* (1969) and in a more digestible format in *The History of Sexuality, Volume 1* (1976), that discursive formations of knowledge — the relationships between discursive

sive statements made within institutional settings — form a web of power relationships between the institutional namers and the Others named. It is from this core idea that Said develops his theory of Orientalism. Rojas's computer, its networked resources, and its narratives, created as much for Rojas's character as for the reader, each represent an aspect of the Orientalist subjugation of the Other. In a sense, the Other becomes boxed and atomized as so many bits of data within the monolithic web of data banks. The computer's stories designate the transformation and subjugation of the Orient by the hegemonic Occident imagination. As Said writes, "It is, rather than expresses, a certain *will* or *intention* to understand, in some cases to control, manipulate, even to incorporate, what is a manifestly different ... world" (12). The present time within the novel buys into the past Orientalism while recreating it through the computer's stories about the elephant tusks. Those with access to the galactic databases control the forgotten history of the tusks and the Maasai, and it is only through capital that, at most, an interpreted history is available. Furthermore, Rojas's computer's interpretation of historic data, pulled from the official networks, represents Orientalism and the macro-level power-knowledge dynamic originally theorized by Foucault.⁴ Thus, knowledge expressed through representations taken as truth, rather than something skewed, exerts power over, in this case, the Maasai and their fate linked to the Kilimanjaro elephant tusks.

Knowledge of and power over the Oriental/colonized subject through the Foucauldian power-knowledge matrix is signified in Resnick's *Ivory* by Rojas's computer, which is used to locate the lost tusks. This computer, provided by Rojas's employer, has the ability to intelligently search through an unimaginably vast number of data banks. The computer, as mediator between a person and the knowledge contained in these data banks, signifies the power exercised over the colonized. Much of the computer's searches involve tax records, which is another indication of the Western colonial power exercising its might over the colonized through bureaucratization, taxation, and discursive formations made for and by the state. These discursive formations, along with other accounts sifted from Rojas's computer's networked resources, inform and make possible the inventive recreations and representations of the Other within each episodic story.

Resnick provides the reader with an analogy of the computer's capabilities in the chapter entitled "The Graverobber." This chapter's theme is about the extrapolation of archaeological fact from scant bits of data via found artifacts, which can be applied to the functions of Orientalism. It is

the representation of a given culture from anecdotal information, selectively gathered data, and misinterpreted information. The author writes that archaeology professor Boris Jablonski desires “the thrill of reconstructing the comprehensive whole of a civilization from the tiniest fragments” (62). This archaeological deduction relies on fragmentary information provided by artifacts and not the voices of the people from those civilizations. Thus, the missing pieces have to be filled in through the lens of one’s own cultural experience and subjectivity.

Resnick devised discursive resistances to the Orientalism of Rojas’s computer that are distributed throughout the text. First, each chapter begins with an epigraph, which is an italicized narration by the spirit of the Kilimanjaro elephant. This voice of the other (a spirit embodied in objects which are bought, sold, and stolen are also directly linked to the Maasai as people oppressed by a hegemonic power) is immediately juxtaposed with each story told by Rojas’s computer. And second, the last three chapters, “Himself,” “The Maasai,” and “Ivory,” form a collective challenge to the earlier episodic stories created by the power-knowledge reinscription made by each of the computer’s stories. These chapters form an anti-Orientalism, because they give voice to the Other through the words and thoughts of Mandaka and the Kilimanjaro elephant. Therefore, the computer’s imposition of power through its codification and analysis of stored knowledge signifies the colonial oppressor studying and incorporating the native into the dominant narrative and thereby obviating the oral narrative of the Maasai, which seems beyond the reach of the discursive networks of power and their data banks.

Resnick gestures toward the power outside discursive power-knowledge networks through the power of human intuition, which in this case begins where the trail of evidence ends for Rojas’s computer. At the end of the novel, Rojas locates or rediscovers the Kilimanjaro elephant ivory tusks on a “colonized” planet called Skyblue (273). The tusks are found to reside in a natural history museum as part of a “reconstructed skeleton of a carnivorous dinosaur” (294). A paleontologist mistook the tusks for the ribs of a large dinosaur, long extinct, and created an archaeological narrative for these ribs on the basis of his education and experience, which was obviously made possible by his field’s discourse. However, the scientist should have studied the “ribs” more carefully, because ivory is materially different than fossilized remains. Rojas tells the museum’s curator, “I am saying that someone who knew less about Skyblue’s ecological history than he thought he did found the tusks, decided that they were the remains of some enormous prehistoric

animal, and extrapolated this skeleton based on a totally false assumption” (295). It is from the “totally false assumptions” of Orientalist writing that prompts Said to write, “I consider Orientalism’s failure to have been a human as much as an intellectual one; for in having to take up a position of irreducible opposition to a region of the world it considered alien to its own, Orientalism failed to identify with human experience, failed also to see it as human experience” (328). The variable of “human experience” is omitted from the Orientalist equation. Resnick presents computer technology as the ultimate power-knowledge dynamic in *Ivory*, but he reveals that resolution only arrives from the vector of human experience through the intuitive leap of Rojas and the stories of the Maasai as told by Mandaka. Rojas, inspired by Mandaka’s ceremonial sacrifice, erases the remaining discursive traces from the data banks in order to complete the physical erasure of the Maasai from the oppressive effects of the power-knowledge network.⁵

To reiterate the power-knowledge network in *Ivory*, there are three significant aspects to the use of the knowledge over subject peoples: Rojas, his computer, and the far-future network of data banks. His computer generates an Orientalist narrative of the objects of study (the Maasai and the elephant tusks), which reinscribes power over the objects of study.⁶ However, Rojas and Mandaka resist the power-knowledge dynamic embedded in *Ivory*. They each make choices that serve as a force from outside against the diffuse and penetrating network of power. Mandaka lives under the radar in a virtual Maasai encampment, and he desires to absolve his people of guilt through an immolation rite. Rojas agrees to assist Mandaka and serve as witness to his sacrifice. Ultimately, Rojas explicitly disrupts the dominant powers within the discursive power-knowledge network by falsifying records regarding the elephant tusks, thus removing control through erasure and returning the reader to the opening of the book when the Kilimanjaro elephant narrates: “I had many names.... My true name lost on the winds, my body decayed, my bones turned to dust. Only my spirit remains, restless and incomplete” (11).

Rojas’s computer and the network it is connected to (or, alternatively, flows through) represent the macro level of Foucault and Said’s power-knowledge network. The power exerted by information technology in *Ivory* penetrates and diffuses through all aspects of life, even for Mandaka, who lives largely off the grid. Individuals on the micro level are affected by the macro-level power exerted by and through the power-knowledge network.

Unfortunately, it is at this point that Foucault and Said's theories break down: they reach for the micro, but limited by discursive statements, they cannot attain it. Analysis, as powerful as it is, is limited, ineffectual at providing a plan for resistance beyond an alternative to history. Therefore, a micro-level theory that combats the macro-level power-knowledge dynamic is needed to extend Foucault and Said's work to the level of the individual and to real-life experience — extended to that of our individual students.

Our Students, Digital Nomads

As useful as Said's *Orientalism* is at shifting one's perspective such that the representation of the other is laid bare within a network of power relations, it is limited in terms of providing a way to resist the power employed by some over or against a so-called Other. Advantageous theoretical tools that go beyond the macro-level discursive formations in Said and Foucault's respective works are Deleuze and Guattari's concepts of nomadology and the war machine. Their theory encompasses the macro and micro levels of power and resistant force. Their formulation of rhizomes, nomads, and the war machine are productive concepts for politically oriented challenges to cultural works as well as individual participation in the digital age of Internet citizenship. Indeed, Resnick's *Ivory* is a useful text for introducing Deleuze and Guattari's theories in terms of a literary text while presenting a framework for a meaningful discussion of the here and now influenced by the state and by global capital. In particular, Deleuzian and Guattari's concepts may usefully be made apparent by the integration of their notion of nomadology with our students' real lives as digital subjects on the Internet. Cyberspace represents a new frontier for resisting the encroachment of power networks on less technically savvy computer users and potential information economy creators and participants. The benefits of the resulting lessons in critical theory therefore go beyond nomenclature and regurgitation of ideas. These lessons also provide a real-world education that might make a difference in our students' lives outside the classroom — lives as intelligent and shrewd Internet denizens.

As with Said's work, Foucault provides another point of entry for engaging with Deleuze and Guattari's work. Deleuze writes in *Foucault* about the relationship of resistance and power relations: "The final word on power is

that *resistance comes first*, to the extent that power relations operate completely within the diagram, while resistances necessarily operate in a direct relation with the outside from which the diagrams emerge" (89). Brian Massumi adds that resistance is force, which should not be mistaken for power: "Force arrives from outside to break constraints and open new vistas. Power builds walls" (xiii). This simple formulation is the hook that theory-bewildered students need to engage with so they might better understand the relationship between power and force.

Deleuze's concept of force and its reach beyond the macro and into the micro level segue into the most important ideas contained in Deleuze and Guattari's *A Thousand Plateaus: Capitalism and Schizophrenia* (1987). This important theoretical work provides students with concepts and frameworks, including the notions of the rhizome and of assemblages, which permit their work in postcolonial studies among other diverse fields of study. In the following, I turn my attention specifically Deleuze and Guattari's concepts of the nomad, the metallurgist, and the war machine in an analysis of their appearance of *Ivory* with an explication of how these concepts may have meaning for our students.

The first of these concepts is the nomad, a figure that emblemizes resistance. Nomads are described as the "intermezzo," a connection between the gaps, whose lives follow a "trajectory" in a "smooth, open space," in opposition to a closed, walled space analogous to that constructed by Foucault's power networks (Deleuze and Guattari 380). In Resnick's *Ivory*, Mandaka represents the nomad because his life is a trajectory through the spaces between power networks. His unobserved life, effectively walking between the raindrops, affords him an open life, largely free of the enclosing impediments to the average galactic citizen codified in the numerous data banks. Furthermore, after his death, his trajectory continues through his influence on Rojas after his death.

Unlike Mandaka, who avoids computers and networks, our students are nomads in the digital domain. The expanse of cyberspace, originally described by William Gibson in *Neuromancer* as "lines of light [that] ranged in the nonspace of the mind, clusters and constellations of data. Like city lights, receding" (51), is the smooth space of our students' nomadic trajectory. The anonymity afforded by the Internet and various technologies allows people to surf the open spaces and avoid or challenge the walls put in place by the networks of power. Flying and transacting in the 3-D social environment of *Second Life*, raiding in the ubiquitous fantasy realm known as *World*

of *Warcraft*, blogging to make one's voice heard, or circumventing the encryption of DVDs and music are some examples of digital nomadism. These online and computer activities resist the power networks' constructed obstacles.

The trajectory of the fictional character, Mandaka, and the digital nomad is facilitated and mediated by the computer interface. The network/computer/operator assemblage extends from the macro to the micro level. Mandaka's hiring of Rojas and his computer to use the Orientalist network is analogous to the actions of the digital nomad to combat attacks on individual online rights and privileges such as Net neutrality, open access and standards, and personal control of hardware, software, and data. However, the proliferation of phishing, scamming, malware, and pro-corporate/anti-consumer legislation is evidence enough that not everyone is knowledgeable about how to resist the effects of power in its multiple guises. Yet it is our responsibility as educators to enable our students to use these theories to more powerfully affect the things that they may already be doing and make them aware of the effects of power that erode or usurp individuals' rights and privileges in an increasingly online world. Therefore, as educators, we should enable our students to resist the walls built by networks of power, localized around the state and global capital, which usurp or degrade a person's individual rights.

Digital nomadic force, for our students and for others, requires weapons and tools. Deleuze and Guattari distinguish these by use: either "destroying people or producing goods" (395). Elaborating on this stark comparison, they write, "The tool is abstractly 'faster,' and the weapon abstractly 'weightier.' The tool is essentially tied to a genesis, a displacement, and an expenditure of force whose laws reside in work, while the weapon concerns only the exercise or manifestation of force in space and time, in conformity with free action" (398). In this context, the computer in *Ivory*, and our students' computers, cell phones, PDAs, and other devices serve a dual purpose, sliding between the role of weapon and tool seamlessly, and sometimes occupying both signifiers simultaneously. Additionally, the computer is significant to the nomad because, as Claire Colebrook writes, "a machine has no subjectivity or organising centre it *is* nothing more than the connections and productions it makes; it is what it does ... it is a constant process of deterritorialisation, or becoming other than itself" (55–56). Thus, the computer's "becoming other than itself" supplements the digital nomad's free-form trajectory.

Who Controls the War Machine?

The tools, which empower our nomad students, are equally promising and discouraging. Consider the trajectory of tools in the case of Mandaka: who provides computer access to Rojas's computer and pays the fees for access to the numerous databases he accesses in his research? Consider the trajectory of tools in the case of our students: how did computer technology come to be in the home, who controls access to the Internet, and who monitors and shapes the bits of data between sender and receiver?

Deleuze and Guattari argue that the machine, in this case the computer, comes from the metallurgist or smith. The state (and more so global capital today) sponsored the metallurgist to create its technological properties.⁷ However, Deleuze and Guattari add that smiths had "a certain technological autonomy, and social clandestinity," which enabled their state and nomad interactions (405). For Mandaka, Rojas fills the smith role, because he works *for* corporate capital, but he works *with* Mandaka on the side. Similarly, the computer revolution, which began in the late 1970s, was made possible by hackers and hobbyists who challenged the existing power networks. These late twentieth-century smiths delivered military-industrial complex-derived computer technology to the burgeoning digital citizen. Therefore, the smith is a hybrid who works for power and with the resistance to that power, operating within the margin between the state's city and the nomad in the wilderness.

The war machine comes about because of the nomad's existence. The nomad strikes out against the state and its cities when they run up against the free, smooth, and open movement of the nomad. Mandaka acts against history and its gatekeeper, the state and capital, by self-immolation and burning the emblems of colonization (that is, the ivory tusks) at the site where the Kilimanjaro elephant was originally slaughtered. Similarly, the digital nomad's war machine is sharing, hacking, and circumventing the controls placed on technology by the state and capital.

However, as useful as the war machine/computer is to the nomad's exercise of resistance, according to Deleuze and Guattari, the machine is not the true nomadic weapon: "Nomad existence has for 'affects' the weapons of a war machine" (Deleuze and Guattari 394). They go on to say: "the regime of the war machine is on the contrary that of *affects*, which relate only to the moving body in itself, to speeds and compositions of speed among elements. Affect is the active discharge of emotion, the counterattack" (400). Man-

daka's "discharge of emotion" convinces Rojas to come over to his side and protect the Maasai by falsifying computer records. The digital nomad uses personal victories against power networks; the nomad's voice carries through multimodal conduits to an audience separated by the screen. Thus, as Deleuze and Guattari say, "Weapons are affects and affects weapons" (400).

Our student nomads face a challenge not met by Mandaka in *Ivory*, which is the appropriation of the nomad's war machine by the state and global capital. Deleuze and Guattari warn us about the inevitable turn of the war machine back against the nomad by the state. In this operation, the aims of the war machine are subjected to the "aims of the State," which may exceed the original nomad resistance (Deleuze and Guattari 418). Examples of this shift and the erosion of individual rights by global capital are the onslaught of digital rights management, deep packet inspection, Recording Industry Association of America (RIAA) and Motion Picture Association of American (MPAA) lawsuits against online music and movie traders, and challenges to net neutrality on the state and corporate levels. Also, so-called reality TV and viral marketing campaigns rob digital nomads of their most valuable affect weapon — their own voice — through the development and deployment of masquerading affect weapons that co-opt our student nomads, who are turned into advertising commodities.⁸

What does this apparently fatalistic pattern of nomadic invention and state appropriation mean for our computer-using nomad students and their ability to resist networks of power? Deleuze and Guattari write with a certain degree of pessimism:

Doubtless, the present situation is highly discouraging. We have watched the war machine grow stronger and stronger, as in a science fiction story; we have seen it assign as its objective a peace still more terrifying than fascist death; we have seen it maintain or instigate the most terrible of local wars as ports of itself; we have seen it set its sights on a new type of enemy, no longer another State, or even another regime, but the "unspecified enemy"; we have seen it put its counterguerrilla elements into place, so that it can be caught by surprise once, but not twice [422].

For Deleuze and Guattari, we have crossed a membrane into something like a science fiction story, which is part technologically enabled totalitarianism in George Orwell's *Nineteen Eighty-four* (1949), part unbridled capitalism in Frederik Pohl and Cyril M. Kornbluth's *The Space Merchants* (1953), and part self-alienating, unceasing warfare in Joe Haldeman's *The Forever War* (1974). More concretely, the global war on terror, inaugurated in its current

and ongoing formulation by former president George W. Bush, combines all of the elements of a superimposition of peace and war with an amorphous new type of enemy. Additionally, corporate influence in Washington and the erosion of citizen protection from corporate greed instigates a slightly different but not altogether new war machine, as I discuss above.

There is hope for our students, and for us, if we distinguish between the poles of the war machine: the one that takes war as its object and the other that is its essence, which mirrors the characteristics of the nomad — namely, “a creative line of flight, the composition of a smooth space and of movement of people in that space” (Deleuze and Guattari 422). Furthermore, those who take war as a supplemental object to the nomad/war machine essence, in the words of Deleuze and Guattari, “can make war only on the condition that they simultaneously create something else” (423). The nomad’s existence is not the assumption of war for war’s sake, but the advancement of nomad life through the force of resistance. Deleuze and Guattari’s extrapolation of revolutionary creation is the critical foundation we may impart to our digital nomad students as a way to combat power networks impeding their “creative line of flight.”

NOTES

1. I use the term *digital subjects* to mean that those persons who use the Internet and computers as a part of daily life, commerce, entertainment, and so on are subject to the systems that they inhabit with their virtual identities. These persons become subjects of the systems created and administered by other persons, by corporations, and by the state.

2. Mike Resnick is an established SF author who has published over 100 novels and 170 short stories, and he has won many of the genre’s major awards, including five Hugos and a Nebula award. In addition to his writing, he has an established investment in Africa through his SF and his private life. This is evidenced by the back matter in *Ivory*, which describes him as having a “fascination with Africa” (321). Despite this fascination, Resnick is obviously part of the Orientalist tradition. His gathering of knowledge about Africa and its peoples, and repackaging of that knowledge in fictional and nonfictional forms, are an objectification of Africa and African subjects as representations of the Other in his work. Unavoidably, his construction of knowledge about Africa feeds into the circuits of power over the postcolonial peoples of Africa.

3. The characters’ names are worth some discussion because they illuminate my points here. Duncan Rojas is the only first-person narrator in the story besides the voice of the Kilimanjaro elephant, revealed in short, italicized passages of text. Thus, Rojas is constructed as one who sees, but who is not seen by others. Also, he lacks physical description from another character’s point of view. However, his apparent transparency is made opaque by layered meanings packed in his name. First, Duncan is the Anglicized form of *Donnchadh*, a Gaelic proper name meaning “brown warrior.” His last name is of Spanish origin and derives from the word *rojo*, which means “red” in relation to hair color.

His nonwhite first name connects him with Mandaka, and his last name juxtaposed with the first marks him of another historically othered group: the Irish. Mandaka's name takes a different vector than that of Rojas. Bukoba is the name of a Tanzanian town on the shore of the colonially named Lake Victoria, and Mandaka (which unavoidably begins with the Western word *man*) is a Tanzanian city at the base of Mount Kilimanjaro. Therefore, Bukoba Mandaka's name is derived from place-names, thus rooting his subjectivity with the land of his ancestors, in contrast to Rojas's physical, ethnic description.

4. Rojas's computer's stories are based on discursive statements (i.e., evidence) found within vast data banks. As such, they should lack interiority and a micro-level psychological aspect. However, Resnick did not write *Ivory* as an experimental novel that made these kinds of distinctions. On the other hand, glimpses of interiority in the historical stories could be extrapolations made on the part of Rojas's computer.

5. I have deliberately chosen to interrogate *Ivory* through Said's pioneering work, *Orientalism*, instead of his more recent and acclaimed reformulation, *Culture and Imperialism* (1993), for a number of reasons. *Orientalism*, despite its failings and further elaboration by its author in the latter work, is a unified text that presents an easily graspable and useful core concept that gives students grounding for further study in the field. Also, it is beyond the scope of this essay to qualify Said's theoretical oeuvre in terms of periodization (i.e., early Said versus late Said).

6. I call the computer's stories Orientalist because they are examples of the kinds of narratives that Said demonstrates are emblematic of the problem elucidated by Orientalism. Orientalism can be taken to be a broadly interpretive theory of a dominating power subjugating a colonized people through an explanatory framework, and it is as such that I use the descriptive term *Orientalist* to describe Rojas's computer's stories.

7. Robin Truth Goodman and Kenneth J. Saltman argue in *Strangelove, or How We Learn to Stop Worrying and Love the Market* that global capital is the problem today, and that the only way to resist it is for individuals to retake the reins of government and the state.

8. The Internet is a neutral technology in the sense that its use may enable nomads to resist state power as well as to permit the promulgation of various forms of fascism (which Deleuze and Guattari's *A Thousand Plateaus* is explicitly meant to impede).

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PART 2. READING AND WRITING

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Introduction: Reading and Writing SF

Patrick B. Sharp

Reading and writing have long been recognized as interconnected activities, especially in the genesis and development of literary genres. With science fiction, however, this activity has always seemed strange, as it violated the academic rift between the sciences and humanities that persisted throughout the twentieth century. The growing professionalization of scientific disciplines and the elitist pretensions of some English departments made bridging the gap between them seemingly impossible. C. P. Snow, in his famous essay “The Two Cultures and the Scientific Revolution,” decried the split between these “two cultures” that seemed to preclude any reading of science and fiction on equal terms. As Gary Westfahl and George Slusser’s 2009 anthology *Science Fiction and the Two Cultures* shows, science fiction has always been engaged with bridging the gap between the sciences and the humanities. Perhaps this is one reason why SF as a genre has struggled to gain a foothold as legitimate literature in many English departments.

In the first issue of *Amazing Stories* in April 1926, Hugo Gernsback famously described the “scientifiction” story as “a charming romance intermingled with scientific fact and prophetic vision” (3). For Gernsback, combining the knowledge and methods of science and literature was at the heart of the genre. As a self-reflexive historian of the nascent genre he was promoting, Gernsback saw the potential and value for such border crossing. Several recent theories of genre — in fields such as sociology, anthropology, linguistics, rhetoric, cultural studies, and film and television studies — have demonstrated that genres arise to solve recurring communicative or repre-

sentational issues faced by members of a community (Bazerman, “Social Forms”; Luckmann 228). As a genre develops, certain formal elements are repeated and become codified because of their familiarity and success in handling communicative or representational issues. One such issue identified by Gernsback (and his SF predecessors) was the perceived gap between literature and the sciences. Authors as diverse as Mary Shelley, Edgar Allan Poe, and H. G. Wells brought together the traditions of literature and the discourses of the sciences in their particular attempts to join these two cultures. The texts they produced, which we now label as SF, were hybrid creations that proved immensely successful with their reading audiences: clearly, these early SF authors had solved some sort of modern representational issue in a way that appealed to large numbers of people over many generations.

Recent theories of genre have also emphasized understanding genre as a system, a complex set of discursive frames that writers and readers have at their disposal when producing and interpreting texts. During the act of writing, authors draw on what M. M. Bakhtin calls both “primary” and “secondary” genres. Primary genres are simple and unmediated, whereas secondary genres are complex and generally constitute more formal discursive patterns such as novels, lab reports, and political speeches. During their development, secondary genres generally ingest or include primary genres (Bakhtin 60–63). For example, Judith Merrill’s classic 1948 SF short story “That Only a Mother” includes such primary genres as internal speech, baby talk, and domestic dialogue and such secondary genres as epistolary writing, telegram messages, and the future-war story. With the presence of so many genres within any given text, it then becomes necessary to talk about a text in terms of its *complex* of genres, which draws from the numerous discursive forms available in a culture (Todorov 10). Within a given culture, the available discursive forms constitute a *system of genres* that serves as a resource for authors to tap into when writing a text, and that readers rely on when reading a text. Early SF authors drew from the existing field of genres that circulated in their cultures in order to address their peculiar set of representational issues.

Genres, of course, are not limited to literature. As Charles Bazerman shows in *Shaping Written Knowledge*, Isaac Newton’s publication on optics in the *Philosophical Transactions of the Royal Society* had a major impact on the development of the scientific laboratory report. The generic formula Newton hit on was characterized by “a discovery narrative” that presented him as “stumbling across a natural fact” and then investigating it “in a sys-

tematic way” (90). This scientific discovery narrative became central not only to the lab report genre, but also to early SF. In countless gadget stories, such as John W. Campbell’s 1938 story “Frictional Losses,” the plot revolves around a scientist working in a lab and stumbling across a new fact. In Campbell’s story, a second wave of alien invasion is about to finish off humanity. However, a heroic scientist develops a gadget to exploit his new discovery in time to save humanity. The story emphasizes the accidental nature of the discovery and the subsequent systematic investigation of the scientist. In both the nonfiction scientific report and the SF gadget story, a similar complex of genres is at play.

As a number of scholars have argued, Charles Darwin’s narratives of evolution also had a profound impact on writing in literature, history, political science, and several other areas study and expression (see Beer; Bender; and Jones and Sharp). The attempts of some to divide the sciences and humanities into two cultures ignore the fact that both contribute to the same system of genres that circulate throughout our culture. Scientists regularly draw on SF to make the case for why their science is important and worthy of funding. Authors of SF regularly draw on scientific narratives as they develop their “charming romances.” Though the system of genres in our culture has evolved over time, this interchange between science and SF has remained constant. The essays in this section explore specific texts as sites of this ongoing exchange between the interconnected subcultures of science and literature. They also address the importance of literacy — in regards to both science and literature — to the traditions of SF reading and writing.

The first essay in this section, Charles Harding’s “Reading/Writing Martians: Seeing *Technē* and *Poiēsis* in *The War of the Worlds*,” focuses on the issue of scientific literacy in H. G. Wells’s landmark future-war story. As Harding points out, *The War of the Worlds* was a peculiar SF reimagining of the popular late nineteenth-century future-war genre. The story uses a scientifically literate narrator to translate the meaning of a Martian invasion in a way that emphasizes the importance of the Martian relationship to technology. At the same time, Harding argues, the story shows the illiteracy of the writers (and readers) of future-war stories, whose visions of the future failed to capture the impact of technology on warfare and humanity. Wells’s Martian invasion, and the narrator’s scientific descriptions of the Martians themselves, showed the errors of anthropocentric Victorian assumptions about progress and evolution. Harding shows how Wells represents newspapers and organized religion as centers of backward thinking and scientific

illiteracy. Wells counters this illiteracy with the knowledge and change of perspective brought about by the Martian invasion (and his text itself). Ultimately, Wells tries to educate his readers with a scientifically enlightened sense of their own nature, and to open their eyes to the possibilities for the future of humanity when technology is properly understood.

In the second essay, “The Creation of Heinlein’s ‘Solution Unsatisfactory,’” Edward Wysocki explores the direct exchange of ideas about atomic weaponry between science and SF. Heinlein and his editor, John W. Campbell Jr., kept abreast of new work in chemistry and physics in part through reading articles on the subject in the *New York Times*. The influence of these articles is clear from some of the technical mistakes they made that were repeated in articles written by Campbell in *Astounding Science-Fiction*. As Wysocki shows, however, Heinlein’s friendship with physicist Dr. Robert Cornog played an influential role in the development of Heinlein’s famous story. At the same time, Wysocki shows how the ideas of Campbell and Heinlein — about using radioactive dust as a weapon — may have influenced an important scientific report on the possible military uses of atomic fission. In the process, Wysocki identifies an early instance of how the United States government used SF to help plan for future military conflicts. This connection between science, military planning, and SF continues to the present day.

The final essay in this section, Donald M. Hassler’s “Entropy, Entertainment, and Creative Energy in Ben Bova,” examines the possibilities and merits of the hard SF subgenre that has fallen out of favor in recent years. Hassler describes the comfort and familiarity of genre conventions and the pleasure of reading stories that follow a recognizable pattern. He also acknowledges the particular joys of reading powerful nonfiction accounts of warfare and serious depictions of “human nobility.” Hassler suggests that the desire to escape such serious depictions of warfare could have fueled the Golden Age of SF. The recent work of Bova also contains this desire to leave warfare and history behind, replacing it with a sense of wonder and an unproblematic exploration of the solar system. Hassler examines Bova’s stories as examples of a playful renewal of older forms and tropes that are in many ways resistant to changes in the ideological landscape of SF. Such stories, Hassler argues, provide readers with a sense of hope for the future.

Together, these essays present an image of SF as both consistent and evolving. Since the nineteenth century, SF has consistently taken up themes such as the meaning of new technologies and the exploration of space.

Despite the constant evolution of the genre (and the culturewide system of genres), these themes have remained a central concern of SF. These themes are deeply rooted in SF's ongoing role as a mediator between science and literature, and the powerful hopes and fears that surround the role of science in the modern world. For SF writers and readers, science also remains at the center of cultural imagination and inspiration. This would have seemed a contradiction to antiscience literary scholars such as F. R. Leavis (Moran 31); fortunately, SF has thrived despite its violations of academic boundaries and protocols to become one of the dominant genres of the twenty-first century.

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4

Reading/Writing Martians: Seeing *Technē* and *Poiēsis* in *The War of the Worlds*

Charles Harding

ABSTRACT.— From its opening lines, *The War of the Worlds* is concerned with seeing, or comprehending, through reading and writing. H. G. Wells's novel emerges from a cultural environment in which a lack of foresight and illiteracy mark future-war stories and scientific discourse. Wells interrogates this cultural blindness and fosters competency by presenting his narrator as a scientific — that is, a knowing — spectator of the Martian invasion. The narrator strives to distinguish himself from those who exhibit nescience in relation to the attack. His insight proceeds from his ability to read — to comprehend and translate — what emerges from the Martian cylinders. The Martians figure as a prevision of a technologized future, and the narrator's scrutiny of their features and annihilative machinery reveals a potentially dangerous element in humanity's relationship to technology. This danger manifests in the Martians' degenerate *technē*, their transformation of the world into a totally mechanized and depersonalized system. Despite the forbidding nature of this futuristic world, the possibility remains that it may be averted. This possibility lies in *poiēsis*, or artistic producing, which in *The War of the Worlds* culminates in the narrator's rewriting of the invasion. According to Heidegger, *poiēsis* constitutes a space for an essential reflection on the danger for humanity in technology. Wells's novel offers an opportunity for reflection on future humankind, embodied in the Martians, and its relationship to advanced technology by inviting readers to see alongside the narrator as he scrutinizes the Martians and their *technē*. With *The War of the Worlds*, Wells suggests that science fiction must be knowing fiction.

No one would have believed in the last years of the nineteenth century, that human affairs were 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 affairs they were scrutinized and studied, perhaps almost as narrowly as a

man with a microscope might scrutinize the transient creatures that swarm and multiply in a drop of water.¹

With these remarkable words, H. G. Wells's narrator of *The War of the Worlds* commences his account of the Martian invasion. Critical attention to this passage has been focused on, for example, its reference to the microscope, its prefiguration of the Martians' fate, or its undermining of an anthropocentric worldview. However, it is no less important to note that at the very outset, Wells foregrounds an act of *seeing*, a term I use here in its sense not only of observing phenomena, but also of comprehending them through careful consideration. Wells's text as a whole suggests that to properly see, one must also have the insight needed to recognize an event's importance, just as competent scientists bring their knowledge to bear on the world revealed by the microscope's eyepiece. Although the passage above presents the Martians' scrutiny of Earth as groundwork for their colonizing project, it also prefigures the narrator's role during the invasion. It might be rephrased thus: "The narrator keenly and closely watches intelligences greater than man's, scrutinizing and studying them as they busy themselves about their affairs, as narrowly as a man with a microscope might scrutinize transient creatures." Here and throughout the novel, Wells advances his narrator as the exemplary seer of the Martian invasion, the spectator who both observes and comprehends its significance. Furthermore, expressed in the story's time frame is a bridge between eras: the late-nineteenth-century mode of seeing is exposed as flawed or incomplete, while the narrator-spectator inaugurates a move toward a more penetrating means of seeing humanity in its relationship to its environment. On the one hand, the Martians' epoch-making invasion enacts the transformation of Earth into an otherworldly setting, a literal reconfiguration of imperial England into something other.² Yet it also signals a transition from an outmoded to a more critically modern way of grasping humankind's place in a world of advanced mechanization — a world not only of microscopes, but of unprecedented, annihilative technology.

This concern with seeing as comprehending is further illuminated if we situate *The War of the Worlds* within its context as a future-war narrative that was originally serialized in 1897. I. F. Clarke has demonstrated in his influential study *Voices Prophesying War* that nineteenth-century periodicals such as the *Times* and the *Daily Mail* vied for readership with savage tales of wars to come. Fin de siècle England was a locus for the convergence of "increasingly powerful forces of mass journalism, mass literacy, and the mass emotions of extreme nationalism," occasioning a marketplace inundated with

fantastic and fanatical stories (Clarke 57). Given the “immense popularity” of these tales, most of which were well off target in foreseeing the nature of future war, Clarke points to “an extraordinary failure of the imagination,” with most readers holding only “illusory expectations” regarding the next major conflict (59). In place of genuine insight and circumspection, Clarke insists, a “compound of complacency, ignorance, and innocence” comprised the “primary condition” for the generation and public consumption of these fictions (73). This journalistic miasma, then, formed a major component of the cultural *mise-en-scène* before which *The War of the Worlds* played out its scenario for its audience.

Clarke’s analysis suggests an interconnection between the acts of seeing, reading, and writing during the formative years of future-war stories. By failing to comprehend the dehumanizing consequences of rapid mechanization in warfare, contributors and consumers of speculative tales were in a way illiterate — that is, they were unable to properly write and read future war because they were unable to reasonably foresee it. This illiteracy stems from an unscientific — a term that in this essay conveys also an etymological sense akin to unknowing — aspect that manifests in two ways. First, speculative war fictions frequently accentuated nationalist and sensationalist subject matter at the expense of plausibly depicting the effects of technological progress. Charles E. Gannon, who interrogates the influence that future-war stories had on subsequent weapons innovations, demonstrates that authors were sometimes accurate in their “‘microscopic’ view of specific technological innovations,” thus preparing readers for “new military ‘realities’” such as machine guns and tanks. However, he concurs with Clarke that they failed in their “strategic or ‘macroscopic’ perspective” (16). The macroscopic perspective here represents a deeper mode of seeing, and the unscientific aspect of future-war fiction lay not in its anticipation of the physical properties of later weapons but in its miscomprehension of how those weapons would permanently alter war and humanity.³

Second, many Victorians adhered to an optimistic belief that scientific and technological progress “would put an end to all strife on earth” and bring about an era of “universal peace” (Clarke 4). Clarke, citing Darwin’s influence, finds “a fusion of evolutionary and progressive ideas” in stories published after the seminal 1871 future-war tale, George Tomkyns Chesney’s *The Battle of Dorking* (48). In war’s “savage struggle to survive,” Clarke submits, “fitness meant military preparedness,” and the fittest nation — that with the most advanced weapons — would prevail so that humanity might progress

to a higher state (49, 50). More recently, Patrick B. Sharp has probed the yoking of Victorian ethnology to mechanization, proposing that Darwinism “provided a worldview not only for future scientists but also for historians and fiction writers trying to account for the importance of race and technology in the modern world” (32). Technological advancement and racial ascendancy were inextricably linked in nineteenth-century minds as a result of such Darwinist discourse, and as Victorians gazed into their future, they often perceived an age dominated by civilized men, masters of unrivaled technology. Future-war fiction, which openly endorsed racist and nationalist sentiment and valorized a technologized futurity, contributed to this conviction that progress was assured. This belief persisted into the next century, for as Clarke dryly remarks, it took two world wars and the atomic bomb to fully expose the unscientific character of inevitable human progress and the inherent danger in technological advancement (5).

Nevertheless, Wells’s early work evidences an awareness of widespread illiteracy and unscientific beliefs, and in *The War of the Worlds*, he directly confronts unknowingness in seeing, reading, and writing the future. Robert M. Philmus and David Y. Hughes have shown that in his essays, Wells “denigrates any pedagogy which seeks to inculcate mere fact without attending to the process of discovery and validation. ‘Not knowledge, but a critical and inquiring mental habit, is the aim of science teaching’—this is his constant theme” (2). Science is not scientific, then, if it neglects due consideration of its underpinnings and implications; rather, education must be knowing, not merely knowledgeable. Philmus and Hughes also note the “pervasive antagonism to any idea the basis of which its adherents conspicuously fail to recognize” that led Wells to espouse “opposite ideas,” or “notions running counter to currently accepted opinion” (15, 105). This antagonism surfaces in Wells’s confrontations with the anthropocentric view that humans comfortably sit atop an evolutionary hierarchy according to which the world awaits their command. For Wells, careful consideration reveals the fallacy of that perspective, and with *The War of the Worlds*, he expands his critique of anthropocentricity to include humanity’s place in a progressively mechanized world. The novel draws attention to reading and writing in the context of future war, but it should also be approached as a corrective text that asks readers and writers to better see humanity within a highly technologized setting.

In what follows, I interrogate how the acts of reading, writing, and seeing are crucial to Wells’s focus on humanity and technology. In emphasis-

ing the interrelation of these acts, the novel traces a path by which the narrator, and ultimately the literate reader, might progress from unknowingness to competence and comprehension. Wells implies in *The War of the Worlds* that there is an intrinsic danger for humankind's development in rapid mechanization, a danger that might be averted or counterbalanced only by endeavoring to grasp its possible effects. To elucidate the danger for future humanity implicit in Martian technology, I draw from Heidegger's philosophy of technology. *The War of the Worlds*, an early model of modern science fiction, establishes a critical task for readers and writers of the future in its focus on the science — that is, the knowingness — of science fiction.

Reading Martians: The Narrator and Scientific Literacy

In *The War of the Worlds*, when the first cylinder crashes near Woking, the narrator is so immersed in writing that he misses the epochal event, even though it occurs outside his open window. This failure to see situates him alongside the majority of Britons who did not “[seem] to have troubled to look” even after the landing (47). Human incuriosity or disregard, here as elsewhere in Wells's fiction, accounts for this initial response.⁴ As news of the cylinder spreads, Wells continues to highlight misapprehension of its significance. The moment it hits marks the beginning of a crisis for humanity — its disastrous confrontation with a highly technologized prevision of itself — yet it cannot be readily understood through nineteenth-century modes of seeing. We have seen that complacency characterized the approach to both future war and scientific ideas. Wells attacks complacency in essays such as “Zoological Retrogression” (1891), in which he contradicts the “invincibly optimistic spirit” of an “educated public” that misconstrues Darwinism as proof of humankind's permanent ascendancy on Earth (158). Indeed, Wells's early writings repeatedly reveal his efforts to disabuse the public of its unscientific prejudices. In *The War of the Worlds*, the educated and the general population alike constitute a purblind public that fails to fully comprehend the unfolding events, while the narrator increasingly extracts himself from the crowds to fulfill his role as scientific spectator. In other words, the narrator exchanges his concentration on his manuscript for an equally intense focus on the Martian invasion, which galvanizes his efforts to counteract widespread misreading and miscomprehending.

In a move that suggests a parallel to serialized future-war tales, Wells presents mass media as a primary agent of misreading and, correspondingly, miswriting the invasion. When the cylinder unscrews, for example, a newspaper labels the story a “canard” and “decide[s] not to print a special edition” (66). Later articles in London periodicals are marked by “brevity,” “bare fact[s],” and risible understatement in likening the attack to “a menagerie suddenly let loose in a village” (98–100). Reckless inattentiveness thus pervades the metropolis, exacerbated by the fact that the “majority of people in London do not read Sunday papers” (100). Before the cylinder’s arrival, the media also undervalue the fiery bursts on Mars. The *Daily Telegraph* relegates them to a “little note,” and so “the world went on in ignorance of one of the gravest dangers that ever threatened the human race” (44). A key word here is *ignorance*, which becomes a defining attribute of an illiterate public—including the narrator—that cannot initially read the Martian plot. Wells implies that if writers and readers were more competent, humanity’s downfall might be mitigated. The pandemic complacency apparent in the nineteenth century also obtains in Wells’s fictionalized England. From the start, the interplay of ignorance and knowing underlies the alien invasion and implicitly partitions the population into literate and illiterate readers.

Despite the narrator’s initial failure to see, his ambition as events develop is to privilege himself as a literate reader or interpreter. With the cylinder, Wells conflates notions of seeing and reading, for reading in the narrator’s case connotes both comprehension and interpretation. This twofold meaning is explicitly conveyed by the narrator’s anticipation that the unscrewing cylinder contains “manuscript” for “translation” (51), a pivotal image I return to below. The cylinder’s contents are offered for consideration and, later, for decoding into narrative form. However, the narrator stresses that capable reading “require[s] a certain amount of scientific education” lacking in the crowd, which holds only “the vaguest astronomical ideas” and for which the term “‘Extra-terrestrial’ [has] no meaning” (51). Hence the narrator ascribes nescience to the public: it is not knowing because it possesses no science. Yet the narrator remains “quite clear” about the cylinder’s origins and qualifies as “one of the privileged spectators” or scientists assembled at the site (51, 53). But the Martian Heat-Ray eliminates the scientific community, leaving the narrator as sole qualified reader of what follows. Public nescience merges with media misrepresentation, and the Martian invasion can be literally read only by the narrator, who positions himself as informed interpreter of the Martian manuscript.

Accordingly, one of the novel's more provocative episodes, the narrator's sojourn with the curate, underscores the necessity of a modern reading of the invasion. In placing the narrator and curate in opposition, Wells accentuates the latter's nescience, and by equating anagoge and ignorance, he suggests they are at variance with science as knowing. Unable to parse the Martian attack comfortably within a theological framework, the curate intones, "What does it mean? ... What do these things mean?" (96). The Martian scripture — the word here used in its etymological sense of writing as scratching or incising, suggesting the inscriptive force of Martian technology — counterpoints religious scripture in its refusal to be read exegetically. On the cusp of a new era, the curate's incongruous interpretation of the invasion, citing Sodom and Gomorrah and "God's ministers" (97), is equivalent to using an outmoded lens to view the future. The situation demands not eschatological but technological exegesis. If "intellects vast and cool and unsympathetic" have unseated a divinity as indiscriminate wielders of fate and fatality, the narrator's denouncing the curate's "stupid rigidity of mind" affirms his role as modern reader (41, 150).⁵ In the ruined house, the narrator, having previously viewed Mars through a telescope, discovers "a vertical slit open in the debris" through which to resume his surveillance (141). He and the curate "struggle bitterly for that horrible privilege of sight" (149), with the battle for this eyepiece figuring as a struggle between scientific and theological spectators. The curate's murder signals the demise of orthodoxy and the rise of a modernized worldview, with the narrator emerging as triumphant exegete. The scene is raw and Darwinian. It parallels the larger conflict between the Martians and humankind, but the fittest in this case is not the side with the most formidable weapons, but rather the reader most qualified to comprehend the nature of the greater struggle.

The substitution of one eyepiece (the slit) for another (the telescope lens) underlines the focus on studying and scrutinizing, seeing and reading, the Martians. Initially, the Martians peering from "across the gulf of space" mirror the narrator and "men like Schiaparelli [who] watched the red planet" (41, 43). Moreover, the novel concludes with the suggestion of a mutual, "sustained watch" by both planets (189). Presumably, this postwar act of seeing and reading is undertaken with a renewed awareness, for the narrator's authoritative account of the Martian project gives humankind greater insight to foresee any future crisis. In one sense, *The War of the Worlds* calls for the preparedness or fitness that Clarke's outlines for future-war stories: the sustained watch will guard against the "possibility of another attack" (189). But

importantly, the novel moves beyond the limited scope of that genre in its appeal to readers for a sustained watch on — that is, a perpetual awareness or knowing in relation to — technology's influence on humanity. The real danger, as I argue below, is not another extraterrestrial invasion but humankind's possibility of becoming ensnared in an insidiously depersonalized technological world. The narrative thus progresses from a condition of misreading to one of corrected reading while armed with a newfound comprehension of war and technology. This movement is critical to *The World of the Worlds*, but it must also be understood in relation to scientific, or knowing, writing.

Writing Martians: *Technē* and Humanity's Future

As I suggest above, Martian technology essentially inscribes devastation on the landscape, which transforms into an alien scripture that must be read scientifically. The word *inscribe* implies a script — a surficial etching or scratching. The Martians produce a new script that overwrites that of nineteenth-century England and becomes the text the narrator reads and subsequently narrativizes. In “The Question Concerning Technology,” Martin Heidegger notes that the word *technology* derives from *technē*, the Greek term for “the activities and skills of the craftsman” as well as “the arts of the mind and fine arts” (13). Michael E. Zimmerman clarifies that for Heidegger, “genuine” *technē* is “the capacity for disclosing something, for bringing it forth, for letting it be seen,” and it “preserves and guards things, instead of exploiting and dominating them” (229). However, Heidegger claims modern *technē* is a “setting-upon” and challenging-forth that “puts ... unreasonable demand[s]” on nature (“Question” 14–15). Modern technology is, as Zimmerman explains, “a degenerate form of *techne*, in that it imposes a highly constricting measure upon things, so that they can show themselves only instrumentally” (94). The work of the Martian machinery in *The War of the Worlds* can be seen as degenerate *technē*—vividly so when the narrator observes “a network of black smoke, blotting out the whole Valley of the Thames and extending as far as the eye could reach,” and when he pictures England “spread out like a huge map, and in the southward *blotted* ... as if some monstrous pen had flung ink upon the chart” (114, 127). To fulfill his role as competent spectator, the narrator reads the Martians’ degenerate script — the setting-upon and challenging-forth of their technology — and

translates it into his narrative. Thus, his hope that the first cylinder holds “manuscript” for “translation” is a pivotal moment in the novel (51). By announcing his desire to become translator of the cylinder’s contents, the narrator lays claim to his role as reader, and writer, of what emerges.

Furthermore, Wells’s choice of the word *manuscript* elucidates a homology of Martians and humans, for it implies hands (*manu-*) and writing (*script*). Bernard Bergonzi, in his pioneering *The Early H. G. Wells*, first identifies the Martians as “an image of the possible future of humanity” (133), and Gannon recently views them as “harbingers from humanity’s own industrialized future” (99). The Martian manuscript is revealed not only in the degraded *technē* of their inscriptive weaponry but also in their degenerative anatomy. In “Zoological Retrogression,” Wells maintains there is no guarantee of human evolution continuing in an upward direction. Rather, evolutionary paths undulate, thereby casting the “shadow” of “degradation” over all species (158). Wells singles out the ascidian, which “turns back from the upward path and becomes at last a merely vegetative excrescence on a rock” (162). Similarly, the narrator of *The War of the Worlds* alludes to the sedentary “fresh water polyp” as analogous to Martian bodies (145). Although advanced technology allows the Martians to effortlessly subdue Earth, they embody a humanity that has degenerated to a “merely vegetative excrescence” ensconced in their machines. Modern *technē* involves a setting-upon of nature as well as the body, intertwining technological advancement and dehumanization. Wells addresses this tangle, though more facetiously, in “The Man of the Year Million” (reprinted in 1897 as “Of a Book Unwritten”), in which future humans have, like Martians, distended heads and hands and depend on machines for survival.⁶ Wells treats this theme more harrowingly in *The War of the Worlds*, in which the Martians, virtually incapacitated outside their tripods, figure as humanity’s “shadow” should modern technology’s influence continue unabated.

This perversion of humanity is most salient in the narrator’s focus on Martian appendages, which he describes as “tentacles” and “hands” to simultaneously emphasize human and nonhuman characteristics (143–44). Martian limbs, which link machine and body, are reflected in the tripod’s “arm [that] carried a complicated metallic case” from which “smote the Heat-Ray” (52). The Heat-Ray forms a kind of chirographic prosthesis, an “invisible, inevitable sword of heat” and “intensely heated finger” that the Martians use to inscribe their technological ascendancy (58). In *Parmenides*, Heidegger asserts that “the hand is, together with the word, the essential distinction of

man” (80). Hands, for Heidegger, distinguish humans from animals and are vital for genuine *technē*, or “opening up a world and disclosing entities within it” (Zimmerman 193).⁷ But degenerative *technē* corrupts the hand and resultantly contributes to the degradation of language. Heidegger takes the typewriter for illustration: typewriting is not authentic producing or hand-writing, but language processed through machinery. This mechanization of the “properly acting hand” causes the “destruction of the word” (*Parmenides* 81), leading also to “the homogenization of modern humanity” (Zimmerman 205). Although Heidegger’s criticism of typewriting may seem overstated, his argument is useful for considering technology in *The War of the Worlds*. Wells’s Martians communicate exclusively through machines, whether to one another by “siren-like howls” or to the narrator through the network of devastation inscribed on the landscape (108).⁸ As harbingers from a highly technologized age, the Martians reveal an indurate humanity whose humanness is absorbed into its advanced machinery. The narrator as reader scrutinizes the Martians’ bodies and inscriptive weapons — their deviant evolution and degraded *technē* — and through them surfaces for readers of Wells’s novel a vision of a depersonalized future. To counteract the improperly acting Martian hand, Wells’s narrator becomes producer of his own script to return writing to the realm of the human.

Reading/Writing Martians: Seeing through *Poiēsis*

While acknowledging differences in their approaches to technology’s influence on humanity, we can see that Wells and Heidegger share many of the same concerns. Whereas Wells in *The War of the Worlds* and elsewhere pairs evolutionary degradation with technological progress, Heidegger rejects the Darwinist notion that a struggle for life accounts for the technological age, which is instead the culmination of a decline in Western metaphysics. Zimmerman explains that for Heidegger, “ontological blindness” promotes “*hubris* in the form of arrogant optimism about humanity’s prospects for gaining total control of its own destiny” (95). Industrialized modernity evinces this blindness: humankind’s inability to properly see its own being and that of entities makes everything appear instrumentally as potential “standing-reserve,” objects to be ordered and stockpiled (“Question” 17).⁹ Even humans, Heidegger believes, become “the most important raw material” in this system (Zimmerman 151). A similar blindness is evident in the

Martians' challenging-forth of aluminum and in their apathetic subjugation of England, whose inhabitants are frequently depicted as featureless black silhouettes and consumable beings. In "Zoological Retrogression," Wells attributes parasitism to biological degeneration, and in *The War of the Worlds*, the Martians' consumption of human blood punctuates their degraded status by illustrating how technology's influence can bring humanity to prey on itself. Earth under the Martians thus points to a totally controlled, totally objectified future where even the flora has a "metallic taste" (161). Although Heidegger repudiates science and Darwinism in the technological age, dismissing it as the imposition of a flawed mode of seeing upon the world, Wells interweaves evolutionary biology and technology to underscore the distorted nature of a highly technologized future. Yet Heidegger and Wells, however differently, both strive to expose the technological quest to place everything at humanity's disposal and under its control.¹⁰

Additionally, Heidegger and Wells deal with the question of humankind's ability to master technology. A common miscomprehension, according to Heidegger, is that "everything depends on our manipulating technology in the proper manner as a means" ("Question" 5). Heidegger insists technology is not under human control, but rather, as Zimmerman relates, the "technological system ... drives itself onward for even greater power" (201). In a depersonalized world, humans are blindly compelled to challenge forth and order all things around them, and they become entangled in a ceaseless process of increasing standing reserve for its own sake. *Enframing*, as Heidegger labels this concept, constitutes the chief danger for humanity — a danger that resides not in the "lethal machines and apparatus of technology" but in the "destining that sends [humans] into ordering" (28). It is this unremitting process that defines modern technology and that humankind must not fail to recognize. Although Wells offers a motive in *The War of the Worlds* for the Martians' invasion — their planet's cooling — they have become so entirely subordinated to their machines that they practice total war seemingly for its own sake. The narrator observes that the Martians go "to and fro, calmly and methodically spreading their poison-cloud ... and taking possession of the conquered country" (127). Their detached approach to technological conquest and indiscriminate extermination suggests their being bound within a system of aggressive acquisitiveness. Moreover, the usefulness of the aluminum bars challenged forth by the Handling Machines remains vague, suggesting only purposeless exploitation of natural resources.¹¹ If the Martians simultaneously embody future humanity and extraterrestrial

creatures, their technology becomes human in that it is personally controlled, but also extrahuman in that it remains beyond human control. In the Martians, we see technologized humanity pushed to an extreme of unknowingness. The illusion of control disguises technology's uncontrollability — that humankind might become compelled by a technological system that operates independently of human agency. This is the real danger that contributes to the degenerate *technē* brought forth during the invasion.

Yet there is hope in Heidegger's grim assessment of the technological age, just as Wells's novel offers a bridge to a new mode of seeing. In Heidegger's conception, a "new beginning" can occur when humans become "attuned to the uncanny destiny governing the whole planet: the destiny of modern technology" (Zimmerman 93). The "uncanny destiny" of the technological age entails modern humanity's compulsion to produce degenerate *technē*. In contrast, genuine *technē* involves the "bringing-forth" of *poiēsis*, the work of the artisan or artist who displays "knowing," the ability "to be entirely at home in something, to understand and be expert in it" ("Question" 13). We return to the narrator's role as scientific or knowing spectator of the Martians, whose tripods and handling machines may indicate technological skill, but whose degenerate *technē* clearly rests outside the realm of knowing *poiēsis*. Although he starts among those not "troubl[ing] to look" when the cylinder hits (47), the narrator concludes with the "broadening of men's views," as postwar humanity abandons its anthropocentric outlook and can "see further" (190). Wells implies the existence of a new period that inaugurates an enlightened mode of seeing: humans see not only further into space, realizing they are not central to the universe, but potentially further into the future, comprehending there the danger should modern *technē* continue unremarked. Heidegger's posttechnological world ideally preempts an "epoch of total mobilization" from "transform[ing] the earth into a gigantic technological organization" — nearly humanity's fate in Wells's novel (Zimmerman 36). Even though Heidegger's contempt for technology often borders on nostalgia, his hoped-for epoch does not demand reversion to a pretechnological state. Rather, humanity's relationship to technology alters so that authentic producing comes to replace inauthentic modern *technē*.¹² The post-Martian world, on the other hand, represents an opportunity for change that first requires authentic seeing so that humankind's development in relation to technology might come under greater scrutiny.

Again, the narrator's task in *The War of the Worlds* is to keenly and closely watch the Martians as they undertake their mechanized conquest of

Earth. The narrator as scientific or knowing spectator fulfills a critical duty not only in reading the Martian invasion, but also in bringing it forth as his *poiēsis*, his artistic response to Martian *technē*. In doing so, he counteracts the degenerate *technē* of the Martian mechanized hand and restores writing to the human hand. For Heidegger, inherent in the essence of technology is not only a danger but also a “saving power” by which humans “see and enter into the highest dignity of [their] essence” (“Question” 32). Heidegger defines *seeing* here as “catching sight of what comes to presence in technology, instead of merely staring at the technological” (“Question” 32). Whereas *staring* denotes viewing technology instrumentally as a means that can be controlled, *seeing* means comprehending the danger in technology, how humankind might become entrapped in a system over which it exerts no control. Seeing, therefore, necessitates “holding always before our eyes the extreme danger” by “essential reflection upon technology” (“Question” 33, 35). Reflection on the danger in modern technology happens, Heidegger contends, within the realm of *poiēsis*, or artistic producing. However, Heidegger narrowly limits *poiēsis* to poetry and the fine arts, privileging them as most capable of disclosing being. In applying *poiēsis* to Wells’s novel, though, we can profitably conceive of it as producing or bringing-forth, in contrast to technological producing or modern *technē*. Having fulfilled his role as competent spectator and reader of the Martian invasion, the narrator returns to his study and writing desk to find “the sheet of work ... left on the afternoon of the opening of the cylinder” (187). By bookending the invasion with the desk and manuscript, Wells suggests that the narrator revises — sees again — his original paper and produces his narrative as a counter-measure to the invasion, an “essential reflection” upon the “extreme danger” that presences in the Martian *technē*.

The narrator appropriately discloses the theme of his original manuscript — “the probable development of Moral Ideas with the development of the civilizing process” (187) — at the end of his narrative. This theme echoes two essays Wells composed around the time he wrote *The War of the Worlds*: “Human Evolution, an Artificial Process” (1896) and “Morals and Civilisation” (1897). In the first, Wells proposes two determinants in human evolution: “an inherited factor,” which produces the relatively unchanging biological human; and “an acquired factor,” which molds “the artificial man, the highly plastic creature of tradition, suggestion, and reasoned thought” (217). Morality, according to Wells, is an essential component of the acquired factor, and in the second essay, Wells argues that “the future of our civilisa-

tion depends upon the possibility of constructing a rational code of morality to meet the complex requirements of modern life" (227). These essays mark Wells's turn to the didacticism and elitism of his later work, for "the careful and systematic manufacture of the artificial factor" comes through education in the form of "reasoned conclusions from additions to ... individual knowledge, either through instruction or experience" ("Human" 217). Implying that nineteenth-century humankind may be progressing in "a rude and undisciplined way," Wells calls for "men with a trained reason and a sounder science" to use "intelligent exterior agent[s]" such as fiction to knowingly guide humans into futurity ("Human" 218). In *The War of the Worlds*, the narrator's manuscript ends midsentence: "In about two hundred years ... we may expect —" (187–88). The implication is that the narrator, having keenly and closely watched the Martians, is now better equipped to foresee the future. The narrator, who up to this point has been a scientific reader, will now become a scientific writer: he will inscribe the insight, or knowing, gained from the invasion into his new account. The narrative functions as an instructive text that seeks to impress on readers the importance of reflecting on how technological advances may alter future generations both morally and humanly.

In *The War of the Worlds*, then, the narrator is a prototype of the scientific guide — a mirror image of Wells as author — albeit one who implicitly shows rather than expressly tells. By concluding the Martian invasion with the manuscript that begins it, Wells constructs a loop that returns readers to the start and invites them to see again, to newly reflect on, the events and implications of the narrative. Thus, readers of the Martian invasion might also experience the narrator's evolution from ignorance to knowing, from nescience to science. This establishes the novel as an educative instead of didactic journey: it educates or leads out from nescience, illiteracy, and blindness. Roger Luckhurst has considered how Wells's "ambivalent texts" exhibit a "strong sense of ambiguity" about whether "technologized futures" might threaten or benefit human progress (40). At the conclusion of *The War of the Worlds*, the Martian machinery remains available for scientific study and public viewing, and the narrator relates that the invasion has brought "gifts to human science" (190). The enduring technology suggests two possible paths for humankind: one that, should blindness persist, leads to a Martianlike future of total dehumanization; and one that, should people learn to see, leads to greater comprehension of their place in a rapidly advancing world of technology. If the Martians grow out of technological

progress paired with biological and moral degeneration, then the novel offers the opportunity to check that growth and to forestall that trend. Luckhurst relates that in the late nineteenth century, “conditions converge to produce the space for what will become SF” (16). Given the public tendency to miscomprehend future war and new scientific theories, in *The War of the Worlds* Wells proposes that science fiction should be knowing fiction. The competent writer, like the narrator, must exhibit knowing, must be “at home” and “expert” in the genre (“Question” 13). The competent reader, on the other hand, must become literate, seeing future technology as not merely imaginatively possible but also inextricably linked to humankind’s humanity. Science fiction as *poiēsis* opens up the space for this essential reflection on technology.

NOTES

1. *War of the Worlds* 41. All quotations are from the Broadview edition, based on the 1898 London text.

2. On the novel’s imperialist themes, see Sharp 71–75 and Luckhurst 39–40.

3. The microscopic and macroscopic perspectives are brought together in Wells’s famous short story, “The Land Ironclads,” published in 1903. In this tale of the near future, Wells introduces tank technology in a war between urban engineers, representatives of a modernized society, and a rural army that adheres to outmoded ideas of warfare. Wells’s land ironclads not only prefigure innovative targeting and maneuvering capabilities, but they also herald the profound changes future war will bring to soldiery and weapons manufacturing.

4. See, for example, “The Star” (1897) and “The Story of the Last Trump” (1915).

5. On Wells’s criticism of rigid thinking, see “The Rediscovery of the Unique” in Philmus and Hughes 22–31.

6. See chapter 2 of Sharp for more on evolution and technological superiority. Sharp illuminates the Darwinian connection between human intelligence, hands, and technology. Sharp also sees in Martian corporeality Wells’s response to racial stereotypes common in future-war fiction (73).

7. Wells also probes the humanness of hands with the Beast Folk in *The Island of Doctor Moreau* (1896).

8. To explain their speechlessness, the narrator speculates that the Martians communicate by telepathy, and although they utter a “peculiar hooting” before feeding, the narrator claims it is caused by exhalation to prepare for ingestion (147–48).

9. My use of the terms *seeing* and *blindness* here accords somewhat with Heidegger’s thought, although his conception of viewing regarding humanity’s relationship to being differs. See Zimmerman 97–98.

10. For more on Heidegger’s rejection of modern science, see Zimmerman 159–60.

11. Some commentators have viewed Heidegger through the lens of ecology. For an analysis of environmentalist readings, see Zimmerman 241–44. Also, Wells’s war setting and imaginative weaponry link his novel to other future-war tales, yet his inclusion of handling machines and manufacturing indicates that his technologized future extends beyond mere military innovation.

12. See Zimmerman 229–36 for more on authentic production and Heidegger’s vision for uniting art and production (231).

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5

The Creation of Heinlein's "Solution Unsatisfactory"

Edward Wysocki

ABSTRACT. — Robert Heinlein's short story "Solution Unsatisfactory," which appeared in *Astounding Science-Fiction* in May 1941 under the pen name Anson MacDonald, is well known for its presentation of a precarious world situation after the development of a nuclear weapon. This story appeared well before the establishment of the Manhattan Project for the development of an atomic bomb. Knowledge of the state of nuclear physics in the time before the story's creation is presented to show that its concept grew from an uncertainty regarding the means by which an atomic bomb could be constructed. The source of the basic premise of the story, the use of radioactive dust rather than a bomb, is identified as *Astounding's* editor, John W. Campbell Jr. Development of the story, while retaining the basic weapon concept, was then taken by Heinlein in a different direction than had been originally suggested to him. Possible sources of technical information available to Heinlein are then considered, and a connection shown to a friend of Heinlein who had just received his PhD in the field of nuclear physics, Robert Cornog. The dust idea presented in the story occurred shortly before the same idea appeared in a report developed to suggest possible military applications of atomic fission. Although the close timing between the work of fiction and the report has been noted previously in the literature, no effort had apparently been made to establish a connection. In this essay, I propose a definite connection.

The concept of atomic weapons in fiction is as old as the discovery of radioactivity, beginning with Robert Cromie's *The Crack of Doom* in 1895. Many of the early stories featured weapons that functioned in ways we know to be impossible, such as the continuously exploding bombs of H. G. Wells's *The World Set Free* (Brians 4–5). One story that stands out from the others is Robert Heinlein's "Solution Unsatisfactory," which appeared in *Astound-*

ing Science-Fiction in May 1941 under the pen name Anson MacDonald. It is remembered today both for its technical accuracy and its prediction of a postwar state of affairs that greatly resembles today's concept of mutual assured destruction. To analyze "Solution Unsatisfactory" in context, it is necessary to assess two contemporary real-world concerns: first, the state of atomic knowledge in the period before the creation of the story by Heinlein; and second, the use of radioactive dust rather than a bomb, a notion that appeared in a report on the potential applications of atomic fission shortly after the publication of the story.

Two people figure prominently in this twofold analysis: John W. Campbell Jr., the editor of *Astounding Science-Fiction*, and Dr. Robert Cornog, a physicist. The basic fact of their connection with the story has been known for many years, thanks to a statement made by Heinlein in the essay "Science Fiction: Its Nature, Faults and Virtues," which is based on a talk delivered at the University of Chicago in 1957. Heinlein identified these two people as his primary sources of technical information. Similarly, the timing of the appearance of the radioactive dust concept in a National Academy of Sciences report considering possible applications of atomic fission has been previously noted by James Gifford and H. Bruce Franklin. Any mention of this report, however, has only noted the timing of the appearance of the report in relation to Heinlein's story, without digging deeper into any possible relationships. Here, I clarify both the extent to which the creation of the story was dependent on Campbell and Cornog, and the extent to which Cornog may have influenced the appearance of the material in the government report.

"Solution Unsatisfactory," which is often reprinted and anthologized, was written and published in the year before the entry of the United States into World War II. It concerns the attempts of the United States to develop an atomic bomb. When faced with technical difficulties in constructing a bomb, an alternative path to an atomic weapon is sought. The army officer in charge of the program, Manning, suggests that they ought to use the highly radioactive dust produced while processing material for the bomb. The war is brought to a close by the United States, in conjunction with Great Britain, scattering radioactive dust on Berlin. However, dusting Berlin has provided their enemies with the information they need to develop their own supplies of radioactive dust. While the United States still has a monopoly on the weapon, it attempts to impose its control and directs that all world aircraft capable of delivering such dust attacks be immobilized in designated

areas. This is followed by a short dust war between the United States and the Eurasian Union (Russia). The story ends with the establishment of a Peace Patrol that is placed in control of the world under the direction of Commissioner Manning. But what will happen when Commissioner Manning is dead? Will the Peace Patrol, who are the sole possessors of the dust, continue to operate for the benefit of mankind? This is the “Solution Unsatisfactory” of the title.

Basic Physics

Stories by Heinlein such as “Blowups Happen” and “Solution Unsatisfactory” were inspired and influenced by recent discoveries in the field of atomic physics. Many of these discoveries followed the confirmation in 1932 of the existence of the neutron (Rhodes 153–64). As a neutral particle, it is able to penetrate the body of negatively charged electrons that surrounds the atomic nucleus as well as the positively charged nucleus itself. During the 1930s, scientists bombarded many different elements with neutrons and tried to interpret the results. After the bombardment of uranium, they discovered minute amounts of elements approximately half the atomic weight of uranium. This was impossible to explain in terms of the atomic processes then understood (Rhodes 252–53). Finally, in 1939, it was realized that these lighter elements were fragments that resulted from the splitting (fission) of the uranium nucleus. When a nucleus is split, a specific amount of energy is released, and one or more neutrons are ejected. If these neutrons cause the fission of additional nuclei, which release even more neutrons, and so on, the result is a chain reaction (Rhodes 258–64). A chain reaction using uranium was a means of fulfilling the predictions of science fiction of the use of the power of the atom in both peace and war.

Uranium, like most elements, consists of several isotopes. Isotopes differ according to the number of neutrons contained in the nucleus. Uranium has three isotopes, U-234, U-235, and U-238, each with 92 protons and 92 electrons, but with 142, 143, and 146 neutrons, respectively. Because the number of protons and electrons determines the chemical properties of an element, its isotopes cannot be separated by chemical processes. Isotopes may be separated by the mass spectrographic method: an element is converted into a gaseous form, and its atoms are ionized (electrically charged) and then accelerated by an electric field. They pass through a magnetic field,

which causes the atoms to travel along slightly different paths according to their mass, and thus they are separated (Rhodes 487).

In natural uranium, the composition is approximately 99.28 percent U-238 and 0.71 percent U-235, with the remainder being U-234. The nuclei of the uranium isotopes react in different ways when bombarded with neutrons. U-238 will fission with only high-energy (fast) neutrons, with the nucleus absorbing any slower neutron. U-235 will fission with neutrons of any energy (Rhodes 283–87). Results obtained from the bombardment of natural uranium are confused by the fact that the more reactive U-235 is buried in the more abundant but less reactive U-238. It is necessary to separate the isotopes, but the samples obtained by the spring of 1940 by the mass spectrographic method were so incredibly small that the results of the experiments were inconclusive. As will be seen in the following sections, the uncertainty of the technical information available to Campbell and Heinlein had a definite effect on the stories that were created.

Atomic Discussions

Campbell's interest in atomic matters is well known. His bachelor's degree from Duke was in physics, so at the very least, he knew the basic atomic theories that existed at the time. Atomic weapons and devices were featured in his stories published during the 1930s, usually under the name of Don A. Stuart (Brians 152–53). After assuming the editorship of *Astounding*, Campbell often wrote of the coming of atomic power. One example is the editorial "Fantastic Fiction," which appeared in June 1938. After comparing predictions with the actual implementation of an idea, Campbell stated,

But you can be fairly certain of this: *the discoverer of the secret of atomic power is alive on Earth today*. His papers and researches are appearing regularly; his name is known. But the exact handling of the principles he's discovered — not even he knows now.

We don't know which is his name. But we know him. *He's here today* [21].

But what about Cornog? In his essay, Heinlein simply identified Dr. Robert Cornog as a physicist who worked on the atomic bomb as part of the Manhattan Project. But they were not just casual acquaintances. Heinlein and Cornog met in the mid-1930s and remained friends for several decades.¹ Indeed, Cornog is one of the people to whom Heinlein dedicated *Stranger in a Strange Land*.

Cornog obtained his bachelor's degree from the University of Iowa in mechanical engineering, then did his graduate work in physics at the University of California at Berkeley. He received his master's degree in 1939 and his PhD in 1940. After work on the Manhattan Project, Cornog returned to Berkeley as an assistant professor in the department of mechanical engineering from 1947 to 1950.²

During his years as a graduate student, starting in 1936, Cornog was at the Radiation Laboratory at Berkeley. He was first a teaching assistant/physics assistant, then a research associate, and finally a university fellow (Heilbron and Seidel 230–31). The founder and first director of the Radiation Laboratory was Ernest O. Lawrence, who received the Nobel prize in 1939 for the invention of the cyclotron. A definite connection therefore existed between Cornog and Lawrence.

The first documented discussion of atomic power between Campbell and Heinlein occurred in a letter from Campbell on January 15, 1940.³ In this letter, Campbell assumed that the speed of the reaction occurring in a large mass of uranium would be very fast, making it extremely difficult to control. He proposed this notion to Heinlein as the basis for a story, with the theme being the mental strain under which the atomic engineers would be operating, never knowing when the mass of uranium might explode and being unable to stop it.

In his response on January 20, Heinlein commented on the coincidence that “about the time you were writing your letter, we were visited by Robert Cornog, Sc.D., a young research assistant from Berkley [*sic*].” Heinlein spoke of having a discussion with Cornog that covered many of the same technical details, but that did not address the psychological aspects proposed by Campbell. Heinlein did not feel himself technically qualified to write the story at once, and he asked Campbell if he could recommend any up-to-date reference books on atomic physics.

Campbell's reply in his letter of January 23 was that there were no books such as Heinlein had requested. The field was changing so rapidly that Campbell predicted that half of the remarks made in such a book would be invalid by the time of the book's publication. Campbell wrote, “I'd suggest your best bet — and a damn good one it is, too — would be to get hold of your physicist friend and go to town with him. He could bring you up to date.” This is most likely the approach that Heinlein took. He started the “uranium bomb” story at the end of January, after submitting the manuscript for a short story entitled “Coventry.” The story was submitted to

Campbell on February 23. In the submission letter, Heinlein stated, "I had intended to send it to my friend in Lawrence's radiation laboratory at Berkley for a final technical check-over, but decided to send it you promptly instead." The reason given was that Heinlein agreed with the statement of Campbell concerning the speed with which the field was changing. The letter accepting the story was sent by Campbell just three days later, identifying it as "Blowups Happen," and stating that the payment included a bonus "for being a damn good job."

There then occurred a gap of several months with no mention of atomic matters or Robert Cornog in the correspondence between Campbell and Heinlein. Robert and Leslyn Heinlein traveled to the East Coast during the spring of 1940, and it is possible that atomic matters were among the many things discussed when Heinlein and Campbell finally met face to face. At about this time, several articles appeared in the *New York Times* (as did similar articles in other newspapers) in the spring of 1940. The *Times* of May 5 featured a front-page article by William Laurence that discussed the possibility of atomic power. It mentioned the isotopes of uranium, the separation of isotopes, bombardment by fast and slow neutrons, and the potential for the release of tremendous amounts of energy. Propulsion of ships and submarines was discussed, as was the explosive power that might be generated. The method proposed for power generation was simply to surround the U-235 with water. This would tend to slow down neutrons. The U-235 will fission with neutrons of any speed (energy), but slowing them down simply increases their chance of reacting with a nucleus of U-235. The heat released by fission would boil the water, and the resulting steam could be used to generate power. As long as water was provided, the reaction would continue. There were a number of obvious technical errors within the article, most likely the result of Laurence's unfamiliarity with the subject. But from the general tone of the article, which emphasizes the amount of power that could be obtained from a relatively small amount of uranium, it may have seemed to many readers that atomic power was going to arrive very quickly.

Apparently so much enthusiasm had been created by the first article that it was necessary to follow up with other articles, such as the one by Walde-mar Kaempffert that appeared in the *Times* on May 12. This article repeated a number of the points of the first article; it also introduced some technical errors of its own. But the main points were that it was necessary to separate the isotopes of uranium, and that only extremely small amounts had been

separated by that time using the mass spectrographic method. Kaempffert emphasized that it would take many years using the same approach to separate any appreciable amounts of U-235. Atomic power was not likely to replace coal or oil at any time in the foreseeable future.

In the August 1940 issue of *Astounding*, an article appeared that discussed the promises and problems associated with atomic power. The article is “Shhhhhh — Don’t Mention It!” by Arthur McCann, a pseudonym of Campbell’s (Berger 55). Campbell began the article by referring to the hype created by the newspaper articles. He then pointed out that it was necessary to work with U-235, but then incorrectly stated that U-235 was only affected by slow neutrons. This error may be traced to Kaempffert’s May 12 *Times* article, but it is also typical of the confused state of scientific knowledge at the time (Rhodes 333). Campbell then repeated many of the topics covered in the newspaper articles: (1) the need to separate U-235 from U-238, (2) the impossibility of separating the isotopes chemically, (3) a very brief description of the “mass-spectrograph technique” for isotope separation, and (4) the location of uranium deposits — the Belgian Congo, Canada, Colorado, and Austria.

The general tone of Campbell’s article, as in the newspaper articles, was power generation. He repeated the suggestion from the *Times* articles that the key was simply to surround the U-235 with water. In addition, Campbell was concerned with engineering problems such as shielding from gamma rays. His proposed solution was building the power plant within a mountain. Weapons such as atomic bombs were presented as unlikely.

Was Campbell intentionally downplaying the possibility of such a rapid and massive energy release? After all, the explosive power of uranium had been briefly mentioned in Laurence’s May 5 *Times* article. The possibility of an explosive reaction using fast neutrons in U-235 had actually been a subject of speculation among physicists for some time. On the basis of Campbell’s erroneous statement that U-235 was not affected by fast neutrons, it would appear that he was not aware of such speculation. Even if he had been, it would not have been possible to make a definite statement regarding the practicality of such a bomb at the time that the article was written. The questions of the amount of material required for such a bomb and its potential explosive yield had to remain unanswered until enough U-235 had been separated to provide more accurate experimental data. If the data had shown that it would require very large quantities of U-235 to produce only a very small yield, for example, it would not have been practical to pursue

the construction of such a device. General knowledge of such speculation and the possibility of a bomb was also constrained by the censorship that was beginning to be imposed by the scientific community itself with respect to the publication of papers with possible military applications (Smyth 45).

Even though Campbell did not consider atomic bombs likely, he did discuss military applications in "Shhhhhh — Don't Mention It!" He suggested, perhaps in jest, the possibility of a steam bomb based on the power generation type of chain reaction. His most important suggestion, however, began with a reference to the Roman conquests of Carthage. The solution supposedly used by the Romans after the final conquest was to level the city and to plow salt into the fields so that it would be impossible for any crops to be raised. Campbell then proposed:

The modern equivalent would probably be to bomb the undesired city with a few pounds of a long-lived radioactive isotope. There would undoubtedly be plant life left — rather weird stuff, probably — but humans would find it expedient to get out and stay out for one hundred years or so. A few uranium power plants could rather easily manufacture the necessary isotope bombs [113].

Campbell's Story Idea

The next discussion of atomic matters occurred in a letter from Campbell dated August 6, 1940, when the issue containing "Shhhhhh — Don't Mention It!" would have been on the newsstands. Campbell commented on a "howler" that had appeared in his article. By using the wrong means of calculating how the gamma rays would be attenuated by a given thickness of lead, he had been drawn to the incorrect conclusion, as stated in his article, that a mass the size of a mountain would be needed for sufficient shielding. By then calculating it correctly, he was able to determine that such a power plant could be made much smaller. The letter suggested all sorts of applications, some of which would not have been practical.

There were some additional brief mentions of atomic power in the Heinlein-Campbell letters over the next several months, but the important reference occurred in a letter to both Campbell and his wife, Dona, dated December 1, 1940, in which Heinlein wrote, "I've just reread John's letter of November 12th.... Such nice ideas he has, radioactive dust to wipe out all of modern civilization." No letter exists in the Heinlein-Campbell correspon-

dence file that bears the date of November 12. A careful examination of the file, however, revealed a letter from Campbell with no date, but with a handwritten notation of "Circa Dec 15, 1940." This notation is obviously incorrect because the letter presents the radioactive dust discussion to which Heinlein referred in his letter of December 1. This discussion took the form of a detailed story outline that began with the dusting of Berlin, but was followed by the dusting of other German and even Italian cities. This appeared to end the war, but there were then dustings of English cities followed by more dustings of Germany. Then Russia and other communist groups became involved. There were dustings of both Russian and American cities. The eventual result was that most centers of population were rendered uninhabitable, centralized governments collapsed, and the world's population sharply decreased.

The Story

We may confidently assume that Campbell's story outline was a development of the basic dust idea presented in his August 1940 *Astounding* article. Although he did not follow the outline proposed by Campbell past the initial dusting of Berlin, Heinlein thought the idea useful enough to proceed quickly; he sent the completed story to Campbell on December 24. He explained to Campbell that following his entire outline would have required a series of novels to tell the story properly. Heinlein chose to tell a shorter story of the possible consequences of the dust, with just a few characters.

The story was submitted with the working title of "Foreign Policy" with a suggested alternative of "Pax Americana," the latter phrase also appearing within the story. When Campbell read the manuscript, he commented in a letter dated "Circa Dec. 30 1940" that the solution presented in the story was "synthetic and unsatisfactory." He then suggested that this could be made the strength of the story by pointing out to the readers the nature of the solution and asking if anyone could suggest anything better. The suggestion was also made by Campbell to change the title to "Solution Unsatisfactory."

In his reply on January 2, 1941, Heinlein agreed that the solution contained in the story was weak. He said that he had intended it to be. He also agreed with the new title proposed by Campbell. In letters exchanged over

the next month, various minor changes to the story were discussed by Campbell and Heinlein. All were acceptable to Heinlein except for a change proposed to the ending, which he thought would destroy the dramatic punch, as he thought Campbell had done with his short story "Requiem." Heinlein finally suggested, in a letter dated February 7, 1941, the addition of a long sentence to a paragraph near the end to the effect that Manning's heart disease made it uncertain how much longer he would live. Campbell's reply was that he accepted the change as proposed by Heinlein, but the final published version also included the addition of a phrase where the narrator, deFries, repeats the fact that he is slowly dying of radiation poisoning. The story appeared, as Campbell had suggested, with an editor's note that emphasized the nature of the solution proposed in the story and asked whether anyone could suggest a better solution to the problem posed by such weapons.

After introducing the essential characters in the story, Heinlein found it necessary to provide some technical background for his readers. He began by listing the various sources for the scientists: Chicago, Columbia, Cornell, MIT, CalTech, and Berkeley. The source for the uranium used in the atomic program was given as Canada. On the technical side, he mentioned cyclotrons and the mass spectrograph method of separating the uranium isotopes, and he referred to a different separation method that he called the "fractional-residues technique."

What were Heinlein's sources of information for the physics presented in the story? The topics of isotope separation, the mass spectrograph method, and Canada as a possible source of uranium ore are straight from Campbell's article, "Shhhhh — Don't Mention It!" These topics would have been supplemented by more detailed information directly from both Campbell and Cornog. Heinlein would have also made use of the newspaper and magazine articles of the time, which presented information such as the names of universities involved in atomic experiments. The only topic in the entire paragraph that does not make any sense is the fractional-residues technique, which does not correspond to any detail of either the *Times* articles or the *Astounding* article. This sounds a bit like the processes of fractional crystallization used by Madam Curie for obtaining pure radium. But fractional crystallization is a chemical process, and the inability to separate isotopes chemically had been clearly noted in the Campbell article. It is most likely that Heinlein simply created this technique for the story.

Possible Influence of the Story

Although, as previously noted, Cornog was one of Heinlein's sources of information, there is no way of knowing exactly what sort of information he provided or how much he was involved with the writing of "Solution Unsatisfactory." Perhaps Cornog provided a general review of the completed story to check for technical errors, the step that was omitted for "Blowups Happen." Perhaps Cornog provided a more detailed explanation of some of the concepts presented in Campbell's article or in the press. Any such discussions that Cornog had with Heinlein, however, would have made him familiar with the basic premise of the story.

As noted above, Heinlein's story appeared in the May 1941 issue of *Astounding*. Given the publishing schedule of the time, the May issue would have gone on sale on April 18. At approximately the same time (the historical sources are no more exact than mid-April), a committee was formed by the National Academy of Sciences to explore the military possibilities presented by atomic fission. This was just one of a number of committees that had been formed to look at nuclear fission and to suggest applications and to recommend how subsequent research and development might be accomplished. The person selected as chairman of this particular committee was Arthur Holly Compton, who received the Nobel prize in physics in 1927. But what is more important is that another member of the committee was Ernest O. Lawrence (Rhodes 362–63).

On May 17, the committee presented its report. Two of the possible military applications were what one would expect: bombs, and as a power source for submarines and ships. The third possibility was the "production of violently radioactive materials ... carried by airplanes to be scattered as bombs over enemy territory" (Rhodes 365). This particular possibility was not pursued by the Allies. During the war, however, there was some concern that the Germans might actually be preparing such a weapon. This concern was driven by speculation about the state of the German atomic program because there was little information available on what they had been able to accomplish. After the war, it was discovered that the Germans had fortunately accomplished very little.

The timing of the appearance of Heinlein's story and the committee's report had already been noted by James Gifford, and earlier by H. Bruce Franklin. But what may we conclude about this appearance of the same concept in a science fiction story and a government report? One possibility, of

course, is simple coincidence. The second possibility is that a member of the committee or someone with whom the committee spoke had read Heinlein's story in *Astounding*. A minor variation is that the person might have read Campbell's earlier article, "Shhhhh — Don't Mention It!"

A third possibility is based on the demonstrated connection between Cornog and one member of the committee that prepared the May 1941 report. In the months between Cornog's technical assistance to Heinlein and the work of the committee, it is conceivable that Cornog could have mentioned the dust idea to Lawrence. Or there may have been discussions at Berkeley as the report was being prepared, during which the idea was presented by Cornog. All of the parties involved in this matter are dead, so unless the information is discovered in someone's memoirs or private papers, there is no way to arrive at a definite answer.

Conclusion

The purpose of this essay was to present details of the creation of "Solution Unsatisfactory" not yet addressed in the literature on the subject. The concept of radioactive dust can definitively be traced to Campbell, who was in turn influenced by the uncertain state of knowledge of atomic physics at that time. Definite knowledge about the role of U-235 in an explosive chain reaction would most likely have led to a suggestion to Heinlein for a bomb story. We can only speculate whether a novel adhering to Campbell's original complex outline or a story created by another author would have had the same impact as Heinlein's short story with its intentionally weak solution. But the important historical facts are Campbell providing his outline to Heinlein and Heinlein's known connection with Robert Cornog. This implies a stronger connection between the story and the May 1941 report on the military applications of atomic fission than has been previously stated. In the absence of other historical material, these facts indicate that an idea originally created and proposed by Campbell had a minor effect on the decision-making process for the U.S. atomic program in the period before the entry into the war, and that we may credit Robert Heinlein with help in the matter in his creation of "Solution Unsatisfactory."

NOTES

1. A source of some information on Cornog is a biography of John Whiteside Parsons by George Pendle. Parsons was a very strange person who combined an interest in the occult with experiments in rocketry. He was one of the founders of both the Aerojet Engineering Corporation and the Jet Propulsion Laboratory (JPL). Parsons was acquainted with Heinlein and many other members of the science fiction scene, such as Jack Williamson and L. Ron Hubbard. Pendle mentions Cornog and indicates that Parsons was introduced to Cornog by Heinlein. Parsons was killed in 1952 when he accidentally dropped a container containing fulminate of mercury.

2. Pendle states that Cornog had an assistant professorship at Berkeley before the war. A check with Berkeley provided the information on Cornog's degrees and also indicated that Pendle was in error regarding the time of the faculty position.

3. All correspondence between Campbell and Heinlein referenced in this work was taken from a PDF file downloaded on July 15, 2007, from the Robert A. and Virginia Heinlein Archives (<http://www.heinleinarchives.net/>). The file is one of four segments of file CORR218, Campbell Correspondence—Requiem 2. Reproduced with the permission of the Heinlein Prize Trust.

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6

Entropy, Entertainment, and Creative Energy in Ben Bova

Donald M. Hassler

ABSTRACT.— Even though Ben Bova is discounted by some as an “easy” writer or, perhaps, even because of this fact, his usefulness as a representative of the genre has impressed me. Further, I like his storytelling both for its ease and for its consistency. So this essay is one of several I have written attempting to account for genre effects in SF. I discuss several recent Bova novels, each dealing with the extrapolation of what we know of one of the planets in our system; and I find, in fact, some rich resonance of what I call “genre effects” in these books. I write in part as a fan, as well as an academic who hopes to set enthusiasm into the larger context of literary study. Many of Bova’s storytelling techniques seem outdated because they appear in the same milieu as postmodern experimentation, and I evoke the family romance metaphor from Freud—we tend to seek out and to feel comfortable with the “generation” of our fathers. Much of my point, then, about Bova’s effects is captured in what I label in the title as “the entropy” of reading and genre. I argue that the vigorous generation, or family sense, in these science stories allows us to see beyond.

Except in the rare cases of inspired clairvoyance, the originals in art that we elevate into legends such as Homer (but even there the legends are a sort of wishful thinking that can be broken down by analysis and reflection), the writing that we do grows from our reading. We often value writing when it is self-conscious about its roots in reading. This loop or symbiosis seems constant and is essentially conservative. It has little to do with pushing the frontiers of “idea” forward and so is basically not terribly intellectual. We like what we already know well. Over against this symbiotic feedback loop that generates much more good material for us to feed on, and that I will argue is the prime nature of genre, are the forces and urges of science and explo-

ration, the more intellectual enterprises. I find the epistemology of this opposition fascinating and keep wanting to write about it — or talk about it. Clearly, I get this fascination from my reading, and in a sense, I wallow in it; I hardly venture toward anything new or exploratory — except on the rare occasions when I read about that too. In the substantial literature recently about the nature of genre, this feedback loop of self-consciousness about genre may be enhanced by the argument of Thomas O. Beebee in his book *The Ideology of Genre*. He arrives at the ultimate position of claiming that theory itself is the postmodern genre.

In fact, science fiction plays out these ideas and puzzles well; but I also want to discuss some other reading outside of the genre that has come to my attention recently and that is troubling. In the end, however, science fiction may be enough to satisfy us. We are not scientists or explorers, and SF is extraordinarily rich. I am often quite content to remain loyal to my generation of readers, to this enthusiastic and fannish genre, so that this essay is not only an effort to think in a new and productive way about genre over against fine writing, but also a celebration of the rich resonance in some of the recent genre work of Ben Bova. This is not another attempt to define the larger genre of science fiction, nor hard science fiction in particular, as I worked at somewhat in an essay that appeared in David Seed's volume *A Companion to Science Fiction*. But these additional speculations do derive in part from those more systematic arguments. So I write here in part as a fan, as well as an academic who hopes to set enthusiasm into the larger context of our literary study.

The theoretic thinking that works to locate SF narratives in their relation to the politics of contemporary culture as well as to the stylistic advances in narrative art has shown almost no interest in the continual productivity of Bova. One can search the foundational works on politics and literature such as those by Darko Suvin and Frederic Jameson in vain for notice that this old warhorse of long editorial work and now, in the last two decades, steady creator of one novel after the other is dealt with in any way other than polite, or not so polite, neglect. Jameson produced an important essay on the politics in Larry Niven when the Ringworld books began to appear, but nothing on Bova. An essay that nicely surveys this solid academic record of exploration into politics and literature suggests why this neglect can be, in fact, expected. In a fine collection of essays by various critics on Marxism and SF, Andrew Milner notes that SF "is clearly a much less literary business than either Suvin or Jameson would have it" (225). Milner goes on to

argue well that the “selective tradition” in SF depends more on learning from and modeling on the work of Sir Walter Scott or Dumas *père* than either he, or Suvin, or Jameson would like.

Similarly, the interesting experiments in character development by means of point of view changes and allusions to the rich literary past from Shakespeare to Euripedes seem almost deliberately uninteresting to Bova in his role as a craftsman of storytelling. As Milner implies about those working in this selective tradition, Bova seems content to build his stories with tools much like the literary tools that a Scott or a Dumas used and that were then incorporated into the fledgling work of SF by Verne, in particular, at the urging of his editor, Pierre-Jules Hetzel. Then these nineteenth-century adventure story techniques became one of the models for the genre SF that I am interested in here with Bova’s work. And when such anachronistic books are published and accepted by their fans, one effect that seems clear to those of us working with the academic study of story is the effect of brandishing a red flag in the bullish faces of angry modern theorists and critics. I have no interest in elevating such attacks by citation, but I can report the presence of the following descriptors: Bova’s prose is deadening, his plots are plodding, his characterization flat. I have been unable to locate such vitriol in print but am willing to concede that it is there to be found; and, in fact, I am grateful to a reader of this essay for offering the harsh judgments on the Bova canon and the words for those judgments. When a shorter version of this essay appeared in the *New York Review of Science Fiction*, it lacked the more sharpened resonance with advanced theory, brief as it is here, on politics and stylistics in the genre. So I am grateful that I have been led to such resonances, although the deepest nature of my hunches and reader methodology here, learned from Bova perhaps, is not to drink too deeply of such current political and literary correctness.

Central to my argument here, in fact, is that Bova, like other storytellers in this genre who have interested me lately, such as Nancy Kress and Allen Steele, both of whom I have written about, whose politics often move no further toward political correctness than Ayn Rand and whose styles also lean back toward nineteenth-century adventure fiction, tells us something about our reading taste that we need to know. To use the family romance metaphor from Freud, we tend to seek out and to feel comfortable with the “generation” of our fathers. Further, before developing more about specific genre effects, I must describe the opposition in my mind, which derives from the serendipity and chance of my recent reading, so my thinking in this

essay is hardly a scientific test and more of an impressionistic and pleasurable ramble. Perhaps it is acceptable to write as a fan as well as an academic.

This is part of the point too — what I will label at the end of this essay as the entropy of reading and genre. I always seem to be blessed with the time for these reading rambles in the summer, just before the Science Fiction Research Association annual meeting, when my wife and I retreat to our Michigan cabin after the academic year is over. This summer I came back to some of the work of John Toland, the World War II historian who wrote a massive study of Hitler that I enjoyed a few years ago as well as a prize-winning book on the war in the Pacific. Toland happens to have been a graduate of my undergraduate college, Williams, which is David Hartwell's college too, and Tor published a lot of Toland. So when I asked about him, Hartwell told me that he had heard Toland admit that his first published piece was an SF story in 1938 under a pen name. Both Hartwell and I are eager to uncover this story, but our scholarship has not accomplished that task yet. Instead, I have indulged myself again to wallow in the entertainment reading of history and of one of the two works of fiction Toland produced on the Pacific battles. *Gods of War* (1985) is mundane, realist fiction in the tough tradition of Norman Mailer and Ernest Hemingway. For pages and pages, the story works to lay out and to anatomize the range of human suffering and emotional complexity that emerges in the most extreme human conditions. Toland switches nobly back and forth between the American point of view and the Japanese point of view. He was a careful historian and married to a Japanese woman. The fictional product is an anthropocentric and realist or naturalist tour de force that borders on the sentimental in its emphasis on telling what it is like to sweat and suffer in the emotional foxholes that we manage to dig here on this planet. I am reading the 600 pages of *Gods of War* slowly because it is real pleasure to sense the pain, extremity, and human suffering as well as the human nobility in the gruesomeness of this twentieth-century war in the detail that Toland narrates it. I do not think he could have done this if he had stayed with SF.

Maybe it was some desire to escape from the human drama, the human extremity of that war as well as from the Spanish civil war that has been called a dress rehearsal for World War II (Hemingway's great *For Whom the Bell Tolls*, of course, came from the rehearsal war and is the more artful and famous work compared with Toland) that helped to generate the great flowering of Golden Age SF in the late 1930s and in the World War II years. In any case, my main topics here concern the large, nonanthropocentric and

sublime and politically conservative effects in science fiction when the earth wars can somehow be left behind in the past. The end of the earth wars, and consequently the outward moves into space that were permitted by diverting resources from human squabbling and war to the science of exploration, is actually a major recurring theme or backstory in each novel in the ambitious set of solar system exploration novels that Bova has undertaken lately. It is similar to the political conservatism in the adventure works of Nancy Kress and Allen Steele. Similarly, it would seem that the escapist and speculative mode of space adventure and hard SF thinking has a continuing appeal not only to the young men of the World War II generation but also to their followers in the genre — even in the old age of the followers. Bova won the Campbell Award in 2007 for *Titan*, which was written when he was well into his seventies. I hope the series of planet novels from Bova has more to come; and Frederik Pohl, who is more than a decade older than Bova, is still writing Gateway stories. Perhaps there is something of the old secret of the fountain of youth in the escapist, speculative thinking and writing (and I would hope reading) of hard science fiction adventure with some of its most outlandish tropes.

My argument and perception is that it is the sheer political incorrectness and playfulness contained in some of the large tropes themselves that define the genre and that, in fact, is genre or generation. The ability to make an “original” new story out of ancient and typical origins is the generative or “genre” trait that fascinates me here. I select three such stories to say more about in the Bova series. The catalog of tropes is rich and more could be, and have been, analyzed by the good critics of space adventure such as David Hartwell, Gary K. Wolfe, and Gary Westfahl. But the three I choose have a natural coherence that links them well together. The first is the most common: earth is left behind in relative ruin and shambles. The second is the wonderful hope and search for extraterrestrial intelligence, or the science of astrobiology, which allows us to look beyond our own anthropocentrism. The third is the most general and even perhaps the most adventuresome; and it cycles the discussion back to genre expectations themselves — to the vigorous generation, or family sense, in these science stories themselves that also let us look beyond and see out of our grim foxholes.

So the first trope. Bova’s backstory for the damaged and wounded earth left behind when mankind moves out to explore the solar system is that a totalitarian ideology has unified the politics of mankind and encouraged exodus. His label and analysis for the ideology is religious. He calls it the

“New Morality,” and it seems a bit like the biblical stories of the fervent Hebrews coming together to flee the plagues of Egypt. In any case, what is seen back there on earth echoes the decadence of Asimov’s Trantor or the paternalism in Heinlein’s Terran Federation, and so in its very exaggeration of organization, it invites the frontier spirit and youthful adventuresomeness of off-world exploration. This is a useful trope because it allows for expansive generality and speculation with the ugly foxholes of real politics safely left behind. The speculation, then, is what energizes and fascinates the reader. And a recurring fascination is communication beyond our own species—the alien outside, the life off earth, the astrobiology that has its roots in the pets and other creatures (or totems) we have continually sought out and tried to talk to even here on earth.

Each of the solar system exploration novels by Bova contains a large dose of astrobiology. Most of these are simply tantalizing traces and microbes such as the tiny “ice life” in the rings of Saturn, which shows up both in *Titan* (2006) and in the earlier companion novel, *Saturn* (2003). Some of the astrobiology is playfully vampiric, predatory, and sinister, as that found on his oxymoronic hell planet, Venus, depicted in his 2000 Grand Tour series novel of that name. But his most poignant and effective use of this escapist trope that permits us some relief from the harsh naturalism of anthropocentric fixation can be found in the king or Jovian novel, *Jupiter* (2001), the book in the series that establishes Bova’s high standards and expectations for hard SF’s genre traits. I think *Jupiter* is both superb and typical, and it helps us to pinpoint what is possible and what is best about the genre of hard SF. Strangely, the biology here combines life studies of a modified ape named Sheena, with the intelligence and vocabulary of a two-year-old human, a school of enigmatic dolphins performing their usual tricks of comprehension, and an incredible whalelike Jovian alien the size of a small city (a mountainous ten square kilometers in size) that has evolved one hundred eyes and a codelike language of flashing lights that the eyes apparently register. Just as we marvel at the illusion of intelligence in our pets and large domesticated beasts such as horses—or used to, when horses were everywhere in our culture—so the astronaut explorers on Bova’s Jupiter are amazed and intrigued by the species of intelligent Leviathan life they discover. The trope is further played out in the story in almost a biblical allusion when the huge creatures save the explorers from loss in the Jovian sea like Jonah is saved by the whale. That turn in the plot is beautiful, moving, and totally improbable and fantastic, a miracle of rare device. Further, I think it feeds our con-

tinual illusions about pets and about nonhuman intelligence. And with the familiar repeats and reflexive literary allusion that also characterizes the highly genre-conscious work of hard SF writers, this Leviathan life in Bova seems to be the undersea companion species to the huge Medusa balloons that Arthur C. Clarke imagined in Jupiter's upper atmosphere. The characters know the Clarke story and make the comparison. Recently, images from animal studies and science fiction have been proposed for further investigation, in particular in an upcoming special issue of *Science Fiction Studies*. So this segment of this essay may lead to further, more detailed work on the topic.

But the two major and most meaningful fantastic tropes in *Jupiter* are the sea itself and immersion in the sea as well as size or scale. Both, again, carry biblical, almost medieval, connotations. The humanness of the explorers in the novel is shrunk to the head of a pin, and the wonders they discover and explore are immense and Jovian in size. Actually, what we know of the gas giant planet Jupiter itself is so fantastic and nonintuitive for people from earth, just like quantum physics has become, that the improbable and playful images that drive the narrative in the Bova novel are both accurate and incredible at the same time. Such freewheeling effects of tone, unlike the relentless realism of World War II battle narrative or prisoner of war narrative in Toland, are what I like to call comic effects; and I think they are the essential tonal effects from the repeats and images in hard SF. For example, Hal Clement loves to speculate with some accuracy about the disorientation, the nausea, and sheer toughness of living and working in zero gravity or other severe, off-earth environments. The explorers in Bova's *Jupiter* descend through the atmosphere and into the endless ocean on a planet that dwarfs them, who have evolved to tolerate earth conditions, with pressure and scale; and in order to endure the pressure, to equalize it cleverly, they must swim in a liquid-pressurized capsule and breathe the liquid. Clearly, this is like dying and being reborn back into both the fluids of the womb and into the Wordsworthian oceanic sense, as Lionel Trilling describes so well in his essay in *The Liberal Imagination*. The sheer pain and sublimity in such extremes necessary to do exploration in such an alien environment mirrors both Christian commitments in baptism as well as Clement's playfulness of doing science at the edges of endurance. But the effect is never solemn and gruesome, like being trapped in a foxhole. It is expansive, strange, and marvelously flexible.

Finally, the trope of scale here is essential, both the incredible hugeness of the setting on Jupiter and the size of the intelligent life form found there.

This is in contrast to Bova's continual fascination in all the books of the Grand Tour series so far with the new sciences of nanotechnology and micro-robotics. The explorers in the novel, immersed both in their liquid womb of a capsule and in the Jovian ocean, are also linked to their ship and to one another by means of advanced nanotechnology. My scholarly observation (though better scholars than I can develop it more completely) is that Bova's tropes and images of astrobiology, of planet exploration, of robotics, and of suffering through astronaut rigors in order to discover are all linked to the genre of hard SF with echoes that range from Asimov's *Fantastic Voyage* to Sturgeon's "Microcosmic God" and with doses of Arthur C. Clarke and Hal Clement thrown in for good measure. The paradox in the "sensawonder" method that harks back to the first trope I mention in this essay of the New Morality politics that was left behind by the explorers on a ravaged earth is that the end result of the science and exploration is a feeling of worshipful awe. The key point of view character in *Jupiter* comes out to the planet as a believer in the New Morality, and even though he is instrumental in the discovery of an intelligence that is nonanthropocentric and hence anathema to the New Morality because it does not seem to mirror an anthropocentric God, he ends the novel worshipping the wonder of creation — the old SF sensawonder. Here is a quotation from Grant Archer's point of view that is mostly about the huge creatures but that also conveys the science fiction sensawonder:

Grant's heart was racing with excitement. He could see the giant creatures flicking lights along their massive flanks, red, yellow, a piercingly intense green. What does it mean? Are they intelligent signals? Can we make any sense of them? ... Grant has never felt so small, so dwarfed. From a distance of fifty kilometers the Jovians reminded him of a stately herd of elephants, but they were so blessedly *big*. Bigger than any creature that had ever lived on Earth. Bigger than a city. We're just puny little insects compared to them. Ants. Microbes [326].

Our best working critics lately, if not our academic theorists, love to be in a playful state of mind. Everyone seems to be reverting to the comic tones of speculation, which is really a very conservative position (and a politically incorrect position), as I argued in *Comic Tones in Science Fiction*. In particular, Michael Chabon in his introduction to *The Best American Short Stories* (2005) praised "entertainment" in reading; and I too love the following quotation that I ran across from Martin Amis where he talks about the sheer energy in entertainment reading of all sorts:

When they come across something wise or witty, or fond, or funny, or something obviously necessary to the whole. Warmed readers make a little vertical mark on the page with their bookside pencils. Accordingly, then, the perfect novel would have perfect verticals running down the length of every margin.... Clearly, these are not a scholar's notes, and they move towards no edifice of understanding or completion. They are gasps of continually renewed surprise. I expect to read [Nabokov] many more times. And I am running out of clean white space [489–90].

This summer I have done the same marginal invasion on the pages of Toland and of Bova. So perhaps all writing and reading is good. I love John Toland's versions of intense realistic effects about our own World War II. But I also think writing must be at times about hope and belief. In the Middle Ages, it may have been books of hours or morality plays that represented the most effective genres for hope and belief. In our time, it may be the genre-conscious SF, with its fannish and generative repeats of the most abstract and conceptual notions of huge scale and even the entropic notions of not being able to separate the anthropocentric from the sheer energy that carries our most convincing sensawonder and hopeful awe.

In a way, nothing can be new in generation. The very word points both forward and backward, as Yeats noted in his poem "Among School Children." Everything is contained in their origins, and the most original work is that which repeats tropes and images. This is the highest abstract and conceptual notion from cosmology and what entropy tells us (and see the great piece recently by Sean M. Carroll in *Scientific American* on "Time's Arrow"); it is also the rhetorical basis on hard science fiction where Clarke and Clement and Bova all blend in what they have to tell us and genre becomes the most original generation as well as the patchwork of repeats we love.

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PART 3. MEDIA

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Introduction: Media and Science Fiction

Karen Hellekson

Science fiction, because it is a genre, transcends the media it appears in: print, so privileged in the academy, provides only one way to fictively express SF ideas. To print items — be they magazines, books, electronic texts, downloadable PDFs, or online-only publications — we must add film, direct-to-video productions, TV, podcasts, radio/audio drama, video games, comics, and cartoons. Inclusion of these sorts of texts is needed for a full and complete understanding of the genre; SF scholarship needs to accurately represent contemporary SF production, and this production includes much in nonprint media.

Although critics have long argued about what constitutes science fiction, not to mention what separates SF literature from SF in other media, their essentializing efforts have been doomed to failure. Vivian Sobchack, for example, in her study of American SF film, summarizes and then dismisses the stance of several critics who conclude that “the very nature and emphasis of the literature and the films are opposite” (20). For these critics, the written word comes out better than film, in part because of its purported reliance on logic and the rule of order and science. Any fundamental differences that can be articulated between print SF and SF in any other media are likely spurious, the result of skewed examples or flawed interpretation. It is also clear that film and TV in particular have become increasingly important vehicles of expression within the genre of SF. Any discussion of SF would likely mention the Star Trek or Star Wars franchises, for example; films that have become classics, such as *Blade Runner* (1982) and *The Day the Earth*

Stood Still (1951), would also be mentioned. Recent complex visual texts such as the new TV version of *Battlestar Galactica* (2004–9) and the allegorical South African film *District 9* (2009) illustrate that visual SF may be used to tell difficult allegorical stories about terrorism and apartheid. These SF texts provide a look at human engagement with difference, regardless of the medium used to tell the story.

TV and film, like print, will remain important modes of SF in part because their extensive distribution network means that the audiences tend to be large — certainly larger than for many print outlets. In fact, in 1996, Brian Stableford, in an essay in *Science-Fiction Studies*, noted the ascendancy of TV: he argues that TV is the third generation of SF, following magazine and book publication. He also argues that SF TV is not the best vehicle for SF because of the limits placed on the genre by the TV format, including “normalizing endings” and “quasi-paradoxical relationships ... between the leading characters” (329), which results in maintaining the status quo — quite a sorry state of affairs for a genre founded on notions of difference. He goes on to note that that print-media tie-ins, such as novels set in the Star Trek universe, suffer from the same characteristics.

His point about intertextuality is well taken. Indeed, things have only gotten more confusing in the years since his essay appeared because the boundaries between various media have grown permeable. Ancillary content — online-only Webisodes, DVD-set extras, viral marketing, podcasts — has become the norm, particularly for TV and film. This content is created in such a way that the extras need not be viewed to make sense of the text, thus continuing to privilege the primary text, but the ancillary content provides opportunities for interaction, deeper understanding, and further engagement. Sometimes the ancillary content ceases to be ancillary and becomes a force of its own, like a spin-off. The Doctor Who franchise serves as an instructive, if extreme, example. In addition to years of the classic TV show, we have a direct-to-TV movie, a rebooted TV show with two spin-offs, making-of specials, remastered DVD releases with extra content, novelizations of aired episodes, several series of original novels, comics, Web site content, video games, magazines and books about the show, various podcasts, and slick full-cast audio dramas that may also include original characters from the novelizations or allude to characters or events from the comics. And this is only the licensed content!

Stableford’s remarks about the restrictive nature of SF TV has an element of truth: the primary source remains primary, and it sets the status quo;

for example, a major character would not die in a ten-minute streaming Webisode. Yet the example of the Doctor Who universe shows us that the replication is endlessly generative and self-reflexive, not sterile and limiting. The multiple modes of media permit deeper, richer, and multilayered intertextuality. Fan creations, such as fan fiction, art, Twitter-persona fiction and games, and videos, fill out the mix; these artworks are far more likely to violate the carefully maintained status quo by presenting alternative texts, alternative readings, alternative sexualities, alternative bodies — the difference that makes SF SF. Yet fans are no longer the only ones taking on the job of destroying the status quo. The producers may do it themselves, as the 2009 cinematic reboot of the Star Trek franchise dramatically illustrates.

The proliferation of nonprint SF texts I describe above indicates that SF remains a valuable and generative mode of storytelling, even when strictures, as for TV, are placed on it. Video games in particular, with their reliance on user input, have the power to actively immerse the player in an alternative reality. Likewise, producer-run Web sites with ancillary content provide another space for guided immersion and engagement. The desire to interact will grow increasingly important, and as new technologies emerge that permit such engagement, fans will put them to good use.

The three essays in this section are linked less by the form of nonprint media they analyze — they examine a spin-off TV show, a graphic novel, and ecodystopian film — and more by the stance the texts take in relationship to what might be termed the real world, in that they displace it. Science fiction, as a nonrealistic genre, uses points of difference to articulate contemporary themes. All three essays use close readings of exemplar nonprint texts to draw conclusions about contemporary concerns. And all three essays rely on texts that are themselves part of a larger multimedia megatext, be it the Doctor Who or Watchmen universes, or the film megatext created by the subgenre of the ecodystopia.

In “Investigating the Postmodern Memory Crisis on the Small Screen,” Susan A. George analyzes two episodes of the British TV show *Torchwood* (2006–9), a *Doctor Who* spin-off, that deal with memory. One episode, “Sleeper,” concerns the suppressed memories of a sleeper agent placed on Earth, an alien who thinks she is human. The other, “Adam,” concerns the nature of memory an alien implants false memories in Torchwood team members in order to write himself into existence. George concludes that these episodes are articulations of the postmodern memory crisis, with memory acting as the locus of qualities that make us human. “Our greatest fear,”

George concludes, “is not of a violent mass invasion or being taken over by an alien other ... but of us forgetting who we are, of us losing our way, our ability to ‘find a memory that defines’ us as individuals and as social beings.” The confrontation with difference is here the confrontation with the self as residing in and articulated through memory. Crucially, signifiers of an objective truth in these texts include, but do not rely solely on, documentary traces such as closed-circuit television recordings. George thus gestures to the nature of TV itself as a site of the conflation between the real and the fictive.

Like George’s essay, Ho-Rim Song’s paper about the graphic novel *Watchmen* (1986–87), released as a film in 2009, uses postmodernism to engage in a close reading of the text that problematizes text and reality. Formal elements, such as placement of images, structure of panels, and use of color, are analyzed. The very genre of the graphic novel alludes to the superhero comics that *Watchmen* seeks to problematize, as the troubled and uncertain superheroes of this alternate-reality 1985 demonstrate. The materials presented in *Watchmen* require the reader to construct the story out of clues, including documentary “evidence” presented as fact. The reader must assemble the media megatext — including a pirate comic, a history of comic books, the perfume Nostalgia, and Rorschach inkblots — through active interpretation in order to find meaning. Song notes that “*Watchmen* is a joke to make unavailable readers’ conventional understanding of interpreting text and reality. For readers, the text itself is a postmodern reality where traditional meaning and value are denied.” The medium of the graphic novel is part and parcel of the message being told: it too denies traditional meaning and value.

The final essay in this section, Alfredo Suppia’s, is novel for its analysis of Brazilian ecodystopian film. Suppia analyzes four dystopian films of varying lengths that were released in the 1970s and 1980s to show Brazil’s early concern with ecological matters. Although the ecological aspects of the films stand on their own merits, they also permit an opening for criticism of Brazil’s ruling regimes. With Brazil’s attempts at socialism stopped by military coups that placed dictators in power, the films released during the dictatorship were a way to encode powerful metaphorical messages that would elude censorship while simultaneously acting as a displaced critique of the very powers that constrained them. Suppia notes, “The genre of SF is used to displace contemporary concerns, such as exile, rampant development, authoritarian regimes, and modernism, while simultaneously evoking

a national nostalgia.” Brazilian film is here placed at the nexus of “social, political, and environmental issues.” It engages and interrogates a variety of points of interest to metaphorically link disparate concerns into a single visual message.

All three essays in this section thus rely on displacement — of genre, of medium, of message, of memory. They illustrate the power of nonprint SF as a tool to effectively engage with contemporary concerns. They can also be read usefully as voices in an ongoing creation of the megatexts they are a part of: *Torchwood*, *Doctor Who*, *Watchmen*, and dystopian film.

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Remembering *Torchwood*: Investigating the Postmodern Memory Crisis on the Small Screen

Susan A. George

ABSTRACT.—In this analysis of the importance and reliability of memory in the context of postmodern SF, I use close readings of two exemplar episodes (“Adam” and “Sleeper”) of the television program *Torchwood* (2006–9) to explore the fundamental nature of humanity. *Torchwood* asserts that some essential qualities escape quantification. These qualities define the human and separate the human from the nonhuman. Memory is the locus of these qualities, not some metaphysical or religious construct called the human soul.

The importance and reliability of memory has been topic of Western thought back to Plato and his concerns over the “impact of the written word on active remembrance” (Grainge 5). This “memory crisis” has become a central theme in the postmodern era, in postmodern theory, and in politics. As Paul Grainge notes in his book, *Monochrome Memories: Nostalgia and Style in Retro America*:

One idea that found expression in a variety of cultural prognoses in the 1980s and 1990s, from the postmodern theory of Fredric Jameson to the public jeremiads emanating from Lynne Cheney as head of the National Endowment for the Humanities (NEH), was that of “memory crisis.” ... Postmodernism reiterates themes of flux and forgetting that, since the shaping of modernity in the “long nineteenth century,” has seen cultural stress come to bear upon traditional forms of memory [4–5].

Although conservatives critics like Cheney view the memory crisis as evidence of a failing educational system in the United States and the rise in

revisionist history, liberal or left-wing critics like Jameson believe that “it speaks more profoundly to the matter of *how (or not)* we remember in the culture of late capitalism” (Grainge 5). The postmodern aesthetic or style is characterized by simulation becoming “the new image paradigm that replaces representation” collapsing the real into the hyperreal (Sturken and Cartwright 237). It is typified by the questioning of metanarratives and an emphasis on pluralism and multiplicity, calling the notion of an authentic self into question.

As J. P. Telotte notes, science fiction, “like any other genre, is simply addressing our contemporary anxieties” (Telotte 2), so is it not surprising that concerns over the postmodern memory crisis have found their way into SF films and TV, ranging from Ridley Scott’s 1982 *Blade Runner* to *The 6th Day* (2001), *Impostor* (2002), and the reenvisioned television series *Battlestar Galactica* (2004–9). These SF narratives, like others before them, make literal and personal the memory crisis framed as political and social by scholars such as Jameson, Richard Terdiman, and Marita Sturken. Of course, “memory” in these SF texts represents much more than memory. They use memory in a particular way conflating it with consciousness, self-awareness, and the ability to self-reflect and make decisions on the basis of this awareness and reflection. What emerges from these texts is the importance of human memory in the construction of identity and “humanity.” On some important level, memory is a significant, even crucial, part of what separates the human from the nonhuman regardless of species or biological makeup. Or as the narrator of *The Outer Limits* episode, “Blank Slate” (1999), asks, “Do our memories define our identity?”—and more importantly, “If we are merely the sum of our experiences, what do we become if those experiences are lost?”

Among the recent SF TV programs that examine these issues is the BBC’s *Doctor Who* spin-off series, *Torchwood* (2006–9). *Torchwood* is an organization that works “outside the government and beyond the police.” They work in secret, investigating, collecting, and controlling alien activity and artifacts. *Torchwood*’s preoccupation with memory is evident from the series’ first episodes. A measure regularly used by the Cardiff *Torchwood* unit to contain any knowledge of alien incursions and to conceal the unit’s activities and identities is an amnesia pill. Once taken, you fall asleep, and when you wake up, your short-term memories have been erased. In this way and others, the series wrestles with questions regarding the role of memory in forming personal identity and what may be gained or lost as we move

from the human condition to the posthuman. This is especially apparent in two episodes from the second season, "Adam" and "Sleeper." "Adam" features a being that only exists when he "feeds" himself into the memories of others and "Sleeper" deals with a young woman discovering that she is not human, but a sleeper agent — an alien infiltrator with memories implanted so she can blend in. Here, I examine how these episodes respond and comment on our long-held anxieties, exacerbated by the tenets of postmodernism, concerning identity, memory, and the growing role of technology in defining or redefining the human.

"Adam" sutures the viewer into the issue of memory and memory crisis from the credit sequence on. After a brief lead-in, the episode starts as they usually do, with the voice-over of the team's leader, Captain Jack Harkness, explaining the mission and purpose of Torchwood, accompanied by shots of the team in action. However, there is a new member, Adam, included in the usual unit shots, as though he is a longtime unit member. Adam's presence and status are further called into question when Torchwood member and ex-cop Gwen Cooper arrives at work after a few days off. When she sees Adam, she says, as the viewer also says, "Who the hell is this?" The rest look confused as Adam moves toward Gwen, replying, "Just 'cause that's what I said to you on your first day." He then places his hand on her shoulder and says, "Remember?" This is followed by a sepia-colored montage of all the everyday, if excessively happy, moments they have apparently spent together at work. The use of monochrome instead of the vivid colors of the rest of the episode is significant as it evokes "the aura of the archive" (Grainge 3). As Grainge argues, "Black and white has been used to establish and legitimate particular kinds of memory in America cultural life" (3); thus, this montage sequence, reminiscent of old photographs, legitimizes the images as Gwen's authentic memories of past events as it simultaneously serves to differentiate memory from the episode's current action.

After she "remembers" and admits that she was joking, everything seems to go back to normal, but things are far from normal as all the characters are changed in some way, especially the team's doctor, Owen Harper, and the technology specialist, Toshiko Sato. The overconfident, cynical, womanizing Owen is now unsure of himself and smitten with Tosh, while the shy, conservative Tosh is confident and assured. She is shown wearing low-cut, form-fitting sweaters, and instead of pining after Owen, she has been dating Adam for a year. The odd occurrences do not stop there; however, as Gwen fails to recognize her fiancé, Rhys Williams, and the rest of the unit

experiences similar lapses in memory. Through it all, the audience watches as Adam constantly rewrites the team's memories and then desperately tries to manage the problems he creates. Eventually, he is found out through sources more reliable than memory — the written word and digital recordings.

For example, later the team cannot remember when the artifact they are examining, an intricately carved box, was found. When Ianto Jones checks his diary to clarify the issue, he discovers that there are no references to Adam in it anywhere. The truth of the matter is that the box, an alien artifact containing the then-bodiless entity that took corporeal shape as Adam through touch and memory manipulation, was found only two days before and is the cause of their current lapses in memory. The problem, as Adam explains to Ianto regarding Gwen's failure to recognize Rhys, is that "memory's a very delicate thing. Feeding myself in, wiped other memories out. It's a side effect of what I have to do in order to survive." When Ianto confronts Adam, Adam assaults him, forcing vivid memories of Ianto stalking and murdering three women into his mind. By the time Jack finds Ianto, he believes he is a serial murderer, "a monster." He defines himself as such on the basis of the memories of his actions. Jack does not believe Ianto is a killer and uses the "best lie detector on the planet" to prove that Ianto is mistaken about his own nature. Unfortunately, Ianto fails the test because he believes that the planted memories are his true memories, thereby reinforcing the episode's message that "our memories define us."

Moreover, Adam's explanation of what happened to Gwen and the changes in Owen, Tosh, and Ianto are in keeping with current theories regarding how memory (consciousness) works. Biologists' recent studies on the "construction of memory ... have reconceived the brain's memory function — from a case of dormant biochemical proteins waiting simply to be recovered to a dynamic process constituted by ever-shifting arrangements of neurons within the cerebral cortex" (Grainge 12). Or as roboticist Hans Moravec puts it, "Our consciousness may be primarily the continuous story we tell ourselves, from moment to moment, about what we did and why we did it" ("Simulation" 3). If this is the case, it follows that if those stories are radically changed — by physical or emotional trauma, illness, or, as in this case, deliberately by an outside force or entity — the individual would be changed on a basic and profound level, as is the case with Owen, Tosh, Ianto, and Gwen.

Jack, certain that Ianto is no killer and that "something's changed [him]," decides to check the closed-circuit TV (CCTV) to see what hap-

pened. Jack consults a digital record, represented here as more reliable than memory, to verify his own recollection of who Ianto is. The sequence, using the shot/reverse shot convention, switches from medium close-ups of the CCTV screen to close-ups of Jack as he watches the digital images, and Adam's voice is heard saying, "Remember." In addition to watching Adam attack Ianto, Jack reviews an earlier exchange in which Adam and Tosh share a kiss. The shot of the CCTV screen cuts to an actual shot as the viewer first saw it earlier in the episode — refreshing our memories and again hailing the viewer; here, the medium becomes the message. Jack then looks at the record of Gwen arriving at work, and it also cuts to the shot as shown earlier. Significantly, the sequence does not end with more scenes viewed on the reliable CCTV screen, but with flashbacks from Jack's personal memory showing moments of Adam and him alone. Each flashback ends with Adam touching him and saying, "Remember?"

Besides clueing Jack into what has been happening and how Adam does what he does, this sequence performs other important ideological work. As Karen Hellekson notes in a blog entry entitled "An Analysis of *Torchwood* 2.05 'Adam'":

"Adam" is interesting to me because of the ways it explores the fascinating historical idea of the trace.... Paul Ricoeur, in *Memory, History, Forgetting*, notes that there are three kinds of trace: the kind of trace associated with our brains ... the trace of affect ... and the more usual documentary trace, which comprises written records, archives, and writing. In "Adam," all three kinds of trace are in evidence, with the last kind, documentary trace, resulting in Adam's discovery and downfall.

Indeed, without this documentary trace, Jack could never discover the truth because he cannot rely on his own memory or those of the others, as Ianto's failed polygraph proves.

In addition, by using the written word and digital recordings to start the process and ending with Jack's personal memories, the episode works to reconcile two opposing theories about human memory — one that memory is important, even reliable; and the other that its fidelity is always in question. Ironically, Jack's flashbacks, not the CCTV records, are the final proof he needs to be sure that the team's memories of the last two days and the past three years (because Adam's story is that he was recruited by Jack three years ago) are anything but trustworthy, thereby questioning the stability of human memory while at the same time proving it to be invaluable to our daily existence. By starting with the CCTV but ultimately foregrounding

Jack's personal flashbacks, the sequence suggests that "authentic" memories not only exist, but also define us in some essential way, thus assuaging cultural fears regarding postmodernity's memory crisis and the superiority of the simulation over the real.

Documentary trace is not sufficient evidence in this case. It must be linked with "the corporeal, cerebral, cortical imprint" of Jack (and the viewer) before the "truth" can be uncovered and action taken (Ricoeur 15). The simulation, the images on the CCTV recordings, is not, as Baudrillard fears, accepted as real without referent. For Jack, "the simulation, the hyperreal" does not become "more real than the real," and the real is not "abolished" (Baudrillard 81). Instead, the simulations are the catalyst leading to Jack's memories of having his "real" memories abolished. The role of this documentary technology is not "to short-circuit in advance any possibility of communication (precession of the model that calls an end to the real)," but to assist in finding the "real" answer to the unit's memory crisis (Baudrillard 81).

After Adam's true nature is discovered, Jack works to put things right. He assembles the team, and in case anything is unclear, he tells them about Adam, his nature, and what they must do now. This scene reiterates ideologies regarding identity and where humanity lies — not in the soul, but in memories, both private and shared. Jack tells his friends and colleagues, "Our memories define us. Adam changed those memories. Changed who we are. Now I have to help you all go back. Find a memory that defines you. Rediscover who you are.... Feel around for anything that makes you what you are. The hidden and the forgotten." He dims the lights as the unit members recall "real" memories from their pasts as Jack reassures them and hands out the now familiar short-term amnesia pills. Tosh resists, again raising questions regarding the constancy of memory. She tells Jack:

TOSHIKO: I'm going to lose so much.

JACK: None of it was real.

TOSHIKO: He loved he. And I loved him. It's no different from real memory.

JACK: He forced it on you. You have to let it go.

Tosh is certainly right: at this point, her "real" memories have no more value, are not more real, than those fed to her by Adam, but for Jack, the issue is twofold.

First, if we return to the notion of the trace, Jack believes in the trace of "affection-impression" or something "in the soul," here represented as "authentic" memories, which he has relied on before in the episode (Ricoeur

15). Second is the issue of free will because Tosh's memories, like those Adam fed to Ianto, have been forced on her. Although the process many have been a pleasant one for Tosh, the magnitude of Adam's violation is more than evident in the sequence with Ianto, which is clearly represented as a psychic rape. Even though Adam uses a gentler touch with Tosh, it is no less a heinous intrusion — and one that literally gets Adam into her bed. In the end, Tosh apparently agrees with Jack that there is a difference between the memories Adam has forced on her and her "real" memories. She takes the pill Jack offers and lets those planted, if pleasant, memories — and therefore Adam — go, suggesting "*that the most constant element of recollection is forgetting*" (Terdiman 22). Furthermore, by choosing her memories over Adam's fabrications, the "values of liberal humanism," of "a coherent, rational self, the right of that self to autonomy and freedom, and the sense of agency linked in enlightened self-interest," are upheld (Hayles 85–86).

Although Tosh's decision and the comments of characters from Rhys to Jack support the postmodern outlook, "That's all we got really. Memories," Adam reminds us that "All human record is a lie. You twist it into what you want to believe." In his book, *Present Past: Modernity and the Memory Crisis*, Richard Terdiman supports Adam's claim, noting that "what we call the past is always already and irretrievable a profoundly altered or attenuated version" of the actual past (22). Certainly this is true — and one of the reasons that evidence such as eyewitness testimony is notoriously unreliable. In the end, however, "Adam" supports the notion that memory, as the "faculty constituting our consciousness and our self-awareness" (Terdiman vii), is up to the task, and an authentic self can be found despite the pressures exerted on the individual by "the cultural logic of late capitalism" or an alien entity (Jameson).

"Sleeper" presents a slightly different story, but one that still centers memory as *the* unique human quality while also raising questions regarding that postmodern cultural icon, the cyborg. It all starts when intruders try to rob a young couple's apartment. When the police arrive, they find the husband, Mike, unconscious and the wife, Beth, unharmed, leaving them with no explanation for how both buglers were dispatched, and leading to the police calling in Torchwood. During Beth's second interrogation, Jack's suspicions regarding her true nature are confirmed as an alien implant emerges from her arm. She is, as Jack explains, "a sleeper agent.... They infiltrate planets, adapting their bodies, gathering intelligence ... until they are ready to take over." Moreover, and most significant here, they "give them false

memories so they blend in. She has no idea she's not human." Therefore, early in the episode, as in "Adam," the issue of memories signifying humanness takes center stage.

When Jack and Gwen show Beth the recording of the interrogation, her memories are her proof of her identity and her humanity. She says, "My whole life. All my memories, they can't be fake. I know I love Mike and he loves me." Though Gwen assures her that if she feels human she is, because it is our minds, not our bodies, that make us human, Beth is not convinced, and neither is Jack. Beth wonders, "And what happens when the disguise comes off? I want to have kids one day. Is 'feeling human' enough for that?" She asks Jack if they "can fix [her]" and "make [her] human." Jack tells her, "No. Eventually, you will activate. Your *real* memories will come back and Beth will disappear" (emphasis added). Jack's words may seem harsh, but if we return to Moravec and recent work by biologist on memory and accept that our consciousness is "primarily the continuous story we tell ourselves" ("Simulation" 3), then once Beth's memories, her stories, are replaced with her "real" memories, she will cease to be both Beth and human.

Despite Jack's doubts, in most cases, Beth manages to retain her humanity and control the alien implant. By the end of the episode, however, she has also accidentally killed Mike. Beth finally realizes what Jack has known all along—she is too dangerous. She cannot fully control the technology embedded in her body or her alien nature. She can feel the change coming and Beth being pushed out. Gwen tries to convince her that she shouldn't give up hope, but Beth explains the truth of the situation her:

Do you have someone at home? Have you ever hurt them? ... Remember how guilty you felt? Imagine that times a billion, all the time, every second of the day. That's how I feel now. And the worst part is, when I turn back, I won't feel guilty anymore. I'll want to carry out my mission.... I don't want to die as one of those things, Gwen. I don't want to forget about Mike.... Remember me the way I am now. Remember Beth.

And remembering her earlier question to Gwen, "Have you killed other aliens?" and Gwen's response, "Only when we've had to. When it was the last resort, kill or be killed," she activates the implant weapon and threatens to kill Gwen. With the cybernetic blade at her throat, Gwen tells Beth she "can be human." Beth simply replies, "not human enough." Gwen tries to wave off the others, but they simply cannot take the chance that Beth is bluffing, and the episode ends in a case of suicide by Torchwood.

Besides clearly supporting the notion that our memories define us, as

black woman, alien, and cyborg, Beth represents all that is other, thus linking powerful cultural anxieties regarding the other and the merging of the biological with the technological. Although I will not discuss the gender or race issues in detail here, there are a few things that bear mentioning regarding her status as alien other, woman, and cyborg. Beth's cybernetic weapon implant foregrounds her hybrid alien/cyborg nature. Her inability to completely control the technology and her alien nature directly connects her story to that of other media cyborgs. As Mark Oehlert observes, "The very ambiguity with which many of the cyborg heroes and villains are portrayed, good guys become bad guys and vice versa, is indicative of our unease with these creations" (226). The hospital scene in which Beth accidentally kills Mike typifies this unease as she moves from a loving wife or good gal to a destructive and alien bad gal. Therefore, like other SF women such as Maria in *Metropolis* (1927) and the female human-form Cylons of the reimagined *Battlestar Galactica*, she is a threat to both the men around her and patriarchal order. Still, a few moments later, she regains control over the technology and helps Torchwood stop the invasion, reestablishing her good gal status. Her shifting status emphasizes the West's ambivalent relation to technology in general and the merging of female biology and machine specifically.

But more than that, it raises questions concerning what will happen — or more precisely, what has already begun to happen to our own humanity as we travel from the human condition to the transhuman and on to the posthuman or postbiological. The image of the cyborg has not only gained power as a cultural icon because of its utopian and theoretical uses, but also because current scientific advances such as "hormonal and genetic tuning of the body growth and function, pacemakers, artificial hearts, powered artificial limbs, [and] hearing aids" are making the theoretical cyborg construct into a reality (Moravec, "Robots" 11). In fact, "in *Mind Children*, [Moravec] speculates on way to preserve a person while replacing every part of body and brain with a superior artificial substitute" ("Robots" 12). As new technologies are making us into cyborgs, blurring the line between what constitutes the natural material human body, what constitutes the human and the non-human becomes increasingly ambiguous, tapping into the terror rather than the pleasure of a posthuman future. As N. Katherine Hayles observes, "The terror [of the posthuman] is relatively easy to understand. 'Post,' with its dual connotation of superseding the human and coming after it, hints that the days of 'the human' may be numbered" (283). And while Marvin Minsky asserts that "it will soon be possible to extract human memories from

the brain and import them, intact and unchanged, to computer disks,” that does not quell the fears of liberal humanists and others that believe the corporeal body and its mortality play an important role in human identity (Minsky in Hayles 13).

Beth, with her adapted alien body containing biological and nonbiological components and implanted memories, represents one possible next step in human evolution. For Moravec, the future of the human race will include human consciousness being downloaded or “stored in computer terminals or, for the occasional outing, in mobile robots” (qtd. in Springer 29). In “Sleeper,” Beth, Gwen, and Moravec all seem to agree that it is the “pattern and the process going on in [one’s] head and body, not the machinery supporting the process” that defines the human (Springer 29). However, while Gwen and Moravec believe that the memories, the consciousness of the individual, can survive within any vessel, be it a modified alien body or computer terminals, Beth cannot agree. For her, the feeling of the real memories pushing out the memories, consciousness, and self-awareness of the individual known as Beth forces her to use her “last shred of humanity” to die a human rather than “as one of those things,” thus suggesting, as Moravec does, that “our consciousness is the only reason for thinking we exist (or for thinking we think). Without it there are no beliefs, no sensations, no experience of being, no universe” (“Simulation” 3).

Therefore, “Sleeper” supports the notion held by Moravec, Minsky, Michael Dyer, and others that consciousness, coded here as memory, makes us who we are no matter where it is stored. However, Beth’s inability to retain her memories and choosing death as a human over life as an alien invader undermines their intent and the promise of a postbiological future, implying that something vital will be lost in translation and foregrounding our fears regarding the promise and consequences of new technologies. “Sleeper” reveals the tensions between liberal humanists and transhumanists, between those who distrust technological intervention in the human body and mind and those who feel that technology holds the promise of “the future *evolution* of *Homo sapiens*” (Graham 8). Beth’s people as sleeper agents and invaders represent one of the worst-case scenarios of Moravec’s postbiological future because they are “not bound by corporate law” and have “grow[n] into something seriously dangerous [through their] transform[ation] into extensible robots” (“Robots” 12). Unlike “Adam,” which tends to assuage our fears regarding “simulation threat[ing] the difference between the ‘true’ and the ‘false,’ the ‘real’ and the ‘imaginary’” (Baudrillard 3), “Sleeper” repli-

cates Western fears that “uncontrolled growth of technology destroys the vital sources of our humanity” (Postman xii) while at the same time, through the character of Beth, answering the question, “If we are merely the sum of our experiences, what do we become if those experiences are lost?” At best, we become less than human, and at worst, we become monstrous and dangerous to everyone around us and our way of life. Much more than “Adam,” “Sleeper” is concerned with the human condition. Rather than promoting the posthuman or postbiological as a viable alternative, it presents the cyborg as the representation of technology run amok in all the paranoia of the West’s continued love/hate relationship with it.

In the end, the importance of memory in defining the human is the key factor in both “Sleeper” and “Adam,” yet the outcomes could not be more different. Beth chooses to remain human and end her life before the alien memories, now returning in flashbacks of her killing the two burglars, push out Beth’s completely. For her, being human is about remembering her humanity. Adam, however, is never truly human, nor are his actions driven by any sense of what is defined within the narrative as human morality or ethics, as are Beth’s. Motivated by survival instinct alone and lacking existence and substance without any memories of his own, he remains less than a fully realized human and more a parasite feeding on the memories and emotions of others without truly understanding their meaning or significance. In addition, the power to manipulate others by rewriting their memories is too great a temptation. He does not just insert himself into their lives so he can exist, but he knowingly rewrites their personalities to serve his purposes — again centering memory in the definition of the individual.

Both episodes personalize the memory crisis that emerged powerfully in the 1980s and that over the decades has become even more central to postmodern thought. As Grainge notes, the transformative qualities of postmodernism have made the “issues of memory crisis seem even more intractable.” He further notes that “the desire for memory as stable, reassuring, and constant has always been plagued by the fear of its instability and unreliability” (5). This is all too evident in these two examples, when the fear of memory’s “instability and unreliability” are made manifest, leading to Beth’s decision and her final request to Gwen do what she cannot and “remember Beth” in “Sleeper,” and to the team’s realization that they have been both violated and changed on the most personal level in “Adam.”

The contemporary anxieties addressed in these texts and others such as *The 6th Day* and *Impostor* concern the quality — that thing, that spark — that

makes us human. They suggest that memory is the locus of these qualities, not some metaphysical or religious construct called the human soul, in effect moving the definition of humanness from the religious realm to the secular and scientific. As Moravec notes, “The prescientific suggestion that humans derive their experience of existence from spiritual mechanisms outside the physical world has had notable social consequences, but no success as a scientific hypothesis (“Simulation” 2). This “prescientific suggestion” not only fails as a “scientific hypothesis,” but also fails as a viable answer to the post-modern memory crisis and the definition of the human in recorded media SF.

Although Moravec and his ilk believe that humanness is quantifiable, our uncertainty and fear that it is not resound through these texts. Our greatest fear is not of a violent mass invasion or being taken over by an alien other, although this is part of the threat in “Adam,” but of us forgetting who we are, of us losing our way, our ability to “find a memory that defines” us as individuals and as social beings. The question, as Hayles correctly puts it, “is not whether we will become posthuman, for posthumanity is already here. Rather, the question is what kind of posthumans we will be” (246). The fear of losing our humanity, both our good qualities and our bad, is not a new theme in recorded media SF but has been a preoccupation of the genre since the 1950s, considered the golden age of SF film. Therefore, “Adam” and “Sleeper” do not ask new questions, but revisit our concerns regarding old questions: Where does our humanity lie? And as technology continues to change our bodies, what kind of posthumans do we want to be?

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8

Text's Resistance to Being Interpreted: Unconventional Relationship between Text and Reader in *Watchmen*

Ho-Rim Song

ABSTRACT.— Alan Moore and Dave Gibbons's graphic novel *Watchmen* (1986–87) experiments with postmodern literary devices, forms, and style to problematize the conventional concept of interpretation. In particular, the text deconstructs the conventional relationship between text and readers as the interpreted and the interpreter, and by doing so, it calls into question readers' perception of their own reality as well as that of the text. *Watchmen* ultimately claims that interpretation, or the act of finding truth or meaning, is meaningless for our postmodern reality.

Alan Moore and Dave Gibbons's graphic novel *Watchmen* (1986–87), an alternate history to the cold war period, generates a unique narrative style through fusion of various literary genres. In particular, the novel appropriates the genre characteristics of superhero comics and science fiction in constituting its narrative structure and conveying its critical concerns. The world of *Watchmen* is heading toward an apocalypse caused by nuclear politics and technology, and media's imprudent distribution of uncertain information only aggravates the situation. The world seems to need just, moral superheroes who can save the world. However, the superheroes of *Watchmen* are now retired, old, and forgotten, wallowing in nostalgia for their glorious past. The plot revolves around a superhero, Ozymandias, who plots a science fictional technological apocalypse, and the others who are not physically or morally powerful enough to impede him. Through this unconventional superhero story, *Watchmen* troubles readers' conventional reading of super-

hero comics and simultaneously problematizes the conventions of reading per se — more exactly, the conventional interpretation of text and reality.

There are two ways to account for reality or the perception of reality in postmodernism. One is relativism, in which “not only truth and the moral life but also the meanings of the text are relativized” (Vitz xiii). This approach emphasizes the locality and contingency of knowledge and value. The other is the Baudrillardian view of understanding reality. Jean Baudrillard sees postmodern reality as hyperreality, “where there is more and more information, and less and less meaning” (79). In his view, everything is simulacra, and thus interpretation to find self-evident meaning and value is meaningless. Through dexterous combination of visual and verbal narrative, *Watchmen* effectively depicts the hyperreal — but it not just represents hyperreality; it also makes readers experience it by challenging the traditional relationship between reader and text as the interpreter and the interpreted.¹ In the traditional notion of reading, a text, which is assumed to represent reality, should bear meaning that is self-evident and thus true for reality, and readers are expected to interpret it. In this view, the text is passive. However, *Watchmen* demolishes this hierarchical relationship by creating a text that actively involves readers’ reading process. By cataloging verbal and visual narrative techniques of *Watchmen* in terms of postmodern literary criticism, I examine how the novel illustrates the postmodern understanding of interpretation of text and reality through the destruction of the traditional relationship between text and reader.

The Reader’s Insecure Position as Interpreter

Each genre has its own codes and conventions, and readers tend to interpret texts on that basis. In particular, superhero comic books depend on formulaic plots and stereotypical characters, and readers accept such aspects as essential properties of the genre.² Mila Bongco claims that such conventions of superhero comics function as “a way of understanding and constructing a triangular relationship between the producer, the text, and the reader,” and the relationship is crucial enough to “[keep] the genre alive” (89). The producer is sensitive to the reader’s response to the text, the text is shaped by the reader’s expectations and conventional thoughts on the genre, and committed readers easily identify themselves with heroes of the text.³ Bongco argues that although *Watchmen* is a new text that “tackle[s]

complex moral dilemmas and diverse political shifts where changes and contradictions cannot so easily be labeled and appraised,” the text still uses some conventional rules of the genre, and thus the reader’s commitment is based on these conventions (94). Bongco calls such attempts “innovative repetitions” (94). However, *Watchmen* goes beyond these innovative repetitions: the text does not remain within the genre of traditional superhero comics. The “moral dilemmas and diverse political shifts” in the text are not meant to reinvent the genre; rather, the unusual thematic concerns of the text are intended to reinvent conventions of reading in general. Fundamentally, reading and interpretation are based on reader’s knowledge of social values and history as well as knowledge of literary conventions.⁴ By nullifying readers’ relevant knowledge, however, *Watchmen* frustrates conventional reading and systematic interpretation.

Reading *Watchmen* starts from its cover, which depicts red liquid flowing through an oblique black oval against the yellow background.⁵ Readers cannot identify what the cover describes until they see a smiley-face button with a bloodstain after a few pages and guess that the cover is part of the button. In the final panel of page 1, the readers’ gaze is drawn to a high position, where they see a male character look down a street. On the next page, readers discover that the male character is one of the two detectives investigating/interpreting a crime scene in an apartment where Edward Blake — a.k.a. Comedian — was murdered. Finally, readers can confirm the red blot on the cover is blood. The text re-presents what happened to the victim like an instant replay (1:2–3). In showing how the murder happened, the text confuses the readers’ gaze: a few panels are described as if the gaze was in the murderer’s position, and others as if an invisible observer’s. In this way, the text hints that readers will not be allowed to follow a stable gaze that grants them an omnipotent position as the interpreter. In fact, throughout the text, the readers’ gaze roams among characters’ and an unknown observer’s positions. Moreover, when they finish the text, readers come to recognize that they could misinterpret the text from the cover. In the final page of the text, readers see on a character’s shirt red liquid on a yellow smiley face, just like the one on the cover, but the red liquid is ketchup, not blood. Readers can no longer be sure whether the red liquid on the cover is blood or ketchup. As such, the text makes readers aware of how uncertain their interpretation is.

For the uncertainty of readers’ interpretation, Richard Reynolds states that both characters and readers of *Watchmen* are “consumers of their own

self-serving fiction” (114). Chapter 3 supports this notion: it centers on a sign for a fallout shelter, a news vendor talking about the relationship between information produced by media and world disasters, and a boy reading a comic book about a marooned mariner, *Tales of the Black Freighter*. The three elements frequently coappear within the same panels, as if they worked together to convey a certain message. The boy is so taken with the disastrous story of the comic book that he is never concerned about the disastrous situation of his own surroundings. The news vendor continually remarks on disasters of the world, quoting the newspapers he sells. But because he is not paying attention to the nearby sign for the fallout shelter, he does not realize how near the danger is. Neither character seems to understand that the world is falling apart; instead, they are “burying their heads in a story they don’t understand while the world falls around their ears” (Reynolds 114). In fact, they are in the same position as the marooned mariner of *Tales of the Black Freighter*—doomed.

Watchmen seems to ask its own readers if they are different from the news vendor and the boy—or even different from the marooned mariner in the comic book. In this sense, *Tales of the Black Freighter* as the subtext could be equivalent to its main text, *Watchmen*, and the boy and the news vendor are analogous to the readers of *Watchmen*. The narrations and graphics of *Tales of the Black Freighter* and *Watchmen* are often mixed within the same pages or even the same panels (for example, 3:4, 3:22, 5:12, 5:17, 5:21, 8:3, 8:25–26, and 10:13). Such combinations and overlappings of the two texts signify that *Tales of the Black Freighter* breaks out of its frame as a subtext and invades the broader text, *Watchmen*. Likewise, *Watchmen* can break into readers’ reality. *Watchmen* and readers are thus in an intertextual relationship—one that makes it hard for readers to interpret *Watchmen* objectively because the critical distance between them is erased.

Generally, visual texts place readers in the observer’s position, and it makes readers feel that they are outside the story so they can objectively interpret the text. However, *Watchmen* shows the potential of visual texts to reverse the position—that is, being observed by the text. In *Watchmen*, readers catch strange gazes, which make them feel like they are being observed. For instance, in chapter 7, Dan (Nite Owl) and Laurie (Silk Spectra) are preparing to resume their careers as the masked vigilantes. The first panel of page 21 shows Dan wearing the costume of Nite Owl. The text does not show the scene directly but instead through a reflection on the eye-shaped window of Nite Owl’s airship (7:21). The windows of the airship, which look

like eyes, serve as an observer's gaze, one who is within the scene. Similarly, on page 28, Nite Owl's goggles perform as an observer, watching Laurie and Dan (the fourth panel), and another gaze observes the whole scene, including the characters and the goggles (the fifth and sixth panels). The last gaze is far from Laurie, Dan, and the gaze watching them, showing readers Nite Owl's airship flying away. The gaze grasps the entire figure of the airship, emphasizing its eyelike windows — windows that face the readers, giving the impression that they are watching the readers. In the last three panels of chapter 7, the text appears to see the readers, rather than being seen. In this way, the text attempts to reverse the positions of the text and readers to see/read readers.

Such a reversed position between the text and readers is shown more obviously in chapter 6, "The Abyss Gazes Also." To reveal the source of his violence, Dr. Malcom, a psychologist, examines a superhero, Rorschach (Walter Joseph Kovacs), who wears a mask with inkblot shapes. Rorschach suffers from sexual depression caused by his mother's sex business and violence, and Dr. Malcom is supposed to reveal the relationship between Rorschach's violence and his childhood trauma. After hearing Rorschach's answers to the Rorschach inkblot test, Dr. Malcom believes that "no problem is beyond the grasp of a good psychoanalyst" (6:1). In this belief, Rorschach is a text and Dr. Malcom is a reader/interpreter. However, Rorschach does not allow Dr. Malcom to interpret him; Rorschach lies about the inkblots, and Dr. Malcom, as a confident interpreter, does not notice his lies until his patient confesses. In the last interview, Rorschach tells the doctor, "You don't want to make me well. Just want to know what makes me sick. You'll find out. You'll find out" (6:11). Later, Dr. Malcom finally finds out that Rorschach made him realize his own psychological problems: his sexual depression and immanent violence, which have been concealed under his successful career as an interpreter. Reading the text (interviewing Rorschach) is no longer the process of interpretation of the text; rather, it becomes a chance to see the reader's insecure position as the interpreter. In the final panels of chapter 6, Dr. Malcom is looking at an inkblot sheet in his bedroom. In that moment, he becomes a patient or an object that should be interpreted; his status is now that of text, not interpreter.

The relationship between Rorschach and Dr. Malcom illustrates the relationship between *Watchmen* and readers. Readers often see inkblots through either Rorschach's mask or Dr. Malcom's inkblot test sheets as if they themselves were tested in front of a psychoanalyst (for example, 5:11,

5:18, 6:1, 6:21, 6:28, and 12:23). The text provides readers with chances to see their own reality while reading the text. After reading the entire text, readers may be able to sympathize with Dr. Malcom's realization: "Why do we argue? Life's so fragile.... The horror is this: in the end, it is simply a picture of empty meaningless blackness. We are alone. There is nothing else" (6:28). When readers realize that their position as interpreter is insecure and fragile, they also come to understand the impossibility of traditional interpretation — and, further, the possibility of absence of meaning. At the end of chapter 6, the text, following Dr. Malcom's gaze onto an inkblot test sheet, shows a black blank, a space in which nothing exists and thus no meaning can be absolute. The text thus emphasizes its attempt to once more frustrate readers' interpretation. *Watchmen* shows that the empty, meaningless space is concealed by meaningless patchworks of fact and fiction.

Pastiche and Interpretation

To call into question readers' perception of reality through representations, *Watchmen* uses a postmodern aesthetic style called *pastiche*, a style that pastes various facets together "without the satirical impulse" (Jameson, "Postmodernism" 114). According to Fredric Jameson, pastiche is not a style to create meaning but to frustrate it ("Postmodernism" 114). *Watchmen* faithfully applies the distinctive nature of pastiche to its verbal and visual narrative. The novel uses pastiche not only for the characters within the story of the text, but also for readers outside the text: the characters' reality is constructed by the combination of the facts that actually happen in the story and the fiction that a character, Ozymandias, plots; the novel also uses (frequently distorted) historical events and figures, targeting readers. Pastiche is used to make readers question the credibility of their interpretation of reality as well as of the text by blurring their distinction between the real and the fictional.

In *Watchmen*, historical people appear with references to real events, such as Nixon, Kennedy, Ford, the Vietnam war, and the cold war. However, their historical conditions are partly distorted. The distorted events or historical fictions are set by fictional superhero characters: in *Watchmen*'s world, the United States won the Vietnam war thanks to Dr. Manhattan's intervention, and thanks to that victory, President Nixon has been reappointed for five consecutive terms. Thanks to Comedian's involvement, the

Watergate scandal was never publicized. However, although *Watchmen* sets a fictional historical background, the reality that the text depicts does not seem quite different from readers' own: in reality, readers in the 1980s, when the text was published, were still under the threat of nuclear war in the cold war, just as in the text, despite different historical processes. It could thus be said that readers live in the same historical moment as the characters do. However, such a similarity between the text and readers' reality is not intended to comment on contemporary politics, but rather to show that reality is "the play of random stylistic allusion" (Jameson, *Postmodernism* 18). Appendixes attached in the end of each chapter except chapter 12 reconfirm that claim.

The appendixes consist of various types of documents that help readers understand the events and characters within the text.⁶ As "an open invitation to readers to provide their own context for the story," the appendixes are a means for the text to engage in dialogue with readers (Reynolds 109). However, here, the dialogue is designed to obstruct readers' reading and interpretation. The four or five colorless pages of appendixes, following twenty-eight colorful pages of the main plot, interrupt readers' stable reading not only by causing visual and narrative discontinuity but by disputing readers' perception of reality. In fact, for the appendixes dealing with the superhero characters, although they are equipped with clipboards and handwritten comments informing the sources of documents that pretend to be real, readers may not doubt its fictionality. However, a few appendixes that insidiously mix fact and fiction, with textual reality laid against the readers' own, suggest the possibility that the reality that readers recognize as absolute is also constructed by the same sort of pastiche of fact and fiction.

The appendix to chapter 5, which contains information about the comic book, *Tales of the Black Freighter*, that appears in the text, shows how a reality can be created by the stylistic combination of fact and fiction. The appendix addresses Joe Orlando and Max Shea as the artist and the writer of the comic book. Joe Orlando is a famous artist in the real comics industry, and readers may have noticed that his name was listed in the acknowledgments section of the novel. To make readers believe in the existence of *Tales of the Black Freighter*, the appendix provides Orlando's real picture and this information about its copyright: "the following is reprinted from chapter five of the Treasure Island Treasury of Comics (Flint Edition, New York, 1984) with permission of the author and publisher." The document even presents the corporate logos of DC Comics and E. C. Comics, and mentions the long-

term competition of the two companies — again, a well-known fact in the real history of comic books. Nevertheless, *Tales of the Black Freighter*, which the appendix claims that DC Comics published, and Max Shea, mentioned as its writer, do not really exist. But it is not easy for readers to discern such fictional elements. *Watchmen* further confuses readers' distinction between fact and fiction, their real world and the textual world.⁷

The appendix also says that in the 1950s, "E.C.'s line of Pirate titles" dominated the marketplace, but that period, in reality, was the heyday of superhero comics (Sabin 44). The document ignores the history of superhero comics and instead fabricates a strange and new history of comics: pirate stories. This fabricated history of comics is intentional, considering Rorschach's comment: "Y'know superheroes are finished these days. It's all pirates" (3:25). The age of superheroes has gone, but only its style, invoking nostalgia, remains. *Watchmen*, which mocks the style of superhero comic books, is a remnant of that history. The superheroes of *Watchmen* in the emptied style float in the "pastiched depthlessness" of the emptied style like the marooned pirate of *Tales of the Black Freighter* (Hutcheon 17). Such an insecure condition for the superheroes reflects *Watchmen's* postmodern understanding of reality.

Ozymandias is aware of how reality is constructed, and he thus attempts to make one in which (super)heroes could return their glorious past. Ozymandias employs scientists to manufacture atomic bombs and hires science fiction writers to create the scenario that can make his bombing the alien attack. As soon as his nuclear attacks occur, the media quickly make the alien invasion a fact, and the world ostensibly cooperates against the fictional aliens: Ozymandias hopes that the attack destroys the existing order of the cold war world, thus giving rise to a new order. However, his attempt simply changes the object of the fear from the enemy countries to the aliens; the world is still controlled by the threat of destruction. After the bombing, when Ozymandias asks Dr. Manhattan if he "did the right thing ... in the end," Dr. Manhattan retorts, "*Nothing* ends, Adrian. *Nothing ever* ends" (12:27). Dr. Manhattan means that the order that Ozymandias wishes cannot be realized. For Ozymandias, who admires past heroes, such as Alexander the Great and Ramses II, the order that he wishes to achieve would revive the heroic age when (super)heroes could protect certain values and meaning. But as Dr. Manhattan points out, "nothing ever ends," and thus no value, no meaning, is fixed and universal. (Super)heroes lose what they should protect, and their *raison d'être* is forfeited.

Superheroes of comic books can be considered a zeitgeist in that they represent the imaginary and stereotypical ideal in a certain historical period. They serve for the good and punish the evil, reflecting the ethical and political values of an age. However, the superheroes of *Watchmen* are not sure what is good and what value they should protect. Instead, the novel reasserts through the superheroes' confusion that values are not fixed but contingent, not universal but ideological. Therefore, the superheroes' nostalgia for the past, or for the fixed and universal values, is an ideological fantasy. The perfume Nostalgia, which Ozymandias sells, embodies people's nostalgia for an age where universal values and absolute meaning were possible. The perfume frequently appears throughout the text not only to reinforce superheroes' nostalgia, but also to touch off readers' nostalgia. The consumers of the perfume cooperate in Ozymandias's project to revive the glorious past by helping him financially and emotionally, and readers also share the nostalgia by consuming the novel in which superheroes try to re-present the nostalgia. *Watchmen*, however, shows readers that nostalgia does not result in the return of the past, and thus their efforts to find value and meaning from their reading might be meaningless. The text makes readers see their reality through the world of *Watchmen*. But that does not mean that they can interpret the reality through the text; rather, they come to know that "the 'true' world is merely added by a lie," as Ozymandias shows (Taylor 29–30). As long as reality is a pastiche of fact and fiction and thus is without a distinction between true and false, no interpretation can be meaningful. The readers' desire to interpret the text and reality is a kind of nostalgia, which is a fantasy. *Watchmen* invalidates nostalgia itself by destroying the linear concept of time.

Time and Interpretation

By visualizing time, *Watchmen* suggests a possibility that the linear concept of time is not an absolute truth: the text shows that the past, the present, and even the future can coexist at the same moment. Such destruction of the linear concept of time problematizes the traditional understanding of cause and effect, and as a result, it brings about a new way to perceive reality. Dr. Manhattan stands beyond the human limit of time and space, and thus his reality is also beyond human perception. Time is a timeless space for Dr. Manhattan, who is able to arrange his experiences synchronically on

an imaginary sheet on which there is no time but only space: “There is no future. There is no past.... Time is simultaneous” (9:6). For him, there is no difference between walking in New York in 1980 and walking in New Jersey in 1959: the two instances happen at the same time for him. In the same vein, “[he] can’t prevent the future. To [him], it’s already happening” (4:16). Such a synchronic understanding of time illustrates the effacement of history that postmodernism claims as “a conceptualization of the present that seeks to historicize the effacement of the historical — thus, in some ways eternalizing itself, freezing the movement of time” (Ross 200). Dr. Manhattan seems to understand this postmodern notion of the effacement of history, and thus he comes to have an ahistorical and amoral worldview, which frees him from the values of traditional epistemology and ethics. The text claims that readers have also experienced the same epistemological and ethical changes in their postmodern reality as Dr. Manhattan. Jon (Dr. Manhattan’s real name) was accidentally locked in the vault for an atomic test and transformed into a new being with a new reality. *Watchmen* makes a link between that accident and the atomic bombings of Hiroshima to connect Dr. Manhattan’s experience within the text and readers’ in reality. In postmodern literature, the atomic bombings of Hiroshima signal not only the opening of the nuclear age, but also the psychological and cultural realization of the fragility of reality.⁸ In order to emphasize this view of postmodern literature, *Watchmen* forces readers to reexperience such a phenomenal change through Dr. Manhattan’s accident, then to follow his new understanding of history and reality. To do so, the text locates readers’ gaze within the time-locked test vault and has them feel the same experience as Jon’s: even before Jon enters the vault, the readers’ gaze is locked within it, and they both witness and go through Jon’s transformation together (4:4). Through the accident, Jon experiences his body’s and identity’s deconstruction and reconstruction. Jon’s transformation into Dr. Manhattan implicates the postmodern claim that there is no unified self and no absolute reality, and that is what the text forces readers to undergo.

Jon’s father recognized the change much earlier than his son. When atomic bombs were dropped on Hiroshima, the father, a watchmaker, asked his son to stop assembling a pocket watch, saying, “My profession is a thing of the past. Instead, my son must have a future” (4:3). Assembling a watch here is equated with interpreting systems and orders. If the concept of time changes, a traditional watch becomes meaningless; besides, as Jon’s father says, “If time is not true, what purpose have watchmakers, hein?” (4:3). A

watch is a device to impose meaning on time, and a watchmaker is an assembler of time, or a producer of meaning. Therefore, if the traditional concept of time is not true any more, meaning based on that and the producer of meaning become meaningless. Therefore, reading time and interpreting meaning in the traditional way should be reconsidered. In *Watchmen*, the destruction of the traditional concepts of time and meaning is visually presented when Jon's father dropped the parts of the watch that Jon was assembling: when the watch's "cogs are falling," the value and meaning that the watch signifies are falling (4:3); what remains is a piece of blank black cloth where the parts were put. To interpret meaning, readers are reading the space between blank lines.

There are two blank panels in the text: one is a black blank after the panel in which Dr. Malcom is holding a Rorschach inkblot test sheet, saying, "The horror is this: in the end, it is simply a picture of empty meaningless blackness" (6:28). The other is a white blank after Ozymandias's attack on New York (11:28). After the white blank panel, a part of Percy Bysshe Shelley's poem, "Ozymandias," is introduced. The poem is about destruction, death, and ultimate oblivion after the magnificent glory of a historical hero, Ozymandias. This poem, which depicts the wretched rest of the glorious history and the ephemerality of meaning and value, implies that the superhero Ozymandias's destructive plot for world peace or for re-presenting the old glories of Alexander the Great and Ramses II is also meaningless because we no longer live in a heroic world, but in a world of nostalgia for lost heroes. Ozymandias cannot return the lost world in which self-evident meaning is possible and thus interpretation is meaningful. In this sense, the black and white blanks visually suggest what we now have: the absence of meaning.

Conclusion

By challenging the traditional positions of reader and text as the interpreter and the interpreted, blurring the boundary between the text's and readers' reality, and confusing readers' perception of time and space, *Watchmen* interrupts readers' interpretation to find a specific moral and cultural conclusion. In the end, hoping to reveal the truth that he found out, Rorschach sends a journal containing his investigation about Ozymandias's project to a publisher, Pioneer Publishing. Rorschach's journal, however, is

lost among the files of papers in the publishing office. If Seymour, who works in the publishing office, finds the journal and takes it as truth, it could be publicized. Yet the text does not seem to say that it would happen. In the very last panel of chapter 12, Seymour's face disappears; the image is zoomed in on the yellow smiley face printed on his shirt, with a word balloon saying, "I leave it entirely in your hands" (12:32). Although the speaker might be Seymour's boss, by deleting his appearance and positioning the word balloon with the smiley face, the text implies that the words are not just for Seymour, but for the readers. It is up to readers to pick the journal/the text up, to read it, and to give it meaning. In other words, it is readers who decide how to understand the journal/the text. However, that does not mean that readers will reach a certain conclusion about the text because while reading *Watchmen*, readers have already experienced the fragmentary and depthless postmodern reality where no knowledge and value are absolutely true.

Throughout the text, *Watchmen* claims that interpretation is a joke. Comedian insists that "once you figure out what a *joke* everything is, being the *comedian's* the only thing makes *sense*" (2:13). Jokes make meaning meaningless. *Watchmen* is a joke to make unavailable readers' conventional understanding of interpreting text and reality. For readers, the text itself is a postmodern reality where traditional meaning and value are denied.

NOTES

1. The term *interpretation* in this essay signifies a reading activity to seek or create meanings based on traditional ethics and epistemology. Therefore, the terms *reader* and *interpreter* need to be distinguished.

2. In "Superhero: The Six Step Progress," Hal Blythe and Charlie Sweet formulate a conventional pattern of superhero story: "Society is threatened by a powerful menace. The stakes are high. Only a superpowered hero can stop the threat, and the resultant battle will be simplified into a war between good and evil" (183). Blythe and Sweet also delineate stereotypical features of superheroes: they are human with a secret identity, and their power is a strong yet limited physicality; they often violate the law but are morally superior (184–85). Similarly, in *Super Heroes: A Modern Mythology*, Richard Reynolds introduces definitions of the superhero and superhero genre through the Superman story (12–16).

3. Blythe and Sweet argue that by "representing the optimum development of the reader's positive traits, the hero is someone with whom the reader can readily identify" (184).

4. According to Martin Steinmann Jr., readers have "knowledge of a certain set of literary conventions," "knowledge of certain facts of history," and knowledge of "a certain set of values" (449).

5. Here, I use the compilation copy of 1986 and 1987. DC Comics republished *Watchmen* in 1995.

6. The document types of the appendixes are biography, psychological reports about superheroes, an article about comic books, academic reports, parts of a newspaper, interviews, and commercial notes and memos.

7. Readers can see Max Shea in a TV news program reporting his disappearance (7:13) and his picture in the New Frontiersman's office, where Rorschach sends his diary (8:10). After these appearances, he directly shows up in the story (8:11 and 10:17–18). Shea's presence in the story may be unexpected for readers who know Orlando's realness and consequently guess Shea's realness.

8. For more information about postmodernism and atomic bombings of Hiroshima, see J. G. Ballard's "Some Words about *Crash!*" and Daniel Cordle's *States of Suspense*.

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9

“Breathe, baby, breathe!”: Ecodystopia in Brazilian Science Fiction Film

Alfredo Suppia

ABSTRACT.— This analysis of four ecodystopian Brazilian SF films — Claudinè Perina Camargo’s *93° Tunnel* (1972), José de Anchieta’s *Stop 88* (1978), Roberto Pires’s *Nuclear Shelter* (1981), and Marcos Bertoni’s *Armadillo Blood* (1986)— demonstrates that ecodystopia is one of the most structured and long-lasting manifestations of science fiction in Brazilian cinema, offering critical and speculative visions at the crossroads of social, political, and environmental issues that continue to remain strikingly relevant today. These films shed light on Brazilian anxieties regarding modernization in the atomic era that reflect greater world ecological concerns that are only becoming more compelling.

In “Science Fiction and Ecology,” Brian Stableford reminds us that the term *ecology* was coined by Ernst Haeckel in 1873 but did not become established as a formal discipline until the 1920s; the first notable work on the matter was Charles Elton’s *Animal Ecology* (1927). Shortly after Elton’s text was published, ecology started tentatively appearing in the field of science fiction with works such as J. D. Beresford’s “The Man Who Hated Flies” (1929), a kind of avant la lettre ecocatastrophe. Stableford analyzes the exchanges between the ecological conscience and science fiction literature, addressing issues such as the reenactment of Malthusian theories, James Lovelock’s Gaia hypothesis, 1950’s Population Council, Paul Ehrlich’s population bomb, and Greenpeace as a parallel to literary approaches and interpretations or extrapolations. Such extrapolations include the idea of terraforming; the negative environmental effects of space colonization;

antitechnological or even mystical readings of modern civilization; genetic engineering; and posthumanity — topics that now seem bitterly ironic. From books to the silver screen, one can see a gradual increase both in terms of quantity, quality, and relevance of eco-SF movies since the 1950s, but particularly throughout the 1960s and 1970s, an era that saw the popularization of a new, more widespread, and to some extent left-wing ecological conscience around the world.

Stableford's concerns lie in the English-language or Anglo-Saxon literary tradition. However, ecology cannot be considered the domain of any nation in particular, as the environmental issue is of global concern today. In terms of environmental fiction, Brazil, among other Latin American or non-Western countries, is to outsiders associated with an ideal of an exotic, wild, even romantic land. This is seen in movies such as Harry Hoyt's *The Lost World* (1925) or Jack Arnold's *Creature from the Black Lagoon* (1954). Yet this (frequently exaggerated) mythological nature is not completely absent from Brazilian self-imagery. The conflict between modernity (in general between *Europeannes* and *Americannes*) and nature (native communities and traditions) has always permeated Brazilian SF texts. Here, I study this conflict in ecocritical terms, first by assessing Brazil's environmental debate as posed by peripheral viewpoints amid its controversial national policy concerning environmental issues, and second by showing how the ecological debate became an effective access point in terms of critique of the political regime — a way of dodging censorship and taking advantage of a worldwide agenda.

I introduce and discuss four examples of Brazilian cinematic ecodystopia, considering their historical and political background, their critical approach, and some of their aesthetic features. In addition, I intend to consider these films through the lens of the genre of SF, even though in Brazil, these films are not considered to be SF. My analysis sheds light on Brazilian anxieties regarding modernization in the atomic era. My study is the first to assess the relationships between Brazilian SF cinema and ecology; Brazilian SF cinema has never been seriously considered by academics, nor its existence overtly admitted. Although no established scholar's work explicitly mentions science fiction in Brazilian cinema, this situation is beginning to change with the work of master's and PhD candidates (Causo, *Ficção Científica*; Nolasco e Londero; Suppia, "Limite de Alerta!" and "Science Fiction").

Brazilian Politics in the 1950s, 1960s, and 1970s

All the films I discuss here, except for Marcos Bertoní's *Armadillo Blood*, were produced and released during the Brazilian military dictatorship. In 1964, Brazil's socialist agenda was thwarted by a military coup d'état. For the next twenty-one years, Brazil was led by a series of military presidents. Freedom of speech and political rights were severely restricted. Although, unlike the dictatorships in other Latin American countries, the Brazilian congress continued its work, the army had the congress under its thumb, with no room for fair political debate, let alone direct opposition. In the mid-1970s, the regime tightened its repression of Brazilian citizens, especially the malcontented. Journalists and artists were closely observed and suffered severe and constant censorship. Guerillas engaged in isolated efforts, but their armed resistance provided the perfect excuse for the army to unleash its savage repression.

DeRouen and Heo observe that "for much of the twentieth century, many Third World economies were dependent on a single export and were at the mercy of First World market demand" (475). This single-export model was incompatible with much-desired Western modernization and was severely criticized by those who desired a more self-sufficient and developed Latin America, such as those linked to the United Nations' Cepal (Comissão Econômica para a América Latina/Economic Committee for the Latin America), notably the Brazilian economist Celso Furtado and his followers. Furtado started working for the Cepal in 1949, advocating economic policies for Latin American countries such as substitution of imports, internal market protection, and investment in national industrial infrastructure. These policies integrated a broader economic and political orientation called *desenvolvimentismo* ("developmentism"). Any economic policy based on the increase of industrial production and infrastructure, with active governmental support and consequential augment of consumption, can be called *desenvolvimentismo*. This notion played an influential role in Latin America, particularly Brazil, in the late 1950s and 1960s. In 1964, the military government forced Furtado into exile. While living abroad, he taught at Yale, Harvard, Cambridge, Columbia, and the Sorbonne.

After World War II, Latin America began to modernize. In addition to the creation of programs like the Alliance for Progress (DeRouen and Heo 476), modernization resulted in an urban explosion. By 1985, the number of city dwellers in developing countries, including Latin America, reached

the mark of 1.2 billion, or 30 percent of the total population, against only 285 million people (or 16 percent of the total population) in 1950 (Kasarda and Crenshaw 467). São Paulo, the biggest South American metropolis, had 2.8 million inhabitants in 1950. Today, the population is approximately 18.8 million. Extremely high air and water pollution rates and traffic problems are a reality in contemporary São Paulo. These grave environmental problems were previously predicted by urban specialists and Brazilian writers such as Ignácio de Loyola Brandão in his novel *And Still the Earth* (*Não Verás País Nenhum*, 1981).

Claudinê Perina Camargo's *93° Tunnel* and José de Anchieta's *Stop 88* belong to this era of explosive growth and its resulting environmental problems and were released during the dictatorship, while Roberto Pires's *Nuclear Shelter* and Marcos Bertoni's *Armadillo Blood* emerge, respectively, in a period of dissension and early redemocratization. It was not until 1979 that the armed forces lessened some of the pressure they exerted over Brazilian society, and in 1985, Brazil enjoyed its first free presidential election in twenty-one years.

Films and Ecodystopia

Claudinê Perina's *93° Tunnel* (1972) is a film made by undergraduate students from the Catholic University of Campinas, São Paulo, Brazil. This short movie alternates between its depiction of a postapocalyptic, claustrophobic future where people live underground and the memories of a life on the earth's surface. Archival footage describes the twentieth century and its increase in pollution. The earth's atmosphere becomes deadly to humankind, who move underground. Mankind becomes a mutant species; scientists create noseless human beings. The main character's life span expires and he must leave the shelter, to face the hazardous atmosphere on the earth's surface. This short film is by far the most experimental work I consider here. Shot in Super 8, a format frequently chosen by Brazilian experimentalists and film artisans, *93° Tunnel* is reminiscent of a late modernist, even avant-garde, approach. It is a kind of audiovisual poem on the themes of nostalgia and environmental degradation.

In its degree of experimentalism, José de Anchieta's *Stop 88* follows *93° Tunnel*, with some alternative modes of exposure inserted into its more conventional narrative framework, punctuated by modernist spots coming from

theater, Brazilian architecture, and Brazilian *antropofagia*.¹ Paradoxically, but following a tendency in Brazilian art, *Nuclear Shelter* and *Armadillo Blood*, films linked to a period of political distension, visibly adopt classical narrative cinema as their main model.

José de Anchieta's *Stop 88: Alert Limit* (1978), a 35mm feature film, is set in December 1999, six years after the explosion of a factory that has poisoned the air with toxic waste. The leakage persists, and city dwellers are forced to pay for breathable air and walk through plastic tunnels that connect buildings. Mariano Paz says of Anchieta's feature: "[*Stop 88*] is clearly a dystopian speculation on the future of Brazilian society. While several elements can be considered typical of sf, such as environmental destruction, corporate greed and cybernetic organisms, others allude specifically to Brazilian politics, express concern for the future of Brazil and anticipate the changes that the country (as well as many others in Latin America) would undergo in the 1980s and 1990s" (94). *Stop 88*, in its darkness, anticipates such films as George Miller's *Mad Max* (1979) or even Ridley Scott's *Blade Runner* (1982) in its portrayal of postapocalyptic urban debris. *Stop 88*'s deeply pessimistic milieu is that of darkness, close tunnels, and decaying buildings. The film also presages 1980s-era cyberpunk; it presents one of the first and few Brazilian cinematic cyborgs, a man with artificial lungs.

Stop 88's cinematography emphasizes the dreariness of this future world: Paz observes that the film was shot in bleak colors, making extensive use of chiaroscuro. Paz continues:

For example, the scene in which Joaquim kills the debt collectors is filmed in an unspectacular manner, devoid of the kinds of sophisticated choreography one might find in a Hollywood blockbuster such as *Total Recall* (Verhoeven U.S. 1990), in which the privatisation of breathable air is depicted in such a way as to validate the protagonist's eruption into violent excess. In *Parada 88*, violence provides no sense of elation at justice being done and resolves nothing: Joaquim is now a criminal forced to leave the city [95].

Stop 88 was shot in Paranapiacaba, a small town in the state of São Paulo known for its fog. Its sets were designed by architect Alcino Izzo, who was responsible for the complex plastic tunnel network. Anchieta tapped into his career as a stage director to deliberately create a theatrical mood. The inspiration for the screenplay came from Anchieta's oldest son, who had a serious breathing disorder caused by the polluted air in São Paulo:

When I saw him, newborn, breathing in an oxygen tent, there and then I decided to start a discussion on the topic. At that time (1974/1975), we were

still in a dictatorship, as a left-wing artist, I was not persecuted by the armed forces, but by my very own political partners, who considered my subject [the environment] an "escapist" issue, to be distant from reality.... So, after the release of *Stop 88*, I was constantly criticized for having subverted the Socialist doctrine. However, the elements that were brought up by my film, such as robotics, are deeply rooted in today's worldwide industry, including Brazil's. The disaster of global warming is also a reality, and it [was] already discussed in 1975 [Anchieta, interview, 2005].

José de Anchieta declares that *Stop 88* was conceived as an ecological warning. The feature is the summing up of three previous 1970s shorts that worked as rehearsals: *The Vertebrae Flute* (*A Flauta das Vértebras*), *Reticências* (*Reticências*), and *Final Dot* (*Ponto Final*). *Reticências* was screened in 1978 at an ecological film festival in Montreal, and there, Anchieta witnessed a profound debate on environmentalism. *Reticências* won a special prize, "maybe because the festival was worried about the lack of ecological discussion in Brazil. At that time, there was already a big concern for the future of the Amazon" (interview, 2005). Anchieta adds:

I remember my return to Brazil. I strongly discussed the ecological issue with my friends, who did not understand — or did not want to understand — what I was talking about because they all had turned to a greater ideology: armed resistance. There was no political debate on the environment whatsoever. This was an "escapist," bourgeois subject. I guess I was one of the first to come up with this issue, both in the cinema and television. I worked for some time on *Globo Repórter* [a journalistic TV program], where my proposals for films on environmental issues were usually accepted. I had to make *Stop 88* to disclose my claim, only belatedly discussed and understood. Ideologies failed, but ecology is still on the world's current agenda as a universal thought for the salvation of the planet [interview, 2005].

Stop 88 was produced by Embrafilme, the Brazilian film agency then headed by Roberto Farias, who regarded Anchieta's project as "a new language, which was different from the most fashionable aesthetics of the times, 'the aesthetics of hunger'" (interview, 2005).² Although *Stop 88* tried to distance itself from the Brazilian *Cinema Novo* movement, it was not entirely successful: it presents some characteristics that end up also being a form of "the aesthetics of hunger" in comparison to American science fiction film standards. Paz observes that the film "deals with pollution and the destruction of the environment, but it is a more elaborate and arguably more serious effort, avoiding stereotypes and concessions to the audience" (92).

The third film I want to discuss is another 35mm feature film, Roberto

Pires's *Nuclear Shelter* (1981), which is about atomic energy and its ecological implications. The plot was inspired by some ideas from the Brazilian physicist César Lattes. After four years of preparation, the film was shot by a jack-of-all-trades team in a studio built on a beach in Salvador, Brazil.

In *Nuclear Shelter*, Lat (Roberto Pires) is in charge of checking and handling radioactive disposal on the earth's surface. During a routine inspection, he discovers serious problems in the atomic waste container. A possible explosion could put the subterranean village at risk. However, Avo (Conceição Senna), a commander who keeps people under strict control, underestimates Lat's report. Further, Avo is unaware that in the past, mankind had once lived on the surface. Lat joins a rebel group that aims to disable nuclear power plants, develop clean energy, and conquer the surface once again.

Its plot, set design, and main character all recall George Lucas's *THX 1138* (1971), another dystopia inspired by the classic situation of an individual who refuses to follow technofuturistic laws or conventions — a plot already seen in science fiction novels such as Aldous Huxley's *Brave New World* (1932), Evgueny Zamiatin's *We* (1924), or George Orwell's *1984* (1948). *Nuclear Shelter*'s costumes and sets, designed by Roberto Pires himself, also recall some American and British science fiction films.

Nuclear Shelter was produced during the dictatorship and released in the same year as Ignácio de Loyola Brandão's famous dystopian novel *And Still the Earth* (1981), making it contemporary with the so-called atomic euphoria of the Brazilian government, which had high expectations for its nuclear power plants. This atomic euphoria had roots in the democratic era, when President Juscelino Kubitschek created the National Commission for Nuclear Energy (CNEN) in 1956. In 1967, under military rule, President General Costa e Silva created the Nuclear Program. Brazil signed an agreement with Germany in 1975 and started building the Angra 2 nuclear power plant in 1976. Angra 1 started providing electrical power in 1982, and in 1987, it was announced that Brazil had control over the uranium enrichment process by ultracentrifugation. In 1988, the new constitution forbade nuclear weaponry, and the Autonomous Nuclear Program, the Brazilian parallel nuclear program created in 1978 by the navy, merged with the official program.³ The military nuclear program had less to do with energy policy than with military dreams of supremacy in the hemisphere. After all, Brazil's water-power productivity made the need for risky and expensive nuclear energy superfluous. Only today, with the revision of some ecological para-

digms, including the reevaluation of the environmental impact of hydroelectric plants, has nuclear energy become a truly viable option.

The last film I want to discuss is Marcos Bertoni's *Armadillo Blood*, a short Super 8 film that won the best fiction screenplay award at the 1989 Gramado Film Festival. Finished in 1986, the same year as the occurrence of the Chernobyl disaster, *Armadillo Blood* is about a nuclear power plant employee who escapes to the mountains after radioactive leakage. Bertoni's film is imbued with the ecological spirit of the 1970s and 1980s. The first part of *Armadillo Blood* presents documentary footage of a demonstration against Brazilian nuclear power plants. Unauthorized footage of a Brazilian nuclear power plant is repeated throughout the film. A shot of a newspaper headline announces an imminent catastrophe. Not even the religious faith of Brazilians — suggested by religious icons inside the power plant — can avert the terrible accident. The atomic leakage starts within a secret room where the Brazilian nuclear bomb is kept and spreads chaos throughout the city. The rhythm and plot of this modest, amateurish independent film recall features such as James Bridge's *The China Syndrome* (1979). Images of computer monitors, the soundtrack, and the use of Gurgel cars⁴ help establish an effective science fictional mood. The balance between documentary and fiction lends verisimilitude and cohesion to the narrative. Although *Armadillo Blood* was made after the end of military rule, the film's themes clearly indicate that it is too soon to "breathe fresh air." In other words, Brazilian society could not yet enjoy a thoroughly different atmosphere, just one year after the armed forces delivered the presidency back to civilians. Many things remained the same, including the continuity of the Brazilian nuclear program.

93° Tunnel, *Armadillo Blood*, *Stop 88*, and *Nuclear Shelter* are good examples of ecodystopia, a subgenre that, according to Gary Wolfe, operates under the sign of the wasteland. The first ecological movements in Brazil would have begun in approximately 1971 (Ginway 125), although the roots of environmentalism can be traced to 1934, when the first Brazilian Conference for the Protection of Nature (I Conferência Brasileira de Proteção à Natureza) took place. The first national park was created in 1937, and since then, the preservation movement has played a role in Brazil's growing ecological conscience. However, during Brazil's military dictatorship (1964–85), economic development prevailed over ecological issues (Ginway 108).

Mysticism and Dystopia

The films I discuss here reflect the first signs of a new Brazilian environmental sensibility, a sensibility that follows a literary tradition begun by works such as Plínio Cabral's *Umbra* (1977), Loyola Brandão's "The Man Who Spread the Desert" (1979), and Brandão's aforementioned novel, *And Still the Earth* (1981). In these works, "environmental degradation goes hand in hand with eroding personal freedom as Brazil faces the ecological and political consequences of military rule" (Molina-Gavilán et al. 382). These films reflect a kind of antimodern or antitechnological discourse. In *Stop 88*, for instance, the main character and his family abandon the city. Likewise, in *Nuclear Shelter*, Lat gives up the subterranean city to embrace an idyllic life on the beach. *Armadillo Blood's* antimodernism is clear in the example of the countryman who rescues the power-plant employee, who has fainted in the sun. Here, the countryman represents a popular wisdom opposed to the knowledge of the scientists and to the army's pride and power. Energy is obtained from water power and represents a "clean" way of life—but a way of life that is nonetheless not free of superstition.

Related to the antimodern, antitechnological discourse is the science fictional notion of mysticism (according to Brian Stableford, a recurring element in literary ecodystopias), which in these Brazilian films is further linked to sweet memories of the past, known in Portuguese as *saudade* (nostalgia). Indeed, nostalgia stands out as a relevant value in these films. In *Stop 88*, for instance, nostalgia pushes the characters forward; in *Nuclear Shelter*, it informs the rebel desire for rediscovering the past; and in *93° Tunnel*, it is evoked through imagery and through the voice-over poem related to the main character's memories. These films thus anticipate a trend that would gain force in the late twentieth and early twenty-first centuries: that of a nostalgic cinema of the preindustrial times, where the values of unity and harmony with nature are reaffirmed, in opposition to modern "thanatocratic" prometheanism (Lipovetsky and Serroy 180).

A romantic viewpoint, even a kind of ludism, is recognized through the nostalgic treatment and valorization of nature in Brazilian cinematic ecodystopias, where modernity, attached to the armed forces and bureaucracy, results in imprisonment and the loss of nature, which is translated into an attempt to form a national identity (Ginway 139). In their analysis of ecological SF cinema, Lipovetsky and Serroy point out that "before the technoscience impetus and its destructive effects, many films are made the bards of

a return to Nature, something that is found in distant times or lands, seen as the refuge of primeval purity through virgin landscapes and people preserving ancestral wisdom" (180). This pastoral mood or approach is found in the memoirs of the protagonist of *93° Tunnel*, the family leaving town in the final scenes of *Stop 88*, and the natural life embraced by the banished Lat in *Nuclear Shelter*. However, these films do not incorporate an obvious mystical backdrop, showing that being antimodern does not necessarily imply being mystical. Only *Armadillo Blood* presents a more obvious archaic-mystical counterpart, represented by the countryman.

Nostalgia is probably the most striking trait of Brazilian SF ecodystopian film compared with its Anglo-Saxon and even Eastern European counterparts — and it is the allegorical vehicle for Brazilian antiestablishment statements. For instance, American ecodystopias such as Richard Fleischer's *Soylent Green* (1975) and Ridley Scott's *Blade Runner* (1982) obviously refer to a greener past, but this is not articulated the same way as in Brazilian films such as *93° Tunnel* or *Nuclear Shelter*. Pursuing an idyllic life on a wild beach is not usually an option for American SF film characters. If there is any nostalgia in a film such as George Miller's *Mad Max* (1979), it cannot be immediately translated as "green memories," and it does not refer directly to any myth of origin. In these other films, it's as though the technological man has come to stay, as if there is no point of return after the Industrial Revolution. In Anglo-Saxon SF ecodystopian cinema, archaism is not an essential narrative factor, and modernity (science and technology included) is not usually regarded as threatening per se. On the contrary, technological Armageddon often follows the break of a point of equilibrium — see, for instance, Andy and Larry Wachowski's *The Matrix* (1999), also an ecodystopian film. Furthermore, in a film such as Douglas Trumbull's *Silent Running* (1979), the "green" aspect of the film depends on technology. Brazil's 7,367 kilometers of shoreline, the myths of the Amazon, and indigenous myths of origin seem to play an important role in Brazilian SF ecodystopia, both literally and cinematically. The evocation of a wild, natural panorama is not the same in other underdeveloped or developing countries' SF cinema, such as Eastern Europe's, perhaps as a result of the communist agenda,⁵ which effaces romantic myths of origin in favor of a materialist, modern viewpoint.

In addition, the idea of nature as an organic system, or even as a living being suffering from humankind's technological hubris, provides a backdrop for each of these Brazilian films. In her analysis of ecocriticism, Dana

Phillips warns about the current changes in ecological paradigms, noting that the ideal of the ecosystem as a model of unity, “of order and equilibrium” following the notions of environmental historian Donald Worster, has been supplanted in recent ecological theory by “the idea of the lowly ‘patch.’” According to Worster, quoted in Phillips, “Nature should be regarded as a landscape of patches of all sizes, textures, and colors, changing continually through time and space, responding to an unceasing barrage of perturbations” (580). The ideal of the ecosystem as unity is a foundational premise in Brazilian ecodystopian films of the 1970s and early 1980s. Much of the naïveté occasionally spotted in these films stems from this loose incorporation of theoretical arguments. Ultimately, these films provide a snapshot of the contemporary state of public opinion and the creators’ individual sensibilities concerning environmentalism; they are not necessarily mirroring the complex map of paradigms in ecology, like the one suggested by Graham and Dayton in their application of Thomas Kuhn’s proposal to the ecological field. Even so, *93° Tunnel*, *Stop 88*, *Nuclear Shelter*, and *Armadillo Blood* can be retrospectively regarded as first drafts of a Brazilian cinematic avant la lettre ecocriticism, no matter how sketchy, tentative, or intermittent they may be.

Apart from cinematic protests against reckless modernization, the movies I discuss here may be seen as wider critical approaches to the Brazilian economic, social, and political contexts during the military dictatorship. The films are parables representing a society under pressure, incapable of breathing fresh air, and subjected to invisible, bureaucratic, authoritarian, and even Kafkaesque power and threats. In this regard, these films could be added to other Brazilian cinematic dystopias, such as Walter Lima Jr.’s *Brazil Year 2000* (1969), a highly allegorical film representing a late stage of Brazilian *Cinema Novo*, in which a World War III ruins the north of the globe and Brazil emerges as a new superpower despite its internal controversies. It is noteworthy that their release dates coincide with what Roberto Causo calls the “critique of the regime” or “dispersion,” from 1971 to 1982 (“Science Fiction” 314–23), and with what Elizabeth Ginway points out as the emergence of the Brazilian dystopian fiction in national science fiction literature.

However, as criticism of Brazilian military rule, ecodystopian films should not be regarded as mere romantic, pastoral pieces opposed to modernization and therefore technology for the simple reason that the modernizing role of the military government in Brazil was, and remains, highly controversial. DeRouen and Heo, in their review of earlier theories about

the effect of military rule in the modernization of Latin American countries and their application of a new nonlinear model of analysis, conclude that in general, defense expenditures or military investment had negative results on Latin American modernization (496). These authors cite Martin Needler and provide four reasons why military-induced modernization rarely succeeds:

- (1) Not all the officers who take part in coups are in favour of modernization;
- (2) actual legislative programmers are hampered by divisions in military leadership;
- (3) the technicians relied upon by the armed forces to bring about the change are often conservatives left over from previous governments; and
- (4) the traditional oligarchy, which usually supports the intervention, often opposes structural reform. Needler asserts that intervention typically hinders the attainment of political maturity and real modernization can only come about with mass participation and curtailment of oligarchical power [479].

DeRouen and Heo also recall José Nun's idea that "the armed forces cannot substitute growth in the absence of an ensconced middle class" (Nun in DeRouen and Heo 479). Authors such as Karen Remmer, in *Military Rule in Latin America* (1989), and later Yi Feng concluded that economic growth in Latin America is more likely under civilian than military regimes (DeRouen and Heo 480). In addition, Samuel Huntington suggested that "the level of intervention seemed to be inversely related to the amount of economic development in the country" (DeRouen and Heo 480). No matter how pastoral or archaic these films might appear, they posited a warning concerning the illusory military modernization model.

DeRouen and Heo's analysis takes into account the economic concept of *externality*, or "spillover effects associated with goods, services or economic transactions such as spending on government programmes" (480). These externalities can have positive social benefits or negative social costs. In the Brazilian case, the external association with military modernization during 1964 to 1985 is undoubtedly ecologically negative. Many of the developmental policies in this period disregarded ecological concerns (Duarte; Ginway), such as the construction of interstate roads, which resulted in deforestation. Still, the adoption of the automobile as a primary means of transport, and the consequent abandoning of rail infrastructure, as well as the lack of investment in more efficient means of transport, had already been begun in the 1950s by civilian presidents such as Juscelino Kubitschek and were continued by the military presidents. The national infrastructure grew and pollution resulted; one extreme example is Cubatão, an industrial city

in the state of São Paulo. The high incidence there of serious breathing disorders and even the malformation of human embryos as a result of extremely bad air pollution were famous in the 1970s and early 1980s. Thanks to effective programs of ecological revitalization, health care, and pollution control, the city is no longer regarded today as the “death valley” it was in the past. Undoubtedly, films such as *Stop 88* or *93° Tunnel* make tacit reference to Cubatão in its darkest years.

In the films I discuss here, the fact that all the main characters are eventually banished or exiled is also noteworthy; indeed, “Brazil: Love It or Leave It” was a popular motto during the military dictatorship. In the Brazilian cinematic ecodystopia, the main character is always forced to leave his home, a gesture symbolic of the pessimism behind social change. The Brazilian ecodystopian hero is, above all, an exile. In the case of *Stop 88*, Paz has commented that despite the resolution of the broader crisis, the ending of the movie can hardly be considered a happy one: “That the inhabitants of *Parada 88* celebrate the first day of the year 2000, while Joaquim and his family walk along a deserted road, homeless and without any certain future, captures the pessimism of the film’s vision of contemporary Brazil” (95).

It is well known that the eruption of Brazilian military dictatorship served American interests in Latin America. However, tensions between the American and Brazilian governments did not take long to emerge. The environmental issue illustrates this. At the U.N., Brazilian representatives were under considerable pressure from international delegations regarding national environmental policies. This came from developed nations’ increasing fear of underdeveloped countries’ burgeoning industrial and military structures. Consideration of this era must also consider the evolution of an international environmental debate, from the Club of Rome through Eco-92 (Duarte). On the basis of the films here discussed, one could conclude that the ecological issue became an effective access point for the critique of the regime because the Brazilian military government followed a course of reckless industrial development. For instance, in *Stop 88*, a film directed by an ex-member of the Communist Party, the state is an absent institution, an oppressive ghost whose power is felt through prohibitions, bureaucratic proceedings, and taxes. As the meeting at the Department of Gas Control reveals, the city’s submission to an endless period of quarantine is the result of state bureaucracy. According to its director, *Stop 88* is essentially a metaphor for the dementia of power (interview, 2005). Like many other filmmakers and writers at the time, José de Anchieta adopted the strategy of metaphorical lan-

guage — a strategy the genre of science fiction also uses — in *Stop 88* to protect himself from censorship, although in an interview with me, Anchieta remarked, "I was massacred by the press, not by censorship." In terms of metaphor and the film's historical context, Ana's (Regina Duarte) love for Angel-Face (Terence Tullgren), the air-supply tax collector who rapes her, could be understood as a metaphor for a society fascinated by its oppressor.

Armadillo Blood, released after the so-called end of the dictatorship, also criticizes Brazilian society as a whole. The military government and its submission to capital and foreign interests are targets in this short film. This is seen in characters such as the nuclear power plant chief engineer, a foreigner who dies after being impaled by a miniature of the Statue of Liberty after swearing loyalty to expressionistic busts representing the Brazilian generals.

Conclusion

The films I have discussed here confirm, above all, the existence of science fiction in Brazilian cinema. The genre of SF is used to displace contemporary concerns, such as exile, rampant development, authoritarian regimes, and modernism, while simultaneously evoking a national nostalgia. Considering other feature films, such as Walter Lima Jr.'s *Brazil Year 2000* (1969), Nelson Pereira dos Santos's *Who Is Beta?* (*Quem é Beta?*, 1973), Francisco de Paula's *Atlantis Ocean* (*Oceano Atlantis*, 1993), or Flávia Moraes's *Acquaria* (2005), it is clear that ecodystopia is one of the most structured and lasting manifestations of science fiction in the Brazilian cinema, offering critical and speculative visions at the crossroads of social, political, and environmental issues.

NOTES

1. Inspired in the culture and lifestyle of precolonial indigenous tribes, Brazilian poet Oswald de Andrade used Tupinambá's cannibalism as a cultural metaphor in his *Manifesto Antropófago* (*Cannibal Manifesto*), published in 1928. According to Oswald de Andrade, Brazil's history of "cannibalizing" other cultures is its greatest strength. Thus, cannibalism becomes a way for Brazil to assert itself against European postcolonial cultural domination. The manifesto's iconic line is, "Tupi or not Tupi: that is the question." The line simultaneously celebrates the Tupi, who practiced certain forms of ritual cannibalism (as detailed in the sixteenth-century writings of Andre Thevet, Hans Staden, and Jean de Lery), and a metaphorical instance of cannibalism, as it eats Shakespeare

(<http://en.wikipedia.org/wiki/Antropofagia>). The manifesto's publication was a landmark in Brazilian cultural life following the 1922 Modern Art Week (Semana de Arte Moderna de 22). Other artists such as Raul Bopp, Tarsila do Amaral, and Pagú (Patrícia Galvão) also took part in the cannibal movement. For further information, see <http://www.antropofagia.com.br/antropofagia/pt/index.html>.

2. "The aesthetics of hunger" was an aesthetic manifesto linked to *Cinema Novo*, the Brazilian modern cinematographic movement that began in the 1960s and that achieved worldwide recognition through the work of directors such as Nelson Pereira dos Santos (*Vidas Secas/Barren Lives*, 1963), Ruy Guerra (*Os Fuzis/The Guns*, 1964), and Gláuber Rocha (*Deus e o Diabo na Terra do Sol/Black God, White Devil*, 1964).

3. More information can be found on the Web site of Eletronuclear-Eletronuclear S.A. (<http://www.eletronuclear.gov.br>) and in the newspaper *Folha de S. Paulo*, July 1, 2007, A10.

4. The Gurgel is a Brazilian brand of car, created in 1969, that offered experimental design with alternative materials (fiberglass) and that was based on the mechanics of Volkswagen cars (the Beetle and the Kombi). The company had a twenty-five-year life span before it went bankrupt, and it closed its doors in the 1990s. However, Gurgel cars may still occasionally be seen on the streets of Brazil.

5. This hypothesis was addressed by Dr. Christopher J. Caes (Department of Germanic and Slavic Studies–Polish, University of Florida), personal communication, University of Florida, January 13, 2009.

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PART 4. WOMEN

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Introduction: Women and Writing

Lisa Yaszek

Although science fiction has sometimes been described as storytelling about “boys and their toys,” women have always written science fiction. Many members of the science fiction community treat nineteenth-century authors Mary Shelley and Charlotte Perkins Gilman as key figures in proto-science fiction. Women were also active participants in the creation of science fiction as a modern popular genre. Writers including Clare Winger Harris, Leslie F. Stone, and Louise Taylor Hansen published regularly in the pulp magazines of the 1920s and 1930s, as did Leigh Brackett and C. L. Moore in the 1940s. Such authors were instrumental in the development of science fiction story forms including the bad creation story, the technoutopia, and the space opera; as well as archetypes including the mad scientist, the creative engineer, and the heroic scientist-explorer.

Because these authors followed the practice of their male counterparts in writing primarily from male perspectives, they might seem to have been instrumental in the construction of science fiction as a masculinist genre as well. However, early women science fiction writers complicated common-sense ideas about what counted as appropriate stories and protagonists in their chosen genre by using complex frame narratives in which male speakers related the adventures of female scientists, explorers, and aliens as they learned about such adventures through women’s letters, telegraph messages, and even television transmissions. As such, women writers provided readers with at least fleeting glimpses of alternate scientific, social, and sexual orders.

After World War II, hundreds of new women writers entered the SF

community, including SF luminaries such as Judith Merril and Carol Emshwiller and lesser-known writers such as Alice Eleanor Jones and Ann Warren Griffith. Like their male counterparts, all of these women produced a wide range of stories grappling with the relations of science and society. They also actively contributed to the development of SF as a mature genre by exploring the impact of science and technology on supposedly feminine (and supposedly verboten) topics including marriage, motherhood, and housekeeping. This new mode of science fiction storytelling was notable for its insistence on a new protagonist: the housewife heroine who uses her technoscientific domestic skills to fight militaristic patriarchal relations and forge new communities of peaceful, like-minded scientists, aliens, and human mothers in the conventionally feminine spaces of the home and the classroom. As such, postwar women's science fiction was the first body of literature to explore the relations of science, society, and gender in a systematic way.

The often implicit and sometimes explicitly political nature of early women's SF paved the way for the development of a distinctly feminist SF in the 1960s and 1970s. While earlier women writers explored the impact of science and technology on women as they were, pioneering feminist SF authors including Joanna Russ, Ursula K. Le Guin, and Alice Sheldon (writing as James Tiptree Jr.) explored how science and technology could change what women might be. Perhaps not surprisingly, authors did this by combining the most progressive characteristics of previous women's speculative storytelling traditions. Like their technoutopian and pulp-era predecessors, the first generation of feminist SF authors imagined that women might seize the means of technoscientific production and reproduction to build truly strange and estranging new worlds. However, these authors did not relegate their heroines to the narrative sidelines. Rather, they followed the practice established by postwar women writers of giving direct voice to women — as scientists and soldiers, humans and aliens, and mothers and lovers — throughout their stories. In doing so, feminist SF authors demonstrated how their chosen genre could challenge widely held assumptions about “natural” scientific and social relations.

Over the past three decades, women writing SF have become increasingly interested in two technocultural events: the rapid expansion of information and communication technologies and the development of a transnational economic system predicated on these technologies. Pat Cadigan and Melissa Scott have been particularly adept at using the science fiction

subgenre known as cyberpunk to explore gender relations in the integrated circuit of global capitalism. Both authors identify cyberspace as an ideal locus for the creation of utopian futures where humans transcend their status as corporate tools. However, they insist that such futures can only be built by people who use their experience as gendered beings in the material world to radically reorganize the masculinist and heterosexist world of abstract computation. In a similar manner, Octavia Butler and Nalo Hopkinson have made space in the science fiction community for new stories and protagonists by combining conventional science fiction narrative strategies with those drawn from fantastic Afrodiasporic storytelling traditions. In doing so, Butler and Hopkinson remind readers that there are alternative scientific, social, and sexual orders that might enable people to survive and even transform dominant technocultural relations as we currently know them.

Women's science fiction has taken a wide variety of forms over the past two centuries, but as even this brief history indicates, nearly all such writers have grappled with two fundamental questions: who counts as a hero in a technoscientific world, and what story forms best convey this heroism to readers? These questions are very much at the heart of the four essays included in this section. The first two authors examine how two iconic women writers, Joanna Russ and Octavia Butler, complicate received ideas about the nature of the science fiction hero. Eileen Donaldson opens this section by demonstrating how Joanna Russ's 1976 short story collection *The Adventures of Alyx* provides a feminine — and feminist — alternative to the traditionally masculine protagonist. Donaldson begins from the premise that science fiction's typical male hero is modeled along the lines of Joseph Campbell's archetypal warrior hero. She then proposes that Russ claims this archetype for her fictional s/hero, Alyx, thereby demonstrating to readers that "it is not the masculinity of the hero that must be revised, but the masculinist interpretation of the archetypal content of the heroic journey." It is a provocative argument on Donaldson's part, and one that makes sense in light of the first-generation feminist science fiction project to rescue strong female characters from the narrative sidelines and galactic cul-de-sacs of genre history.

While Donaldson situates the science fiction s/hero in a strategically revised archetypal myth, Kristen Lillvis explores how Octavia Butler's 2005 novel *Fledgling* illuminates the social and material bases of gendered identity, especially as it pertains to the female hero. According to Lillvis, Butler's final novel puts to rest one of the most nagging questions raised by her earlier works: are sex-specific behaviors — especially the self-sacrifice of

women for their loved ones — biologically determined or socially constructed? The answer, as demonstrated through the human/vampire hybrid Shori, who deviates from the behavior of both races due to her “status as an amnesiac who has forgotten the socially ingrained ‘truths’ she was conditioned to believe,” is clearly the latter. Thus Butler defines female heroism as the ability to resist narratives of biological determinism and to make conscious choices about when (and how) to act as a mother or lover. Perhaps not surprisingly, Butler’s understanding of female heroism derives in large part from her understanding of history. As Lillis explains, Butler’s “refusal to limit females to a procreative function is especially significant given her African American heritage and the history of black women being exploited for their reproductive abilities.” Like other contemporary feminist — and especially contemporary Afrodiasporic — authors, then, Butler incorporates subaltern history into her science fictional stories to avoid simply repeating the past and instead imagine truly strange and wonderful new futures.

The second set of authors explore how women writing science fiction use their narrative practices to meditate on the nature of storytelling itself. Rebekah Sheldon provides a fascinating take on this subject in her discussion of Joanna Russ’s 1977 novel *We Who Are About To...* Sheldon explains that children — especially female children — are often symbolic of the future. Given that many women write science fiction to save certain visions of the future from erasure within a masculine imaginary, it is no surprise that they often tell tales about the rescue of female children by wise older women. Yet Russ’s novel refuses this narrative trajectory, instead imagining a future where a woman who finds herself marooned on an alien planet methodically murders her shipmates, including a twelve-year-old girl, to avoid the farce of forced reproduction in the name of colonization. Russ challenges both science fiction colonization narratives and feminist rescue narratives, using murder “as a provocation, a kind of interpretive violence aimed at rending open the closed circle of rescuer and rescued to allow for more dispersed transmissions, less calculable effects, and a less strident aesthetic morality” than that found in other conventional or feminist science fiction tales. Although this narrative violence initially might seem arbitrary, it is in fact part of the long tradition of narrative experimentation marking women’s speculative fiction since the publication of Mary Shelley’s *Frankenstein* in 1818.

Finally, James H. Thrall’s investigation of Ursula K. Le Guin asks readers to shift their attention from the possibility of telling stories to the potential of listening. *The Telling* (2000) follows the adventures of Sutti, an

emissary sent from Earth to the hyperdeveloping planet of Aka to preserve the quickly vanishing indigenous art form that gives Le Guin's novel its name. Drawing on her own Taoist affinities, Le Guin depicts the Telling as a "vast accumulation of written and oral tradition [that offers] ... eclectic and often contradictory wisdom." As Suttty learns, what is important is not the moral content of this tradition, but instead "the momentary relationship between speaker and listener established by the storytelling." As she transitions from observer to practitioner of the Telling, Suttty — and, by extension, Le Guin's readers — learns to redefine heroic action as that which fosters connections between seemingly disparate and even opposed stakeholders in the future. With its meditation on the dangers of unchecked technoscientific progress and celebration of subaltern philosophies that provide ways to negotiate and perhaps even shift the course of that progress, Le Guin's novel is very much part and parcel of contemporary feminist science fiction.

10

Hail the Conquering Campbellian S/Hero: Joanna Russ's Alyx

Eileen Donaldson

ABSTRACT.—For many theorists, both feminist and not, the figure of an archetypal, active female warrior hero has been problematic. Many feminists believe it is gender stereotyping to suggest that women are unable to possess the force of the archetypal warrior hero and that this archetype is ultimately available to both men and women. I briefly define the nature of the archetypal hero and an argument is made for the active female s/hero who possesses the “masculine” powers of the hero and thus allows the archetypal power of the active warrior hero to pass to women. Joseph Campbell’s work on the archetypal hero of myth is drawn on extensively. One of the genres that allow an exploration of the s/hero is SF. I explore the s/hero in SF, particularly as she is evoked in Joanna Russ’s Alyx stories, published as short stories first and then collected in 1976 and published as *The Adventures of Alyx*.

The hero is an important archetypal force that appears in myth and literature from all over the world, with his attributes shifting to serve the society that has called him into existence, so that we have both Gilgamesh and David standing beside characters like Batman and Spawn. Although this archetypal figure has been gendered male for most of history,¹ an interesting shift has taken place in the twentieth and twenty-first centuries: we have been creating an abundance of women heroes, what I refer to here as *s/heroes*. This shift in popular consciousness is largely due to the sociopolitical gains of feminists. As twentieth- and twenty-first-century feminisms usher in a powerful criticism of gender codes and the way women and femininity are treated, it follows that those archetypes that give image to the play of dynamic forces

in our collective psyche also have to be renegotiated. Because the hero was coded masculine and male in the past, this figure becomes the site of a fascinating, and popular, renegotiation of gender codes and what we, as a twenty-first-century society, expect of our heroes. Thus I want to address the following question here: what do we expect of heroes? And can a woman meet those expectations? I conclude that we still expect of the warrior hero much what we always have—and yes, women can most certainly take up arms in the archetypal battle.

This process of renegotiating gender codes and rethinking archetypal heroes really begins with twentieth-century SF, particularly with the writing of feminist SF authors such as Joanna Russ. According to Russ and other SF feminist writers like C. L. Moore, Tanith Lee, C. J. Cherryh, and Octavia Butler, the s/hero is identified in exactly the same way that a male hero is, and we must expect no less of her. It is not the masculinity of the hero that must be revised, but the masculinist interpretation of the archetypal content of the heroic journey. Russ does this with particular deftness, as I will show below: in SF, Joanna Russ's *Alyx* is a perfect example of the archetypal s/hero.

A distinction must be made concerning different kinds of heroes, particularly the one I explore here: the archetypal “warrior” hero, not the tragic hero or the Everyman/Willy Loman hero, both of whom embody a different heroic ethic and explore different human concerns than that of the archetypal warrior hero. The hero I am concerned with here is the Campbellian hero of archetype and myth. The accepted attributes of this hero are as follows: he is fully human and yet is able to commit himself to an action that demands almost superhuman virtue and strength; he undertakes the heroic journey (most succinctly described by Joseph Campbell); and he embodies a heroic ethic that sets him apart from the rest of his society.

Mapping the Heroic Journey

The stages of the heroic journey that comprise the monomyth (that is, the heroic pattern reflected in all mythologies) are central to Campbell's thesis, and in turn to my mapping of *Alyx's* archetypal journey. A brief discussion of these stages is therefore necessary. The first stage of the heroic monomyth is that of the Departure. This is the stage in which the hero

breaks away from his or her society and establishes an identity untainted by restrictive social convention. The Departure is made up of the Call to Adventure (a catalyst, waking the hero to alternatives to social convention), Supernatural Aid (discovery of a magical token empowering the hero to break away), Crossing the First Threshold (the first step away from home and the aggressive defiance of the Threshold Guardian), and the Belly of the Whale (the hero is trapped in a last-ditch attempt to curtail his or her movement; emergence from the belly is a rebirth into the world as a hero). The second stage is the Initiation, made up of the Road of Trials (a series of challenges the hero must successfully navigate), the Meeting with the Goddess (in a male hero, the need to reconcile his alienated anima; in a female hero, the aspects of her femininity with which she is uncomfortable), Woman as Temptress (illicit sexual desire), Atonement with the Father (the hero meets God, or faces Ultimate Reality), Apotheosis (the hero is transformed, having faced God) and the Ultimate Boon (the hero gains something—wisdom or an object—that results in liberation for all). The last leg of the monomyth is the Return: Crossing the Return Threshold, becoming Master of the Two Worlds and the Freedom to Live (unconstrained by human pettiness, the hero lives free). The hero, after successfully navigating the stages of the monomyth, liberates his or her society from a limiting structure.

The warrior hero typically displays prowess in battle and feats of strength and endurance; he displays an aggression and ferocity that allow him to overcome the obstacles before him and to successfully negotiate the trials of the hero's journey. This ferocity, aggression, and physical prowess are what have gendered the hero masculine. Yet that gendering need not be related to the sex of the hero. Given the contemporary acceptance that women may perform masculine behavior and vice versa, it is now perfectly acceptable to have a woman warrior hero.

Of course, there have been female heroes in past mythologies and histories, but these figures were often sidelined in favor of their more robust and popularly acceptable brothers. They were considered exceptions to the heroic rule and the social norm. They have had their importance recognized and reasserted only in the last century, usually by feminist theorists. This reassertion of the significance of the s/hero has not come easily, however: there has been much debate even among feminist scholars of SF as to what constitutes a s/hero and whether the s/hero furthers the feminist cause or undermines it because of her masculine character.

Archetype and Gender

Carol Pearson and Katherine Pope write, “The assumption that the male is subject and hero and the female is object and heroine injects patriarchal sex-role assumptions into the discussion of the archetypal hero’s journey: this confuses the issue and obscures the true archetypal elements of the pattern” (4). The s/hero is bound to archetypal action and must, as Pearson and Pope suggest, be as much subject and hero as the male hero is. But theorists like Sarah Lefanu and Mary Ann Jezewski suggest that a female hero who enacts masculinity is “letting down the side.” Lefanu writes, “The constraints against which ... heroines strive are, quite specifically, those imposed upon women by men” (28). This limits the action of the s/hero and strips her of archetypal potential. And although Lefanu’s reading of the s/hero was done in the 1980s, the s/hero remains a figure about which some SF feminists are equivocal for the same reasons as Lefanu. Elyce Rae Helford, writing about the TV program *Xena: Warrior Princess* (1995–2001), notes, “Through demonstration of strengths in traditionally male-dominated arenas, X:WP challenges societal norms that identify men as the sole creators of history and myth.... Stepping into the traditional role of the hero seems a feminist triumph to many; however, it also arguably masculinises Xena, suggesting that for women to be heroic, they must become, in effect, men” (136).

This is the dominant problem for those feminists who are looking for an active s/hero who does not reinscribe a masculinist way of representing authority. But even though the hero has traditionally been male, it does not mean that “he” cannot be performed by “her”: “doing is being” (Hollinger 202). The hero is an archetype, and as such, there are certain actions and patterns that we expect from him *and* her. Perhaps, as Jessica Salmonson suggests, we should allow for the fact that “the very act of women taking up sword and shield, to a society like our own which is ruled by men, is an act of revolution” (14).

Russ herself expresses the sentiment that any attempt to curb the positive action of the s/hero is a submission to outdated social norms and is laughable. Russ’s rejoinder to this debate might well be, “Masculinity equals power and femininity equals powerlessness. This is a cultural stereotype that can be found in much literature, but science fiction writers have no place employing stereotypes, let alone swallowing them goggle-eyed” (“What Can a Heroine Do?” 84). Joanna Russ’s Alyx stories, collected in 1976 in *The*

Adventures of Alyx, narratively enact both the ideas expressed by Campbell and feminist theorists like Pope, Pearson, and Marina Warner who are interested in archetypal s/heroism. Pope, Warner, and Russ accept that the hero is masculine, but the distinction they make is that while the s/hero and hero are both gendered masculine, some of the obstacles faced contain different psychical content and conflicts when the hero is a woman. We see that Alyx follows the general trajectory of the male Campbellian hero, but because Campbell himself assumes that the hero is always male and thus genders the heroic journey accordingly, Russ cannot simply replicate that journey for her female hero. Instead, she revises those aspects of the heroic journey in which the content has been interpreted from a solely masculine perspective, showing us that feminist authors can create female Campbellian heroes by strategically revising the implicitly masculinist aspects of Campbell's theory. Russ therefore writes a s/hero who is female and embodies the archetypal heroism demanded by Campbell of his male heroes. Russ's revision of Campbell allows the archetypal s/hero to emerge — a character acceptable to both feminists and scholars of the hero.

Alyx's Transformation into Hero

Russ's stories follow Alyx, a woman who defies the restrictive social conventions of her world to become a tough, unapologetic, assertive female hero. Russ creates a world apart for Alyx, who follows the god, Yp, and spends time in the city of Ourdh. The barriers between her world and ours seem increasingly flimsy as the stories progress, until she finally seems to be attempting the redemption of our world too. Russ's relocation of Alyx to different places in her stories defies the sense of unified realities existing apart from one another. Instead, we are left with the distinct impression that this hero belongs as much to us as she does to Ourdh.

"I Thought She Was Afeared Till She Stroked My Beard" (first published in *Orbit 2*, New York, Berkley Books, 1967, as "I Gave Her Sack and Sherry") is the second Alyx story, but in the chronology of Alyx's heroic journey, it explores the first part of the journey: the Departure. When we first meet Alyx, she is nameless; like the traditional hero, she has no independent identity. Her brutish husband sets her to the manual labor of a servant, but she yearns for something alien to her world, something expansive, and we are told that she goes about her work with "her head full of pirates"

(32). The pirates are rich in symbolic significance: for this nameless girl, they represent a rogue, violent, and masculine freedom from the captivity and servitude to which she is bound — an existence of enforced femininity. When real pirates enter the house of her husband, her Call to Adventure is sounded. The woman sees her husband rooked by the pirates, sees them defeat him, and knows that she need no longer stay with him.

Because the pirates represent a way of life outside the norm, subject to nothing but their own laws, the girl is fascinated by their agency and must internalize the lessons they have to teach. It is also important to note that she has visions of the pirates before they arrive: the hero hears the Call to Adventure, but often the voice that sounds the call is one's own voice, something profoundly familiar to the unconscious. Thus, it is appropriate that the pirate captain, an externalization of the girl's alienated animus and need for agency, becomes her guide: she must internalize him.

However, before the girl can leave with the pirates, she must assert her independence from her husband (the social constraints that curb her freedom). When she challenges her husband's treatment of her, his response serves as a summation of that society's attitudes to women:

SHE: It is beneath my social class to do it and you know it.

HE: You have no social class; only I do, because I am a man [31].

The girl acts in order to liberate herself: she murders him. This action is significant because "androcide" becomes

the focussed representation of a revolutionary war. Taking the life of a member of the sex that has denied women the capacity to act opens new grounds for female characters in the existing archive of comprehensible and permissible story lines. In Russ's texts, androcide as a narrative device represents women's claim to agency.... Women, who are conventionally supposed to give life, especially to male offspring, transcend this demand of patriarchy by taking the life of a grown man. Women, who are conventionally expected to help the male hero, become the heroes of their own stories, destroying precisely those characters in the story that would bar their access to heroism [Cortiel 46].

Once the girl has escapes her husband, "she [zigzags] between the tree trunks and [flashes] over the cliff into the sea" (34), thus moving away from her domestic land-based existence into another world altogether. She dives into the ocean to join the pirates — a classic example of the hero's descent into a lower world where things are dreamlike and fluid. This movement usually heralds some attempt on the hero's part to define his or her identity,

to claim a reality from among the illusions with which he or she is presented (Frye 97). Importantly, Russ has her protagonist “discover” herself surrounded by the ocean, “the primordial element, the mother sea (as opposed to the male sky)” (Ferber 179). Russ chooses to have her hero engage with her alienated animus while embedded in elemental anima, immersed in a world of vital, chaotic femininity. Although the fluidity of this scene is typical of the Campbellian hero at this point, it can also be read as an interesting revision of Campbell by Russ, who injects a reminder of feminine archetypal potency into the monomyth; this undercurrent of wild, feminine energy serves to highlight Alyx’s growing agency, which is alien to her male captors and often threatening to them.

After escaping her husband and society, the hero’s next step is to receive Supernatural Aid from the Cosmic Mother. In another feminist revision of Campbell, Russ accomplishes this meeting with the Cosmic Mother in an interesting way: the girl is immersed in the oceanic feminine element (not separate from the Feminine Principle/Cosmic Mother at all), and we are told, when Russ introduces the reader to Alyx (in the first story of the collection, “Blue-stocking”), that “legend has it that the first man, Leh, was fashioned from the sixth finger of the left hand of the first woman, Loh, and that is why women have only five fingers on the left hand. The Lady with whom we concern ourselves in this story had all six fingers, and what is more, they all worked” (9).

Alyx is born as the first woman was, as the Cosmic Mother made her, *before man took her sixth finger*. If the sixth finger represents women’s agency, then Alyx, nameless as she is at this point in the story, is born whole, with a capacity for agency that other women are not; she is capable of action because she has all her fingers, and they all work. The sixth finger is the amulet Alyx is given by the Cosmic Mother. Jeanne Cortiel writes,

“Agency” signifies the power and the ability to effect changes in the process of human history, combined with the recognition by others that the agent is indeed the origin of that change.... This concept builds on two premises: first, that the actions of an individual constitute their identity and second, that agency is prerequisite for human existence within the cultural context. If I am denied this capacity, I do not exist as part of society [15].

Women, in this nameless young girl’s world, do not exist as part of society because they are unequivocally denied agency. But when Alyx is born with the amulet — that sixth finger — she signifies a change in the course of history is coming; she will “become a destiny” (10) and change the world for others around her too.

As the young woman swims toward the pirate ship, her connection to the Cosmic Mother is strengthened. She feels “something form within her, something queer and dark, and hard, like the strangeness of strange customs, or the blackened face of the goddess Chance, whose image set up at cross-roads looks three ways at once to signify the crossing of influences” (30). The girl, because she is acting against the norm, implicitly adopts another set of customs: those of the Cosmic Mother. It is interesting that Russ identifies the girl with the Cosmic Mother because although the male hero simply accepts a token of the Cosmic Mother, to be used in later trials, Alyx remembers a forgotten kinship with the awesome entropic power of unbridled female force, and this animates her. This is an intriguing feminist revision of the archetypal content of the monomyth.

The girl’s connection with the power of the Cosmic Mother equips her to meet and defeat the Threshold Guardian, the pirate captain. During her time aboard his ship, the girl interacts with the pirate captain for a specific purpose on four separate occasions. In the first, she learns finesse in battle and ease with martial activity. On the second occasion, she and the captain share a sexual interlude: the captain cannot respond to the girl until she covers her nakedness and adopts a coy, sexually submissive role for him. With conscious irony, the girl plays the part and ravishes the captain: by internalizing the aggression of the animus, she will never again be a docile object. On the third occasion, the captain becomes so frustrated with the girl’s defiance of his authority that he locks her in his room in the hull of the ship — the Belly of the Whale. While she is here, and before her last confrontation with the captain, she comes across a pretty mirror (a potent symbol in this story) he has given her. Mirrors often appear at this point in the heroic journey because they present the hero with the chance to view him- or herself and evaluate his or her identity (Frye 117). With a decidedly feminist voice, what Russ does with the mirror is suggest an identity prescribed for the girl by the patriarchy. Russ uses the mirror to represent the male gaze and the problem of defining female identity through the authority of that gaze. As the girl considers her reflection, she uses the mirror to deconstruct the identity created for her by patriarchy: she recognizes the distortions in the surface and throws the mirror aside uninterestedly. Instead, she picks up the sword the pirate left behind and chooses to become the hero.

When the girl breaks out of the hull, defying man’s right to define or control her, she emerges to find the pirate ship under attack and launches into battle. In her final interaction with the Threshold Guardian, the cap-

tain sees the girl and apologizes for the trauma he assumes she must feel after the battle:

He said, "Are you frightened? You won't have to go through this again." "No?" she said. "Never." "Well," she said, "perhaps I will all the same" [44].

When the girl takes responsibility for her actions, which are masculine rather than feminine (and therefore those of the active hero), she integrates the animus into her psyche and claims agency in all the spheres over which the animus is meant to dominate. The Threshold Guardian has taught her all he can. She crosses the First Threshold and emerges from the ship. The emergence from the Belly of the Whale signifies the hero's rebirth, and so it is here that the hero claims her identity. She emerges at the city of Ourdh and declares herself to the gatekeeper.

"My name," she said, "is Alyx." "Never heard of it," said the gatekeeper, a little annoyed. "Good Heavens," said Alyx, "not yet" [45].

And so Alyx completes her Departure from home and its strictures, and begins her Initiation.

Alyx as Hero

Once Alyx has proved that she has the courage to undertake the heroic journey, she must undergo a number of trials that will initiate her into the role expected of a hero: she has to face the truth of her strengths and weaknesses and learn from these lessons. In "Bluestocking" (1967), Alyx is hired by a young woman, Edarra, to be her bodyguard and help her escape an arranged marriage. Thus begins Alyx's Road of Trials. The most interesting aspect of this story is how Russ deals with the two obstacles most fraught with gender tension when the hero is male: the Meeting with the Goddess and Woman as Temptress. These are the only two obstacles where it seems implausible to not to have a male hero. But human experience should never be recorded from only a male perspective, and Russ reconfigures Campbell's reading of the archetypal journey to make way for woman's experience here too.

The first trial is the Meeting with the Goddess, which, for a male hero, means an invitation to master the implications of physical life and death. However, because Russ identifies Alyx with the Goddess throughout *The Adventures of Alyx*, and because there is no real separation of the two figures,

Alyx's conflict with the Goddess is the confrontation of an aspect of her own femininity with which she is ill at ease. And perhaps this is representative of the difference between the experiences of male and female heroes: the archetypal character may be the same, but the psychic conflicts must change to accommodate the lessons needed by each to attain liberation. Where the goddess must always be that incomprehensible "other" to man (a mystery he needs to untangle), to the woman, the goddess is both accessible and comprehensible because she is She. For the female hero, the Meeting with the Goddess acts as the catalyst for an internal revelation. For the male hero, it is an uncomfortable encounter with an externalized anima.

In "Bluestocking," Alyx assumes the role of the protector and stifles Edarra's attempts to develop her own agency. Alyx is identified with that aspect of the Goddess who is the "mother who would hold to herself the growing child trying to push away" (Campbell 111). We learn later that Alyx adopts this role after having abandoned a daughter of her own when she left her husband. Alyx has to confront the mother aspect of herself and learn that the term *mother* should trap neither mother nor child into uncomfortable, restrictive patterns. When she faces the sea monster that "[holds] its baby to its breast, [in] a nauseating parody of human-kind," Alyx is confronted by the parody of motherhood she herself is enacting with Edarra (17).

The sea monster is an externalization of what motherhood may mean to a hero: a monstrous attempt to curtail movement and action (of both mother and child). As Pearson and Pope suggest, "The myth of the perfect mother is an extension of the virginity myth; both are asexual, both require selflessness, and both cast the woman in a scapegoat role" (41). Russ takes this chunk of Campbellian theory and recasts it so that the myth of motherhood is represented by a sea serpent that must be vanquished by the s/hero. The Mother has tremendous responsibilities toward her children because she is able to encourage her offspring to independent action, or she can choose to suffocate the will from them. Finally, Alyx recognizes that her role is to empower her daughters and to defy the sterile image that inhibits both her and her children. After this realization, she no longer restrains Edarra. Instead, she begins to train her in sword craft and survival skills.

The next trial is Woman as Temptress. Russ, again revising Campbell, summarily deals with this stage: Alyx is comfortable with her sexuality, and the issue of illicit sexual temptation, whether by a man or woman, does not occur. Russ effectively subverts the issues associated with the Woman as Temptress when she suggests that in a woman with a healthy recognition of

her own sexuality, Campbell's temptations of the "putrid flesh" simply do not exist.

Alyx next moves on to Atonement with the Father. In this stage, the hero meets God or is confronted with the truth of eternity and existence. In the story "The Barbarian" (1968), Alyx meets a strange man who claims omnipotence, who says that he has "made everything your eyes have ever rested on. Apes and peacocks, tides and times ... and the fire and the rain. I made you. I made your husband" (63). This man claims the mantle of a god, but he reveals himself to be an arrogant, spoiled, and insensitive being who enjoys the power of his position while he sadistically plays with the lives of the creatures under his control. When Alyx kills him and turns off the machines he used to run the world, the world carries on just as well after his death. In her defiance of his arbitrary rule, she liberates herself and the people of Ourdh. On her return home, and having remarried in the time since her first adventure, she says to her husband,

"I fought all night," she added, "with the Old Man of the Mountain," for you must know that this demon is a legend in Ourdh; he is the god of this world who dwells in a cave containing the whole world in little, and from his cave he rules the fates of men.

"Who won?" said her husband, laughing....

"I did," said she. "The man is dead." She smiled, splitting open the wound on her cheek, which began to bleed afresh.

"He died," she said, "for two reasons only: because he was a fool. And because we are not" [67].

Russ uses Alyx to demythologize the myths against which the s/hero measures herself; she also uses Alyx to demythologize the "god" who is the closed system into which Ourdh has written itself. The god Alyx destroys is the arrogant, patriarchal deity that this society had adopted, a creature without creativity and mercy. From him, the hero will learn little wisdom. Russ suggests that the hero is better able, through her own action, to choose her fate, to "be a Destiny" (10), rather than submit her fate to arbitrary rule. Alyx refuses to submit to the capricious rule, thus denying the authority of this small god, this Father.

During the Apotheosis that follows the Atonement with the Father, the hero is meant to take on the traits of the Father and bring this Boon back to his or her people. Alyx has killed "god" and refuses all of his traits; the Boon she brings back to her people is freedom, the true free will to live as they choose, subject to no rule. Her Apotheosis is a further reclamation of

the right to agency, and this is what she imparts to the rest of humanity. Russ approaches the Apotheosis in much the same way as she deals with Alyx's meeting with the All Father. Her female hero does not suffer the loss of self that Campbell suggests is a prerequisite for the hero at this point in the story. Instead, Alyx remains remarkably unchanged throughout her adventures so that she is always thoroughly Alyx: sure of herself, able to act, and acting. Russ refuses to let her hero be distracted by anything esoteric. Alyx kills "god" and now shows no interest in developing the spiritual tendencies that Campbell clamors for. In an interesting feminist revision, the ethic that Russ's s/hero champions means that she seems to defy much of what Campbell requires of his male hero in these last stages. However, Alyx still remains absolutely a Campbellian hero. She still takes on the responsibility of helping her people in a physical, practical manner. Russ's comment might be this: should the female hero really be expected to lay down her hard-won identity? Alyx trusts herself, and this is the heroic ethic she champions to the last. Is the Boon of brazen personal integrity that she gifts to her world.

In "Picnic on Paradise," the story after "The Barbarian," Alyx is brought from the past into the future by a large corporation, the Trans-Temporal Authority, to help a group of tourists escape civil war. "Picnic on Paradise" is a complex story, but pertinent to my discussion of the heroic monomyth is that Alyx decides that it falls to her to attempt the liberation of all people — and all times — from the insidious grasp of Trans-Temp.

The Trans-Temporal Authority, after bringing Alyx into the future, hopes to use her to their own advantage, once the mission for which it initially acquired her is complete. What Trans-Temp doesn't realize is that Alyx is a hero. She is neither malleable nor biddable. She will champion her ethic, and they will pay the price. Ironically, Trans-Temp boasts of having created a cadre of Heroes and Heroines; it has found their first real hero, and she will become a grave problem for it.

The last stages of the hero's journey are not clear cut in *The Adventures of Alyx* because of the nonlinear style in which Alyx "ends" her story. Suffice it to say that as Alyx journeys back and forth in time, enlisting the help of others and leading a rebellion against the corporation, she accomplishes the last of the stages of the journey: the Magic Flight, Crossing the Return Threshold, Master of the Two Worlds, and the Freedom to Live. Alyx becomes master of the times she traverses and the worlds she encounters because she submits to no one and to nothing. And she earns her right to

live free because she battles tenaciously against that which would impose any control over humanity. Alyx is the champion first and foremost of the human right to personal freedom, to individual agency.

Conclusion

Because even now we still understand the archetypal hero largely from a traditional Campbellian perspective, it is vital to appreciate that a woman can be as much a Campbellian hero as any man can be — Campbell's own dismissive opinions aside. Alyx follows the path of the archetypal hero who transcends the arbitrary rules of culture. Russ's Alyx claims her right to physical action, and she acts without hesitation, using clean violence to achieve her ends. She is steadfast, and she has the absolute integrity of a picklock, murderess, and assassin. Further, she has no illusions about herself. She is willing and able to kill and die for her cause. As Cortiel puts it, "The radiantly assertive Alyx represents a straightforward assault on the male bastion of heroism." This absolute code that she lives by and her ability to complete the heroic journey make Alyx easily the equal of any male hero.

Lee R. Edwards notes that "the woman hero forbids the presumption that women are innately selfless, weak or passive.... Insisting that our civilisation's typical heroic figure — biologically male — cannot alone represent the prototype of heroism, she clashes with the Titans (13)." In *The Adventures of Alyx*, Russ takes the Campbellian model and forcefully illustrates that a female hero can explore as great a psychological, archetypal depth as any male hero, successfully navigating exactly the same obstacles he does. Alyx defies those who suggest the s/hero is not a "real" hero, and although Alyx no longer stands alone, having been joined by countless other s/heroes written into being by other authors, she remains the standard against which archetypal s/heroism is measured.

NOTE

1. In much myth and hero theory, not produced under the influence of feminism, the possibility of a hero who isn't male has been very controversial. In an overview of the work of Andre Malraux, Romain Rolland (*L'Argent Suite*, 1932), Fitzroy R. S. Lord Raglan (*The Hero*, 1937), Joseph Campbell (*The Hero with a Thousand Faces*, 1993), John Lash (*The Hero*, 1995), Otto Rank (*The Myth of the Birth of the Hero*, 1909), Andre Saures (*The Artist Hero*, 1934), Thomas Carlyle (*On Heroes and Hero Worship*, 1997), James M. Redfield, and Robert Segal (editor of *Hero Myths*, 2000), all well-known theorists of the

hero, one of the few aspects these theorists agree on is that the “he” is male. Lash is particularly vehement, denying women access to aggression of any sort — aggression being what imbues the hero with his ability to action rather than passivity (10).

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11

Essentialism and Constructionism in Octavia E. Butler's *Fledgling*

Kristen Lillvis

ABSTRACT.— Although critics have argued that science fiction writer Octavia E. Butler confines her heroines to biologically determined sex and gender roles, in this article, I look beyond genetic predispositions and explore the influence of social and material conditions on her characters' beliefs and actions. I use Butler's final novel, *Fledgling* (2005), to investigate acts of sexual violence, demands of heterosexual sexual practices, and traditional notions of maternal roles as they affect the novel's human and vampire species as well as Butler's protagonist, a genetically engineered being whose biology aligns her with both species but whose amnesia frees her from a socially constructed consciousness. I posit that although biological tendencies may exist in the novel, Butler uses her heroine's atypical beliefs about and responses to female behavioral norms to demonstrate that sex-specific characteristics become unavoidable truths only for the individuals and societies that choose to accept them as such.

Octavia E. Butler's final novel, *Fledgling* (2005), begins as her protagonist wakes alone in a dark forest, unable to remember who she is or what kind of world she lives in. Facts about this heroine and the society she inhabits slowly accumulate throughout the novel: readers learn with her that her name is Shori Matthews; that she is a genetically engineered being who is part human and part Ina, a vampiric species; and that her home, a community populated by her Ina mothers and their symbiotic human partners, was destroyed through arson. The more Shori and readers learn about Ina and human behavioral norms and social customs, the more problematic the novel becomes. Shori faces discrimination, manipulation, and violence when she is supposedly safe with her fellow Ina, and she is unable to relate to humans as equals because she can control them with the "venom" in her bite. As Shori

struggles to understand herself and distinguish fact from fiction, readers too wonder: are the individuals around Shori telling her the truth? Are the rules they live by as fundamental and unchangeable as they say, or do they merely want her to conform to the society they have in place?

To date, little published criticism on *Fledgling* is available; however, scholars who investigate Butler's other fictional communities contend that characters' hierarchical tendencies may be to blame for the dystopian elements. According to these critics, sex-specific characteristics — such as males' aggressive actions and females' self-sacrificing tendencies — create hierarchies of power that leave females vulnerable to acts of sexual violence, demands of heterosexual sexual practices, and essentialist notions of maternal roles.¹ Although sex-based behaviors and their consequences clearly exist in Butler's novels, including *Fledgling*, critics continue to debate whether these characteristics are biologically determined, socially constructed, or a combination of the two. I believe that in *Fledgling*, Butler finally resolves these debates. Occurrences of and attitudes about sexual violence, obligatory heterosexuality, and enforced pregnancy and childbirth are similar in the novel's human and Ina populations, but they appear to affect Shori in a different way. As a genetically altered being who is part human and part Ina, Shori should express biologically determined characteristics that both species share. Because she does not, her difference indicates that sex-specific behaviors in *Fledgling* are largely socially constructed, and her deviation from these behaviors can be explained by her status as an amnesiac who has forgotten the socially ingrained "truths" she was conditioned to believe. Although characters in *Fledgling*, including Shori, may have biological tendencies, these tendencies become unavoidable truths only for the individual or society that chooses to accept them as such.²

Biology, Society, and Sex Roles

Questions about the influences of essentialism and constructionism on sex roles have long occupied critics interested in Butler's fiction. Dorothy Allison famously laments that although Butler's women are "independent, stubborn, difficult, and insistent on trying to control their own lives," they surrender their autonomy for the sake of their children and families (471). Allison, like many other critics, is unable to reconcile Butler's feminist impulses with her characters' conformity to traditional notions of feminin-

ity and womanhood. Accordingly, scholars debate the type of determinism in Butler's novels: do biologically determined sex-based behaviors confine her characters, or are they situated in patriarchal worlds with distinct, socially constructed male and female roles? Or, as a third possibility, do biology and society work together to limit characters to sex-specific behaviors?

Nancy Jessor and Sharon DeGraw agree that biological imperatives and social forces merge to situate women in maternal, self-sacrificing roles, but each critic differently addresses the consequences of these pressures. While Jessor finds that Butler's women are biologically and socially driven to form communities and care for others, she does not believe that these urges enslave or limit women. She argues instead that women's social tendencies save the human species from more dangerous biological drives, such as the isolating desires for power and possessions (53). Conversely, DeGraw argues that the cost of essentialism to women's autonomy is too great to be offset by communal benefits. "Biological determinism and social constructionism combine," she states, "to ensure that women and men will continue to follow traditional gender roles within patriarchies" (¶45). DeGraw concludes that this combination of forces severely limits or even completely effaces the feminist agency of Butler's characters (¶45).

In direct contrast to both Jessor and DeGraw, Michelle Erica Green argues against the notion that Butler posits biologically determined sex roles. She asserts that for Butler, negative practices such as "rape, compulsory heterosexuality, and enforced childbirth" cannot be biological inevitabilities, because if they were, Butler "would have no motivation for writing" (173).³ She acknowledges that Butler's women sacrifice themselves for the benefit of their children, but she contends that social forces, not biological urges, compel them to do so:

Since utopian thought is optimistic, holding out hope for a better future, Butler does insist time and again on the need for people — especially for women — to make sacrifices for their children.... Women make such sacrifices more often than men not because they are genetically more prone to do so, but because they [have] been socially driven to do so. They refuse the consequences of *not* being the ones to take action: the deaths of their children and their future [182].

Green claims that the women's actions are socially constructed, but she never fully explains how she comes to this conclusion or why, even within a patriarchal system, Butler's men would be content to see their children die. Although she convincingly argues that most of the other human behavior in

Butler's fictions from the 1970s and 1980s is not biologically determined, Green does not definitively free maternal duty from the realm of essentialism.

Although critics have devoted a great deal of discussion to sex-specific behaviors in most of Butler's works, they have been surprisingly silent on this subject as it pertains to her final novel, *Fledgling*.⁴ However, sex roles figure prominently throughout the novel, and Shori's ability to transcend human and Ina conceptions of female behavior deserves further consideration. The three negative consequences of hierarchical behavior that Green posits — rape, compulsory heterosexuality, and enforced childbirth — provide a useful structure through which to investigate biological determinism and social constructionism in *Fledgling*. In the novel's human and Ina populations, these three behaviors are explained by biological drives: Butler's characters reveal through their speech and actions that they believe rape, compulsory heterosexuality, and enforced childbirth have genetic corollaries. In Shori, Butler has made distinct these socially constructed and biologically determined behaviors. As a consequence of the amnesia that has resulted from the physical and emotional damage of the raid that destroyed the community of her Ina mothers, Shori cannot recall the behavioral norms of female Ina; in fact, she does not remember Ina females at all. Ignorant of socially constructed conduct because of her memory loss, Shori is free from — or at least less affected by — the societal forces that determined her past. Yet if scholars such as Jesser and DeGraw are correct in asserting that Butler ascribes biologically determined sex-based characteristics in her novels, Shori would be confined to the limiting, essentialist roles shared by human and Ina females. Shori's atypical beliefs about and responses to rape, compulsory heterosexuality, and enforced childbirth therefore suggest that society, rather than biology, informs behavior in *Fledgling*. With her difference from the characters surrounding her as well as many of the heroines preceding her, Shori proves to be among the most telling of Butler's characters, revealing the author's beliefs about gendered behavior, social constructionism, and biological determinism.

Rape

In *Fledgling*, the reliance on biological impulses to excuse violent sexual behavior affects both human and Ina populations. Wright Hamlin, Shori's first symbiont (a human partner who provides blood for an Ina in exchange

for a longer life and other benefits), acknowledges that rape is a very real threat in the human world, especially for women. As he and Shori prepare for their first encounter with a male Ina, Wright communicates to Shori his fears about her safety: "This guy is a man of your kind.... An adult male who is probably a lot bigger and stronger than you. I'm telling you, [Shori], he might just decide to do what he wants with you no matter what you want" (57). Wright does not specifically say he is worried that Shori could be sexually assaulted, but the implication is clear. For Wright, the presence of an unknown male immediately brings up concerns about sexual violence.

However, for Shori, as for most women, the possibility of being sexually assaulted by someone she knows is a more real threat.⁵ After he meets Shori's male Ina family and learns more about his role as a symbiont, Wright feels enraged that he will be neither Shori's sole source of blood nor her only sexual partner. In a fit of jealous anger, Wright shakes Shori awake at night and commands her to bite him so that he can feel the pleasing sensation of their physical connection: "Do it! Do it, damnit! I should get some pleasure out of all this if I don't get anything else" (85). Shori notes that Wright is "filled with rage and confusion" as she "gently" touches and kisses him, and he reacts to her tenderness by initiating violent sex (85). Although Shori consents, the brutality of Wright's actions is disturbing, as is his inability to express his intent in regard to the sexual act. When Shori tells Wright afterward that he did not hurt her but asks if he was trying to, Wright answers, "I think I was" (86). His confusion about his desire, coupled with his anger before the act, indicates that Wright considers his sexual impulses to be somewhat beyond his control. However, Wright's uncertainty about his actions does not necessitate that he or any of the other men in *Fledgling* have "strong biological urges to rape" like those Jesser sees in the male characters of Butler's *Kindred* and *Dawn* (Fausto-Sterling, *Myths of Gender* 195; Jesser 45). In fact, Wright and Shori's sexual encounter seems to corroborate Anne Fausto-Sterling's assertion that human rapes cannot be explained or excused by biological urges (namely, the desire to reproduce), because Wright believes before he initiates sex that he and Shori, because they are of different species, cannot procreate together.

The animalistic qualities of the Ina — their reliance on their senses, their physical prowess, and their rhetoric of having "venom" and "grazing" on humans — makes the relationship between rape and biological determinism more complicated in their population. Iosif Petrescu, Shori's Ina father, explains that the male instinct to reproduce with unmated female Ina is so

strong that even he and Shori's brothers notice her "scent" (80). He assures her that she is not in any "real danger" around them but that the natural impulse to mate prevents sexually mature male and female Ina from living together: "We are not human, child. Male and female Ina adults don't live together. We can't. Mates visit, but that's all" (79–80). Iosif's emphasis on the impossibility of mixed-sex cohabitation indicates that reproductive desires drive or even control Ina males. According to Jesser, Butler most often situates these desires as biological:

Butler's bodies have a will of their own, and it is to be found most often lodged in genetic "tendencies" if not fixities. Or their socialized will is in conflict with their biological imperatives. Butler's reliance on these "tendencies" is remarkably conservative in relation to women's behavior and heterosexuality. Her bodies say women are more or less likely to be altruistic and cooperative and men selfish, domineering and driven to rape [45].

In *Fledgling*, Iosif expresses that rape is a biological "tendency" for Ina males, but he also works to convince Shori that it does not determine male behavior. He tells her, "Your brothers and I have our genetic predispositions — our instincts — but we are also intelligent. We are aware of our urges. We can stand still when the instinct to move is powerful" (80). Despite the fact that he asserts Ina males can decide not to act on their instincts, Iosif essentializes the Ina need to mate as a strong evolutionary imperative that is difficult to overcome. Brook, one of Iosif's symbionts, goes even further and claims that male Ina are ruled by their biology. She tells Shori that Ina males become "addicted" to the female Ina they mate with and that "from time to time, they *need* their females" (109, emphasis added). According to Brook's statements, biological urges compel Ina males to have sex with female Ina with little regard for the issue of consent. In this population, then, rape is biological — or at least rhetorically constructed as such.

Shori's physical and sexual urges as well as her understanding of consent reveal that the Ina emphasis on the biological impetus to rape may simply be a justification for violent sexual behavior. When with Daniel Gordon, a male Ina she is strongly attracted to, Shori overcomes her immediate impulse to sexually bite him and asks him first if she should (219). Shori shows that consent is crucial, and she demonstrates that regardless of her urges (biological or not), she does not have the right to touch another Ina without permission.

Shori's focus on consent is more complicated in her relations to humans. Her physical strength and ability to influence humans with her venom make

her a potential danger to them, as is evidenced by her first encounter with a woman named Theodora Harden. Shori states:

I lay down beside the woman and covered her mouth with my hand as she woke. I held on to her with my other arm and both my legs as she began to struggle. Once I was sure of my hold on her, I bit into her neck. She struggled wildly at first, tried to bite me, tried to scream. But after I fed for a few seconds, she stopped struggling. I held her a little longer, to be sure she was subdued; then, when she gave no more trouble, I let her go. She lay still, eyes closed [25].

Shori, the aggressive assailant in what is effectively a rape scene, shows little compassion for Theodora during her initial feeding. However, Butler contrasts this rare incident of Shori's violence against an innocent human with numerous examples of her efforts to subordinate herself to those from whom she feeds. Although Shori uses her venom to calm those she bites, she asks for permission before taking a full meal from her human hosts. Before feeding from Wright, Shori asks him if she may and notes that she "hear[s] consent in his voice" (12). Likewise, after her initial encounter with Theodora, Shori adopts a passive position and asks Theodora if she would like Shori to return for a full meal (25). Shori's focus on consent extends to finding permanent symbionts as well, and she assures Wright that she will ask Theodora to be her symbiont even though she could command the woman's acquiescence (87).⁶ By the end of the novel, Butler indicates that Shori may be able to control even her most basic needs when they risk the safety of her symbionts. Although she is gravely injured and in need of raw meat (such as human flesh) to heal herself, Shori stops herself from attacking the only available source of food she is aware of: Wright. Shori states, "I pulled back, away from him, ... whimpering. The hunger was a massive twisting hurt inside me, but I would not touch him" (307). Shori knows she will die if she does not feed, but she puts herself in the position of victim to ensure Wright's safety. Butler shows through Shori that even if violent sexual urges can be considered biological, as Jesser suggests they are, these urges — like Shori's other impulses — can be overcome.

Compulsory Heterosexuality

Butler similarly reveals compulsory heterosexuality as a consequence of hierarchical behavior that has more to do with the social construction of

sexual norms than with biological imperatives. Many same-sex sexual relationships between the Ina and their human symbionts exist in the novel, though human-human and Ina-Ina relationships are exclusively heterosexual. While the same-sex relationships are an accepted part of human-Ina communities, humans express that they would prefer to be in opposite-sex partnerships with the Ina, and the Ina diminish the seriousness of same-sex human-Ina relationships. Only Shori, who cannot recall socialization that would normalize one type of sexuality and demonize the other, gives equal preference and seriousness to her opposite- and same-sex relationships.

Human-human relationships in *Fledgling* are not only exclusively heterosexual, but they also tend to be heteronormative, ending in marriage and children. However, humans enter same-sex partnerships with the Ina. These relationships are sexual, yet they are always located in an environment of heterosexual identification. When Wright and Shori question men and women about their same-sex human-Ina relationships, they are met with agreement from the symbionts that they would prefer opposite-sex couplings. Joel Harrison states that he did not want a male Ina partner because “there’s too much sexual feeling involved” (158–59), and Brook asserts that she would have initially chosen a male to replace Iosif as her Ina partner (163). In addition, Joel’s father, Martin, notes that although he is paired with a male Ina, he married a human woman shortly after he decided to stay in the Ina community (204). Even Theodora, who seems to be the human character most immediately associated with lesbian identification — she surprises Shori with a passionate kiss during one of their early encounters — expresses regret that Shori is not the “tall, handsome, fully grown white man” of vampire lore (38, 91). Although humans engage in same-sex sexual behavior, Butler carefully foregrounds heterosexual identifications. Readers must wonder: is Butler positing biological heterosexuality for her characters? Or are those characters who prefer a wider range of sexuality couching their desires in the socially mandated norm of heterosexuality?

Like humans, the Ina express a desire for and promote the significance of opposite-sex couplings. For the Ina, sexual identity is intertwined with the ability to reproduce. The Ina recognize same-sex human-Ina partnerships as a part of their sexual identity, but they seem to consider same-sex relationships with humans purely in terms of sexual pleasure (and food), not serious adult sexuality. For example, Iosif tells Shori that she can “play sexually” with her symbionts but that she is too young to mate with other Ina (80). This differentiation between sex as recreation and sex as procreation

operates on a hierarchy in the Ina community, and with the positioning of reproduction over playing comes a ranking of heterosexual behavior over homosexual or lesbian relationships.

The socially constructed hierarchy in *Fledgling* uses the biological imperative of reproduction as an explanation for compulsory heterosexuality in human-human and Ina-Ina relationships. Although no humans or Ina save Shori exhibit same-sex desire within their own species, the absence of this behavior may have more to do with the construction of sexuality in human and Ina communities than with the biological absence of same-sex desire.⁷ The difficulty in distinguishing between biologically and socially constructed sexual preferences in the novel is that such a simple, either-or system is incompatible with discussions of sexuality. According to Fausto-Sterling, situating sexual desire in binary frameworks — biology versus choice, masculine versus feminine, heterosexual versus homosexual, “normal” versus “mutant” — is part of the problem in trying to understand sexual identity and desire (“Frameworks of Desire” 49). Specifically, Fausto-Sterling suggests that normalizing heterosexuality or presenting homosexuality as aberrant simplifies a system of attraction and desire that is far more complicated than a binary system allows. In Shori, the absence of a socially constructed binary consciousness that views heterosexuality as normal and lesbianism and homosexuality as mutant enables her to be more open than other characters in the novel about her sexual preferences. Shori is not unusual for having same-sex relationships with human women; nevertheless, she is the only Ina noted to engage in a public display of lesbian sexuality with her symbiont (204). Moreover, while humans in *Fledgling* feel the need to qualify or justify their same-sex relationships with the Ina, as is evidenced above, Shori does not understand that these relationships are considered unusual until she hears others question their validity (203–4).

Shori’s openness to same-sex sexuality extends to Ina-Ina relationships as well. She spends as much time (if not more) describing female Ina than describing male, and she decides that Zoë Fotopoulos is “the most beautiful Ina” (294), with no distinction between male and female. Shori also reveals that she is sexually attracted to Ina females. She says of Joan and Margaret Braithwaite, two Ina sisters, “There was something undeniably feminine and interestingly seductive about them, even to me. Was it their scents?” (210). While Shori qualifies her feelings by saying “even to me,” her earlier comments about not recognizing same-sex sexuality as aberrant indicate that her anxiety about being a female who is attracted to other females

comes out of socially constructed (rather than biologically determined) norms of sexuality. Moreover, Shori's attraction stems from a scent, which in the Ina world (as in the animal world) functions as an evolutionary way to attract mates. Certainly, Shori's interest in the Braithwaite sisters does not necessitate a lesbian identity. Yet if Shori is not compelled to comply with the human and Ina demand for compulsory heterosexuality, is this because heterosexual desire is not biologically determined in *Fledgling*? Or does biology in fact support a more open sexuality than either Ina or humans allow?

Enforced Childbirth

Questions of essentialism and constructionism surround the enforced childbirth that goes on within Butler's fictional societies, including the communities of *Fledgling*. Feminist critics who read Butler's works shudder at the narrow roles she posits for her women; though they may disagree about her essentialism in regard to race, species, and culture, many scholars concur with the notion that Butler creates characters who want to and are biologically driven to give birth and sacrifice themselves for their children. Discussing Butler's *Xenogenesis* trilogy, DeGraw notes, "The biological and social roles of women ... are fundamentally intertwined with motherhood — in theory and in practice" (§31). The social enforcement of woman's biological role as child bearer carries on in *Fledgling* as well because women and female Ina are expected to desire motherhood and become mothers. However, simply casting Butler as an essentialist misses her critique of this system of enforced childbirth.⁸ Although many humans and Ina in the novel value females primarily for their childbearing capacity, Shori's departure from this system reveals that women do not have to be defined by reproductive function but that the decision to mother — or not to mother — can be an empowering one.

In human populations in *Fledgling*, women in particular perpetuate the idea that a woman's identity is intertwined with her ability to give birth. Celia, one of Shori's symbionts, expresses concern that she will be limited in her ability to procreate because she is partnered with an Ina. She tells Shori early in their relationship that she may decide in the future to have a child with a man (127). Even when engaged in sex with Shori, Celia discusses her desire to bear children. She laments that she could not reproduce with her former male Ina partner, Stefan, and she states that Stefan expected

her to mate with human males since he “couldn’t give [her] kids” himself (247). Although Celia engages in sex with Shori and with human men purely for pleasure, she repeatedly ties her (sexual) identity to her reproductive capacity.

The expectation for females to produce children is even more pronounced in Ina communities. Opposite-sex Ina are separated except for mating purposes, and the matching of groups of males and females is done with a mindfulness of which unions will produce the best offspring. As a black female, Shori is both valued and hated by her fellow Ina because of how her race will affect her children. The Ina male Preston Gordon calls her “an intelligent, healthy, likable young female” and specifically remarks that as an adult “she’ll bear strong children, and some of them [those who inherit her dark skin] will walk in sunlight” (275). Daniel, Preston’s son, tells Shori that he and his brothers will mate with her in the hope that she will pass her positive traits to their progeny. The Gordons see Shori as an evolutionary treasure, whereas other Ina believe her human heritage will ruin the Ina species. Regardless of their opinion, both groups of Ina expect Shori to have children, and both derive her worth as an individual from the worth of her future offspring.

In some respects, Shori seems to echo the human and Ina preoccupation with reproduction. She twice refers to Theodora’s inability to have children because she is postmenopausal, and one of the few facts Shori knows when she becomes conscious early in the novel is that she must eat “fresh meat” when “healing injuries” or “carrying a child” (24, 74, 19). Throughout *Fledgling*, Shori asserts her awareness of the biological capability of females to reproduce, and she also maintains that someday she will become a mother. However, Shori does not value human women, female Ina, or herself only for this ability; in fact, she understands that not all female sexual desire is born out of an urge to reproduce. When with the male Ina Daniel, Shori wishes to bite him to “let the sweet, smoky scent of him become a flavor as well” (219). While her bite is inherently tied to reproduction because it would make Daniel infertile with other female Ina, Shori also has a purely sexual desire for him. She presses her body against Daniel’s, kisses his neck, licks his throat, and thinks that she would like to “lie beneath that tall, lean body and feel him inside [her]” (225). Although Shori cannot fully separate sex from the exchange of blood — and although she expects that she will some day bear Daniel’s children — her feelings for Daniel during the time she is in physical contact with him are unconnected to her desire to reproduce.

Shori recognizes that human women similarly desire sex without reproduction. When talking with Celia as they have sex, Shori says that she understands Celia may want human sexual partners simply for pleasure and not to have children. She tells Celia, "You do have the right to have your own human mate, your own children, or just have pleasure with a man when that's what you want" (247–48). Because Celia mentions during this conversation that Stefan considered her sexual relationships with humans to come out of a yearning for family and children, Shori's deeper understanding of Celia's sexual desire further distances her from the other Ina, who value females chiefly for their reproductive abilities. Whether because of her ignorance of social norms or her own understanding of what it means to be female, Shori counters the idea that women and Ina females are defined solely by their maternal capacity. Her refusal to limit females to a procreative function is especially significant given her African American heritage and the history of black women being exploited for their reproductive abilities. By stepping outside of historical boundaries herself and by not holding other women or Ina within these constraints, Shori simultaneously reveals the struggles of the past and the possibilities of the future for females and their reproductive rights.

Social Constructionism and Choice

In "Dialogic Origins and Alien Identities in Butler's *Xenogenesis*," Cathy Peppers asserts that Butler offers multiple sociobiological origin stories in her *Xenogenesis* trilogy. Peppers has an opinion regarding the type of biological evolution Butler's characters experience, but what is perhaps more important in her essay is her assertion that the origin story Butler's characters choose to believe affects the decisions they make and the lives they lead (55). In *Fledgling*, stories have the same type of power. When characters choose to believe that biology is destiny, their behaviors are framed as inevitable and the decisions they make as unavoidable. However, for characters who choose not to believe in biological determinism, life has much more possibility, and there is a greater potential for choice.

Butler's final novel sets debates about her essentialism to rest. Although Shori and others may have biological tendencies, they are not controlled by these drives. Butler reveals in her *Xenogenesis* trilogy and in many interviews that she creates characters with hierarchical tendencies (Green 169, 185–86). In *Fledgling*, as in her other novels, the consequences of these

tendencies — namely rape, compulsory heterosexuality, and enforced childbirth — are present, and they are often explained by her characters as static, biological facts that cannot be changed. However, Butler's protagonist reveals that social construction is largely to blame for the persistence of these harmful hierarchical consequences. Human and Ina characters present rape, compulsory heterosexuality, and enforced childbirth as having biological corollaries, but Shori does not experience the consequences in the same way other characters do. Her forgetting of social construction reveals that much of the way humans and Ina behave toward each other has to do with social norms and expectations. Shori's difference shows that so-called biological tendencies can be subverted by those who refuse to privilege them as inevitabilities.

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NOTES

1. I use the term "sex specific" rather than "gender specific" and discuss "males" and "females" rather than "men" and "women" because Butler's works often contain nonhuman characters to whom gender terms do not apply.

2. Although Walter Benn Michaels argues that explorations of essentialism and constructionism merely confirm a posthistoricist valorization of identity (who one is) over ideology (what one believes) (651), I find that Butler's ultimate focus on choice — the ability of humans and Ina to depart from cultural and/or biological tendencies — foregrounds the importance of ideology in *Fledgling*. Rather than suggesting an adherence (on Butler's part) to a "logic of conflict" bound up with the idea of "difference in subject position" rather than "difference of opinion" (Michaels 654), the conflicts Shori encounters reveal the inconsequentiality of identity and the significance of her individual beliefs and actions. That is, whether Shori's behaviors and desires are consistent with her human heritage, Ina heritage, or some type of hybrid heritage is less important than her willingness to not only be different from but also disagree with those around her.

3. In this section of her essay, Green focuses specifically on Butler's "Bloodchild" (1984), stating that "if Butler truly believed that human biology makes rape, compulsory heterosexuality, and enforced childbirth inevitable, she would have no motivation for writing 'Bloodchild' in the first place" (173). However, Green similarly rejects the notion of biological essentialism in Butler's other works, which suggests that the argument she develops here need not be limited to "Bloodchild."

4. Laurel Bollinger examines the relationship between maternity and biological imperatives for intersubjectivity in many of Butler's works, but her discussion of *Fledgling* focuses on the role of race (rather than sex or gender) in interspecies bonds. Lauren J. Lacey likewise concentrates her analysis of dominant discourses and power structures in *Fledgling* on theories of community and hybridity relevant to notions of species and race.

The focus on social relations and constructions as they relate to species is expected, given Shori's status as Butler's first vampire, a creature that unlike her customary aliens is critically significant for its evolving embodiment of contemporary fears and desires (Auerbach 6).

5. See Elyce Rae Helford's "'Would you really rather die than bear my young?': The Construction of Gender, Race, and Species in Octavia E. Butler's 'Bloodchild'" for more on Butler's handling of acquaintance rape.

6. Butler suggests that Shori is more concerned than other Ina about the ability of humans to freely choose whether or not they would like to become symbionts. Although Ina and humans alike advise Shori to let her symbionts "make their own decisions" (73, 205), Martin Harrison, a symbiont, tells Shori that even well-meaning Ina control human minds: "You bite us, and that's all it takes. I didn't understand at all. Hayden [Martin's Ina partner] ambushed me as I got home from work one day. He bit me, and after that I never really had a chance. I didn't have any idea what I was getting into" (204). Shori cannot change the effect her venom has on humans. However, she makes sure that the humans around her know what they are getting into before she asks them to make decisions about their future.

7. Giselle Liza Anatol points out that when Wright first meets Shori, he is sexually attracted to her even though he is unsure of her sex. However, because Wright assumes Shori is female and is concerned with determining her sex throughout the beginning of the novel, I consider his behavior in line with the human compulsion toward heterosexuality in *Fledgling*.

8. The tendency of critics to respond negatively to representations of mothers in Butler's novels perhaps develops from an adherence to theories of identity and family proffered by white feminists. Although white feminists such as Adrienne Rich have rallied against compulsory motherhood as part of the attack on patriarchal forms and institutions, black feminists, including Patricia Hill Collins and Gloria I. Joseph, explore not only the hardships of mothering (particularly those difficulties specific to mothers of color) but also the cultural authority and personal pleasure black women have achieved through their motherwork. As Collins states, "Motherhood, whether bloodmother, other-mother, or community othermother, can be invoked by Black women as a symbol of power" (51). Accordingly, Butler's decision to develop so many of her protagonists into mothers can be understood to correspond with her commitment to creating strong women characters. See Collins's "Shifting the Center" and Joseph's "Black Mothers and Daughters" for more on the differences between white and black feminists' work on mothering.

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12

Joanna Russ and the Murder of the Female Child: *We Who Are About To...*

Rebekah Sheldon

Abstract.— In this essay, I investigate the violation of the rescue of the female child theme in Joanna Russ's 1977 novel *We Who Are About To...* In stories like "The Second Inquisition" (1970), Russ positions the reader as the double of the child in the plot and rescues both by engendering the story as a hero. I assert that *We Who Are About To...* rends open this closed loop through its refusal of proper narrative structure and its murder of the female child. I interpret this murder as an interrogation of the metaphysics of presence implicit in the rescue thematic, a move to a deconstructive writing practice and a liberation of the child from service as the site of future redemption.

The sexual child is always nothing but uncanny recordings, a tabula rasa turned symptom or cipher of the spectator's desire.— Ellis Hanson

Where the well-made narrative is, the pervert is not.— Paul Morrison

The final story in Joanna Russ's 1976 collection *The Adventures of Alyx* posits in fictional terms the politics of representation prevalent throughout her work. In a story sequence that spans traditional boys' genres from pirate adventures to wizards and warriors, "The Second Inquisition" (1970) is unique for its setting, an American suburb in the 1920s, and for its layering of realism and science fiction. The story begins by describing a suburban parlor. This deceptively realist introduction serves as a reminder of Russ's concern with genre throughout the collection. Here, the sudden inclusion of "our" world, of a recognizable version of consensus reality, highlights the conventional status of both realism and science fiction. At the same time,

this choice signals that the terminal address of the book is the quotidian world of its readers. Alyx the adventurer does not appear in this final story. Instead, "The Second Inquisition" brings an Alyx-like character, the Visitor, into the world of an average sixteen-year-old girl. In other words, the book ends by revealing the fantasy stories to have been allegories for the life lived by the reader, for whom the girl serves as representative and into whose suburban parlor Russ's Alyx has come in the form of the Visitor. In the person of the Visitor and in her relationship with the teenaged narrator, the story thematizes the relationship of science fiction to consensus reality and, more broadly, of writing to reading.

The story narrates the teenage girl's fascination with the exotic Visitor. At first, the Visitor's race, height, strength and shamelessness mark her exoticism. She befriends the wrong type of people, has little regard for pleasant lies, and reads voraciously, including banned books. Indeed, it is over a proscribed romance novel that the teenage girl finds in the Visitor an ally. A reader herself, the girl peers at the Visitor from perspectives given to her by novels. Their relationship begins by mimicking a bildungsroman, with the Visitor cast in the role of the worldly, and secretly beloved, older man.¹ In this way, the story reverses the collection's usual perspective, Alyx's, to show us how the younger woman regards her older role model. But this mode soon begins to acquire a science fictional gloss. This, too, is introduced through a novel. The girl and the Visitor both read H. G. Wells's *The Time Machine*, and the girl asks her in jest if she isn't really a Morlock, which the Visitor concedes is true. After acknowledging that she comes from the future, through the Trans-Temporal Authority, the Visitor explains that the girl is her ancestor, the founder of the Authority, and that she had come to rescue her but has failed and now must leave. The reference to the *Time Machine* thematizes the role of genre tales, such as the ones Russ writes, and the identification of the Visitor with that earlier novel makes her the personification of the fantasy genre.

The tale, however, takes one more turn. In the very last movement, the Visitor returns through a mirror in the girl's bedroom. After she leaves, the girl looks down at the outfit she has been wearing and recognizes it as a theater costume version of the Visitor's interstellar gear, with pieces of her wardrobe reconditioned to serve as bodysuit, laser gun, and cape. The story's final moment thus collapses its science fictional elements back into the realist frame and makes the girl the source of the story's fantasy elements.²

The politics of representation that make the reader and the story cohorts

in rescue finds nonfictional expression in Russ's "Recent Feminist Utopias," which observes a new thematic element running through women's science fiction and utopian writing of the 1970s: "The rescue of the female child" (79). Rather than denoting all children, however, Russ specifies that rescue comes when the relative benignity of childhood play gives way to the serious labor of reproduction: "Puberty is an awakening into sexual adulthood for both sexes.... It is also the time when the prison bars of 'femininity,' enforced by law and custom, shut the girl in for good" (80). Russ's critics have been even more ardently attached to the rescue theme. Kathleen L. Spencer's "Rescuing the Female Child: The Fictions of Joanna Russ" argues that this theme might best characterize Russ's own corpus. In revising and expanding this category, Spencer highlights the representational work Russ's narratives perform: "What Russ has done ... is to create narratives ... which go beyond the moment of revelation into the imaging of freedom" (168). Spencer uses the example of female students' reactions to the stories they read in a class taught by Carolyn Heilbrun to demonstrate the necessity of such new narrative performances. In calling on the example of women enrolled in a college course, Spencer makes clear that the rescue thematic applies to readers rather than to characters. By "imaging" freedom, these narratives act: they perform a rescue. Lurking here, then, is an aesthetic theory and a moral imperative, which Jean Cortiel describes succinctly as the choice to compose stories that "authorize or empower women as writers, narrators, readers and characters" (129). The verb *authorize* in this sentence underscores the identity Cortiel establishes between authored characters and authorized readers, both composed by the narrative. As in "The Second Inquisition," the story may come over for a visit.

Even with this explanation, we might wonder why the theme of rescue designates a child as the recipient of protection, rather than women more generally, all of whom are presumably "shut ... in for good" (80). By what logic can girls be saved by virtue of narrative when for women it is already too late?³ What relationship does this suggest adheres between children and storytelling? I would argue that the restriction of rescue to young girls takes part in the historical construction of the child as (a) being-in-danger. In the rescue theme, the (female) child's vulnerability to sexual danger warrants intervention.⁴ This conjunction of narrative pedagogy, sexualized danger to the child, and political investment in future social organization is far from radical. It has traditionally made the child the site of public anxiety and juridical control. Lee Edelman argues that the child figure is the primary

disciplinary technology of heteronormativity. Whereas Russ cites patriarchal oppression in its most extreme forms — “imprisonment, madness, rape and beatings, or being chained for life” (83) — both sides of this encounter might very well espouse protectionist motives. Clearly, establishing proper binary value systems composes a large part of the politics of rescue narratives. But in this tug-of-war for the child, the fact of danger in some form, rather than receiving scrutiny, acts as the ballast around which binary terms might be established.

In this context, the literal crossing over of the rescuing heroine into the world of the child appears as a rescue into proper narrativity, one so important it must be modeled and overseen. The occasion for this importance has to do with the mirroring between the children situated at the thresholds of textual narrative and social narrative, mimicking each other as the teenage girl mimics the Visitor. The child inside the narrative figures the child outside of the narrative, the “real” child settling into the book while sitting in her parent’s parlor. This projected child, called forth by the story’s move into realism, stands in synecdochic relation to all potential child readers. Both children receive instruction: the internal child through the auspices of the older woman, and the external child through the model of the story, itself a sort of older sister figure. Sarah Lefanu describes this dynamic in Russ’s writing as “author, text and reader mov[ing] around the paradigm of mother and child in a complex and at times contradictory ways” (178). As the mother-child dyad suggests, the child’s status as reproductive issue heads a reversible, metonymic chain that makes the child figure stand in for the future and its proper production. Worries over the child, then, express anxiety about or management of that future. Even if the influence exerted exemplifies the specter of “bad influence,” the game remains the same. The pedagogic impulse of the rescue theme redeems the future by instructing its representatives.

All this suggests that stories can have damaging, as well as salvific, consequences. It is therefore all the more shocking to find a story that culminates in the death of the rescuer and the murder of the female child. Interpreting Russ’s 1977 novel *We Who Are About To...* means negotiating somehow with this self-conscious violation. I argue that *We Who Are About To...* deconstructs the illusion of presence that animates the rescue thematic, and in so doing abandons the imperative to make the child the salvation of the future.

Literary critics have long contented that stories act in the world equally

as much as they reflect the world. The degree of mediation thought to separate stories from the world, however, varies in different analytic modes. Most poststructural literary criticism assumes the presence of deep chasms within signification and complex iterations distorting the causality between signification and enactment, iterations that emerge from historical contingency, semantic polyvalency, and the material consequences of transmission. The economy of correspondence that Spencer and Cortiel find in Russ's writing incorporates mediation in order to engender it, strip it of its iterations over time, and render it singular. Just as the rescuer in Russ's stories sweeps into a girl-child's life from the outside, so the story itself will rescue the girl-reader, allowing her to become the rescuer and the teller of tales who will someday rescue more girl-readers. Or, in other words, they are performative locutions, instituting a new subjectivity through the act of announcing that subject.

Of course, the stories are not women and the readers are likely not children, girl-children or otherwise. In the figural logic that makes children representative, however, a simple slide across metonymic registers engenders the story as a speaker addressing the child who lurks inside the adult reader, the self trapped behind the prison bars of femininity, the woman reader's past returned as potential future through the auspices of the appropriately named Trans-Temporal Authority. Gathered all together — the fictional child, the pedagogic older women, the didactic story, the actual woman reader, her spectral inner child, the inner child's figuration of a reborn future likewise figured as a child — this interpretive parable forms what Jacques Derrida, in his critique of J.-L. Austin, calls a "unity": "This conscious presence of the speakers or receivers who participate in the effecting of a performative, their intentional presence in the totality of the operation, implies teleologically that *no remainder* escapes the present totalization" (125).⁵ As in Austin's most famous example of the felicitous performative, the marriage act, the vitality of the word-story-older woman transforms the strangely passive receiver-reader-girl child in a closed circle with no remainder. Yet unlike the marriage example, in which the official and the participants maintain different functions throughout the transformation, here the reader becomes the storyteller in a closed loop.

What are we to make, then, of the killing of the female child? How are we to understand Russ's materializing words when they are homicidal and suicidal? How are we to understand a novel that self-consciously materializes death? Or, as Judith Butler asks of the Austinian performative, "What would it mean for a thing to be 'done by' a word or, for that matter, for a

thing to be ‘done in by’ a word? When and where, in such a case, would such a thing become disentangled from the word by which it is done or done in?” (198). In particular, how are we to understand this materializing word when it represents and comes to bear on the child, in whose name the harming word has been relentlessly interrogated? Although Russ’s work images the child’s redemption through the auspices of the wise, older woman, their bond might easily be construed as corrupting and endangering in its engendering, even apart from the ultimate panic-inducing tableau of the unruly woman turned child murderer that *We Who Are About To...* presents.⁶

“The Second Inquisition” provides a way through this dilemma. By layering science fictional devices over the realist setting, it performs a kind of generic slippage never fully resolved at the level of plot because this slippage concerns impossible knowledge. As a time traveler, the Visitor knows that the Good War will follow the Great War, that flapper styles will give way to curvier silhouettes, that microwave ovens will replace iron pots. If the Visitor is the girl’s mirrored self, then the girl must already know all of this, which she can’t know and still be the girl. Finally, the story’s knowledge structure reverses the play of real and imagined. The girl and her suburb acquire the two-dimensionality of a studio set; the Visitor retreats behind the mirror, leaving the vitality to the story and its telling. Far from an engendering word, this final story disentangles textuality from any of its representational truth claims.

The inquisition of the title, with its reference to the unreliable oaths of heretics who pose as believers, gives weight to this interpretation. Yet the story can be read as an allegory of “self-rescue” (173), to use Spencer’s term, the ultimate example of the closed loop of the engendering word. If this story nestles both possible interpretations, then perhaps the violence of *We Who Are About To...* can be read as a provocation, a kind of interpretive violence aimed at rending open the closed circle of rescuer and rescued to allow for more dispersed transmissions, less calculable effects, and a less strident aesthetic morality.

The novel is, after all, about the impossibility of rescue.

You must not shoot a Lori with a large-caliber revolver. It’s not right. I shifted Mrs. Gee’s gun to my left hand but quietly, quietly. You must not shoot an ebony-haired Lori.—Joanna Russ, *We Who Are About To...*

Before her murders, before her suicide, when the narrator still at least pretends a willingness to get along, she has an exchange with Lori, the only

child in the novel, which provides an opportunity for the sort of future-oriented, engendering word we've seen in "The Second Inquisition." Like the narrator, who is a musicologist by profession, Lori wants to be a musician when she grows up. This link between them forms the ground on which the narrator might serve as a model for Lori's future self. The narrator asks to read Lori's palms, although she tells the reader in an aside that she fabricates the whole thing. Palm reading supplies a cover for pedagogic instruction. In many ways, the narrator's reading contains all the central elements of the rescue thematic. She tells Lori that she will have a long life, attain much worldly success, pursue her dreams, and find love but never marry. But most importantly, they will be saved. This prediction encapsulates what the novel denies to its readers: a happy ending — certainly, a sympathetic hero as well, but more importantly what I am calling narrative reproductions, or the terminus of the story in the reader's identification.

"Science fiction," writes Lefanu, "enjoys remarkable freedom from rigid rules about what constitutes a novel" (174). Although this is certainly true, most science fiction conforms to the narrative stipulation that the length of the novel and its dramatic action equal each other. Of the many startling departures not only from novelistic conventions generally, but from her own established thematics specifically, the most striking in *We Who Are About To...* is its violation of the law of dramatic action.⁷ The central conflict in the novel concerns the establishment of civilization. Arriving by accident on an uninhabited but ostensibly habitable alien planet, the eight passengers of a crashed commuter starship quickly come to agree that they must begin life anew. Quite literally, this means birthing children. The narrator disagrees and one night sneaks off. The others send a rescue party to bring her back to their camp by force; she kills the rescue party and then voluntarily returns to base camp and kills the two remaining passengers, an older woman and Lori, the woman's adopted twelve-year-old daughter. All this is shocking enough, but the real violence here comes not in the content but in the structure. The novel doesn't end with her murders, even though the only actions possibly remaining to the novel would be rescue (an alternative ending the narrator relates as a grimly ironic joke) or her promised suicide. By killing the other characters, the narrator kills off both the future of the colony and the future of the novel. Nothing else can happen, and indeed nothing else does happen. Instead, the narrator keeps talking to herself through the mediation of her pocket voice recorder, of which the novel is a transcript. The novel's structure does not so much refuse climax as it does prolong the consequences

of that climax. It moves through and beyond what Roland Barthes calls “the pleasure of the corporeal striptease or of narrative suspense” (10), tapering off into sterility and death. If, as I am arguing, this novel must be interpreted within Russ’s larger corpus, and particularly within the rescue theme and its connection of narrative with childhood, then the killing of the narrative’s future seems a direct assault on the pedagogic text and an invitation to nonreproductive textual perversions.

Indeed, the novel might have taken a very different turn. One could imagine a third *Whileaway*, the utopian gender-separatist future of “When It Changed” (1972) and *The Female Man* (1975), rising on top of the destruction of the colony’s burgeoning patriarchal civilization, just the narrator and twelve-year-old Lori. Of course, such a scenario threatens to turn back into the futureless sterility of the narrator’s long suicide in the novel’s conclusion without the introduction of some of the parthenogenetic magic that makes *Whileaway* a place readers want to return to. Even in a lesbian commune, the only future is in reproduction. And so Russ has no compassion for her readers, just as her narrator has no compassion for Lori. Instead, she shoots her in the back of the head. By breaking this narrative covenant, compassion’s concern, to borrow a phrase from Edelman, with the “communal relations, collective identities, the very realm of the social itself” (68) is shown to hinge on the child who is both hope and issue of those relations. Although Lefanu and Cortiel both praise Russ for her embrace of fragmentary, non-linear prose and for her hailing of the reader into complicated relationships with fragmenting narrators, neither deals directly with this profound murder of the reader’s expectation that rescue will first of all mean compassion for the child.

Given all this, it seems less than coincidental that Lori’s murder comes last. Lori serves as a vehicle, as her name, an aural analog for the British word *lorry*, echoes. She maintains the social structure even as she is posted as its outer limits by serving as its ride into the future. In the novel’s first phase, Lori’s age and virginity keep her from the list of reproductive women assigned to “donate their genetic material” (57). Despite this apparent compassion for the tenderness of her youth, the whole scheme devolves on Lori’s capacity to breed farther into the future than any of her substantially older companions. As a child, Lori need not contribute to the group’s building effort. Despite the limitations of their situation, they accommodate her physical fragility whenever possible. Indeed, their sententious displays of concern for her hardly mortal allergic reaction to their fire, forcing everyone to

“memorize the kind of tree whose burning had made Lori sick” while her father monitors them, repeating “This is very important” (37), only heightens the general infantilization that quickly enshrouds all of the women. Their protectionist rhetoric, as the narrator points out, has little to do with any actual danger, foremost among these the danger of childbirth, but instead works to establish what Lauren Berlant calls “dead citizenship”: “identities not live, or in play, but dead, frozen, fixed, or at rest” (61), surrounded by the disciplinary technologies of protection. As in Russ’s more typical rescue thematic, the oppression from which Lori must be saved claims to have her protection at heart.

In one reading of her choice to murder Lori, the narrator might be understood as releasing Lori from the confines of this death-in-life. This explanation, however, does not account for the oddly abstracting denomination of Lori as “a Lori” (95), which implies that she kills her not as an individual, but as a type. In fact, the past given to Lori in the novel troubles the question of personhood. As her mother explains, she was rescued as an infant and chosen because “she needed money like mine” (92). Only barely embodied, Lori underwent seven years of surgical interventions: “They said the only thing that really worked were her central nervous system and her skeletal muscles” (92). Pastiched together from borrowed parts, not even her mind was her own. While her body was assembled, her mind was “on P.D. [psychic displacement] so she wouldn’t have to be there while they were doing it to her” (92). The sexual overtones of this phrasing mingles with the literalization of the constructed body of the child to produce a kind of hyper-invested blankness in which the content of the child equals the expertise of technicians, the sentimental regard of parents, and the soft-focus idealization of the never-never land of childhood fantasy. Lori the vehicle never really lives at all.⁸

The narrator, while rehearsing Lori’s murder in her mind, once again abstracts her into a type, one of an army of “little twelve-year-old girls walking about with billions of dollars of improvements inside them. Like dolls with tape decks in a slot in the back” (132). The cyborgian evocation of the first line finds equivocal extension in the second. In fact, they have almost no logical relationship. Nothing about a kidney replacement indicates the automaton repetition of scripted loops that the narrator’s image conjures. In fact, the only tape deck in the novel is the one the narrator speaks into. This strong association of Lori with the narrator’s means of transmission figures Lori as a kind of repeating machine through which narratives can be per-

fectly stored and reproduced. If Lori engines the future, she does so as a narrative vehicle freighting the present.

Why does the narrator kill Lori when she might have redeemed her murders by justifying them as for Lori, in Lori's name, as salvation from a future that would have turned them both into brood animals without their consent? She doesn't kill Lori. Rather, she sabotages the means of reproduction, which might have turned her unsalvageable life into a memento mori, an error-free transcription. And with her, the narrator kills the possibility of instruction that all of her metaphors collude to expose as the very basis of our figurations of the child.

This force of rupture is due to the spacing which constitutes the written sign: the spacing which separates it from other elements of the internal contextual chain ... but also from all other forms of a present referent.—Jacques Derrida

Critics, searching for comparisons to explain the plot of Russ's *We Who Are About To...*, have continually reverted to television show titles. Spencer calls the novel "a grotesque parody of the Swiss Family Robinson" (175), a television version of which was aired in the same year as the book's release. Brooks Landon describes the eight survivors of the spaceship crash as "a somewhat curdled version of the characters in *Gilligan's Island*" (65). Tess Williams points to *Lost in Space*, another popular 1960s television show (212). All three of these shows take part in the "back to nature" biological reductionism whose antifeminist politics Marion Zimmer Bradley's *Darkover Landfall* (1972), Russ's novel's most noted intertext, famously condones. Although this contextualization rightly privileges Russ's interest in science-fictional colonization narratives and their consequences for women's reproductive autonomy, the narrator's murders effectively close that question less than halfway through the plot. Taken as a whole, the question of procreation is overshadowed by the novel's structural rejection of reproduction as a narrative demand and its more subtle interest in transmission and dissemination.

If *We Who Are About To...* references the generic content of these shows, it is equally concerned with the formal aspects of production. The novel's central conceit—that it is a record made by the narrator on her pocket voice recorder—brings questions of transmission to the fore. The story literally cannot be told without specific technologies for retrieval and replay, a problem confronted twice in the novel's opening sequences. In the first instance, Cassie finds that her tape deck is out of batteries. Annoyed, she asks if there is any way to recharge the batteries, to which the narrator responds: "There's

nothing we can do — our gadgets are all sealed and shielded. It's a different kind of energy; we can't transform the one to the other" (17). Moments later, Alan-Bobby asks if the narrator has any of her music with her. "Tapes," she says, "Want to use them for ribbons? I have the amplifier and the recorder — see? they fit in my hand — but the speakers are too big" (17). The reason that they attempt to colonize the planet at all hinges on the problem of temporally delayed reception. To get them where they were going, the ship folded space-time, missed, and crash-landed. Their laser distress signal, moving only at the speed of light, might reward them with a rescue mission "in as little as a couple of centuries, a century, eighty years even. Even little Lori will be dead" (20). At the same time that the problem of transmission bodes ill for rescue, it lends a strange persistence to their lives and deaths whose "light ... may not reach you for a thousand million years" (8). Black boxed, with no framing narration to explain how we are reading this story, we find ourselves in the impossible present of television repeats. Even more than written narrative, television relies on serial reproducibility and the recyclings of identical narrative arcs. And like television, the illusion of narrative convention and the physiology of sound give words to individual mouths rather than speakers from which they issue. Yet the content of a television narrative sits uneasily next to the physics of its materiality. Each broadcast, in its repeatability, eludes direct address and perfect contextualization, spinning out, as the narrator says of her lost music, "into the ionosphere" (17).

"Who are you?" the narrator asks of her reader several times through her narration, playfully assigning alien biology to her voice's receiver. "Writing orphaned" (118), as Derrida describes all writing, finding its condition of possibility in "being severed from its referent or signified" (120) as well as from "the self-presence of a total context" (128), does not condemn to failure the investment in writing as a politically effective force. It just demands a more generous interval, a more complex field, and more room for the productivity of error and misprision. Although Lori might be a perfect machine for reproduction, the narrative insistently highlights the problem of transmission.

Such, perhaps, is the lesson of two memories the narrator relates to her voice recorder as she starves to death in her cave. Although she is haunted by the ghosts of her immediate past, her direct addresses to the reader primarily relate her experiences as a radical political activist. As a member of the Populars, a movement grounded in communist ethics, she is invited to lecture. Onstage preceding one of these events, she suddenly finds herself the target of the crowd's hostility: "Something I can only describe as a

growing volume in the infra-bass as if the floor were preparing to rise and the walls come tumbling down” (116). As a political radical, she wants to manage the incision made by the “cutting edge of change” (119). In this example, although she inspires, she cannot manage the content of that inspiration. Her words do act, even before she can speak them, but with unpredictable and areferential results.

The narrator relates another story about her revolutionary past that turns on the question of dissemination. When still a Popular, she designed a graffito too unwieldy to become a slogan: “Money doesn’t matter when / Control is somewhere else” (123). She thinks it forgotten, until years later she finds it tagged on the wall of a New Zealand subway station, continents away. Each of these stories demonstrates the indeterminacy of direct control over dissemination as opposed to delayed reception and the tendency of text to find its own addressee.

All this discussion of sound’s capture and the unlikely paths of orphaned graffito prefigure the ultimate irony of the book: she locks it. “By writ and tort, by hullabaloo and brouhaha, I declare this tapedeck locked to all voice-prints but mine, locked *re* playback, locked *re* print out, and may God have mercy on your soul” (77). We might suppose that the fact of the text means that she did not commit suicide, that her grim joke came true and she was rescued somewhere outside the frame. Or we might conjecture that some alien civilization in the far future found her tape deck, unsealed it, transcribed and reproduced it. But I find these to be dubious attempts to resuscitate exactly the kind of perfect transmission that Lori embodies. I’d rather think the whole thing a sham and the locked voice recorder a little winking punctum deflating any sense of narrative origin, continuity, and truth. By so emphatically denying the reader the ability to identify with the text, the locked tape deck blasts open the closed loop composed of the embodied story and the rescued reader, leaving only remainders floating away from each other in the ether.

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NOTES

1. For another take on this dynamic, see Russ’s “The Mystery of the Young Gentleman” (1982).
2. In fact, one more step mediates the return to realism. In the midst of confessing

that the figure in the mirror is herself, the girl splits into two: "I put one foot up in the air, as if on the threshold of the mirror, and a girl in ragged black stared back at me.... She said to me, 'You look idiotic'" (192). "The Second Inquisition" ends with the ambiguous line "no more stories" (192). Although this line may refer to the Visitor's departure in failure and the girl's solitude, its presence at the end of the collection seems to me to issue a double warning: on the one hand, it functions as an admonishment to stay on this side of the mirror where are found the conditions that make fantasy necessary at all. On the other hand, the resignation in this ending seems to me to demand anger at the failure of stories to provide role models for young girls. Thus, the ending urges the book's readers to risk looking idiotic, to don the Visitor's clothes and to be as a stranger in their own living rooms.

3. Russ's later novel, *The Two of Them* (1978), addresses this question. The novel's hero, Irene Waskiewicz, another Trans-Temporal agent, wants to rescue twelve-year-old Zubeydeh, her mother, and her aunt from the patriarchal culture of Ka'abah. Her failure to rescue the older women ultimately shows Irene the limitations of her "enlightened" relationship with her lover and partner, Ernst, who prevents their rescue. This suggests that the focus on younger women results from the continued devaluation of older women in patriarchal culture.

4. This connection might also illuminate the strange scene in *The Two of Them* in which Zubeydeh sexually abuses her younger male ward. As popular psychology has it, having been abused, she became an abuser. The tight coupling between abuse and renewed danger goes a long way to explaining the "child pedophile."

5. Russ famously denounced "patriarchal theory" in her "Letter to Susan Koppleman" (1995). Although some of her hostility seems symptomatic of a particular time and place, the letter issues a necessary challenge to the deification of a small lineage of male philosopher. In this case, I think that although Russ and Derrida's texts engage different conversations, they both aim to counter what Russ calls "the enormous social forces" ("Letter" 173) that keep intact the relationship between presence and salvation.

6. Spencer's inclusion of this murder in her list of rescues, albeit tentative, indicates that death can be construed as preferable to certain modes of life, an ominous contention.

7. In an insightful recent essay, Tess Williams regards the novel as an example of Bakhtinian satire. Although I share many of Williams's critical attitudes, including most importantly her identification of Lori as "a particular site of anti-utopian satire" (215), my reading favors a narrower rubric than "carnival" allows. Rather than reading the novel as "acting to destabilize much of late twentieth-century mainstream Western culture" (210), I focus on its conversation with feminist goals and tactics. I hope that my work, by so locating the novel, has helped to elucidate why Russ might want to undermine the "rescued female child" (215) theme.

8. If she had chosen to rescue Lori, the narrator would have become akin to Mrs. Graham. But something uncomfortable lurks in this too-easy critical killing off of Lori. In fact, Lori's vitality will not be subdued. Even in the moments before her death, she camps, sulks, and arrogantly demands attention. The narrator's description — "I shot her in the back of the head. Did it with the gas gun, shrugging it from my sleeve, practically touching her hair" (95) — makes the act of shooting a species of caress.

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13

Learning to Listen, Listening to Learn: The Taoist Way in Ursula K. Le Guin's *The Telling*

James H. Thrall

ABSTRACT.— Ursula K. Le Guin's *The Telling* (2000) is more than simply a novel steeped in Taoism. It is, in fact, an attempt to make a political point by imagining a novel in a Taoist mode. Her protagonist moves beyond merely studying the Telling, a way of life modeled on Taoism, to becoming a practitioner herself. Le Guin contrasts her construction of the Telling's grassroots system of communicating life wisdom through story with hierarchical systems of domination and control. By emphasizing the importance of properly engaged listening, which she sees as a key aspect of both Taoism's and the Telling's feminist principle, Le Guin advocates an alternative politics that embraces "peaceful anarchy" rooted in cooperation and discernment rather than conflict.

Dispassionate objectivity is elusive in Ursula K. Le Guin's novel *The Telling* (2000). Suttu, an Ekumenical emissary from Earth to the hyperdeveloping planet Aka, chides herself whenever she loses her diplomatic cool and thinks, let alone expresses, the strongly judgmental reactions she has to the dehumanizing, bureaucratic government-*cum*-corporate structure of the dominant Akan society.¹ "Wrong," she scolds herself. "Wrong to let frustration cloud her thinking and perceptions. Wrong to admit prejudice." Rather, "look, listen, notice: observe. That was her job" (8, 9). Le Guin herself does not even try to adopt the unemotional disengagement Suttu seeks. At least initially, her narrative of contrasts assumes judgment in favor of the traditional way of life maintained by the planet's more rural residents and against the rush to oppressive modernity pursued by Aka's urbanized producer-

consumers. For most of the book, Le Guin makes the opposition between what should be valued and what should not as stark as geographic distance. “This is a longer journey,” thinks Suttty as she leaves the clangorous city of Dovza to travel upriver to the favored hill country, “than my journey from Earth to Aka” (37).

Before Suttty’s travels are over, that distinction will be less clear as the novel undercuts supposedly certain judgments. The Corporation official — the Monitor — who most earns Suttty’s emotional enmity proves capable of humanity and even self-sacrifice, while she learns that at least some of the *maz*, the traditional culture’s saintly spiritual teachers, were ambitious for authority and wealth. Aka’s misguided turn toward a frenetically future-oriented economy emerges as understandable if no less unfortunate, and the vast system of proscribed folk wisdom that Suttty is delighted to find preserved in out-of-the-way corners includes questionable beliefs she must reject as “hocus-pocus” (122).

Even so, Le Guin’s overarching investment in the mode of being called Taoism, the model for this traditional Akan way of life known as “the Telling,” creates a curious tension between her interest in advancing that way of life as “good” and her demonstration of Taoism’s own reluctance to make absolute judgments. Le Guin’s imaginative invention of the Telling is not just a simple reproduction of Taoism, but does draw strongly on Taoist principles and practice, as have other of her books (*The Lathe of Heaven*, 1971; *City of Illusion*, 1967), providing her an opportunity to mull over Taoism’s puzzles, including its seemingly infinite open-endedness. In the Telling, Suttty explains, “There were no rules. There was always an alternative” (98), a characterization echoing what Le Guin calls Taoism’s “peaceful anarchism” (*Dancing* 93). For the Telling’s followers, the word *good*, Suttty observes, was “an adjective always: good food, good health, good sex, good weather. No capital letters. Good or Evil as entities” (98). By contrast, as Suttty relinquishes her efforts at diplomatic reserve and embraces the rough beauty and apparent “rightness” of life in the hills, Le Guin seems to give herself up as well to that rightness through what she might call a “passionately objective” judgment backed by strong opinion. With some chagrin, Le Guin has noted her tendency to stake such firm positions. “I have found, somewhat to my displeasure,” she acknowledged in 1977, “that I am an extremely moral writer. I am always grinding axes and making points.” Apart from the difficulties this can pose for exploring Taoist relativism, Le Guin describes it as a failure of her craft: “I wish I wasn’t so moralistic, because my interest is aes-

thetic. What I want to do is make something beautiful like a good pot or a good piece of music, and the ideas and moralism keep getting in the way" (*Language* 124). Some critics, however, have claimed Le Guin has the opposite problem, that her interweaving of Taoism blunts her moral force, weakening in particular her purported feminist perspective. In critiquing Le Guin's early explorations of feminism, for example, Sarah Lefanu charged that the advancement of Taoist values of "balance" and "wholeness" obscured the necessity of conflict in struggles over gender (139). At the same time, others, such as Holly Littlefield, see Le Guin's "social and feminist consciousness" changing and deepening over time (244), especially as evidenced in the later Earthsea novels (see also Rawls). Alexis Lothian argues that it has been precisely through her development as a feminist author that Le Guin has discovered how "the aesthetic, the imagination," can "become one with the political" (383). By 2004, Lothian notes, Le Guin could describe science fiction's political potential in terms of the aesthetic force of its descriptions of alternative realities: "We will not know our own injustice if we cannot imagine injustice," Le Guin wrote. "We will not be free if we cannot imagine freedom" (*Wave* 220). With Sutti, a female Indian protagonist who is both lesbian and a person of color, Lothian maintains, *The Telling* in particular marks a singular achievement of imagining freedom from "dominant masculinist, white supremacist, and heterosexist ideologies" (383).

If in *The Telling* Le Guin has accomplished such a marriage of aesthetics and politics in the service of a feminist perspective, just what is the role of Taoism's broadly inclusive philosophy in achieving it? How, in short, does Le Guin use the relativity of Taoism to grind the ax she wants to grind, and what happens to the grinding in the process?

Coming to Judgment

The Telling's story rests on references to historical events that invite legitimate judgment, including, most generally, the imposition of Western values of technological progress married to Christian exclusionism that colored much of the West's colonial encounter with the East. More specifically, the novel draws on the disastrous excesses of the Great Leap Forward (1958–60) and the Cultural Revolution (1966–76) that pursued the utopian goals of the People's Republic of China at the cost of millions of lives. Le Guin makes imaginative use in particular of the Cultural Revolution's harsh

suppression of traditional customs — including Taoism — in the name of Maoist-Marxist orthodoxy (Berkson 399; *Wave* 279). *The Telling's* description of a closely observed society committed to accelerated economic development, offered in the year 2000, may also comment on China's more recent pursuit of rampant capitalism married to social control.

Le Guin uses the hints of Chinese history as mere jumping-off points, however, broadening her critique to address any totalitarian effort to enforce a single ideology, or to suppress traditional ways of life. She mirrors the Akan experience, for example, with the rise of an intolerant, ultraconservative religious party on Earth called the Unists. "I guess if they joined the Unists, they could believe that everything they did was right," Suttty observes in explaining the movement's growth (213). Although not identified specifically as Christian, the Unists are headquartered in Colorado, current home to several prominent evangelical Christian groups (4). Their armed wing, the Hosts of the Lord, destroys the Library of Congress in an attempt to wipe out "unholy knowledge" and preserve the solitary rule of their "one book" that rendered all other books "dirt" (4–5). Similarly, on Aka, enforced commitment to a hierarchical system in which "each individual sought the indefinite growth of the society's material wealth and complexity" becomes a new form of religion, with the accompanying negative associations of "dogmatic belief, emotional frenzy, deferral of reward to a future life, and sanctioned bigotry" (111, 113). In Dovza City, slogans about progress blare in public places, or display across the faces of buildings: "Forward to the Future. Producer-Consumers of Aka March to the Stars" (7). Propagandistic encouragements to greater effort and self-improvement are delivered for private consumption on "sound tapes" and "neareal" disks. In grimmer manifestations, "producer-consumers of the Corporation State" hurry about, their activities tracked as they flash identifying Zil chips to make purchases, or even to enter or leave a building (29). Worse, the indigenous language that Suttty trained to read is banned, along with its heritage of literature and art, while informers betray anyone practicing "outmoded" thinking to persecution and reeducation.

For Le Guin, this is what is "wrong," to use Suttty's word, as she embeds an ethical judgment within an aesthetic assessment. Life in Dovza is ugly to Suttty, and, it may be assumed, to Le Guin, in the way it looks, sounds and feels. In her initial blindness to the complexities of Akan society, Suttty demonstrates the limited perspective of many of Le Guin's protagonists, whose journeys to greater perception often drive her plots (Woodcock

196–99). At the same time, through her efforts to comprehend that society, Suttu stands in for what Le Guin hopes will be her readers' efforts to come to terms with what should and should not be valued. "Well, I'm, I think I'm insensitive to this aesthetic," Suttu admits to her supervisor and fellow envoy Tong Ov, even as she downplays the strength of her reaction. "It is so deeply and, and, and flatly political. Of course every art is political. But when it's all didactic, all in the service of a belief system, I resent, I mean, I resist it. But I try not to" (11). For Le Guin something crucial was lost as the Akans, like the Chinese Maoists (Li and Cauvel 33), reduced art to propaganda and "essentially erased their history" through suppression of the "defeated enemy" of any texts or even forms of language associated with "reactionary thought" (7). Her narrative advocates for those old ways as she, through Suttu, explores the Telling's difficult-to-define, seemingly all-encompassing culture.

Resisting Definition

The Telling is both a way of life and a variegated art form incorporating storytelling, dance, martial arts, calligraphy, and illustration, among other expressions. It reflects Taoism's vague contours as Suttu struggles to establish whether it is a religion or a philosophy, a recording of history, a superstitious or not so superstitious belief in supernatural powers, or something else entirely, before deciding it might be a little of each of these and more. "A definition of Taoism is elusive," notes Julia Ching. "Indeed, Taoism may designate anything and everything" (418, 419). Liu Xiaogan similarly writes: "The more one knows about Taoism ... the more difficult it is to define it" (231). Le Guin offers this indefinitely bounded Telling as a form of "peaceful anarchism," an antithesis to the oppressive Akan state apparatus or any "authoritarian state (capitalist or socialist)" (*Wind's* 285). To Le Guin "the most idealistic, ... and the most interesting of all political theories," anarchism is marked by what might be termed "unorganized organization." Its "principal moral-practical theme is cooperation (solidarity, mutual aid)" in the absence of hierarchical structure, an orientation Le Guin associates with feminist rather than patriarchal values (*Dancing* 11–12).

The Telling refers primarily to the vast accumulation of written and oral tradition, as well as to the clandestine recitations given by grassroots networks of revered teachers passing on eclectic and often contradictory

wisdom. Modeled on nonmonastic Taoist clergy known as *huoju daoshi*, or “Taoists living at home” (Lai 108), these *maz* infuse the living of everyday life with “glances, glimpses of sacredness” communicated through a multitude of diverse tales (*Telling* 96). References to what could be “holy/sacred” were “never reserved for a certain place or type of action,” Suttty reports. “Rather it appeared that in the old Akan way of thinking any place, any act, if properly perceived, was actually mysterious and powerful, potentially sacred. And perception seemed to involve description — telling about the place, or the act, or the event, or the person. Talking about it, making it into a story.” These stories “weren’t gospel. They weren’t Truth,” she continues. “They were essays at the truth.” In this unsystematic system, a concluding tagline, “Well, that’s how I learned the story.... Well, that’s the way this telling goes,” is all the endorsement needed for each sacred fragment told (97).

Dena C. Bain suggests that the relativistic thread running through certain strains of Taoism developed as a narrative theme for Le Guin in part because of her keen interest in one of Taoism’s foundational texts, Lao-zi’s (Lao Tzu’s) *Tao Te Ching*. Extensive study of the *Tao Te Ching* led Le Guin to publish her own rendition in 1998 with assistance from China scholar J. P. Seaton. Composed as a series of chapters, or short poetic commentaries on life, the *Tao Te Ching*’s advice can be both enigmatic and evocative, but among other emphases, it underscores the deceptive dangers of making absolute choices. From Le Guin’s own version of the second chapter:

Everybody on earth knowing
That beauty is beautiful
Makes ugliness

Everybody knowing
That goodness is good
Makes wickedness

For being and nonbeing
Arise together;
Hard and easy
Complete each other;
Long and short
Shape each other;
High and low
Depend on each other;
Note and voice
Make the music together;

Before and after
Follow each other [*Lao Tzu Tao Te Ching* 4].

As Bain explains, “If we had no preconception of beauty, nothing would appear ugly; one thing is made high only at the expense of making something else low, and so on” (212). But the chapter also undercuts certainty as to what constitutes right action. As a result, a Taoist sage, she explains, “never tries to do good, since a concept of good implies a concept of evil, and supporting the concept of evil only makes it stronger and more difficult to combat. Secondly, the cycle of cause and effect is so strong, so pervasive in human affairs that good done to one person may well be evil done to another” (213). Finally, given the inherent subjectivity of assessments of good, a sage “can consider any man’s criteria as valid as his own” (213). Zhuangzi [Chuang Tsu], whose writing followed Lao Tzu’s, argued that “our natural, authentic state of being is compatible with a wide variety of equally good and proper human lives,” notes Philip J. Ivanhoe. “More than a pluralist,” Zhuangzi was “ethically promiscuous” in asserting that “the vast, open-ended diversity of good lives” can “help us avoid the common failing of taking our particular point of view as the definitive standard for what is good” (378). A similar relativism can inform Taoist aesthetics, Li Zehou recounts: “Zhuangzi ... wrote that every living thing has its own taste of beauty. He said that birds and fish are often frightened at the sight of the beautiful women that men admire and even the men disagree among themselves” (Li and Cauvel 18).

Rather than offer dogmatic direction as to what is either good or beautiful, therefore, the wide-ranging stories of the Telling demand ongoing efforts at discernment, and they often resist easy assessment by reason or common sense. The preferred lifestyle in Okzat-Ozkat, the hill country town Suttu visits, for example, is based on “a great consensual social pattern within which each individual sought physical and spiritual satisfaction” by seeking out other individuals for what each might teach, and then processing those teachings by his or her own lights (5). In performing their pieces of the Telling, *maz* put on mantles of office indicating their sacred authority, but it is authority gained through the ordinary “non-mantled” lives they have lived, usually over extended periods of time (118–19). The *maz* are “mostly middle-aged or old,” Suttu reports, because “it took a lifetime to learn how to walk in the forest” (102). Suttu realizes that she is trying to grasp “a way of thinking and living developed and elaborated over thousands of years by the vast majority of human beings on this world” (91). As a result, focused

as Le Guin herself seems to be in support of the Telling, her book becomes a paean to the breadth and paradoxical variety of life's lessons expressed in the Telling's blending of art, religion, quotidian experience, and more.

Story as Ethics

In offering up fragments of wisdom through the vehicle of stories, the Telling also illuminates the ethical function of storytelling itself, a concept Adam Zachary Newton considers in his term *narrative ethics*. In part, the stories give examples of what the listeners are invited to understand as “right” or “good” ways of acting or being within each story’s particular circumstances. But drawing on Coleridge’s “The Rime of the Ancient Mariner” (1798) as an example, Newton focuses on the relational imperative embedded in the act of telling a story itself. What is important, Newton argues, is not a story’s particular moral content — any didactic or guiding statement asserting some moral proposition — but the momentary relationship between speaker and listener established by the storytelling (5). Asked to tell “what manner of a man” he is, “the Mariner willingly complies,” Newton writes. “He does so not by stating a proposition, a ‘Said,’ but rather by staging a performance, a ‘Saying,’ a proposing and exposing of the self. He does not answer; he ‘stories’ — not a noun but a verb” (3). For the period of any “saying” (where Le Guin might use “telling”), human beings are connected in at least some form of relationship, whether adversarial, controlling, sympathetic, distant, congenial, or other, giving the event of “storying” ethical weight. Such an intersubjective relationship can be created as well in the process of reading a written narrative, Newton argues. “One faces a text as one might face a person, having to confront the claims raised by that very immediacy, an immediacy of contact, not of meaning” (10–11).

The tellings described in Le Guin’s novel, and even her own telling of the story itself, do convey didactic principles. In her “passionate objectivity,” Le Guin communicates the benefits of, for example, open-mindedness that accepts both heterosexual and homosexual pairings as natural. She endorses specific Taoist values as well, such as affinity with the rhythms of nature (Berkson 396). The River Ereha, the conduit for Sutti’s geographic and metaphoric journey from Dovza to the rural uplands, is — significantly — paved over within the city’s bounds. Once on the riverboat, conveyed by the freed river, Sutti and the city-loving Monitor are distinguished by their dif-

ferent readings of the passing desert landscape. What the Monitor sees as “barren” and “dreary,” Suttty finds “austere but beautiful” (38, 40). In contrast to the erasure of nature in Dovza, meanwhile, the town of Okzat-Ozkatz presents a liminal space in which human habitation merges with its natural surroundings. The buildings’ colors blend with the colors of the surrounding mountains (48–49), just as the cloud images on their doors join the town to the sky.

Beyond such gestures toward describing the shape a “right” way of life might take, however, Le Guin’s ultimate accomplishment is more complex. Through her representation of what it can mean to speak (or to tell) and to listen, she models both the processes of “reading people” and of “reading plots,” as Newton describes them (14), drawing her readers into a relationship with her text that is also vicarious participation in the kinds of relationships modeled in the narrative. As readers of her story, hearers of her telling, we are invited to ponder the significance of the telling and listening that she describes, and by extension, that we do.

Telling and Listening

In being itself a “telling,” Le Guin’s novel is, first of all, a *story*, with a plot laid out along the arc of a standard quest or journey tale: Suttty is given permission to leave Dovza City to travel to the town of Okzat-Ozkatz in the hills; after several months of living with and learning from the town’s residents, she continues on to the distant mountains, where she is shown an illegal library hidden in a cavern. She then returns to Dovza. At the same time, Le Guin’s novel is more an extended description of a way of life than a tale. Although Le Guin would never be guilty of violating the writer’s golden rule of “show, don’t tell,” *The Telling* comes close to being, in fact, a telling in that regard. It could be argued that the book’s real heart lies less in its climax — the culminating events of the journey to the cave — than in Suttty’s earlier, extended effort to understand and explain the Telling’s nature. Furthermore, sent on her trip by Tong Ov, who procured the official permission, and escorted by Okzat-Ozkatz residents to the mountain cave, Suttty seems more acted upon than actor. Yet she does accomplish things and experiences personal growth in the course of the novel, key characteristics of a satisfying protagonist. Most significantly, she breaks through her own strong bias to connect personally with the despised Monitor. Her pursuit of infor-

mation about the planet's local culture and history, and her willingness to make the arduous journey to the cave, open up the possibility that Ekumenical influence might save the banned library and even ease Akans' suspicion of their own past (245). Sufficiently impressing the rural residents with her commitment to their cause, and thereby earning their trust, is a feat in itself, and a necessary step in accomplishing her mission.

Even so, if Suttu is an actor in her own story, Le Guin seems to be redefining "action" as less derring-do and more the ability to develop relationships, to respectfully appreciate the value of certain kinds of culture, to wrestle with discerning the multiplicity of what might be considered good or beautiful, and, most of all, to give oneself up to the flow of life's events. Le Guin has written in favor of such alternatives to the assumption that plot (or politics) must emphasize conflict: "Existence as struggle, life as a battle, everything in terms of defeat and victory ... a sort of apartheid view of existence, and of literature. What a pitiful impoverishment of the complexity of both!" (*Dancing* 190). Littlefield sees, for example, just such an alternative approach in the Earthsea novels: "While her peers were busy creating violent, action-oriented heroes, Le Guin's characters, male as well as female, avoid violence at all cost, seek to maintain balance and equilibrium in their world, and prefer thought to action. They work hard to form and maintain close friendships" (247).

More than just an alternative framing of the typical science fiction hero, however, a protagonist like Suttu could even be said to follow the Tao or the Way. Suttu's indirect accomplishment of her mission in particular might be described by the enigmatic Taoist concept of *wu wei*, or "to do without doing." Chapter 2 of Le Guin's *Tao Te Ching* continues:

That's why the wise soul
does without doing,
teaches without talking.

The things of this world
exist, they are;
you can't refuse them.

To bear and not to own;
to act and not lay claim;
to do the work and let it go:
for just letting it go
is what makes it stay [*Lao Tzu Tao Te Ching* 5].

Sutty's real journey, therefore, becomes the intellectual/emotional quest to attune herself to the Telling's worldview. Our potential journey as readers of Le Guin's telling of Sutty's quest is to follow Sutty into a similar state of listening to that Way. In part, the success of that process depends on Le Guin's role as storyteller, her mastery of the aesthetics of her tale. Has she invited us into the world of her narrative? Are we attracted sufficiently to the story she tells and how she tells it to consider the perspective it conveys? But equally, the success depends on our own willingness to give ourselves up to Le Guin's text. Despite her initial attempts to maintain absolute objectivity, Sutty had been taught a different approach in her training as an Observer. "To learn a belief without belief is to sing a song without the tune," she had been told (90):

A yielding, an obedience, a willingness to accept these notes as the right notes, this pattern as the true pattern, is the essential gesture of performance, translation, and understanding. The gesture need not be permanent, a lasting posture of the mind or heart; yet it is not false. It is more than the suspension of disbelief needed to watch a play, yet less than a conversion. It is a position, a posture in the dance [91].

True education, Le Guin states, depends on understanding that there is something to be learned, and being willing to consider each story heard as a possible source. As the *Tao Te Ching* recognizes the interrelationship between beauty and ugliness, so tellers and listeners are mutually necessary. Reviewing her time in Okzat-Ozkat, Sutty observes that she "had learned how to listen. To listen, hear, keep listening to what she'd heard. To carry the words away and listen to them. If telling was the skill of the maz, listening was the skill of the yoz. As they all liked to remark, neither one was any use without the other" (115). On the trek to the mountain cave, Sutty focuses even more intently on just that role of listening: "She was living among people to whom the highest spiritual attainment was to speak the world truly, and who had been silenced. Here, in this greater silence, where they could speak, she wanted to learn to listen to them. Not to question, only to listen" (153). Sutty likens herself to a child who will "tumble and spin and be helpless, like a baby," repeating the refrain of an ancient Akan poem: "Where my guides lead me in kindness, I follow, follow lightly" (164).

Le Guin's willingness to listen, even to her critics, has infused her own development as a feminist author. In "Is Gender Necessary? Redux (1987)," she famously recast a 1976 article to take herself to task for, among other things, failing to understand the importance of gender-specific pronouns.

"I think women were justified in asking more courage of me and a more rigorous thinking-through of implications," she explains (*Dancing* 16). The revision also explores the heterosexual assumptions underlying even her novel invention of an androgynous race in *The Left Hand of Darkness* (1969), and raised questions about the masculine viewpoint of the novel's protagonist, Ekumenical emissary Genly Ai. As Lothian correctly observes, the decidedly different emissary Suttu indicates just how well Le Guin internalized her own self-chastisement.

Writing and Talking

Set in opposition to the assaultive communication of Dovza, therefore, are privileged forms of speech and writing that establish a more personable relationship of teller and listener, in which listening is as active as telling, and may, as in Le Guin's experience with her critics, engender change. Initially it would seem that the written word earns top billing in *The Telling*, especially in Suttu's preference for the banned printed books over the ubiquitous electronic programming, but also in Le Guin's description of the writing's appearance. Seemingly alive, the ideograms Suttu finds covering the walls in herbalist Sotyu Ang's shop "were moving, not jumpily like half-seen print but evenly, regularly, expanding and shrinking very gently, as if they were breathing" (53). Blurring the distinction between text and art, such ideograms, like Chinese characters, can be rudimentary stories themselves, conveying hinted-at narratives through distilled or abstracted images. Even the Monitor, in his more cordial conversations with Suttu at the end of the book, expresses a writer's preference for the permanence of words entrusted in ink to a page. "I liked the writing better," he says in recalling his long-suppressed childhood. "The spoken words just went out like the wind, and you always had to say them all over again to keep them alive. But the writing stayed, and you could learn to make it better. More beautiful" (207).

Yet spoken language can also hold special power to draw teller and listener together. Speech can be nuanced with tone and gesture, Le Guin points out, or provide extended meaning through inflection, as in the hill country's common, noncommittal "ah" that meant "yes but not quite yes" (55). She emphasizes the importance of being able to use speech freely as well, as official prohibition inverts the power of spoken language into something threatening rather than relational. "Not aloud," Sotyu Ang tells Suttu when

she begins to read the words on his wall, as, in a graphic turn to sign language, he slaps his counter and puts one hand over his mouth (55). Even language that is merely inhibited carries potential to stymie connection through miscommunication. Suttu's struggle to convey her situation in Okzat-Ozkat by phone to Tong Ov without alerting eavesdropping Corporation officials devolves into a tortured code that threatens to confuse both speaker and hearer (140–42).

In the end, communication's ethical weight depends not on whether it is written or verbal, but on the extent to which it accomplishes positive human connection. A key sign of the bankruptcy of the Corporation's worldview, for example, is the banishing of human courtesies of greeting and kindness. That the Akan address *yoz*, meaning simply "fellow person," would be targeted as dangerously reactionary and rejected along with such niceties as "hello" and "thank you" (45) underscores their importance in maintaining a certain form of social structure. Suttu finds a dearth of opportunities for personal friendships with urban Akans, as though banishing courteous discourse had simultaneously banished the possibility of human relationships (32–33). By contrast, on the riverboat, she is surrounded by people who talked: They "talked personally, intimately, and exhaustively. They leaned on the railing talking, sat around on the deck talking, stayed at the dinner table with a glass of wine talking" (33, 34–35). Human connection is also at the core of the value Le Guin places on another sense of telling, as confession or the sharing of intimate personal information. On one level, Suttu's final conversations in the library cave with the Monitor follows the Telling's long tradition of simply reporting what one knows. As Maz Odiedin puts it in encouraging Suttu to talk with her loathed enemy, "Hear what he has to tell" (187). The exchanges that establish such basic information as the Monitor having a name (Yara), however, also draw both Suttu and Yara to much deeper revelations. Positioned in the intimate space of a cave within a cave (a tent set up within the cavern), they allow telling to transform their relationship. On the brink of voicing "the story that she had told only to herself, only in silence," Suttu realizes that Yara will only understand her if she shares the personal tragedy of losing her partner, Pao, in a religiously motivated airstrike on Earth (223). Suttu "could not talk her way around it or away from it. She had to talk her way through it. She had to tell it" (221). Similarly, Yara becomes a different person in Suttu's eyes after he confesses that he was indelibly affected by the brutal execution of his *maz* grandparents in a purge of those committed to the old ways. In that intimate exchange,

the academic preserver of the past and the future-obsessed technocrat embody the balanced principles of the yin-yang symbol, in which “yin represents everything about the world that is dark, hidden, passive, receptive, yielding, cool, soft, and feminine. Yang represents everything about the world that is illuminated, evident, active, aggressive, controlling, hot, hard, and masculine” (Ross). In keeping with the symbolism of the yin and yang design, in which each side contains an element of the other, Yara turns out to have had a surprising personal association with the Telling, while Suttu has exhibited a Corporation-like rigidity in refusing to appreciate why Aka might have wanted or even needed to move beyond its past.

And yet in a further wrinkle in the complex tapestry of telling that Le Guin weaves, even silence plays a role. On the one hand, the simple sharing of information can represent a form of trust in the relinquishing of power that silence provides, as when Yara relates the bureaucratic infighting that permitted, finally, Suttu’s visit to Okzat-Ozkat: “It was not easy for him to overcome the habit of his official life, of all official lives: to protect and aggrandize his power by withholding information, and to let silence imply he had information even when he didn’t” (225). And on the other hand, silence itself can resonate with what has been spoken, as Suttu and Yara “never came back directly to what they had told each other of their lives, though it underlay everything they said, a dark foundation” (225). Also, if talk could draw strangers together on the boat, companionably not talking could convey similarly mutual comfort: “The silence they shared after their words was peaceful, a blessing earned” (223). From this profound power of language or the timely cessation of language to forge bonds, Le Guin brings her consideration of communication full circle to the only apparently trivial functions of courteous speech: “Thank you, yoz Suttu,” Yara says in appreciation for what Suttu’s telling and listening has cost her and given him. “Servile address, meaningless ritual phraseology. From the heart” (227).

Conclusion

Where Le Guin in “Redux” cautions against the “moralization of [masculine] yang as good, of [feminine] yin as bad” (*Dancing* 16), *The Telling* goes beyond even that caution to actually endorse the feminine yin principle of fundamental anarchy underlying traditional ways. For those looking for a feminist edge to Le Guin’s writing, they arguably would need look no

further. Yet that anarchism is rooted in the careful listening that makes Sutti's and the Monitor's final exchange possible, listening that is open to there always being another alternative. For Le Guin, staking a position means being open to the possibilities of a plethora of positions. She is perhaps most engaged with her own vocation as storyteller: her tale takes its place alongside all the other bits of told narrative that convey the complexity of what it means to be alive. Her narrative — one account of one right way to live — is a self-revealing endorsement of what she sees is of value, inviting her readers into her personal, even intimately framed imaginative space, and asking that they listen carefully and well. For all the judgment built into the distance between Dovza and Okzat-Ozkat, in the end, Le Guin offers a possible path, no more, and asks us to follow it long enough to see where it leads. "Well, that's how I learned the story," she might say of her account of Sutti's journey. "Well, that's the way this telling goes."

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NOTE

1. In Le Guin's series of Hainish novels, the Ekumen is a network of inhabited planets cooperating for their mutual benefit.

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