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Future Hell: Nuclear Fiction in Pursuit of History

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Abstract: What is a cyclical history? Why does humanity seem doomed to repeat the same mistakes over and over again? Are we doomed to this machine called fate? What is a soul, and how do I express it? Predicting what futures may lay ahead for humanity if we continue on some popular cultural paths, a body of twentieth century authors has created literary experiments designed to test the limits of human imagination. Nuclear warfare, artificial intelligence, intergalactic travel, and the nature of spirituality itself all come woven together in the texts, which are profoundly affected by enlightened science, the competitive state of twentieth century politics and the eighteenth century German philosopher Georg Hegel.

I. INTRODUCTION

The concept of a detonating atomic bomb can be quite unassuming; the image itself can be found on coffee mugs, t-shirts, and has come to represent in popular culture a metaphor for when things get completely out of control, usually in a highly comic fashion. (Think of the little mushroom clouds that erupt from the top of Daffy Duck's head when he is confounded by that pernicious Bronx tongued rabbit.) It is profligate in song and poetry: Inspectah Deck of the popular group Wu-Tang Clan colloquially touting his masterful ability to rhyme as "bombing atomically,[1]" stretching the limits of nuclear discourse to describe his lyrical play and metaphorical dexterity. It represents the limits of destruction, and for many, the crowning scientific achievement of humanity.

From within our little academic blast bunkers, the ubiquitous symbol of annihilation has the tendency to become a quaint point of discussion, a postcard from a historically and politically isolated reality. No matter how trivialized, the foreboding dome of toxic death elegantly rising upwards into the atmosphere, infusing the biosphere with vast quantities of radioactive poison, has to be taken as seriously as possible. When considering the natural (design or form) of the atom, it is one of cohesion and unity, a balance of huge unseen energies in the most compact of units. To destroy this article of matter is to rip apart the fabric of the cosmos and unleash sub-

[1] Inspectah Deck is the nom de plume of Staten Island's Jason Hunter. His lyrical content on the song "Triumph," which addresses the importance of song in apocalyptic times, has helped to propel the album *Wu-Tang Forever* (RCA/Loud 1997) to the highest realms of contemporary cultural status, selling over half a million copies in its first week of release.

An avid mountaineer and adventurer, Trevor Doherty is never without some scrap of literature stuffed into his pockets. Having recently completed his MA in English at the University of Massachusetts Boston, he hopes to someday become a teacher when his muscles and capacity to make money have been completely worn out. His most recent short stories and articles can be found in *Askew Reviews (14)*, *Bartleby-Snopes*, and *The Noise*.

lime forces; that once unveiled cannot realistically be contained by any invention or intention of humanity. The science and related literature of atomic industry is as terrifying as it is beautiful.

Luckily, a dedicated and imaginative group of literary artists and philosophical masterminds have stopped to wonder what forces are at work in our current society that could enable the guaranteed destruction of all civilization on earth. Through essays and novels that record the future history of a civilization felled by self induced nuclear warfare, these reflective critics of society are able to thoughtfully examine not only the society in which we live, but also what it is about human nature that could possibly be compelled to *recreate* such devastating manifestations of technology and culture *after the terminal blast*.

II. OVERVIEW OF LITERATURE

It is easy to laugh at the conclusion of Stanley Kubrick's timeless film *Dr. Strangelove*. [2] Indeed, by the time Major T.J. 'King' Kong is hooting excitedly while he rides the warhead into the heart of Asia, the audience should want the bombs to fall on the heads of the absorbed political animals scuttling among various secret government offices. While this film chronicles one of the many unique ways in which full scale nuclear war can come about the most curious scene in the film shows the heads of state trying to figure out how to endure once the biosphere of earth will be forever altered by the ominous isotope "Bal thorium G." (Best if said aloud in a deep and menacing Soviet accent.) The dark comedic energy of this scene gains density as the Western protagonists assume that life on earth could be relatively the same following a world wide nuclear conflict. The last laugh of the film isn't for them so much, as it is the chuckling relief that comes when the credits roll, the final lyrical melody 'We'll meet again/ Don't know where, Don't know when…," foreshadowing that if civilization manages to survive the great war, there is a possibility that this slapstick drama of intercontinental destruction could receive a second billing.

There exists today a body of literature known as 'post nuclear fiction' that attempts to realistically address what kinds of issues will face humanity following a world wide nuclear conflict. Because these works of fiction tackle the entire history of our own culture through the lens of futuristic characters, the concept of history itself is invented as means to construct the plots of these novels. Frequently investigating how the adventitious survivors will rise again from the ashes, these authors investigate what roles language, recorded history, and the innate trait of rationality will play in the reconstitution of civilizations following a major world wide catastrophe. Unlike an asteroid the size of Manhattan plunging into the Hanford Site[3], Tokyo, or an earthquake tearing China in half, an intercontinental nuclear war has the facet of being human made. Whether or not the survivors in post nuclear fiction will rebuild to the point that a second round of nuclear warfare is the inevitable outcome is a chilling question that cannot be so easily swept from the table of possibilities. We laugh at the delusions of grandeur harbored by Dr. Strangelove and his silly compatriots even though little provision is made by him to accommodate a realistic and sustainable plan for civilization once it is razed by fire. "Mr. President," hollers a general, "We cannot have a mineshaft gap!"

[2] *Dr. Strangelove or: How I Learned to Stop Worrying and Love the Atomic Bomb* (1964 Columbia Pictures), based on the novel *Red Alert* by Peter George, is widely considered to be one of the darkest satirical reflections of Cold War politics and warfare.

[3] The largest storehouse of radioactive waste in the terrestrial western hemisphere: Hanford, Washington.

There are a few things that one must take into consideration when considering what it takes to build weapons of such awesome, god-like, power. First, the population of earth must reach such a critical mass that elaborate bodies of government are in place to manage the affairs and political machinations of humankind. Second, the great ongoing dialogue of science will have had to evolve to the point where computers and technology are available to safely control the fission of weaponized atoms. For the authors of many post-nuclear texts, even the usurpation of human skills by machines of varying intelligence signifies that technology probably plays a determining role in the every day cause and effect of culture and politics, and thus could enable war by gradually replacing our evolved instruments of rational decision.

These evolved instruments of the mind[4] that suffer the possibility of being replaced by machines find their reflection in externalized ordered forms; thus religion, the humanist arts, and the concept of a structured code of morality in a divine universe are constantly featured as plot devices and character signifiers. Lastly, there exists around the margins of these two groups people, who under the guise of rationality, will seek to employ these weapons for political or social gain, not unlike Dr. Strangelove yelling "Mein Furher, I can walk!" as the bombs rain down, simultaneously paying homage to his master and personal interests. What happens next is already a give-in for authors of post-nuclear fiction, the beginning of these fictional worlds is the annihilation of our own.

Patricia Warrick explains how the discovery of nuclear technology not only raised the stakes of expression in post-nuclear fiction, but also redefined the responsibilities of artists to create the bomb as a cultural and epistemological focal point: "The explosion of the first atomic bombs in August of 1945, now recognized as a watershed date in man's history, provoked a powerful literary response: an outpouring of holocaust and post holocaust literature dramatizing the realization that the world would never be the same. We came to understand we had been expelled from the garden of simplicity where we lived before the fall of the bomb" (Warrick, *Cybernetic*, 10). Viewers of *Dr. Strangelove* may chortle and guffaw at the zany antics of Peter Sellers' title role of the hamstrung Dr. Strangelove, but the fusion of the coldly logical and calculating idealism of the politically allied nuclear physicist not only serves as an archetypical protagonist in many of the post nuclear texts, but also a major catalyst in creative process of post-nuclear writers. Allusions to Satan frequently accompany this brand of confidence peddlers. I want to focus on two texts that best represent the artistic possibilities of this provocative body of literature.

In both Walter Miller's *A Canticle for Leibowitz* (1959) and Russell Hoban's *Riddley Walker* (1980), two novels that elegantly sit atop a substantial body of post nuclear fiction, the intertwined fates of humanity, rationality, and technology are explored through the model of future histories. These novels most clearly articulate three fundamental questions thematically related to the three parameters of nuclear society listed above, questing to explore the nature of humanity and the fate of civilization.

The questions that these cyclical post nuclear fictions pose are best framed by evoking the Hegelian model of the dialectic. Hegel[5] writes in *Verstand*[6] "Thus under-

[4] Hegel and nearly the entire canon of Western philosophy universally define this as the ability to make rational decisions based on empirically / phenomenologically derived data from the mind / senses. When something as catastrophic as the total extinction can be made with a "rational decision," this faculty of the mind has come under attack by artists, scientists and those associated with politics and religion fervently since the dawn of atomic warfare in the twentieth century.

stood the Dialectical principle constitutes the life and soul of scientific progress, the dynamic which alone gives immanent connection and necessity to the body of science; and, in a word, is seen to constitute the real and the true, as opposed to the external, exaltation above the finite" (Hegel 95). What Hegel has captured in the lens of the dialectic is that once a concept can be handled rationally in the mind, the only due course of action will be name what it is, then proceed to deconstruct it into its constituent parts or even prove the opposite. Vice versa, the continuing dialectic is the process by which competitive or complimentary ideologies are synthesized in the rationally cultivated mind. These methods inform, sometimes unconsciously, the styles and quarries of the featured texts.

III. MILLER'S *A CANTICLE FOR LEIBOWITZ*

In *Canticle*[7], the entire history of the civilization on Earth that follows our own is tracked in three independent, but thematically united novellas, forming a neat trilogy of visions that span the course of an entire civilization. The first of these, "Fiat Homo," chronicles the early stages of society following a nuclear war, when most people are illiterate and superstition is rampant, living in diseased hovels and caves like our own Western ancestors did as civilization steadily awakened from the Dark Ages[8]. Albert Einstein once quipped that World War IV would be fought with sticks and stones, Miller allows civilization following World War III to grow a bit further than Einstein's imaginative projection.

Beginning with a world plunged into a primitive state devoid of any government or technological sophistication, a band of Judeo-Christian monks in the desert of Utah, known as "bookleggers," strives to keep a tiny flame of literacy and historical knowledge vital in a world that is darkly illiterate and culturally barbaric, patrolled by mythic monsters, ironically called "Fallouts," and mutants alike (Miller *Canticle* 4). Brother Francis becomes the main protagonist of this moment in history while trying to build a shelter in order to survive a Lenten fast in the volatile desert. Prompted by a strange wanderer named Benjamin, who casually marks a stone with Hebrew runes, he accidentally uncovers a bomb shelter left over from our own time. Supposedly, the remains of a twentieth century engineer named Leibowitz are entombed

[5] Georg Hegel (1770-1831) was a German philosopher who was profoundly affected by the French Revolution and the extraordinary figure of Napoleon. His major work *The Phenomenology of the Spirit* (1807) established him as one of the most important philosophers of the European enlightenment. Therein, the concept and method of the dialectic was originated, outlining the concepts of *thesis*, *antithesis,* and *synthesis* as the basic modes in which competing historical ideologies assumed mastery over one another through the processes of social and political discourse.

[6] "*Understanding"* A corollary section of Hegel's *Phenomenology of the Spirit*, in which the basic tenets of the historical dialectic are imagined and discussed: the apprehension of concepts and the naming thereof as the first crucial step in the process of forming dialectical ideologies that will ultimately be subverted or consumed in the course of history. Hegel and Miller both allude to the story of Genesis, where the serpent promises the knowledge to differentiate between "good" and "evil" to Eve and society.

[7] "Short lyrical song or melody."

[8] The year in which "Fiat Homo" occurs is supposedly the "Year of Our Lord 3174," which would be the approximate equivalent of our own 1215, the immanence of nuclear war provoking Miller to subtract the 1959 years of civilization that had passed since the first beginning of Western society. The Year 1215 is a watershed year in Western civilization, not just for the historical artifacts such as *Magna Carta*, but also what it represents to Miller as a reflection of human history: a time when the Roman Catholic Church was beginning to establish itself, when war, disease and superstition are rampant, and the first lights of the modern rational mind are beginning to twinkle in the arts, sciences and humanities for the first time in the West since the fall of the Roman empire. For Miller, this is where *Canticle* really begins.

within, and the discovery of this crypt and the texts within prompt the substantiation of the Abbey and the mission of the monks to preserve texts and literacy. Brother Francis must endure a hellish trial to authenticate the documents he has discovered, and he finds meaning in the illumination of preserved texts. The gears of civilization are already in motion, but the canonization of Leibowitz ensures the rediscovery of our technological legacy. The governing body of the Judeo-Christian church known as New Rome is astride one of the seedling nation states known as Texarkana, which fosters and represents the secular discourses of this history.

The second section of the triptych, "Fiat Lux," tells the story of the cultural renaissance and popularization of mechanical comforts that precipitates a troubled discourse between the secular and religious ideologies of the novel. Thon Taddeo, a renowned Texarkanian scholar, is a comedic reflection of the European humanist scholars such as Galileo, Descartes, and Newton[9], who propelled our own culture forward in search of truth and technological innovation. He represents the scientific / political animal who lays the track for the modern nuclear nation, a humble yet enthusiastic model for Dr. Strangelove. An interesting character that will be further discussed is the Poet, who exists as a literary consciousness in the novel, and one of the few characters possessing both artistic and animalistic qualities as foil to the archetype of the rational scientist. In this moment in history, the monks at the abbey have managed to build an electric lamp by extrapolating data from the texts and documents they have preserved, ennobled by the legacy of Leibowitz. This astounds Thon Taddeo, who feels legitimate professional and personal insult to have been surpassed by the monks, who have been quietly working without political assistance for centuries. As a secondary plot, the seeds of the modern nation-state are allowed to bloom. The culture of warring factions competing for land and influence in the ravaged North American continent reflects the rise of the European nation state in the eighteenth and nineteenth centuries. Thon Taddeo takes the copies of the "memorabilia" back to his society, reintroducing the revelations of Einstein, Oppenheimer, and Bohr[10] unto the world.

The third and final installment in this trilogy of novellas is "Fiat Voluntas Tua," wherein Miller envisions a world much like our own, where nuclear technology has been rediscovered, travel to the stars is possible, and humankind is in a perpetual state of warfare refereed by Orwellian bodies of government. Civilization has completed another full cycle, and the only possible refuge from the war torn planet is escape to an interstellar colony. The main protagonist of the third novella is Brother Joshua, who manages to escape Earth moments before the world's governments recreate their own destruction. It is his duty to transport the preserved texts and history of earth to a struggling colony, far off in another galaxy. The few remaining survivors on earth act out a morality play about assisted suicide before they are consumed by atomic fire and the limits of Miller's vision for humanity. It is widely considered to be a landmark of both popular and science fiction literature, scoring a Hugo Award in 1961, and a radio adaptation for National Public Radio in 1981.

[9] Through the rediscovery and innovation upon the classical humanist arts of Rome and Greece, these three luminaries established the enlightened Western mind and scientific discourses which enabled the development of modern civilization.

[10] Three of the most distinguished atomic scientists of the modern nuclear age, whose united work and distinguished research created the first atomic bombs sewn into the political and social fabric of history. Texts bearing their names, among other scientists, are discovered by Thon Taddeo while rifling through the library of preserved pre-holocaust texts.

IV. HOBAN'S *RIDDLEY WALKER*

Like Miller before him, Hoban in *Riddley Walker* has imagined our civilization reduced to its second infancy following worldwide nuclear conflict. It was the recipient of the Nebula Award in 1981 for being an outstanding work of imagination. On the island of England, approximately two and half millennia in the future; small semi-nomadic bands of people and loosely associated families travel among muddy villages fenced in from wild animals that roam the land. Riddley's character is associated with packs of wolves that patrol the wilderness, not only making him an outcast and an adventurer who discovers a powerful secret (Spoiler: The recipe for gunpowder), but it is the wolves who give him safe harbor and aid him in his quest to defeat the tyrannical antagonists of Goodparley and Orfing; characters who exploit others and Riddley's knowledge of gunpowder for their own personal gain.

In many ways, this is probably what Einstein had in mind, the technology of sticks, stones and rudimentary alchemy being the articles of conflict. What is unique about Hoban's style of writing is self evident when held in the eye,[11] as he was an author of children's literature for many years before imagining Riddley Walker in Canterbury Cathedral in 1974. The inhabitants of the villages are forcibly employed by the local governing body known as The Ram to excavate and crudely study the smashed machinery left over from our contemporary civilization. The Ram is able to govern the people through the discourse of the puppet show, a mimetic device that authorizes the cultural memory, entertains children, and maintains a hegemonic discourse of power over the enslaved masses from which Riddley Walker, the title character and supposed author of the book, arises. Goodparley and Orfing are government puppeteers who perform for quarter and tribute in the medieval villages. The content of the government authorized puppet show is the Eusa play, a collection of theatrical skits that tell the history of Riddley's world while harboring encoded recipes for advanced weaponry. The character of Lissener is found by Riddley in one of The Ram's prisons, as the young blind boy is part of a subversive collective working to rediscover the technology of a passed civilization. Riddley inherited his literacy from his father who serves as a record keeper and interpreter of the Eusa plays, analogous to the monks who work tirelessly at preserving and translating salvaged texts.

In the wake of his father's death while excavating a mangled chunk of machinery, Riddley must assume the responsibility of cultural interpreter[12] not only to the constituents of his village, but also to us, the outside readers and champions of his cause. As in *Canticle*, these excavators of familiar twentieth century ruins have mythologized our civilization, but do not have any idea what the unifying principle is that enables and enlivens the symbols and artifacts they discover. Riddley discovers that in order to preserve life, he must keep his knowledge a secret while at the same time surviving in a wilderness full of ferocious beasts and cunning people. Inventing an alternate puppet show with some puppets he found while excavating the familiar artifacts of the past, Riddley can preserve the secrets he has uncovered and promote peace and unity through his own theatre. His own puppet show, utilizing the characters of Punch and Judy[13], is an attempt to create an antithetical social discourse that rejects the content and message of the Eusa play.

[11] See R.D. Mullen's article "Dialect, Grapholect…" for a comprehensive analysis of "Riddleyspeak."

[12] Riddleyspeak: "connexion man" (Hoban 53).

V. MILLER AND HOBAN COMPARED

Both key sets of players, The Monks of Leibowitz and Riddley Walker, realize in their historical adventures that making choices is not only a matter of every day living, but that the concepts of soul and imagination have the power to influence history in a positive fashion. These characters have a unique sense of the future, and the ideological battles they fight represent their respective hopes for the fate of humankind.



Illustration 1

In the following exchange between Brother Francis and one of his detractors, Brother Jeris, a fellow monk at the abbey who serves as a skeptical nuisance to the faithful Francis, Miller is creating a living dialectic, two competing ideologies personified in each monk. As Francis is illuminating the pre-flame deluge blueprint that he had discovered earlier in "Fiat Homo," Brother Jeris seems to take genuine satisfaction in proving to Francis that although the blueprint may be aesthetically pleasing, he really has no idea what the symbols could possibly mean. This skepticism embodied by Brother Jeris is also the chief quality of Thon Taddeo, who represents in the second book, "Fiat Lux," the scientific mind in its greatest moments of discovery and revelation. Dominic Manganello goes into great detail on how possessing a skeptical rationality is the defining quality of characters like Thon Taddeo, but overlooks this same quality in characters like Brother Jeris. The clashing of these values and the choices that determine the validity of each ideology is the propellant of history and the motivator of these great novelistic plots. The coming together of people to exchange ideas and create a community of discourse is a crucial point of interest for both authors, because rationally, how could a cultural dialectic occur if no people were present to form competitive ideological factions? Virtually all of the important debates about truth and the nature of rationality in *Canticle* are held within the walls of a monastery. Riddley makes his most startling revelations in the charred ruins of Canterbury Cathedral. Both authors make it clear that without people coming together to argue, debate, or even exchange ideas, no progress whatsoever would be made in these newly developed patches of civilization. The lonely abbey becomes a way station for the exchange of ideas and cultural inquiry. An ancient highway (Route 66?) running through the former desert of Utah is reestablished as a ferociously busy thoroughfare by the conclusion of the novel. These locations of cultural conflict and synthesis tease out the forces that are under scrutiny by the authors. Miller does not seem completely at ease with the concept of the rational mind, identifying it as a key player in the evolution of history.

[13] Not only is the theatre box one of the oldest forms of entertainment in Western culture, the characters of Punch and Judy show are one of the few puppet shows that have attained celebrity status through centuries of performance in both Europe and America. See Illustration 1 "Punch" (Doherty 2009).

The dialogue between Francis and Jeris is fraught with the irony that what they are unknowingly discussing is the fastest path to human-made global annihilation, but they must first go through the motions of using dialogue and debate to develop a cultural inquiry that will enable that possible future:

> Jeris was becoming pretentious in his sarcasm, Francis thought, and decided to meet it with a soft answer. "Well, observe this column of figures, and its heading: 'Electronic Parts Numbers.' There was once, an art or science, called Electronics, which might belong to both Art and Science."
>
> "Uh huh! Thus settling 'genus' and 'species.' Now as to the 'difference,' if I may pursue the line. What was the subject matter of electronics?"
>
> "That too is written," said Francis, who had searched the Memorabilia from high to low in an attempt to find clues which might make the blueprint slightly more comprehensible, but to very small avail. "The Subject matter of Electronics was the electron," he explained.
>
> "So it is written, indeed. I am impressed. I know so little of these things. What, pray, was the 'electron'?"
>
> "Well, there is one fragmentary source which alludes to it as a "Negative Twist of Nothingness.'"
>
> "What! How did they negate nothingness? Wouldn't that make it a somethingness?"
>
> "Perhaps the negation applies to the 'twist.'"
>
> "Ah! Then we would have an "Untwisted Nothing," eh?
>
> Have you discovered how to untwist nothingness?"
>
> "Not yet," Francis admitted.
>
> "Well keep at it Brother! How clever they must have been, those ancients, to know how to untwist nothing. Keep at it, and you may learn how. Then we'd have the 'electron' in our midst, wouldn't we? Whatever would we do with it? Put it on the altar in the chapel? (Miller 77-78)

Ironically, when the arc lamp is re-invented, Brother Jeris' joking prediction comes true, as the illuminating apparatus replaces a crucifix on the wall of the abbey. This is a dialogue of an empirical nature, both parties realizing the limits of their knowledge in regard to the symbols, but nonetheless striving to make sense of the patterns and designs featured on the tattered document. The methodology of Hegel fills in the gaps if you consider that the argument between the two monks, Francis and Jeris, is part of a much longer dialogue that not only spans the length of the book, but also the entire history of this future civilization. Miller is deft at weaving petty skepticism into synthesis with humanity's cultural capacity for competitive behavior, which for the author culminates in the nuclear arms race, the cold war, and the final war. In Hegelian terms, the process of contrapuntal conjecture that the monks participate in is not featured to simply promote the comedic irony of accidental discoveries. Rather, for both Miller and his philosophical predecessor Hegel, the most subversive and destructive quality of humanity is that

of the innate scientific mind which manifests itself in the character of Jeris. The ability to name things accurately is lampooned, as this is the first step by which a concept can enter a cultural discourse. Miller comments in his essay "Logos, Thanatos, Agape" that "This is the hereditary eating of the tree of knowledge of good and evil; learning how to talk and to think in syllogisms…" (Miller, *Beyond Armageddon* 14)

Continuity of dialectic structures has a major impact on the philosophy of historical causality for Miller, Hegel, and as well as for Hoban. Miller's acidic sense of comedy causes these two monks to inadvertently discuss exactly what the atomic bomb is capable of, literally the "untwisting" of matter. Its analogue can be found in Hoban's Eusa story, wherein the character of Eusa was the mythologized physicist who had enabled nuclear weaponry through scientific and linguistic finesse. In Riddleyspeak, an atom is called "Addom," and the symbol of the "little Shynin man" represents the mass of uranium that can be pulled apart through atomic fission to produce a catastrophic explosion. The little shining man is embodied as the figure of the shattered crucifix. The play on words indicates that even the staid symbols of the Judeo-Christian culture have been modified to suit the linguistic needs of the future. The image of the crucifix, pulled to pieces, is the metaphor through which Riddley can grasp our concept of atomic fission. The pulling apart of the shining man runs parallel to the "untwisting" of matter described by Brother Jeris. The cyclical nature of Hoban's text implies that once the 'Little Shynin Man' is reassembled, the only logical conclusion will be to disassemble him once again, and Riddley is the character and representative power in society that would seek to avoid the reigniting of this particular fate:

> "Eusas off then and the Little Shynin Man comes down hes in 2 peaces. He says, "Onlyes way Iwl get to put to gether is when people pul to gether.' (Hoban 58)

The image of the atom and the soul is deftly woven by Hoban in this passage. In both *Canticle* and *Riddley Walker*, the development of the bomb is directly tied to conflagrations of pride, which is the greatest sin in the Western Judeo-Christian tradition, both of which generate the respective signifiers of Satan and St. Eustace. Like Riddley Walker, Brother Francis is decoding a text that is reliant upon the reader having a basic knowledge of science and engineering; only both sets of characters live in an age where the discovery of such things is far off in the future. It is this sort of playful exchange between the monks that represents the innate curiosity about the nature of matter and the ungovernable forces of the universe. What is important to note is the structure by which Miller has chosen to construct the scene; he uses actual dialogue to show how these monks are developing a system to rediscover the means their own destruction. The ignorance of their subject matter allows them to continue developing the methods of skeptical discourse without knowing they are programming the culture of the future to have a vested interest in the nature and function of matter.

For the inhabitants of Riddley's world, a symposium[14] is the means by which people come together to unravel the nature of matter for malicious purposes. In this passage, Riddley is asking the character of Lissener how he plans to rediscover the methods of physics and chemistry, the pulling together of data becoming the metaphor for scientific discourse:

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[14] Riddleyspeak: "some poasyum" (Hoban *Glossary*).



Illustration 2

> I said, "How dyou do that kind of gathering what youre going to do? Do you all set down and pul datter or dyou jus think to gether or what?"
>
> He said, "We do some poasyum." (Hoban 107)

Both authors celebrate the gathering of people to debate and share information, but are acutely aware that such arenas can foster competition among ideological bodies of people, and when the subject of inquiry is weaponry and the suppression of others, the stakes go far beyond these dens of destruction. Perhaps that is why theatres, courts, libraries and symposiums ironically signify the physical locations of dialectic synthesis in the novels. The dialectic is the most effective and transparent means by which one can organize history into a rational evolution of cultural progress. The revelations of scientific and cerebral truths through a process of communal discourse is the soul of cultural progress and the Hegelian dialectic, but to Riddley Walker and The Monks of Leibowitz, realizing that to endure as a species, humility must triumph over pride, and diversions to this struggle can be found in the arts and humanitarian sciences.

Riddley Walker is a young man who is telling this tale in his own unique tongue, relating to the reader the choices he must make when he realizes that technology, when harnessed by the wicked, can easily aid in the suppression of humanity by those in positions of power. Also, through his development of a primitive literacy, "Riddleyspeak," he is able to decode the Eusa play, and discover the objects of power sought for by Lissener, Goodparley, and Orfing. The Eusa play is derived from the pre-atomic war era, and is the substantive oral tradition maintained in this community through the aforementioned puppet shows. Through careful extrapola-

tion, Riddley unlocks the formula for gunpowder from these encoded historical artifacts, the same way Thon Taddeo stands off the shoulders of ancient giants to further his career. The motivator of the antagonistic characters is the lust for the power attained through the development of physics and chemistry, which can enable devices and weapons that can perpetuate the systems of power already in place. Even though Riddley is the one who is able to interpret the Eusa play, he is not interested in using his knowledge for political purposes. The characters of Goodparley and Orfing in *Riddley Walker*, who embody this lust for power through superior science, are the ideological counterparts to Thon Taddeo.

Thon Taddeo, while making a humanist case for the rediscovery of mechanical society, cannot see the full implications of reestablishing society on a similar track to our own. In his discourse with the monks in the era of "Fiat Lux," he makes it clear that the society and ambitions he represents has already made considerable headway into the natural sciences and other observable physical properties of matter, as the unseen character of Esser Shon has already pioneered the "refrangible properties of light." The turgid scholar soon discovers that without the monks, his discoveries are already old news (Miller *Canticle* 212). The monks at the Abbey of Leibowitz, by preserving literacy and rational thought, are kindling a force that will eventually enable minds to build grand engines of death. David Seed holds that Miller's uses of light and dark imagery represent the thematic crux of *Canticle*, and as the title of part two, "Fiat Lux," lends weight to Seeds argument. I would venture to say that technology and the cultural development of science is even more central to the novel's design and to post-nuclear fiction at large. The relationship between technology and political power not only ties *Canticle* and *Riddley Walker* together thematically; it also leads to the pointed criticism of rationality itself.

VI. BROADER IMPLICATIONS OF THE TWO STORIES

Both the monks of Leibowitz and Riddley Walker seem ultimately forgiving of those that simply wish to discover and learn about the nature of the universe. The monks welcome anyone who wishes to study at the abbey in pursuit of greater truth or enlightenment, but fight against the dissolution of human life until the conclusion of the novel. Under the symbols of Judeo-Christian culture, they labor thanklessly through history in service to humanity, only to be consumed by the same fire that had once visited the earth. Hugh Rank is quick to point out that Miller can't help but find the comedic elements in this senseless repetition of flawed judgment. When the ancient abbey (and much of the world for that matter) is reduced to rubble at the conclusion of *Canticle*, and Brother Joshua is hurtling towards an unknown fate in the cosmos, the division of the church and its related symbols creates a dramatic metaphor by which Miller can express his disgust for the aspects of humanity that would enable a nuclear war.

The image of the shattered crucifix best represents the world in which Riddley inhabits: where civilization, history, language, and matter itself have been torn apart (via nuclear weaponry) and the survivors are left to reassemble the pieces. His projections of peaceful future through the alternate Punch and Judy show is his attempt to route the future of humanity away from re-shattering the crucifix. Both the Punch and Judy show and the Judeo-Christian ideologies represent the thematic foils to scientific culture. It is the rationality of science that invites humanity to peel away the layers of nature to reveal the unseen forces that motivate the universe. Both Hoban and Miller could see that this drive to break apart something as simple as the atom could only have disastrous consequences.

Crucially, when weighing the development of the civilized mind over the span of history, these authors find that when not critically investigating the secrets of nature, the only other diversion for humanity is the arts,[15] which can also pry apart nature, but with considerably less dangerous consequences. This critique of rationality is the most poignant statement that many works of post nuclear fiction can make, because novels that utilize alternate histories to critically examine our culture take into account that the deployment of a nuclear arsenal is often done with the rational logic that defines the absurdly comic, yet manic survivalism of Dr. Strangelove. Dominic Manganello points out that this view of human nature is central to understanding the competing factions across Miller's history, and that it is Thon Taddeo who represents the synthesis of brains and ambition clashing against the humility and crafts of the monks. Thon Taddeo is in the unique position to use his knowledge of history to affect the future of humanity, but is not reflexive to realize that his discoveries ensure a future marked by the flames and flashes of nuclear war.

Even though they differ stylistically, the reflexive characters present in both stories work tirelessly to decipher an encrypted history from a civilization they know has passed. To say that one is reflexive in the context of the Hegelian philosophy and nuclear fiction means that the reader or character must possess knowledge of the larger dialectic in which they participate. In both novels, reading is fundamental as a precursor to modern civilization, but the absence of a contextualizing culture that would have been built around the memorabilia in *Canticle*, and the fact that the Eusa play has been programmed as a children's play in *Riddley Walker* illustrates how much these characters must struggle with the interpretation of their own historical legacies. That *Riddley Walker* is a personal journal by the title character, in which Riddley reveals knowledge that his actions will determine the course of history, imbues him with a historical consciousness and the power of will to use the knowledge of history to his benefit.

Whereas Miller is a determinist about the fate of civilization, his novel depicting the rediscovery and employment of nuclear technology as a weapon, Hoban holds out hope that Riddley's invention of a new Punch and Judy show (literally a new historical and cultural dialogue) will be the antithetical dialogue to the Eusa show: which for Riddley, only holds the promise of death. For Miller, the philosophical tenets of the Christian church represent the antithesis to the calculating secular forces manifest in Thon Taddeo, making a satirical reflection of the competition between the scientific and religious ideologies over the course of history. Each of these novels, possessing dialectical structures, demanded of the artists unique forms in which to be expressed. This crucial difference in perspective is best manifest in the way in which each novel is narrated. In *Canticle*, Miller employs an omniscient perspective to tell the story of this entire civilization, demonstrating that the inevitable cycles of history are propelled by innately destructive characters in historical competition with innately peaceful characters. The model of the morality play, as the classic arena in which these truths are tested, is frequently toyed with by Miller.

On the other hand, Hoban offers more hope for the future of humanity, telling the story of *Riddley Walker* through the first person narrative of the title character. Not only does Riddley invent himself through language, the reader also has direct access into

[15] Apart: Sex is moot point in both novels, as Riddley is twelve years old, and the cloistered halls of Leibowitz do not feature any women as protagonist characters. When mentioned at all, conjugation is only featured as a passing reference to motherhood or as a functional component of survival.

the mind of a person who can foresee the corrupting influences of secular science coupled with political ambition. The fact that Riddley makes it known that his journal is written after all of these events have transpired illustrates to the reader that this character is sensitive to the concept of history and the importance of this journal as a historical artifact. When Riddley explicitly says "May be a nother 100 years and kids will sing a rime of Riddley Walker and Abel Goodparley with ther circle game," this is a self-reflexive act of consciousness and proof that he is aware of a larger scheme at play in the universe, and that possibly the journal of his adventures will someday be as common as the Eusa play (Hoban 115). When Riddley casually remarks "Iwl write it down here," at several points in the story, he is actively pursuing not just his own literacy for the sake of reading and writing, he is hoping that his work will enter the recorded dialectic and have a positive impact upon the future. Note that in the alien context of Riddleyspeak, the part of speech: "write it down here" has endured relatively intact, its concreteness and familiarity suggesting severe relevance to the reader (Hoban 81). The monks and several characters in *Canticle* have flashing moments of this reflexive consciousness, but are drowned out by the deafening march of civilization all around them.

The reflexive character of Benjamin, the mysterious Hebrew speaking hermit who is the only character consistently present in each stage of Miller's future history, serves as the only character who really knows the full history of the human race, believing the coming of the messiah is the only thing that could derail the march of cultural progress. When the ragged, loincloth bedraggled hermit confronts the scientific protagonist Thon Taddeo at the conclusion of "Fiat Lux," by demanding to know "Are you Him?" he is wondering if Thon Taddeo is the one who can truly redeem the human race from the endless dialectic cycles of cultural growth and near extinction (Miller, *Canticle* 216). The one moment in Miller's novel when a non-supernatural[16] character possesses reflexive knowledge about History is when an Abbot in "Fiat Lux" muses to himself that Thon Taddeo can only rediscover the technology that he has been toiling to discover. "He's finding out that some of his discoveries are only rediscoveries, and it leaves a bitter taste" (Miller, *Canticle* 209).

VII. CONTEXTUALIZING MILLER AND HOBAN IN HEGEL AND OTHER LITERATURE

The first Hegelian question (of the three mentioned in section II) addresses the faculties of human rationality, and whether this unique ability simultaneously raises man out of the primordial forests, but also dooms him to his own termination. Both novels are generally accepted as being 'cyclical' in nature, in that humanity will surge and recede along cycles of growth and decline. David Seed, in his "Recycling the Texts of the Culture," describes Miller's method of cyclical history in determinist terms: "The grimmest implication of repetition in the novel is the suggestion that history consists of a cyclical script determining human behavior from era to era" (Seed *Extrapolation* 269). It strikes me that both Miller and Hoban had at least created the hope that their heroes would find a way to escape these endless cycles of history. In Miller's text, the competing discourses of the positive religious and negatively secular embody the historical

[16] The reason for Benjamin's longevity is never fully revealed by Miller, but Lewis Fried contends that Benjamin is a reflection of the archetypical wandering Jew, commonly found in many thematically religious texts that deal with the Diaspora and its related literature. The Poet muses in "Fiat Lux" that perhaps the consumption of an irradiated blue headed goat's milk is the secret to eternal life.

evolution of this civilization, while in *Riddley Walker;* Riddley is an activist against the rise of politically malicious power. Each new cycle of civilization in Miller and Hoban's visions starts from the beginning with a terrible nuclear flash, the essential feature of post-nuclear fiction and realistically the only power within humankind's reach of wiping the slate of civilization clean in one fell swoop.

The second explores the transitory nature of language, and how the false sense of power that arises from 'naming' only puts a wedge between exterior reality and the interior psychological dialogues of humanity. The narrator of "Fiat Voluntas Tua" says that "To communicate a fact always seemed to lend it fuller existence," implying that once information is encoded into language, it assumes a denser meaning in the public sphere, and it is the dual quality of language to obscure as much as it may clarify that incenses Miller (Miller *Canticle* 260). Naming and words in general are symbols of power to both authors, who understand that how we understand history is through language and organized methods of historical knowledge.

The third question tackles the complexity of cyclical history, and whether through the union of rational innovation and language systems, the cultural consciousness of humanity could hypothetically extend forever. This third question has an ancillary inquiry, because one of the tenets of the Hegelian dialectic is that so long as there is an ongoing clash of values, the minds that entertain them will be present to prolong them.

The concept of man being permanently doomed to recycle his own annihilation so long as the cultural consciousness of humanity remains vital is a haunting theme familiar to writers of cyclical histories. Olaf Stapledon penned the first major cyclical novel of the future, *Last and First Men* (1930), wherein the future history of human consciousness is extended over billions of years, waxing and waning along cycles of growth and technological evolution. He acknowledged in another work, *Philosophy and Living*, the debt that fiction authors of cyclical histories owe to the 18th century German philosopher Georg Hegel: "For the understanding of history, then, we must detect in the culture of a people at a given time the conditions in virtue of which that culture must presently be thrown into logical conflict with itself; and we must watch this conflict give birth to a new form of culture in which the conflict is resolved in a new synthesis…" (Stapledon 305). In *Last and First Men,* the first overhaul of history comes in the form of nuclear war on earth, the survivors in a Darwinian fashion reestablishing civilization and then spreading outward into the cosmos as new biological and technological adaptations enable the outward growth of humanity into the cosmos. The key word in this passage is *synthesis*, the terminal action of the historical dialectic: when all of the competing ideological discourses over history have been swallowed up by one another and the process begins again. It is a pre-atomic era form of the concept of heat death.[17]

Stapledon aptly summarizes the dialectic in *Philosophy and Living* as: "The condition of culture at any time, he says, contains within itself contradictions; and as the contradictory elements grow in strength the spirit suffers internal conflict, until at last a new condition emerges in which both the conflicting components are transformed and harmonized" (Stapledon *Philosophy* 305). For Hegel, synthesis is the soul of the dialectic, and this melding of values, prejudices, or competitive bodies

[17] Heat Death: An era in the projected history of the universe in which all of the stored fuels and energies found in stars, and other natural phenomenon of the cosmos, achieve equilibrium and no kinetic forces are at work to continue the expansion and modulation of space. The essential feature of Hegelian synthesis is reaching an equilibrium or compromise among competing forces or ideologies.

over time constitutes the inevitable march of culture and history. Themes of fusion and unification constantly signify the attitudes of the peaceful characters: being at one with God's will is the ultimate achievement for the monks, and the unity of the rebuilt image of the crucifix is the metaphorical goal of Riddley Walker.

Synthesis is a fundamental concept for serious artists working within the larger science fiction genre, as reflections of it can be found in many biological, technological, historically investigative texts. One of the most nightmarish meditations upon the concept of synthesis by an author frequently associated with Miller, as a paradigm of technologically savvy cyclical science fiction, is Harlan Ellison. His 1967 story "I Have No Mouth, and I Must Scream," (Asimov *Machines* 233) imagines a human being trapped within the bowels of an evil and manipulative *machina analytica*[18], the two eventually coming to exist in a horrifying symbiosis, and a psychologically co-dependent relationship. The Hegelian force is strong in these artists.

Hegel lived long before the discovery of atomic energy, but his concept of the synthesis accurately predicts for the historical sea change that nuclear conflict promises. In their novels, both Hoban and Miller have assumed that all the political, social, and cultural threads of our own civilization have synthesized in the process of the dialectic, resulting in a nuclear holocaust. Historically speaking, whoever has the largest sword is able to write history, and since the stakes have been raised to that of nuclear annihilation, the final synthesis of all history is fused with one great intercontinental exchange of atomic warheads. Hence, both authors are critical of man's reliance on applied technology as a political game piece.

The influence of high speed computers in the twentieth century on the philosophy of logic, technology supposedly refining rational processes, apparently enables political systems which can build and execute a nuclear holocaust. Both Hoban and Miller are living and writing in the age of automated warfare, a common point of interest in nuclear fiction, possibly best dramatized by Mordecai Roshwald's 1959 novel *Level 7,* wherein a subterranean community of soldiers, selected for the ability to follow orders, is ordered to create the apocalypse in the event that their superiors on the surface are destroyed. The parable of humanity striving to be like a machine informs these texts, signifying that only bad can come from the union of the human and machine. The theme of humanity as a perfectly rational creature acting literally like a computer is lampooned, but the idea of a post-nuclear society is not explicitly explored in the context of short novel. What unites this novel with the work of Hoban and Miller is the supposed belief that the rationalization of civilian casualties in the event of a nuclear war creates an absurdist view of technology and a pointed criticism of humanity's false reliance upon his machines to endure. For Miller, writes Gary Herbert, if nuclear war cannot change the nature of humanity, nothing will (Herbert 165).

Hegel's legacy for twentieth century writers of science fiction is not just the concept of the dialectic; it is also his warnings about the intertwining of humanity and the treachery of rationality. Hegel proposes that while science is a practical development and unique conduit of reason, it can discover and unleash forces that can consume even itself: "The essential requirement for the science of logic is not so much that the beginning be a pure immediacy, but rather that the whole of the science be within itself a circle in which the first is also the last and the last is also the first" (Hegel "With What Must Science Begin?" 106). In other words, technology is the cause of and solution to all of humanity's problems, and Miller and Hoban create their stories as

[18] Lat. "Thinking Machine."

meditations upon this familiar axiom of logic. For Hegel, Stapledon, Miller and Hoban (listed respectively in order of their appearance on the cultural scene) the dialectical synthesis can only result in a complete cyclical overhaul of civilization.

Stapledon, who was a philosopher as well as a popular fiction author, created a future history that bears the obvious rigor of the Hegelian influence; the expository history of *Last and First Men* is distinctly different from the character-based narratives of *Canticle* and *Riddley Walker*. What sets Hoban and Miller apart from Stapledon and from one another philosophically is how much faith each author has in their subjects to recreate a world of peace and cultural prosperity given humanity's dual propensity for science and the formation of competitive nation- states. Miller ends the history of his future world with the notion that the only life on earth following the second terminal war will be a few buzzards, sharks, and stray deformed mutants, the last shred of humanity hurtling in a starship towards an unknown fate in the deep reaches of space. Hoban is more hopeful, not promising a cultural overhaul per se, but still leaving the option open if people like Riddley cannot thrive in this new world to compete against the evil ideologies that exist in characters like Goodparley and Orfing. Because these novels are contextualized as future histories, the important concept that mirrors the possibility of an unbroken dialectic is that it could be possible for the consciousness of humanity to have unlimited run in the cosmos.

VIII. THE ROLE OF TECHNOLOGY

Ironically, the technology that enables nuclear weapons in Miller's novel, also affords vehicles of transcendence, allowing the characters of Brother Joshua and his coterie to continue onward carrying the dialectic of nuclear culture even further into the future. The starship that carries Miller's Brother Joshua into the heavens at the conclusion of "Fiat Voluntas Tua" is akin to the crude puppet box that Riddley uses to transcend the social hegemony of the world in which he lives. Hoban does not give us the ultimate conclusion of Riddley's history, but the promise of transcendence is embodied in Riddley, who will generate a new cultural ideology via his theatre. One has to hope that his own discourse will prevail in the Hegelian synthesis of his own future history. Of course the puppet box is not as sophisticated as an atomic warhead, but Riddley is acutely aware of the mentality that enables the powerful to subvert the weak through manipulation of information and technology. In *Riddley Walker*, mastery over the Eusa narrative may be helpful in decoding the chemical nature of gunpowder, but it is Riddley who makes it explicitly clear that the human mind in a natural evolution of culture and united effort could eventually rediscover chemistry and physics, like the lesser characters of Esser Shon and Mad Bear in *Canticle*. Riddley is also quick to point out that it is simultaneously his highly developed mind that decodes the Eusa story and unleashes the dark ambitions of those that would exploit him in search of truth and political gain.

Both survivors, Riddley and Brother Joshua so to speak, utilize the most sophisticated technology of the day to subvert their would-be enemies and transcend the bounds of their respective realities. Riddley uses the discourse of his own puppet box to combat the antithetical ideology of the Eusa play, and the encoded[19] science of the "yellow stoans" and "1Big 1." Patricia Warrick

[19] "Sulfur," which is known as "yellow stoans" in the world of Riddley Walker is the volatile element which has a sickly yellow pallor and scent, is one of the three essential ingredients of gunpowder. The "1 Big 1" or "atom bomb," is the abstract goal of he characters in Riddley Walker that seek power. (Hoban, *Riddley Walker*, included glossary in Kent State Edition.)

notes that the archetypical concept of the transcendence of characters in the course of their own narratives opens up a never ceasing plethora of universes where the philosophical quandaries of humanity can be infinitely tested in an infinite number of computations, creating the parameters for an unbroken dialectic continually churning forever into the future. The openness of the system in terms of what is promised by these machines is fascinating: be they starships or puppet theatres, the correct tumblers are in place to unlock another cycle of history and possibly many more. The concept that an unbroken strain of dialectic could exist nearly forever, if not eternally, is best known as Hegel's *infinite mind*. First introduced in his seminal work *Phenomenology of the Spirit,* and explored in Stapeldon's *Last and First Men*, it is further meditated upon in these two glorious novels.

For Hegel, the dialectic is the process by which all historical currents of thought and debate run together and devour one another, but a curious quandary of logic occurs when this process is extended into the indefinite future. Cyclical science fiction takes this concept of an entire history having run its course, and envisions the survivors of that cyclical overhaul attempting to piece together and understand what forces had created the world in which they live. Artificial intelligence is not just a reflection of cognitive processes; it is often featured as the transcendence of the human mind itself. This never ending cycle leads the reader into the third critical issue developed in these texts. If some remnant of human consciousness is going to last forever through the infinite phases of time and space, why do the alternating patterns of enlightenment and destruction seem to be the key staples of human history? That is, whether or not Hegel's concept of an *infinite mind* or *infinite consciousness* could really be possible. These fictions create the right circumstances under which the destructive and imaginative potentials of humanity's mind stretched to infinity can be tested. As quoted previously, Hegel writes, "The essential requirement for the science of logic is not so much that the beginning be a pure immediacy, but rather that the whole of the science be within itself a circle in which the first is also the last and the last is also the first" (Hegel 106). Simply put, the nature of cyclical history is dependant on the development and maintenance of a scientific awareness of the universe, and that humanity is indebted to this faculty for revealing his role in the greater scheme of the universe.

In the scheme of these novels, apprehension of the scientific mindset not only enables the awakening of the literary imagination of the characters, but it also foreshadows that someday all of the achievement and revelation that science can promise will only reveal to humanity his nature as a creature barely surviving in a dim corner of a vast universe. When Joshua leaves earth at the end of the third section of *Canticle* it signals the final desperate stroke of survival for the human race. Ironically, the passage to the heavens is enabled through the same fruits of scientific and political endeavor that enabled worldwide holocaust. Abbot Zerchi, the head of the monastery in "Fiat Voluntas Tua" asks, "Are we chained to the pendulum of our own mad clockwork?" (Miller *Canticle* 267).

The abbot is trying to rationalize why the civilization in which he lives seems programmed like a clock (or a computer for that matter) to repeat the sins of the predeluge civilization. He is also looking far into the future of his kind and seeing, as Miller does, that humankind is ultimately doomed. It would be hard to believe Riddley Walker holding such a pessimistic view considering that it is his activist personality that attempts to wean the infant civilization off of the Eusa play and the implications of destruction it promises. It is the natural faculty of humanity to wonder

about, investigate, and record what history had begat the present. The deciphering of the mysterious memorabilia is Miller's way of articulating this process, just as Riddley Walker's extrapolation of the Eusa play represents an anthropological investigation of the oral history of a future lain to waste by nuclear war. To give weight to this process as an anthropological method Hegel writes:

> It would be truer to say that Dialectic gives expression to a law which is felt in all other grades of consciousness, and in general experience. Everything that surrounds us may be viewed as an instance of the Dialectic. We are aware that everything finite, instead of being stable and ultimate, is rather changeable and transient; and this is exactly what we mean by that Dialectic of the finite, by which the finite, as implicitly other that what it is, is forced beyond its own immediate or natural being to turn suddenly into its opposite. (Hegel, *Phenomenology of the Spirit* 97)

The Hegelian dialectic at play in the imaginations of Hoban and Miller creates the necessity to present antithetical symbols to humanity in these novels. In both *Canticle* and *Riddley Walker*, the knowledge of computer technology enabling the downfall of humanity is profligate in symbol and plot action. Computer technology, like its cousin atomic science, was unknown to Hegel, and it was only in its primordial infancy when Stapledon was penning his major works, but the idea that computers could not only replace, but also repress, humanity was central to both Hoban and Miller's visions of the future. Each foresaw that when humanity came into competition with its machines in the fields of logic, rationality and computing speed, a dialectical process had already begun ensuring a dissolution and synthesis of both competing forces. Like nuclear weaponry, the science of artificial intelligence has had a profound impact on modern science fiction. It is important to note that both authors toy with the concept of artificial intelligence as the ultimate machine: it just so happens that nuclear weapons have been perfected first. The inhabitants of these future worlds are the product of the union between humanity and its technology, the scale of weaponry enabled by computer technology ensuring a worldwide sea change for humanity and the role that machines play in modern society.

Both writers explicitly employ computer terminology to describe the mechanistic nature of humanity, many of the characters unwittingly employing language left over from a technologically superior culture. Riddley Walker often utilizes a language that is a blatant extrapolation and product of a society dependent upon technology. The language utilized by Riddley retains the hallmarks of a language steeped in technological progress, but is unconscious of its origins. Akin to Miller's character of Brother Francis in *Fiat Homo*, Riddley Walker unconsciously says to the reader of the text "It wer like I jus ben programmit to go there and get him out" (Hoban 77). Instead of saying he was fated or unwittingly drawn to the discovery of the imprisoned character of Lissener, Riddley explicitly says he was programmed to find Lissener, just as a machine is programmed to do any other task. Brother Francis is characterized by the same machine like quality, whose mind "machine like" was drawn to the arch stone which had been marked by Benjamin (Miller, *Canticle*, 12). The linguistic union of human and technological dialogue represents the dialectical synthesis of Hegel's model of history. Since it turned out that the technology and cultural status of the atomic bomb is what had prevailed to create these new realities, the people who inhabit these post

nuclear worlds have been synthesized with the former cultural hegemony of a nuclear society. R.D. Mullen makes note that when some people read *Riddley Walker*, it is an easy mistake to think that the narrative voice is a robot or a computer (Mullen 383).

Hegel's writings on the genesis of the dialectic reveal that when a new cultural dialogue is born it is the exhaust of the combustion of two ideas in synthesis. Riddley Walker routinely and unwittingly employs the language leftover from the dialectical fusion of atomic technology and human history. It is no mistake that Riddley says he is programmed to find Lissener, or that "counting clevverness" is the process by which artificial intelligence is enabled, for his history is that of our own drawn to its most violent and destructive conclusion via technology (Hoban 77). Many recycled shreds of our lost culture are unwittingly employed by both Riddley and the monks of Leibowitz who indicate knowledge that such things as airplanes and televisions could have existed; it is that they simply lack the imagination and technology to realize what had brought about such paradigms of invention. In "Fiat Lux," Thon Taddeo is flabbergasted by the concept that the same illiterate people who live in hovels are the descendants of our own superior culture. The symbols used in each vision of the future reflect the dynamic nature of symbols, but it is humanity, like the machines they create, who are unable to change from their seemingly innate skill for organizing and exploiting bodies of knowledge for political purposes. For both authors, humanity itself seems to be most static aspect history, enabling the cycles of history. Each cast of characters have no idea what an airplane or a television is, but both know that they signify the unquantifiable imagination of a civilization literally crushed under the weight of its own invention. The union of technological aphorisms and colloquial speech is the synthesis of our culture and the dialectic of the future.

IX. THE RELEVANCE OF LANGUAGE

Describing the process by which he had discovered the prison that held the character Lissener, and planned their subsequent escape, Riddley writes in his journal: "I tryd to plot the parbeltys of it and program what to do nex" (78).

Decoding the language of Riddley as he plots probabilities and programs of action, the reader is able to deconstruct and understand what had occurred in the previous cycle of history. Hoban, reflecting on his linguistic experiments in David Dowling's *Fictions of Nuclear Disaster* has stated "that language carries in it the ghost of a lost technology… the language we speak is a whole palimpsest of human effort and history" (Dowling 201). Looking back on our own civilization, from the vantage point of a devastated future, *Riddley Walker* suggests that the union of man and machine has already occurred to create the world that Riddley inhabits. One must peel away the strands of the human *thesis* and the technological *antithesis* to see how the two clashed and produced these fictional manifestations of the future. It is not difficult to extrapolate what Riddley calls the "Master Chaynjis" was the actual event of nuclear war, the ultimate 'change' that could come to any earth bound civilization. What is more compelling is Riddley's criticism of the process that led to the "Master Chaynjis," holding that it was not only human "clevverness" (Hoban 18, 'rationality' so to speak) that created the bomb, but also the plotting of probabilities and programming of artificial intelligence that brought about such a calamity. The constituent parts of each culture are smelt together from the heat of the nuclear holocaust, having fused both theological and technological strands into a new cultural dialogue. For Riddley, who must reconcile his own intelligence with his cultural history, a conscious movement towards an anti-technological society

is the only logical plan if one is to avoid another round of "Master Chaynjis." (Hoban *Glossary*).

Because both the worlds of Leibowitz and Riddley Walker are given the task of inventing civilization all over again, they are empowered through the use and manipulation of symbols and language to describe not only their history, but their future as well. In one regard, the symbols of the Judeo-Christian and Euro-American Culture have survived partially intact, but alongside that is the knowledge that there were once great machines that had brought about the master changes in history. For the monks at the Abbey of Leibowitz, the moniker 'Lucifer' not only is the nickname of the atomic bomb, but it also is an evocation and archetypical symbol of evil that would enable use of such destructive weapons. David Seed points out the multiple uses of the Lucifer symbol: "As usual in this novel Miller signals such ambiguity by wordplay. An incautious monk who gets a shock from the machine exclaims "Lucifer!" By Book III[20] the phrase "Lucifer is fallen" has become a coded signal for the detonation of a nuclear device" (Seed *Recycling 262*). Since both novels retroactively hold computer technology as the science that enabled the construction of the bomb, smart machines, thinking machines, and literally the *machina analytica* become signifiers for political power, the spiritual ineptitude that employs such destructive weapons as devices to leverage human culture, and the calamitous consequences of replacing human faculties with computers.

Since the authors of both novels place each civilization at the very beginning of their new historical cycles, in a dark age of reason so to speak, the ambition to rediscover science and computing technology becomes a distinct symbol for the political machinations that identify the most antagonistic characters of each novel. These characters, specifically Thon Taddeo of *Canticle*, and Goodparley and Orfing of *Riddley Walker* embody the ambitious, yet disquieting drive to utilize technology, not just for their own personal advancement. Using "smart machines" as catalysts for revelation, the technophiles of these novels are not only solving the puzzles of history, but also developing a method by which the historical cycles of the past can be repeated. Patricia Warrick notes that one of the hallmarks of literature that addresses artificial intelligence is that problem solving instead of classic conflict motivates the actions of the plot (Warrick *Cybernetic* 161). The signifier of this character trait, as one motivated to utilize technology to either aid or replace humanity, could be thematically described as *automata*, a thematic foil to the practice of *simulacra* that defines the humble heroes of each novel. For example, the puppet box is a form cultural mimesis, Riddley Walker by theatrically simulating cultural dialogues via Punch and Judy, can both entertain and educate people about the lessons he has learned about political ambition and science, hopefully putting the future of humanity on a peaceful trend instead of the violence inherent in the quixotic Eusa dialogues. If one considers the monks at the Abbey of Leibowitz, they too possess a disposition towards *simulacra*; the illuminated copy of blueprint found in the bomb shelter by Brother Francis in "Fiat Homo" serves as the literal example of *simulacra* in Miller's work among others. The fact that the monks in *Canticle* consider their work to be only a reflection of the greater design in the universe immediately makes it known to the reader that they are content with their station in the great chain of being. Even though the monks in "Fiat Homo" have no foolproof way to accurately interpret the preserved or "booklegged" documents from the past, they are developing a rational system in which to tease the truths of history from out of the charred rubble and singed documents. The concept that hu-

[20] "Fiat Voluntas Tua."

mankind was made in the image of god in the book of Genesis serves as the textual basis for the characterization of the monks. However, Brother Francis' humility and predilection for *simulacra* is tested by the forces of civilization at large.

The main act of "Fiat Homo" is the theatrical debate between the *Advocatus Diaboli* and the *Promoter Fidei* - two ecclesiastical lawyers who must sift through the artifacts of Leibowitz uncovered by Brother Francis, and thus determines whether or not to canonize him as the martyr to science and the representative saint of pre-flame deluge civilization. The process they develop is a perfect model of the Hegelian dialectic, two opposing ideological forces clashing to determine some unified and greater revelatory truth. David Seed notes: "At every point of its narrative, *A Canticle* demonstrates an awareness of how texts are constituted, circulated, and validated" ("Two Exemplary Fictions" 260). The validation of Leibowitzian documents in this ecclesiastical court in a sense is the validation of the rational process that monks are developing, the act of validation allowing for the devouring of one dialogue by another to produce a new ideology via the dialectical synthesis. In one regard, the two lawyers fighting over Brother Francis' testimony become a personified *machina analytica*, a machine specifically designed to evaluate truth. Later, the *machina analytica* becomes the disembodied device that is so powerful that it supplants human rationality itself as the seat of decision making. In Miller's eyes, the only machine capable of rendering all human discourse on good and evil useless is the one machine capable of causing total extinction. Miller is smart enough not to place the blame on the bomb itself; that would be about as logical as blaming the apple for the fall from paradise. Instead he holds humanity's scientific curiosity accountable for recreating the doomsday machine.

The two lawyers represent the most basic function of this process of inquiry. That scientific dialogue and institutional thinking will gain enough momentum over generations of people to redevelop nuclear weapons is inevitable for Miller. In the comedic, yet weighty exchange between the inquisitor and the young aesthetic Francis, this method of winnowing away false evidence to validate the truth of the matter at hand is literally Hegelian dialectic in action:

> Brother Francis attempted to explain. The *advocatus diaboli* interrupted with periodic snorts and sarcastic queries, and when he was finished, the advocate raked at his story with semantic tooth and nail until Francis himself wondered if he had really seen the old man or had imagined the incident. (Miller 93-94)

It is easy to laugh at the terrified monk confronting these intimidating characters who would just as soon rip him in half as they would sit down and politely question him. What is at stake is not just Brother Francis' hide, but whether or not what he has found is real or just *simulacra*. This process is the infancy of logic, and it is the nursery of the scientific mind, as the long term ramifications of this method of revealing truth has disastrous possibilities programmed into the later stages of its evolution. The authenticating of Leibowitz ultimately taints the legacy of the monks, who really seem to prefer practicing reflections of nature via art, instead of inventing machines which pry open and reveal nature of things. Due to the society that evolves around them, even the monks are gradually replaced by machines and *automata*.

X. MACHINES

In a joking twist in "Fiat Voluntas Tua," Saint Leibowitz has become the spiritual benefactor of electrician's guilds. However, in reality, the servants of Leibowitz and Riddley Walker are the dialectic half that opposes *automata*, the representative force of technology and applied science. Nearly all of the examples of technology in *Canticle* represent an automated process replacing the people who had originally done the job; the most comical example of this is the translation machine in the third novella, "Fiat Voluntas Tua," where the techniques of language and textual interpretation preserved by the monks over the centuries are incorporated into a machine that frequently goes haywire. The automaton of nuclear technology is associated with moral force because so much is at stake when it is employed. Miller ironically uses the monk's criticism of the translation machine to address the possibility that if artificial intelligence is to gradually replace human faculties, one is left to wonder when the decision-making faculties of humankind may be computed in binary code and ferocious explosions.

Patricia Warrick makes it very clear that this was a common concern among the popular canon of science fiction writers who engaged machines that could possibly overthrow, destroy, or replace human beings. Walter Miller, in 1953, had written a short story called "I Made You" in which a robot trained for tactical warfare on the moon holds its programmer and commanding officer (a human) hostage in a lunar cave, both the hostage and keeper struggling to find meaning in their relative positions. The terminus of this line of thinking is that machines could eventually replace people, having superseded their creators in areas of logic, reasoning and self perpetuating technology. The monks in the Abbey of Leibowitz know that the knowledge of good and evil is a power that should be left to God alone. A machine that could usurp humanity's ability to distinguish between good and evil would be the ultimate finale to the human story. For this reason, in "Fiat Voluntas Tua," the abbot of the monastery rails against the mechanistic government officials who attempt to coolly rationalize the death of an irradiated mother and child.

The replacement of human faculties, such as compassion and social responsibilities, by literal machines is prefigured in a comic scene between an Abbot and one of his clerks. A translating machine in which the abbey has acquired frequently goes haywire and ruins the messages that monks try to send to different appendant bodies of the church. The hilarious bunch of mistranslated texts provided by Miller would not have been possible if the monks had not relinquished their trade unto the machine. The fact that the monks, who apparently for centuries found meaning in copying and studying texts, are being replaced by machines, undermines the monks' roles as agents of literacy and civilization in the long dark age since the first round of atomic wars:

> "Well, Domne, they say your predecessor was fond of gadgets, and it is convenient to be able to write letters in languages you yourself can't speak."
>
> "It is? You mean it would be. That contraption, listen, Brother, they claim it thinks. I didn't believe it at first. Thought, implying rational principle, implying a soul. Can the principle of a 'thinking machine' -man-made- be a rational soul? Bah! It seemed a thoroughly pagan notion at first. But do you know what?"

> "Father?"
>
> "Nothing could be that perverse without premeditation! It *must* think! It knows good and evil, I tell you, and it chose the latter. Stop that snickering will you? It's not funny. The notion isn't even pagan. Man made the contraption, but he didn't make its principle. They speak of the vegetative principle as a soul don't they? A vegetable soul? And the animal soul? Then the rational human soul, and that's all they list in the way of incarnate vivifying principles, angels being disembodied. But how do we know that list is comprehensive? Vegetative, animal, rational, and then what else? *That's* what else, right here. That thing. And it *fell*. Get it out of here…" (Miller 252)

Even though the preceding scene is a comic meditation on the interaction between man and his wayward toys, the fact that the monks speculate that the machine could possibly have a malevolent soul has profound reverberations for adherents to a Christian faith. The serious tone of Miller's work is filtered through many comical and ironic characters, such as the two monks above, who cannot see the bind in which the machines have their souls and society. The possibility that a computer that could think, and that people entrusted with nuclear warheads are supposed models of rational thinking, are also compelling concepts to Hoban. Nearly all of the characters in *Riddley Walker* refer to the people who enabled the nuclear war as the 'Puter Leat.' This set of people and machines that comprised the "Puter Leat" or computer elite in contemporary English, are the counterpart to Miller's *machina analytica.* The union of machine with soul in *Canticle,* and the mysterious rank holders of the 'Puter Leat' represent a synthesis of humanity and machine. When Riddley employs language riddled with signifiers of computer technology, he is an unwitting cultural byproduct of the dialectic between the soul of humanity and artificial intelligence. Many times throughout the novel, Riddley describes his thought process as pulling data, programming, and with other technological symbols - for example: "I begun to get a cited then thinking on them things. I wudve liket to gether with Goodparley right then and pul datter wyltst my mynd were running hy like that. Thinking like that I begun to wish I hadn't programmit nothing with Lissener agenst Goodparley" (156). This quintessential welding of human thought with mechanical processes is the result of and is the starting point for all human cultural conventions in these histories. This is manifested in the unified symbols of language and technology.

Since the text itself becomes a device by which Riddley can invent himself, like Goodparley and Orfing plan to do with gunpowder, language itself becomes a representative system of power. It is made clear by Riddley that who has the control over the puppet shows effectively has control over the every day lives of the people, notwithstanding the political clout that would come with being the proprietor of powerful weapons. The corrupting and confusing effects that political machinations have upon the evolution and use of language is evident in the novel, as Riddley uses his voice to not only criticize those who had relinquished responsibilities over to machines, but also to warn any readers that language can also serve as a veil under which this process can be hidden. By generating a personal dialogue in the form of a journal and a new Punch and Judy show, Riddley is able to make a stand against the hegemony of the Eusa play, and also create for himself a forum in which he can express his disgust with civilization's reliance upon technology. Through the empowerment of

his own voice, Riddley makes an all out attack on the propensity of humanity to turn their labor over to machines, because the machines he discovers can only really strengthen those that would repress humanity for political gain. Riddley tells the reader how the previous civilization had come to ruin by developing machines that only enhanced their materialism, but also put into their hands weapons that could destroy others that would wish harm upon them.

The following passage is a colloquial history that describes how our contemporary civilization had come to its conclusion, describing the process by which technology can only strengthen the competitive and paranoid aspects of those in a struggle to survive and prosper. Pay attention to how counting machines and computers seem to be developed solely for the purposes of giving one an upper hand over one's neighbor or competitor. This Darwinian programming is a touchy subject for both authors, who would ultimately prefer that humanity find peaceful means of sharing natural resources. It is this revelation that compels Riddley to reject the ways of Goodparley and Orfing (who represent the forces that would reestablish this method of living on a local and futuristically global scale). Most devastating though is how the resulting society is incapable of being independent from the machines on which they have come to rely:

> Counting counting they wer all the time. They had iron then and big fire they had towns of parpety. They had machines et numbers up. They fed them numbers and they fractiont out the Power of things. They had the Nos. of the rain bow and the Power of the air and all workit out with counting which is how they got boats in the air and picters on the wind. Counting cleverness is what it wer.
>
> When they had all them things and marvelsome they cudnt sleap realy they dint have no res. They wer stressing ther self and straining all the time with counting. They said, 'What good is nite its only dark time it aint no good for nothing only them as want to sly and sneak and take our parpety a way.' They los out of memberment who nit ewer. They jus wantit day time all the time and theu wer going to do it with the Master Chaynjis. (Hoban 18-19)

The above is a poignant commentary on the nature of humankind, which even in eras of enlightenment humanity cannot escape violent impulses and childish behavior, the only ultimate conclusion being nuclear war. From the Hegelian standpoint, once the civilization under scrutiny had advanced to this level of sophistication, the natural entropy of the dialectic ensures a cyclical overhaul. Since the input of human nature into the machine of the dialectic includes base competitive instincts and scientific innovation, the ultimate fruit of this union is disaster. Since the stakes are that of nuclear weapons, the "Master Chaynjis" can be used to describe the point at which the previous cycle of civilization had come to an end and the world in which Riddley inhabits had been created.

The *machina analytica* described by Miller, apart from finding manifestations in the wayward translation machine, was also a mythologized machine that was able to think and analyze at a rate that human capacities lagged behind, resulting in technology that led to the atomic bomb. In Hoban's novel, "cleverness" is analogous to the superhuman calculating powers of the *machina analytica.* Both novels seem to strive towards the same insight, that technology and language are [21]only superficial constructions over humanity's tiny foothold in their own biologically competitive

niche. When humankind puts their power of reason (which ironically is the same faculty that can peacefully alleviate political and humanitarian strife) and imagination (the human ability to invent possible scenarios of resolution and future history) into the hands of machines, they have effectively sealed their own fate. How these two novels differ in the realization of this insight is evident in the varying perspective of each novel, and also speaks to the ultimate conclusion at the end of each novel. Whereas Miller feels that humanity is eternally chained to the unseen and deterministic gears of the dialectic, in "Fiat Voluntas Tua" invoking the metaphor of spoiled children destroying everything they had created, Hoban holds out hope that with the example of Riddley's rediscovery of literacy and the invention of a new Punch and Judy show, human civilization could be weaned slowly away from the cyclical trauma of nuclear holocaust. The human race had apparently developed technology to the point that it had surpassed the control of its inventors, humankind developing machines that were able to replace the imaginations and consciences of the race at large. Russell Hoban in an included glossary to *Riddley* Walker defines 'Master Chaynjis' as "The big transformation; also means infinity and the mysterious origins of everything" (Hoban 233). One cannot help but think how this echoes the Big Bang Theory, the mysterious origins of our own universe hidden under countless eons of cosmic space time. The characters of *Riddley Walker* do not know what an atomic bomb is per se, but they are aware that there once existed people like them who had evolved in their 'cleverness' so that the powers of the 'sun,' 'moon' and the rest of the universe had come under their influence. This of course is only a conflagration of pride; the scale of our most advanced weaponry is tawdry in comparison to the forces at play in the greater cosmos. What the above passage explicitly illustrates is that problems of owning property and over-consumption of natural resources brings out the competitive nature of humanity, who like a beast will use any means necessary to dominate and survive in the harsh wilderness of the universe, even if that means blowing everything the race knows into smithereens.

XI. HUMAN OR BEAST?

The outcome of the mechanical replacement of the enlightened mind, begs the reader to ask, whether or not man is safer living in a more bestial state. The aforementioned animal facet of humanity is reworked in these novels as a positive force to combat the negative scientific characters. The monks at the abbey of Leibowitz by the conclusion of the novel have learned to commune with wolves, and Riddley also triumphs over the political bodies that would exploit him by being in league with lupine accomplices. Both authors use this intertwining of animal and human natures as a thematic foil to the symbols of power manifest in pure and applied science, which are coolly detached and highly cerebral. In Stapeldon's book, one stage of future humanity is imagined as huge advanced brains existing in storehouses, humankind existing as collective entities pure thought, devoid of animalistic qualities that shade the values of these post-nuclear characters. The wolf is a unifying symbol of animal natures in both texts.

When being questioned by the ecclesiastical lawyers as to how Brother Francis has even found the bomb shelter, Brother Francis explains that he had to build the shelter in order to protect himself from the wolf packs that had been threatening his life[22] (Miller *Canticle* 68). This is one of the

[21] The mysterious hypothetical origin of the universe, in which all of the matter found in the cosmos was suddenly created and sown outwards into space-time.

most profound instances of the dialectic at work in *Canticle,* suggesting that the rabid civilization brought to life in this novel is the result of a terrified human struggling to avoid being eaten by wolves. Since the Hegelian model of the dialectic must find synthesis in competing bodies over time, there could only be one logical conclusion to the respective interests of Brother Francis and the wolves that would devour him. In "Fiat Voluntas Tua" Brother Joshua manages to evade the pesky character of Mrs. Grales by diverting his attention to some dogs making a commotion near the gates of the abbey. "Grryumpf! Brother Joshua repeated, Rowf! Rowf!" in an exchange with the canine that trails the likes of the bicephalous Mrs. Grales, Joshua is inadvertently demonstrating the dialectical synthesis of wolves and humanity begun in the opening chapters of the novel.

This relationship between the monks and the local fauna is developed as Brother Francis upon his return to the abbey from his hermitage demonstrates an aptitude for communing with the wolves of the desert. Instead of evolving separately, the monks of Leibowitz have grown in synthesis with the wolves of the Utah desert. The symbolism of the wolves and God's flock living in relative harmony is especially poignant in a world illuminated by Judeo-Christian conventions, where the wolf is usually representative of satanic forces culling the pious herd. Not one iota of irony is lost considering that is the legacy of Leibowitz that delivers the atomic bomb "Lucifer" to the world once again (Miller *Canticle* 273).

This identification with beasts is a symbol of humility for the monks, who believe that all creatures are herded by the will of God. This acceptance of one's place in the great chain of being, so to speak, represents the rejection of the ambitious scientific personality of Thon Taddeo, who sees himself as one whose responsibility is to lift people from out of their lowly stations and achieve a higher ecological status through invention and the cultivation of the cerebral and technological. Looking down from the window of a palace in "Fiat Lux," Thon Taddeo muses upon a syphilitic peasant laboriously wheeling a broken cart from the town market. "Can you believe that that brute is the lineal descendant of men who supposedly invented machines that flew, who traveled to the moon, harnessed the forces of nature, built machines that could talk and think?" (Miller *Canticle* 128-129). Thon Taddeo doesn't fully realize that the same inventions he is striving to discover were invented by the same people who had used these same machines to nearly destroy all civilization on Earth. For Riddley, who like a wolf must survive in this wild incarnation of England, the enlightened cultural structure that represents this elevation above and away from the beasts is the puppet theatre, a machine that is literally dependent upon the human to function and exist.

One skit in the Eusa play describes wolves begging Eusa not to employ nuclear technology, the wolves carting off the sons of Eusa as punishment for this horrible deed. It is important to note that the reconciliation and synthesis of human and bestial values within Riddley empowers him with the survival skills and mindset necessary to triumph over his would be destroyers. His association with the wolf pack sustains him when he is hungry, lost, and unsure of his mission. The contraption of the theatre box may not be as complicated as the computer technology that birthed this world, but it represents a distinct symbol that sets humanity apart and possibly above the lower orders of creatures, just as the arch that Francis builds in the opening scene is a technological advantage over his would be devourers. For the inhabitants of Miller's arid desert, evolving in league with the wolves and creatures of the wild engenders a similar bestial affinity found in

[22] See Illustration 2 "The Arch of Brother Francis" Doherty 2009.

Riddley Walker, who constantly identifies with the 'big black one with yellow eyes" during his adventures (Hoban 1). Even the abbot of "Fiat Lux," when musing upon his approaching death thinks that another "grim dog" will be the one to replace him, remarking in Latin the familiar phrase *Cave Canem*[23] (Miller *Canticle* 154).

Another character associated with animals in Miller's work is The Poet, who in a comedic fashion is identified with the blue-headed goats that have evolved in the irradiated landscape. Supposedly Benjamin's longevity is the consumption of their fetid milk. In the most climactic scene of "Fiat Lux," apart from the lighting of the arc lamp in the basement of the monastery, the Poet willingly allows himself to be a "scapegoat" for all the ills of the world, mocking the ambition of Thon Taddeo by suggesting that either he or one of the goats be held literally responsible for the machines of death foreshadowed in the imagination of Thon Taddeo. "They say you are writing equations that will one day remake the world. They say a new light is dawning. If there's to be light, then somebody will have to be blamed for the darkness that's past. Ah, thence the goat… a sickly jest" (Miller *Canticle* 205).

Both authors may be suggesting that coming to terms with one's place in an ecosystem may be the single most effective means of sending humanity off the track of scientific enlightenment. It is not difficult to understand that by being in league with animals, humanity could avoid the cultural destination of nuclear war, living simply and close to the earth does not create a need for advanced gadgetry and innovative science. Ironically, it is the base Darwinian competitiveness that enables political rivalries and social ambitions of secular characters. There are no clean cut distinctions, but for these characters the choice between the bestial and cerebral is the flashpoint that forever propels the cyclical nature of their histories. In many ways, the two prongs of *simulacra* and *automata* are revealed by the proximity of characters to their animal natures. The monks and Riddley, by imitating and employing animal behavior, are rejecting the automation and usurpment of survival by machines.

XII. FINAL WORD

With all of these things in mind, it is easy to become overwhelmed by the scope of the Hegelian dialectic, but it is a clear sign that in this new millennium, nuclear war is still considered to be the most devastating fate within easy reach of humankind.

One of the most successful film franchises of the past two decades, *The Terminator*[24], starring the notoriously robotic Arnold Schwarzenegger, is predicated upon possibly preventing a nuclear war induced by an artificial intelligence developed to facilitate political and military means of cultural advancement. Even in the new critically acclaimed film, *The Watchmen*[25], wherein superhuman characters battle for the control of civilization, the most devastating possible conclusion to society is still the detonation of a massive nuclear warhead. Until a new technology is discovered that can surpass the force and grandeur of atomic science for good or evil purposes, this literature will remain topical and provocative to any reader that stumbles upon it.

One of the most humorous meditations on the themes of cyclical history, artificial intelligence, and the violent nature of hu-

[23] "Dog Eat Dog."

[24] *The Terminator*, (1984 Orion Pictures), *Terminator II: Judgment Day* (1991 Metro-Goldwyn Mayer), *and Terminator III: Rise of the Machines* (2003 Warner Bros.) Dir. James Cameron, Jonathon Mostow.

[25] *The Watchmen* (2009 Fox / Warner Brothers Pictures and Distribution) directed by Zack Snyder, based on the original graphic novel *The Watchmen* by Alan Moore and David Gibbons, DC Comics 1987.

manity this year come from the popular musical group Flight of the Conchords, whose song "The Robot Song (The Humans are Dead)" is told from the perspectives of futuristic conscious computers who have annihilated the human species with poisonous gasses.[26] It seems that the limits of the human imagination are shrouded in the fission and fusion of objects invisible to the eye, and the unweaving of fundamental concepts as time and history. Very little of interest can be envisioned in a world devoid of recognizable things or perspectives, as these fantastic leaps of imagination are still limited by the scope of human nature itself.

Both *Canticle* and *Riddley Walker* would be worthy fodder for any ambitious filmmaker who is able to look past the flashy technology of the bomb, and focus on the greater conflicts of spirit and imagination that seem to haunt the possible futures of humanity. Possibly the most humanist concept in the entire canon of post-nuclear fiction can best be summed up in the words of Riddley Walker: "Membering when that thot come to me: THE ONLYES POWER IS NO POWER." (Hoban 197)

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Asimov, Isaac, Martin H. Greenberg, and Patricia Warrick, Eds. *Machines That Think: The Best Science Fiction Stories About Robots and Computers.* New York: Holt, Rinehart and Winston, 1984.

A comprehensive anthology of the short stories that specifically deal with the impact that technology and artificial intelligence has had on the development of Science Fiction in the twentieth century. Some of Miller's short stories are reproduced, illustrating the profound affect that artificial intelligence had on the author, predicting for several of the most startling revelations to be found in *Canticle*. In particular, Miller's short story "I made you" (1953) addresses the relationship between a man and a wayward machine possessing intelligence. Also featured as a companion text to Miller's work is Harlan Ellison's "I Have No Mouth, and I must Scream" (1967) .

Bennet, Walker. "The Theme of Responsibility in Miller's *A Canticle for Leibowitz.*" *English Journal* 51 (April 1970), [484-489]

A short article that examines the importance of morality and choice in Miller's novel, and how that morality is manifest in both religious and secular characters in the course of the story. It does not address "choice" as a possible component of the "dialectic."

Brians, Paul. *Nuclear Holocausts: Atomic War in Fiction.* Kent, Ohio: The Kent State University Press, 1987.

Brians maintains that Miller's novel, among others produced in the nuclear age, is a direct action to philosophically address the implications of a nuclear catastrophe in modern culture. The importance of survival, as a historical necessity in prolonging human life following a nuclear catastrophe, adds a unique ecological perspective on the 'arid irradiated desert' in which Miller's future history takes place.

Dowling, David. *Fictions of Nuclear Disaster.* Iowa City: University of Iowa Press, 1987.

Dowling's book is a survey of modern fiction concerned with nuclear weapons and the effect that such technology may have on the fate of humanity. He gives due credit to the concepts of the 'cyclical' history and artificial intelligence as players upon the modern nuclear stage. Most important is the chapter "Two Exemplary Fictions" in which *Canticle* and *Riddley Walker* are discussed as the capstones of the 'post nuclear genre.'

Fried, Lewis. "*A Canticle for Leibowitz*: A Song for Benjamin." *Extrapolation* 42, (Winter 2001) Kent State University Press, Ohio [362-373].

An astute treatment of Miller's novel focusing primarily on the religious symbolism and the latent stereotypes of the Semitic characters present therein. Contextualizes Miller's novel as morosely Christian, and only pays lip service to *Riddley Walker* as an interesting companion text.

Hegel, Georg. *The Essential Writings Ed.* by Frederick G. Weiss. New York: Harper Torch-

[26] Jemaine Clement and Bret McKenzie, "The Humans are Dead," featured on The Flight of the Conchords' *The Distant Future* (Sub Pop 2007) Best viewed at: http://www.youtube.com/watch?v=WGoi1MSGu64.

books, 1974.

This is the best compilation in English of Hegel's theories and methods. This is a crucial text for the understanding of Hegel's role in the discourse of philosophy and the impact that he has had upon the philosophical community at large. Therein, the *Phenomenology of the Spirit* and *Verstand* are reproduced, detailing the philosophical constructs of the thesis, antithesis, and synthesis that make up the process of the historical dialectic. Also included is a treatise "With What Must Science Begin?" that takes into account rational and spiritual conventions as competing ideologies within historical dialectic of humanity.

Hoban, Russell. *Riddley Walker* 1980 Rpt. First Indiana University Press Ed. 1998.

Herbert, Gary B. "The Hegelian 'Bad Infinite' in Walter Miller's *A Canticle for Leibowitz."* *Extrapolation*: 31 (Summer 1990), [160-169].

Herbert's essay finds many examples of competing ideologies within *Canticle* that 'define' as much as they disdain one another in the process of the dialectic. Herbert's focus is mostly on the possible negative results of the dialectic ('Bad Infinite') rather than on the examination of the dialectical process itself.

Manganello, Dominic. "History as Judgment and Promise in *A Canticle for Leibowitz."* *Science Fiction Studies* 13 (1986), [159-169].

An excellent article that shows how *Canticle* can be considered a literal history of the future, and how over time a cultural memory has the ability to misappropriate symbols and skew historical dialogues. He illustrates how 'logos' is literally up for grabs when spread over several generations of thought and cultural revolution, citing Miller's Thon Taddeo as the principal player in the historical process of *Canticle*..

Miller, Walter Jr. *A Canticle for Leibowitz*. 1959, Rpt. New York: Doubleday, 1997.

Miller, Walter Jr. and Martin Greenberg Eds. *Beyond Armageddon* Copyright Walter. Miller and Martin Greenberg. 1985. New York: Primus Press.

A thrilling anthology of post-apocalyptic short stories edited and introduced by Walter Miller. Harlan Ellison's "A Boy and His Dog" is featured and praised by Miller. In the introduction, Miller takes ample space explaining his disgust with the modern nuclear nation, how language barriers only exasperate political tension, and how art is an important diversion to hawkish politics.

Mullen, R.D. "Dialect, Grapholect, and Story: Russell Hoban's *Riddley Walker* as Science Fiction." *Science Fiction Studies* 27 (November 2000) [381-417].

An extensive exploration of "Riddley-speak' and the linguistic trends that unify the language employed in the novel. Also highlights contrasting points of view from other science fiction authors (notably Norman Spinrad who wrote an introduction to *Canticle* in one of its reprints) Extremely useful in decoding Riddley-speak, as well as in showing how language is the signifying article of the ongoing historical process.

Mustazza, Leonard. "Myth and History in Russell Hoban's *Riddley Walker*" *Studies in Contemporary Fiction 31* (Fall 1989), [17-26].

Mustazza expertly illustrates the importance of myth in its relation to history within cultures that are primarily oral in the transmission of cultural information, specifically citing Mircea Eliade's construction of myth. Mustazza also shows how Riddley's creation of his own identity through the act of writing, and his decoding of the Eusa myth, illustrates a metamorphosis from an oral culture to a text based culture.

Percy, Walker. "Walker Percy on Walter M Miller Jr's *A Canticle for Leibowitz." Rediscoveries, e*d. David Madden. New York: Crown, 1971, [262-269].

Percy explores the nature of symbols and the importance that they have to the development of Miller's plot. Also illustrates that because Miller's novel is a collection of symbols and themes (a *novel* per se), the text becomes self reflexive with the knowledge that all texts and symbols are transient and open to interpretation.

Porter, Jeffrey. "'Three Quarks for Muster Mark:' Quantum Wordplay and Nuclear Discourse in Russell Hoban's *Riddley Walker."* *Contemporary Literature 31* 1990 [448-69].

Porter contextualizes the importance of nuclear technology and atomic theory within Hoban's novel and modern examples of literature at large. Also, he keenly illustrates how 'dialect' (not the Hegelian dialectic) is a natural process by which language evolves through the development of 'anti-languages.' Also, shows how the preservation of texts and the evolution of language in history thematically unite Miller and Hoban as artists.

Rank, Hugh. "Song out of Season: *A Canticle for Leibowitz."_Renascence* 21 Summer 1969

[313-321].

One of the earliest critical evaluations of Miller's novel; explaining the importance and groundbreaking nature of Miller's work, identifying cyclical themes, the importance of a historical consciousness, and the comedic nature of the monks who toil in service to their Christian idealism.

Seed, David. "H.G. Wells and the Liberating Atom" *Science Fiction Studies* 30 (March, 2003), [33-48].

Along with Warrick's historical analysis, this article best situates any reader of texts that deal specifically with nuclear weaponry and its associated catastrophes. Specifically outlines how much of the fiction produced after World War II that deals with nuclear war is constructed in the form of 'future histories.' Seed outlines the philosophical implications that arise from man's ability to master the atom, and the effect that this power has had on twentieth century thought, citing many examples in contemporary science fiction.

Seed, David. "Recycling Texts of the Culture: Walter M. Miller's *A Canticle for Leibowitz." Extrapolation* 37 (Fall 1996), [257-271]

This article best articulates the roles that texts and language play in the context of Miller's novel, by showing that without the 'memorabilia' the course of history for this futuristic world would have been very different. Also includes a thorough examination of short stories by Miller ("Dumb Waiter," among others) that illustrate the popular and recurrent themes of his work: the future of humanity, the soul, and the technology that enables the future and the presence of history.

Senior, W.A. "From Begetting of Monsters: Distortion as Unifier in *A Canticle for Leibowitz." Extrapolation* 34 (1993) [329-339].

An excellent article that illustrates the innate tension and 'distortion' that arises out of dialogue and linguistic exchange. Most importantly, Senior finds many examples of how misappropriated symbols can have disastrous effects when employed out of context, such as Benjamin's strange glyphs on the arch-stone and Thon Taddeo's disgust with his inability to fully decode some of the memorabilia.

Spector, Judith A. "*Walter Miller's "A Canticle for Leibowitz:"A parable of our time?"_Midwest Quarterly* 22 (1981), [337-345].

A short article that examines how stories set in the future can be used as parodies of our own times. Specifically addresses the folly of nuclear armaments in general, and how Miller's novel unabashedly attacks the culturally embedded arguments in man's soul that leads to the development of nuclear weapons.

Sontag, Susan. "The Imagination of Disaster" in *Against Interpretation.* New York: Farrar, Straus and Giroux 1966.

A very useful article when reading any work in which world wide destruction is the subject matter. Contextualizes the profound impact that violence can have upon artists and the communities in which they live and work. Although not quoted directly, this book is an essential resource for understanding many of the literary methods utilized in describing massive deaths and catastrophic destruction.

Stapledon, Olaf. *Last and First Men* 1930 Rpt. Dover Publications 2008.

Stapledon, Olaf. *Philosophy and Living*, Vol. 2. London: Penguin, 1939 [304-307].

Explicitly illustrates the importance of the Hegelian dialectic to not only Stapledon as an author and philosopher, but also to writers of cyclical histories in general, as it is widely considered that Stapledon was immensely influential on the entire canon of Science Fiction in the twentieth century. This book serves as the crucial hinge between Hegel's philosophy of history and the literary experiments in cyclical dialectic histories undertaken by Hoban and Miller.

Wagar, Warren W. *Terminal Visions: The Literature of Last Things.* Bloomington: Indiana University Press, 1982.

Wagar's book is an insightful study that contextualizes and explains many of the popular conventions of apocalyptic literature.

Warrick, Patricia S. The Cybernetic Imagination in Science Fiction 1974 Rpt. Massachusetts Institute of Technology Press, Cambridge, MA , 1980.

Aside from Hegel and Stapledon, Warrick's book is probably the most important critical work for illustrating the historical relevance of nuclear technology, the impact that artificial intelligence has had on the Science Fiction community, and accurately predicting many of the themes and literary constructions found in both Canticle and Riddley Walker; even though neither of the two novels receive mention in the work.

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