

Miller's Milieu, or the Cultural Moments of Late Humanism: Science and Religion in the
Golden Age of Science Fiction

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Abstract

Derek J. Thiess: Miller's Milieu, or the Cultural Moments of Late Humanism: Science and Religion in the Golden Age of Science Fiction
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This work demonstrates that the shift in scholarship regarding science and religion away from a “warfare” model in the first half of the 20th century and the effect of this shift on American literature of the 1950’s and 1960’s, altered greatly the disposition of the humanities toward science. When scholars stopped regarding the interaction of science and religion as one of conflict, it became unfashionable to so much as mention conflict or warfare when discussing either camp. The method of investigation most scholars prefer, even more so in recent years, is to view science and religion through a model known as the “complexity thesis,” which exists seemingly only to negate conflict. This essay argues that the complexity thesis is not truly complex, due to its obdurate refusal to acknowledge often physical conflicts between proponents of science and religion. This refusal carries over into science fiction of the mid-20th century, in texts like Walter Miller’s *A Canticle for Leibowitz*, where it becomes a whitewash of significant historical moments of conflict such as the trial of Galileo. The complexity approach thus became popular by colonizing genre fiction in order to evangelize the masses. This moment of popularization alters not only the humanistic approach to science, but also the nature of the humanities itself, first by disallowing conflict then by forgetting its victims.

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Introduction: Vexilla regis inferni prodeunt...

The old adage holds true: history does repeat itself. Hegel called this tendency the bad infinite, while Freud's term was repetition compulsion. Perhaps all we can fairly call it is "unlucky." The author, Walter Miller, who is the focus of this work, once wrote about Ronald Reagan and Jerry Falwell's agreement that Armageddon was imminent and how Reagan's "Star Wars" program was actually hastening it. One can only wonder what he might have said of George W. Bush's "calling" to take office and the evangelical Church's laying of hands on his presidency. Would he see an apocalypse brewing in the fighting in Iraq, Afghanistan, Palestine, etc.? Perhaps, but the problem with predicting apocalypse, too, lies in the repetition compulsion—history has proven too many prophets of Armageddon wrong. The world never ends as predicted, like the weather. Still, we are perhaps closer than Reagan was. The death toll in Iraq and Afghanistan alone has hit the half million mark, according to some sources. And the question that might present itself here is a good one: why, in the midst of real problems like the war in Iraq, should we take the time to study a science fiction novel? The short answer is that history is now.

Mathematicians and scientists working with such topics as quantum physics and superstring theory tell us that there may be multiple strands of time. There may be an alternative to this present onto which any slight alteration of the past might force us. Of course, this speculation sounds like science fiction and for good reason—it has only ever been proven in Hollywood. Movies such as *The Butterfly Effect* (2004) in recent years have made popular this type of pseudo-scientific speculation that was only barely

conceived twenty years ago with television programs like “Quantum Leap.” Before this popularity (and we shall discuss the popularity of pseudo-science in later chapters) came to television, though, there was already a long tradition in literature dedicated to modifying past events to enlighten the present. Such authors as H.G. Wells and L. Sprague de Camp painted spectacular visions for their readers of what might happen if, for example, the Roman Empire never fell. The most fearful authors predicted the worst possible outcomes of our sins and the bravest told us how the world might be a more peaceful place if only we had not committed certain wrongdoings in the past. Of course, the message was almost always for the present, contemporary readers. If we could simply avoid repeating our mistakes, the world might be better. The novel that we shall consider in the next four chapters falls somewhere between the optimism and pessimism of these two kinds of alternate history.

Walter Miller Jr.’s *A Canticle for Leibowitz* (1959) follows the story of a small monastery and its inhabitants in the American southwest in three sections. When the story begins, the desert landscape is clearly metaphorical for the wasteland left behind by nuclear disaster, or the Flame Deluge as it is called in the novel. The curtain opens on Francis, a meek initiate in the Albertian Order of Leibowitz, completing his Lenten vigil in this bleak landscape full of hungry wolves and strange nuclear mutants. A wandering stranger disturbs his vigil and causes Francis to find a fallout shelter containing precious relics of his order’s namesake. We learn that Isaac Edward Leibowitz (yes, he was Jewish) was a nuclear technician and engineer during the flame deluge who converted and founded the Order later during the Simplification. While mobs took out their anger by lynching scientists and burning books, anything to destroy the type of knowledge that

led to the world's near destruction, Leibowitz founded his Order of "bookleggers" to save what they could of the world's knowledge. This knowledge, the Memorabilia, has been preserved by his Order to Francis' present, though its meaning has been lost. Thus when Francis finds, among other things, a circuit design for a "Transistorized Control System for Unit Six-B," he has no idea of its meaning other than that the Beatus Leibowitz drew it. The rest of the first chapter follows the Order's efforts to have Isaac Leibowitz sainted in light of his efforts to save the world's knowledge through what is essentially a new Dark Ages.

In the second section, "Fiat Lux," the world has begun to regain some understanding of that preserved knowledge. The focus of the narrative remains on the monastery, where the Abbot Dom Paulo watches over his monks, including Brother Kornhoer who has invented an "electric dynamo" to provide artificial light in the library. Outside the monastery, an Emperor attempts to unify the disparate countries of a North America that greatly resembles central and eastern Europe in the early modern period. The novel alludes to this time period again as Thon Taddeo, a scholar at the "collegium" and kin of the emperor, comes to the Abbey to conduct research in the Order's collection of Memorabilia. What follows is essentially a new Scientific Revolution, as Thon Taddeo and Dom Paulo repeatedly argue for the proper ends of scientific reasoning, the scientist arguing knowledge as an end in itself and the Abbot stressing the service of God. Essentially, it is a rhetorical battle between the scientific motto, "Plus Ultra" of the 16th and 17th century Copernicans and the Jesuit dictum during the counterreformation of "Ad Majorem Gloriam Dei." "Ever further" into the cosmos and our understanding is pitted against "To the greater glory of God." Still, we are certain by the end of this chapter,

when the emperor's plans succeed, that the Memorabilia's knowledge will find its way into the world once again.

The third and final section of *Canticle* returns us to a nuclear age when the Order of Leibowitz is seemingly obsolete given the presence of space travel once again. However, as the threat of nuclear destruction again looms, the Abbot Dom Zerchi and his faithful monks prepare to preserve what they can of the world's knowledge, this time on microfilm. When they are not assaulting "Green Star" relief workers for euthanizing fallout victims or exhorting against the heresies of mutant women, the monks of this chapter are preparing a space mission to carry on their Order's work in an Earth colony on Alpha Centauri. At the climax of the novel, the threat of destruction becomes real. "Lucifer," the novel's code name for nuclear weaponry, falls near the Abby, while Dom Zerchi continues his angry rants against Reason. At the same time, though, the spaceship holding monks and colonials alike lifts out of the destruction, offering some hope. Also meant to be hopeful is the awakening of Mrs. Grales' extra head, an until-then silent deformity that becomes the virgin birth of the second coming. Miller's message is strong at the end—the ethically controlled reason of the Church is the answer to the impending nuclear destruction of 1950's and 1960's America.

Such a connection, though, between the message of the novel and American culture at the moment of the novel's creation is what I shall attempt to demonstrate in subsequent chapters. In the tradition of alternate histories, Miller's own history of the interactions of science and religion is as much a reflection of his own contemporary moment as it is of history in general. Specifically, I intend to demonstrate that Miller is greatly influenced by developments in the academic discipline of the History and

Philosophy of Science in the twentieth century. Novels like *Canticle* likewise help to popularize the methodologies and conclusions of that discipline. For example, the History of Science, we shall find, attempts to combat traditional notions of the conflict between religion and science through increased emphasis on “complexity,” by which such historians mean to show that religion has been a benevolent force in the development of modern science by providing it an ethical balance. In his only novel, Miller proposes such a consideration as a solution for the imminent destruction occasioned by the American military industrial complex’s development of nuclear technology. Though Miller does not explicitly state such a thesis, through careful analysis, we may see that he does in fact advocate a religious control of science and places himself in line with such academic modifiers of history.

The consequences of this modification of history, which *Canticle* also shows us, is that in limiting the field of history to religion’s benevolence with regard to science one knowingly obscures the often life threatening reactions of historical religious authorities to real scientific practitioners. Though Miller does not show the destruction of libraries by western and eastern Churches alike in the Dark Ages, for example, we may contrast such moments with the account he does give us of that time period. Like most histories of science written in the twentieth century, Miller very nearly inverts such actions and makes the Church the sole benefactor of knowledge. By comparing Miller’s work to accounts of science’s history from academia, and then contrasting both of these to alternative historical accounts, I shall attempt to demonstrate that religious motivations in such academic disciplines have greatly obscured the violence and its victims during the development of modern science. In Miller’s own writing especially, one finds that

scientists are repeatedly associated with violence (that bad infinite that is man's destructive potential) and that the religious monks continually attempt to play peacemaker. And such a move is only the popular, literary form of a push to denigrate science and advance religious humanism that is in virtually every facet of American culture by the mid-twentieth century.

What happened, then, to Enlightenment science? Where now is scientific humanism? Insufficient and incapable of any real change, would be the response of Miller and practitioners of the History of Science alike. Thus the thesis of this work is to show that such cultural forces and the obscurity of violence that is their method have, as their final goal, the limitation of humanism to a specifically religious humanism devoid of any clear notions of science. It is this that I intend to demonstrate in the subsequent chapters. Chapter one, then, begins by examining Walter Miller's life and the history of his only novel's publication. The goal of this chapter will be to situate the novel in the context of Miller's life and his history with science in college, religion (namely the Catholic Church) and war—all aspects that are important to an understanding of the novel's cultural situation. At the same time, we shall develop a methodology for examining the disparate strands of history that we shall need to overlay in order to achieve a truly complex history of science.

Chapter two begins to employ the methodologies spelled out in the first chapter and apply them to the first section of *Canticle*. We shall also explore the topic of history as it applies to science fiction, starting with some current theories by such critics as Frederic Jameson. From there, we transition to an analysis of the first chapter and the representations of both scientific knowledge and religion's reactions to such knowledge

in Miller's fictional Dark Ages. By comparing such representations in the next section to representations of the historical Dark Ages offered by practitioners of the History of Science, we shall see the religious motivations for misrepresenting history. Finally, I provide alternate historical moments that contrast with Miller and the History of Science alike because they show unmitigated violence and so would never enter into an accepted "complexity" account of science history. Thus we find some of the limitations placed on humanism. Chapter three accomplishes much the same thing, though beginning with the notion of system, which is a term often employed to obscure violence. We then examine Miller's version of the Scientific Revolution and again compare it to accounts offered by practitioners of the History of Science of the same time period (16th and 17th century Europe). For contrast, I offer a case study of Johannes Kepler, a figure often used as an example of science and religion's cooperation in a historical figure. Again, though, when considering his own accounts of religious persecution, we find he is not so conciliatory.

Finally, chapter four follows *Canticle* back to the twentieth century and, while our initial methodology is not completely abandoned, I do begin by providing a cultural history that explores the rise of the History of Science and its wide reaching effects on 20th century American culture. After that section, we return to *Canticle* to once again explore the role it plays in that very cultural history through an analysis of the third and final section of the novel. We come to the conclusion in this chapter that Miller's novel signals a significant break in popular considerations of humanism, as history and literature are the humanistic disciplines meant to record science and do so in only a limited, negative way. In the "Conclusions" section, we continue this discussion by

examining the popular reactions to *Canticle* and positing that its popularity is due, in large part, to its very statements about humanism and religion.

Now before proceeding with the first chapter, I offer a disclaimer or two. First, when I refer to “Church” I will normally qualify which institution I wish to discuss. With regard to Miller, this will almost always mean the Catholic Church, though it varies in other considerations. For example, when I discuss Kepler, I discuss his own Augsburg Confession brand of Protestantism, and one can hardly compare that to the Catholic Church of the mid-20th century. However, the emphasis in such discussions is not on the individual institution, but the general attitude of religious institutional authorities and certainly on the violence enacted by such institutions. One cannot simply ignore certain similarities (i.e. the religious rhetoric that informs them) between separate violent actions because they exist in different cultural contexts, and any critic who does so most likely has an agenda. One criticism works critical of religious institution have faced in the past is that such Catholicism as Miller’s was pre-Vatican II. Such a criticism is empty rhetoric and one might as well say that America did not invade Vietnam because the presidential administration was different than it is now.

Other contested terms will surely include “religion” and “science.” With regard to religion, however, I limit myself to discussion of religious institutions and the sympathies some of the figures discussed have for those institutions. In no way do I mean to criticize individual faith or belief. With regard to science, many critics argue about what constitutes modern science and when it began—when and how we might distinguish it from earlier natural science. The position of such critics as Bruno Latour appears to be that science does not truly exist. It is difficult to argue with such positions

at once so all encompassing and yet so relativistic. It is not the purpose of this essay, though, to argue for the date of science's creation. From ancient Miletian astronomy to current astrophysics, whether the topic is science or pre-scientific natural philosophy, our emphasis will be on the reactions garnered from those who claim authority based on the primacy of their religious community. Unlike such misdirected "social science" as Latour's, then, I do not claim the authority to define and decline science as a whole. Such actions only once again point to the religious motivations of such critics, as I will spell out in more detail in later chapters.

That I even predict such reactions to this work may either be paranoia or evidence of a kind of widespread relativism in science history discourse. For that reason, it may be very important for a critic from outside that discipline to offer a slightly more pragmatic view of a history of violence that also includes its victims. Richard Rorty once said of pragmatism and relativism that:

I think it's important for pragmatists to say that the fact that there aren't any absolutes of the kind Plato and Kant and orthodox theism have dreamed doesn't mean that every view is as good as every other. It doesn't mean that everything is now arbitrary, or a matter of the will to power, or something like that. That, I think, has to be said over and over again (126).

Though we shall take a decidedly different approach to this topic than Rorty would, still we might view this work simply as one iteration of a view that is different than the orthodox one. That I come to this work not as a scientist or even from the History of Science, following Rorty, does not disqualify our emphasis in the next chapters on historical violence. Complexity theory, of the sort in favor now, in our cultural memory of religion and science need not be the rule by fiat alone.

We begin in chapter one, then, with our extended introduction of Miller's life and work. Though *Canticle* was once an immensely popular novel, and still is in some circles, it has been a long time since it has received this much attention. We shall now discuss why it has been a mistake to ignore the book for so long.

Chapter 1: Miller's Mirror

*Thank God for tunnel vision, he thought,
Thank God for selective perception. Because
without it, we might as well all be in a Lovecraft story*
Stephen King, *The Stand*

*The present only has a being in nature; things past
have a being in the memory only; but things to come have no
being at all, the future being but a fiction of the mind, applying
the sequels of actions past to the actions that are present*
Thomas Hobbes, *Leviathan*

Walter Miller Jr. published the book-length post-apocalypse novel, *A Canticle for Leibowitz*, in 1961 and immediately became a recluse. Since he commented very little on the only novel he completed in his lifetime, Miller has left his readers their own wasteland of questions. Is the text entirely pessimistic, a gothic tale of the horrors that await a Nuclear age with no regard for ethics? Or is it rather optimistic when it allows hope for a humanity that perseveres not only through two nuclear “flame deluges.” Does Miller push a specific Catholic, Christian worldview on his readers, or is he ironic when he displays the humor in the monastery of the Albertian Order of Leibowitz, whose founder was a Jewish “weapons specialist” in the first flame deluge? Incidentally, *Canticle*’s readers are ironic in their interpretations because they form groups, or “communities of meaning,” around one interpretation or another. Miller’s readers adhere to their interpretations as faithfully as his monks persist in their duty of copying and protecting the world’s written knowledge (Memorabilia).

Yet who is right? Are we to favor an interpretation of instability in the text because *Canticle*'s critical community cannot agree on its approach? Postmodern instability such as this is rather extreme given the cultural context of the novel, not to mention Miller's history with WWII and the Church. I shall also argue, however, that the novel does not ultimately advance "Miller's eschatological optimism[...]grounded in the biblical experience of divine renewal" (Manganiello 166). It is true that *Canticle* occupies itself almost wholly with theological questions and humanistic ethics from a decidedly Christian perspective. The text, however, deconstructs the very religious tenets it attempts to fortify by projecting an alternative to our cultural history.

History does indeed play a significant role in the novel, as Thomas Hanzo has astutely recognized. In the most compelling piece of Miller criticism to date, Hanzo reminds us that, "despite the fact that it projects a future, science fiction is compelled by its very limits, by its formal necessities, by its status as a mode, as a genre, of fiction, to return us to the past[...]an historic past" (133). This critic appears to agree with Hobbes that the future is always a fiction that merely recasts moments of the past. While Hanzo (and Hobbes, perhaps) explains why science fiction relies on history to depict the future in general, he more specifically describes the subgenre known as alternate history. A *Canticle for Leibowitz* is one such alternate history that, while set in a future post-apocalyptic world, obviously draws on much of "western" cultural history as well. Western history, recast in the American southwest, is in this case the history of Europe

and the Near East as the novel follows the growth of the early Church into a world very similar to 1950's America.

That *Canticle* relies wholly on a specific history is clear as the novel opens in the first section entitled "Fiat Homo." Brother Francis Gerard keeps a vigil before he will be allowed to profess his vows, yet he does so in an area of "ancient ruins" in "deserted lands." Literally the novel begins on the scraps of the artifacts of the reader's own history. However, Francis also fears as he watches an approaching "pilgrim," because "there were monsters in the earth in those days" (3). The narration refers to the physical deformity left by nuclear fallout, but also insinuates that the world has returned to a younger, more naïve state, credulous enough to accept the possibility of the existence of monsters. As the text repeats this allusion to monsters, as well as witches, barbarians and pagans, it paints for the reader a picture of the Dark Ages. This time period encompasses more than a millennium, between the decline of Rome and the Renaissance, when the western Christian Church sought to unify the West through fear of such monsters. The pilgrim is not a monster, though, but a mysterious recurring character that causes Francis to discover the ruins of a fallout shelter containing relics of none other than the Beatus Leibowitz. No one in this new Dark Age is capable of understanding these relics, among which is a blueprint for a "Transistorized Control System for Unit Six-B."

The second section entitled "Fiat Lux," focuses on the interaction of the order (especially the abbot, Dom Paulo) and the scholar Thon Taddeo. Taddeo, a cousin to the powerful Emperor Hannegan, is a natural philosopher, scientist and mathematician, who comes to the abbey in order to examine various texts in the collection of Memorabilia. To his chagrin, one of the monks has already made a "clean impetuous leap" from the

diagrams at the abbey to a working electric lamp, or dynamo. The Thon fails to understand how such a man, Brother Kornhoer, became a monk because Taddeo believes that certain aspects of natural science could be offensive to religious beliefs. More importantly, though, the scientist's work, his fear of religion and even his reliance on the influence of the Emperor, directly parallel the state of science in the 16th and 17th centuries. In fact, one might interpret the Thon as a composite character whose story draws on the real lives of such notable historical figures as Galileo, Kepler, and Brahe. Miller means to assure us in this section that a Renaissance is under way and a Scientific Revolution imminent.

Scientific knowledge is a bygone conclusion in the final section when we are told, "There were spaceships again in that century" (245). By this first sentence of "Fiat Voluntas Tua," the reader is made aware that the world has returned to a "modern" condition. In this age the feared "Lucifer," Miller's pseudonym for nuclear weapons, has returned. As doctors set up Mercy camps for the victims of nuclear fallout, the monks occupy their time once again with preserving the world's knowledge. When the inevitable death of Earth comes, the extra head of misborn Mrs. Grales comes alive, with "preternatural innocence," signaling that the world has truly found its apocalypse. At the same time, a group of monks man a spaceship full of children destined for Alpha Centauri with the hope of maintaining a vestige of civilization. This completes a circle in this section, as well as the novel as a whole, framed by the concept of space travel, of taking mankind *plus ultra*. Miller engages this topic because it is immediately accessible to him in 1950's and 60's America, locked as it is in a race to be the first to put man on

the moon. As he does in each of the other two sections, then, Miller draws on a specific, culturally significant, historical moment in this third and very final section.

Though the reader does not need an extensive background in the history of these distinct time periods in order to enjoy the novel, some historical knowledge may seriously enhance his/her understanding of Miller's various themes. If criticism were to approach the novel with historical moments such as the early Dark Ages or the Scientific Revolution in mind, textual irony would stabilize. However, a consideration of these time periods will also not help the critic to find Miller's spiritually supportive message. Miller himself tells us that he failed in his attempt to write such. As we shall see, Miller draws on the mode of alternate history, made popular by such writers as L. Sprague de Camp, A. Merritt and H. Rider Haggard, yet he does it so effectively that he obscures much of the text's meaning behind the very history he uses. For example, books such as *She* and *The Moon Pool* were inspired by the 19th century explorations of those like Shackleton in Antarctica. On what discoveries does Miller draw if not that of science itself? Even as Haggard's characters "discover" an ancient culture hidden in the depths of Africa, the Order of Leibowitz re-discovers science and the scientific process. Yet Miller's religious motives lead him to slightly alter that "discovery," in ways the importance of which will become apparent throughout this analysis. Thus we shall discover a varied and complex history as we discuss *Canticle* in the hope that this background will allow a richer understanding of this compelling, but often opaque, novel.

In the course of our analysis of this one novel, though, we shall also discover much about the nature of science fiction as well as history itself. We shall attempt a picture of science fiction literature that simultaneously portrays our very cultural history,

then divorces itself and remythologizes that very history—we shall consider text (cultural artifact), body and politics all at once. Miller, for example, will show himself and his text to be a product of a movement to complicate history (the History of Science). This movement is a part of a body politic that seeks to appropriate cultural history to its own ends, even as it ignores its very history to do so. Thus our approach is distinct from that of current neo-Marxist theorists such as Fredric Jameson, as he follows Ernst Bloch's distinction between "Program" and "Impulse" (with regard to utopia). The end result of such a distinction is a divorce of the political from the conceptual, agent from action. Our approach is perhaps more similar to the biopolitical, such as Giorgio Agamben's concept of "bare life," though with clear distinctions that will become evident later. Our historical approach, though not in favor with much of the academy, is necessary for a complex analysis of *Canticle*.

If history is important to an interpretation of the novel's content, then, it is equally important to consider all of the novel's history. That is, the book's publication, its criticism and its author all have a history of their own that we ought to examine and that will help us later in fleshing out the enigmatic themes Miller has left us. David Seed reminds us "The very text of *Canticle* [is] charged with half-concealed meaning" (260), so we may assume the history of its publication is important to fully examine these hidden meanings. In fact, the careful reader may notice the novel's metafictional themes as it deals with the literal production of texts. Miller, like Mary Shelley and her hideous progeny, is aware of the potential of his novel as a cultural artifact. Such consideration of cultural artifacts is important as it highlights the political nature of textual production and reproduction. Politics is especially germane to discussions of science fiction, a genre that

is perpetually marginalized in the larger scope of literary production. Miller's reaction to the "ghettoization" of science fiction develops in the course of the novel's publication history. We may eventually even infer that his later reclusion had much to do with the fact that he lived to see both the book's rejection by reviewers and popular success.

Whatever our conclusion regarding the impact of *Canticle*'s publishing history on his life, no one can deny that Miller's personal history had a tremendous impact on the novel. Many critics have speculated on the role of his experience at Monte Cassino in compelling him to write the characters that he did. Yet few have touched on his vacillation between religions or the hermitage he also shares with many of the characters of the novel. Certainly, Monte Cassino was a turning point in Miller's life, as it directly precedes his conversion (only temporary) to the Catholicism he portrays in many of his writings. We must first put this moment in the context of his life, though, before we apply it to the novel.

I have already discussed the two interpretative strategies on which most Miller critics rely; it only remains to briefly reiterate the importance of this critical history to the novel's history in general. For example, even as David Seed admits "half-concealed meanings," he also attempts to deconstruct these meanings. Thus, he leaves us in a very postmodern state of instability when he says that, "the symbolism of images and rituals is open-ended and frequently a matter of debate within [*Canticle*]" (Seed 261). The critics who follow this nihilistic mode of interpretation seek not to debate but to divorce the text from its religious underpinnings. There is, in my opinion, a common-law marriage between religion and this novel to the effect that we cannot completely separate them. However, the text does inadvertently deconstruct the overly optimistic view of religion's

role as science's ethical guardian. This brings us full-circle back to the historical interactions of science and religion that Miller depicts, and his focus on history arising from *Canticle*'s critical history, itself relying on (or denying entirely) Miller's life.

In the rest of this chapter then, we shall briefly consider the background of the novel, that of its author and the critical responses it has received to date. In the process, we shall also find the importance of a search through history for that hidden meaning in Miller's text. In fact, finding our impetus for the rest of the study is the real aim of the following chapter. That said, I should offer the disclaimer that what follows is not an exhaustive history, in the sense that no history is complete or wholly without its author's bias. I shall no doubt omit some fact or cultural tidbit that some other critic will find more crucial than I did. Yet, I offer this history of what I find an enjoyable novel by an interesting, if idiosyncratic, author.

His life and novel

Despite the fact that Miller made an art of avoiding the limelight, there are at least two existing biographies of his life and work. One shorter passage comes from the *Dictionary of Literary Biography* (1981) and the other forms a small part of his *Bio-Bibliography* (1992). They equal a combined twenty pages. While the sparseness of his biography is lamentable, I do not intend to correct that error in this chapter, only to paint for the reader a picture of Miller's life as it is important to his writing. Though many critics comment on limited aspects of his life, this history relies almost entirely on

Miller's two brief biographies and what little correspondence I was able to find.¹ Anyone wishing to obtain a more complete biography should consult these sources.

He was born Walter Michael Miller Jr. on January 23, 1922 in New Smyrna Beach, Florida. Though it seems his father, Walter Sr., did not want him to suffer as a starving writer, his family greatly influenced his choice of careers. Miller's grandfather especially encouraged him at an early age by telling him "a lot of whoppers," but it was at his father's urging that he entered the University of Tennessee in 1940 as an electrical engineering major. Two years later in 1942 he left for WWII, but would return to the states to marry Anna Louise Becker in 1945. He continued his technical education at the College of Engineering at the University of Texas, though he never finished the degree. In the years shortly after the war, he published short stories in minor magazines such as the Catholic magazine *Extension*, but it was not until after he was injured in a car crash in 1951 that he devoted himself to publishing.

With regard to his time at war, much critical attention has been paid his participation in the allied bombing of the monastery of Monte Cassino. Many critics have attributed to his horror at this event his eventual conversion, his choice of topics for *Canticle*, or both. There may be something to this, as he says in 1991 that in Italy Catholicism, "was the religion of the enemy, and I did sympathize with the people on whom we had been dropping bombs." Indeed critics have seized on this supposed connection. Yet, Miller himself is more resistant, calling it "after-the-fact speculation." According to him, "The only horror I felt in connection with Monte Cassino was due to the fact that it looked to me as part of my squadron's bomb-pattern might have hit our

¹ For both of these sources I am indebted to William H. Roberson.

own troops.”² In his own words, then, this was not a triumphant moment of conversion, but led him to sympathize with the Catholic Church somewhat later in his life (he did not convert to Catholicism until 1947).

In the mid 1950’s he and his wife returned to Florida, where he was inspired to write the first version of what would become the novel, *A Canticle for Leibowitz*. The short story of the same name, which would later become “Fiat Homo,” was published April 1955 in *The Magazine of Fantasy and Science Fiction*. The editor, Anthony Boucher, introduced the story saying, “It is a strange and moving story that Walter Miller has chosen to tell...(and very welcome!)” (93). It must have moved many despite lacking much of the humor of the later novel version. The second installment in the series, *And the Light is Risen*, appeared in the August 1956 issue but with top billing in large, bold typeface on the cover. Again a featured story in February 1957 is *The Last Canticle*, the predecessor of “Fiat Voluntas Tua.”

It is important that the book was published in pieces and that Miller only realized later that he was writing a novel, because it explains the episodic nature of the final version. However, it also somewhat corroborates the narrative’s cyclical nature, why each section returns to similar themes and characters (i.e. Benjamin or the Wandering Jew) in order to maintain continuity. Critics usually insinuate that either the book is discordant or harmonious as it transitions between the three sections, but again this shows a certain bias in favor of their respective interpretations. Most readers today are familiar with *Canticle* only in its novel form and so are inclined to see continuity even between the vastly different time periods Miller presents.

² *Letter to W.H.R.*

Despite some hesitance about the cohesiveness of the novel's three sections, it garnered attention from many reviewers, including those who did not typically review science fiction. While much of the attention was negative, most notably the reviews in *Nation* and *New Yorker*, it was a triumph simply to have one's first novel reviewed so widely. Also, it seems Miller received positive reviews from a great number of publications, including *Commonweal*, *The New York Times*, and not surprisingly, *Catholic Digest*. The overt Catholicism of the text did much to "rescue" it from the typical margin that is science fiction's lot among mainstream fiction. However, as Cowart reminds us, "Unfortunately, [*Canticle*] is little known outside science-fiction circles, even though it compares favorably with the work of such mainstream Catholic writers as Francois Mauriac, Graham Greene, Evelyn Waugh, and Walker Percy" (25). One may only wonder that Flannery O'Connor did not make that list, but the point is that this novel is recognized as a relatively mainstream Catholic text.³

Yet if Catholicism saved the text from the Science fiction ghetto, Miller may well have orchestrated the rescue attempt. On the original dust jacket to the 1959 Lippincott edition it is noted that Miller "compromised between art and engineering by writing science fiction until this, his first novel" (qtd in Roberson 4). Roberson interprets this statement as Miller's attempt to avoid the label "science fiction writer." We could wonder, though, whether the implication was Miller's intent or that of a publicist trying to gross more from the novel's publication by keeping it out of the wrong section of the bookstore. Certainly, Miller was not timid about publishing in science fiction journals prior to his novel. However, there is more we must consider. First, the tract could not have been published without Miller's consent. And perhaps more importantly, Miller

³ This relation is examined in more detail in the Conclusions

never returned to publish his science fiction short stories after *Canticle*'s publication in 1959. That said, Roberson's point about Miller's avoidance of Science fiction begins to look more valid.

After three printings of the novel and numerous more since then, Miller speaks out again only to allow his shorter work to be anthologized and to make one fairly extended statement in the preface to *Beyond Armageddon* (1985). Some critics refer to his silence in that time as a long writer's block, while others speculate that "Miller may have stopped writing from a sense that anything he wrote after *A Canticle for Leibowitz* would be unfavorably compared to it" (Roberson 7). Whatever the reasons are, he reminds us in a letter to Roberson, they are none of the general public's "damned business." He then uses the preface of *Armageddon*, what he calls a "Forewarning," to rail against the Reagan administration's "strategic defense initiative." Some attention is also given to his interpretation of the *Logos* in this later text, which critics have used in an attempt to separate *Canticle* from its religious themes. But one should remember the sixteen-year delay of this note from Miller. A lot happened in the world in that sixteen years, including Miller's own failed conversion to Catholicism. The careful critic should expect some difference in thought between *Canticle* and his later "Forewarning."

On that same note, we must remember that Miller was subject to a chronic depression that culminated in his suicide in 1996, prior to finishing *Canticle*'s sequel. Depression may account for much of his reclusion and, more importantly, the ambiguity of his writing. Without adding insult to an already troubled man's life, we may safely assume that Miller's suicide means he was ultimately unable to reconcile himself to the Catholic Church (considering that institution's strict prohibition against suicide). His

struggle to reconcile himself spiritually is a theme through much of Miller's life, and is especially pertinent to a consideration of *Canticle*, since his motives for writing the novel are very clear. As he says:

I have speculated that by writing Leibowitz (sic), I inevitably maneuvered my head back into the Church [...] It was an on-again, off-again thing. Finally, I suppose, I tried to define myself in that area by writing Leibowitz. So then I went back to the Church for awhile, but it never really took, I guess (qtd in Cowart 8).

According to Cowart, Miller only says this "privately." However, he reiterates here that statement on *Canticle*'s dust jacket that he did not wholly mean to write a science fiction novel. He does so, and quite admirably, but it is not his main objective.

In that attempt to "maneuver his head into the Church" lies the real importance of his life and publication history to this novel. The novel was not advertised as a science fiction novel, and Miller states his own goal as a reconciliation with Catholicism. These two facts cast some doubt on *Canticle*'s status as a science fiction novel, despite its origin in the *Magazine of Fantasy and Science Fiction*. Yet even within the title of that journal we find two genres, fantasy and science fiction, a divide between what Frederic Jameson has termed the "Great Schism." This is indeed the oldest debate in science fiction studies as the attempt to define science fiction usually means contrasting it with fantasy. One might conclude from Miller's attempts to distance his novel from science fiction that he meant to write a fantasy novel, something resembling the works of C.S. Lewis or even his contemporary, Manly Wade Wellman. Both of these authors are well known for their religiously inspired fantasy novels, and both have been painted as science fiction writers at various points in their careers. Miller perhaps attempted to write in their style (there was in fact a Wellman story in the same issue as the original "Canticle").

Miller, however, is not a Lewis or a Wellman. His attempt to distance himself from science fiction fails as surely as his attempt to reconcile with the Catholic Church—he admits the latter, we may infer the former. Miller’s Brother Francis and his abbots are not equal to Lewis’s Ransom character, and forces of “Good” are not so simplistically triumphant over “Evil” in *Canticle*, as they are in Lewis’s *Silent Planet* trilogy. Our conclusion, therefore, must be that he attempted to write a novel as unlike science fiction as Lewis’s works, but failed in that attempt and the result was the strange amalgam of fantasy and science fiction that came to be *Canticle*. What that means for our purposes in this analysis is that *Canticle*’s status as science fiction has been solidified in large part by his critical community, after-the-fact. Even as critics attempt to paint Lewis’s works as science fiction though they contain very few traces of even the social sciences, Miller’s work is now considered science fiction a posteriori. We shall discuss this at more length in the next section when we examine the critical response to the novel.

With his death, Miller left his readers to puzzle over his life, which we do faithfully despite its being “none of our damned business,” as well as his work. On one hand, we may read his short stories or *Canticle* as the science fiction works many have always known. On the other hand, there are reasons (some of them from the author’s own mouth) that lead us down other critical paths. Certainly, the varied and conflicting interpretations of this novel by its critical community are testaments to the continued confusion over meaning. If the author’s past and that of the book are occasions for our confusion, though, the criticism dedicated to the novel is confusion’s *raison d’être*. *Canticle*’s critical history will therefore be the focus of the next section of the chapter.

His critics (on whose shoulders I stand...)

While we have already begun to examine two themes in Miller's criticism, I did not mean to insinuate these were the only two possibilities. Nor are the proponents of these theories unilateral in their interpretations. Their points of emphasis vary widely. Still, in the history of Miller criticism stretching back to 1958, there are certainly recurring themes. It is these repeating treatments on which we shall presently focus—not in order to merit them but only because they account for a kind of consensus among the critics themselves. There are obvious exceptions, such as Hanzo's article, in which the focus is clearly neither religion nor ambiguity. These also are not the focus of the present chapter. Thus, this section is also not an exhaustive history. If the reader wishes to obtain such a history, I again refer him/her to Roberson's text, current up to 1992, and after that to his/her own devices.

As I mentioned, *Canticle* was widely reviewed, and articles in such diverse venues as fanzines and literary journals continue to increase in frequency into the 1990's. Another testament to the novel's popularity is its mention in myriad histories of science fiction as an integral part of that history. One critic even cites it as the most popular inclusion in college science fiction classes, though does not substantiate that claim. Despite the popularity there remain no book-length publications devoted to this science fiction "classic," other than Rose Secrest's 102-page "book" entitled *Glorificemus*. As the title indicates, however, this is not so much a work of criticism as it is a celebration of the novel's religious themes. The only extra-textual considerations made are to Miller's short stories and to the bible, yet for its brief thematic breakdowns this text is rather helpful. From the very beginning, however, as the three sections are compared to the

gospels, then throughout in its myriad biblical allusions, this book is invested in heightening *Canticle*'s religious messages (as Secrest sees them).

Secrest, while the only author to have published a book-length work on Miller, seems oblivious to the critical tradition in which she is working. Praise for the novel's religious themes begins very soon after publication in 1965 and 1966 by such notables as Martin Green and Sam Moskowitz. However, it is in 1969, when Hugh Rank publishes his "Song Out of Season," that the tradition truly begins. This article is an attempt to put the novel into the context of its time, but it also provides a background to those readers less well-versed in Catholicism. Thus, it finds the novel's major theme is "the depiction of the Catholic Church as the ever-enduring institution, and the book is, in fact a celebration of the Church" (Roberson 67). The article itself celebrates this aspect of Miller's work. Rank only laments that, "certain absolutist attitudes in the book are likely to alienate not only the non-Catholic, but also the contemporary Catholic 'liberal.' Had the book been postulated on the 'acceptable' ideas of the secular-humanist, it might have received more note" (Rank 219). There is a clear bias in this account of the religious aims of Miller.

It is no surprise then that the next two major pieces of criticism to deal with *Canticle* are only able to do so utilizing the terminology of Catholic doctrine. Michael Alan Bennett concludes that each individual is responsible for all of mankind's wrongdoings because, "Says Miller, 'I am my brother's keeper!'" (489). While Bennett merely, and rather provocatively, points out a theme of responsibility, Russell M. Griffin takes it a step further. Griffin essentially narrows the field of debate to a discussion of the opposition between science and religion. While this narrowness is fitting in his

discussion of medievalism and will be helpful in our own consideration of the rest of the novel, the article influences most of Miller's later critics in a problematic way. Griffin writes, "The central quest of the novel, then, becomes the search for a leader of sufficient spiritual strength and wisdom to transcend technology's control of man and to direct technology toward some kind of moral good, a man who can subordinate scientia to sapientia" (115). After this statement, it seems critics can only affirm or deny, black or white, that this is the novel's aim.

Whether or not science's subordination to religion is seen as the novel's "quest," then, it is the theme most seized-upon by Miller's critics. Here we find the reason this novel is a "classic" science fiction text, and not fantasy or religious fiction. If it were fantasy, critical focus would not be on science and therefore the critic would be unable to effect that subordination of science to religion. In other words, critics have written this text into the science fiction cannon specifically to show the supposed affinity between science and religion. This will become more apparent in the rest of this chapter. From this point, though, in Miller criticism grows a trend, very similar to certain recent cultural trends in the academic discipline of the History of Science, to read this novel as providing "a Christian framework for thinking about modern science and technology in relation to the human predicament" (Young 97). More often than not, this framework means an attempted marriage of the Christian's worldview to that of the scientist. While there are still critics who go so far as to ignore the text's scientific affinities (i.e. Ralph Wood as recently as 2001), most attempt to interpret something of a peace between the science and religion in Miller's book.

We find this peace-making mode of criticism well into the last ten, or even five years. Slater and Jacobs tell us in 1999 that, “The novel offers a hope for, if not a reconciliation, at least cooperation between the moral imperatives of religion and the driving curiosity of science” (130). This statement is perhaps especially interesting for us, because it occurs in the context of history and we might point to a historical lack of such cooperation between religion and science. Yet Lewis Fried also reminds us that the reason for *Canticle*’s popularity is “in the clarity of our recognition that we have failed to bring one aspect of technological progress under moral supervision” (364). Thus the true onus falls on “us,” the reader, to marry religion and science. Even as recently as 2004 this theme is repeated as Russell Hillier tells us the book, “consistently position[s] Judeo-Christian faith as an inevitably ignored possible cure for the destruction invited by the pursuit of technological progress” (170). Therefore, this theme that begins almost immediately after *Canticle*’s publication continues in even the most recent of Miller’s critics.

Yet there are other accounts of this story in which religion and science are not linked so enthusiastically. Dominic Manganiello overtly suggests that, “Miller is not pitting science against religion, as might appear from a superficial reading” (162). Yet what begins with a potential denial of the very terms of this binary opposition quickly dissolves into the same thesis reiterated above. We learn how “The Church welcomes scientific truth because all truth forms part of the *logos* or design of the Creator” (ibid). This is equal to Young’s “Christian framework,” or the Church’s acceptance of science’s offering of truth. Manganiello has, however, made an important step in a different direction—that direction being toward the other major strain of criticism typically applied

to this novel. Manganiello's article laid the foundation for future critics who would more fully destabilize the concepts of the novel, namely science and religion. It is possible to see, then, how a different mode of criticism, that of "disruption," actually grew from the majority position.

W.A. Senior also notes that "Some readers have seen *Canticle* as pessimistic and dark, but Miller's insistence on faith belies such a judgment and leaves a final vision of hope" (337). Senior's interpretation is similar to the articles just mentioned in that Miller proposes religion as the salve for the damage man and science will commit. Yet this statement also concludes Senior's discussion of "distortion as unifier," that is physical distortion or monstrosity as a unifying theme of the novel's three parts. Senior's conclusion is seized upon by later critics, especially Paul Starr (1999), as a theme in which one might lay the foundation of a postmodern critique of the novel. Thus Starr, writing about the grotesque in science fiction, tells us that Miller places his readers in such a position that even "the monstrous or the grotesque has lost certainty, lost fixity of meaning and response" (138).

This breaking down of categories of meaning is the postmodern critic's *modus operandi* in relation to this novel, while Miller's ironic humor and caustic wit are the usual cannon fodder. The aim, though, is always a destabilization of the categories the novel would seem to support and therefore a denial of both science and religion as potential epistemological sources. Thus Starr shows us humorously grotesque bodies such as Mrs. Grales's in order to show "the body as product rather than essence, as process rather than identity" (143). Interpreting meaning as process evades the "fixity" of meaning one might ascribe to those critiques that concentrate on religion or science.

David Seed also refers to this “self-analyzing process” in 1996 when he writes, “the symbolism of images and rituals is open-ended and frequently a matter of debate within [*Canticle*]” (261). Even as he considers the text full of its “half-hidden meanings” he attempts to destabilize them. Or consider Ulrich Horstmann’s attention to, “Inversionen, mit denen Miller religiöse Deutungsmuster in seinem Buch ebenso unterläuft” (187).⁴ Together, these critiques evoke a blurring of boundaries worthy of Donna Haraway’s Cyborg.

In light of Miller’s own personal history, as well as the critical attention paid to *Canticle*’s overt religious themes, such postmodern criticism is ultimately admirable but irresponsible. While there is certainly ambiguity in *Canticle* and his reliance on ironic humor calls much into question, one cannot entirely deny that Miller was attempting to position himself within the Church through this text. That is not to favor the one critical stance over the other, but rather to point out the validity of each. We must acknowledge Miller’s intent to write a book that glorified the Christian, Catholic Church, yet also contend that he failed in that attempt. He admits to both in his own words. We can then read the moments of that failure as the destabilization and fragmentation that some critics propose as central.

As mentioned before, this fragmentation occurs, in part, because Miller has so clearly portrayed our own cultural history as our cultural future. Specifically, he depicts the history of the interaction of the science and religion of Europe from the time of the early Church until the twentieth century, yet overlays this onto a post-apocalypse American southwest. The narration of this history destabilizes because the speculative mechanism Miller employs, the poetic license he takes as science fiction writer, allows

⁴ “Inversions, with which Miller gets around religious interpretive strategies.”

him to modify and distort western history to his own ends. Perhaps such instability is the reason Hobbes (and myriad Christian apologists before him) finds so much danger in spectacles such as the theatre provides. After all for Hobbes, and probably Miller, the end of his intellectual efforts is to “limit,” like the mathematician reduces, the body politic to a rational Christian nation. Such efforts, though most often produce uncanny results. Miller’s distortion of history is uncanny, or *unheimlich*, to readers who quite literally see something that looks like home (western European history) but is not. Thus Miller is unable to stabilize even, or especially, the very cultural history he depicts.

History, though, is at least one area in which we might conduct a balanced reading of this novel, one which considers both Miller’s religious intentions and his inability to carry them out. One must conduct a cultural study of this book that is itself a study of culture. *Canticle* is a cultural artifact that is also concerned in its content with the production of cultural artifacts, especially with the assignment of their meaning. Thomas Hanzo considered a historical culture in his argument for examining future worlds as “returns to the past.” He tells us that, “In *Canticle for Leibowitz*, the child who grows on the old woman is the innocent one of our past” (135). Yet Hanzo does not tell us from whose past comes the child with the preternatural gifts of Eden. To whom does this past belong and who has lived it? Hanzo assumes that any reader familiar with the story, will also be familiar with the story of Eve in the garden of Eden, the biblical Rachel, or perhaps Mary, all three of whose names have been grafted onto the Rachel character of *Canticle*. These interpretations, though, are not so readily clear to every reader.

It is necessary, therefore, not to start with an assumed community of meaning, because *Canticle* so often defies assumed meanings. Miller’s history is seen through very

specifically tinted glasses, from a distinct point in time, and must be read as such. We must be prepared to move our analysis freely between the history of Europe/America as told in the novel, that same history “wie es eigentlich gewesen ist,” and even the historical moment in which Miller wrote the novel. The dynamic nature of history is why the rest of this analysis will be a cultural study of alternate histories and neither a strictly historical work nor a literary analysis. Before we move on to discuss the perspective of this analysis in more detail, though, there are two other attempts at a cultural studies approach to this novel that deserve mention.

The first comes from Susan Spencer in 1991 and specifically discusses the production of texts as cultural artifacts that receive their importance from something of a mix of politics and poetics. As she wryly remarks, historically speaking the selection of writing that is passed on to future generations (versus that which is not copied and therefore forgotten to history), “comes down to a situation of who has the vellum” (339). Spencer’s analysis informs our reading of *Canticle* because it reminds the reader of the metafictional aspect of the monks’ occupations as copyists and “bookleggers.” They literally produce the same cultural artifacts, written texts, in which Miller creates them. The irony inherent in this *mise en abyme* will be important in later chapters as it destabilizes our assignment of meaning to the historical production of texts and again highlights the political nature of text itself. Thus Spencer’s reading is at least the beginning of a balanced account of *Canticle*.

Amanda Cockrell (2004) is also able to acknowledge both Miller’s religious aims and to recognize the distortion of Miller’s history. She is able both to tell us that “To Miller’s mind, That Which Survives is the Church” (23, her caps), as well as to admit, for

example, that “Fiat Homo” is “Miller’s somewhat romanticized version of the Dark Ages” (25). Most importantly, though, Cockrell makes this analysis within the context of a cultural study. That is, she examines Miller as an American during the Cold War, the historical period in which *Canticle* was written. This is, however, perhaps a more fitting place to finish than to begin a cultural study of this novel, since only “Fiat Voluntas Tua” resembles that time. That Cockrell acknowledges the alternately historical Dark Ages is important, but not enough in the context of a novel that recreates three distinct historical periods. It is rather necessary to consider each of the periods depicted equally, as each are equally depicted by Miller.

Spencer and Cockrell (and perhaps others, like Judith A. Spector, on a smaller scale) therefore begin cultural critiques, and it is important to acknowledge their efforts, but more depth is necessary. Spencer explains the significance of literate culture in medieval Europe, yet only begins to scratch the surface of the implications of this culture for an interpretation of *Canticle*. Cockrell considers Miller as a product of his immediate surroundings, 1950’s Cold War America, but denies the historical continuity that Miller envisions in his text. That is, Cold War America to Miller, with its finger hovering over the launch button at all times, is intrinsically linked to the other historical time periods figured in *Canticle*. If the text showed no other thematic unity, the progression of nuclear technology from “Fiat Homo” to “Fiat Voluntas Tua,” from post-nuclear apocalypse to “Lucifer is fallen,” would be enough to draw these disparate times together into a cohesive novel.

It is not enough, then, to consider Miller’s historical context alone, to divorce it from the rest of the history portrayed in his only novel. History is not static to Miller as

the structure of his novel shows, but the past both informs the present moment and projects a future. Time becomes subjective when history becomes a possible, parallel, future—the basis of much science fiction. Thus, history is vitally important, especially to the later generations, in its predictive power. One may take as evidence of the importance of history Abbot Zerchi's departing message to Brother Joshua, who is to lead the colonists to Alpha Centauri. The Abbot, and we may infer Miller as well, is nervous about the loss of history, "For some may forget. Some may be lost for a time from the Faith...Be for Man the memory of Earth and origin. Remember this Earth" (291-2). And this passage comes in the last pages of the novel, firmly in a present parallel to 1950's America. It is necessary for his critics to acknowledge Miller's obvious reverence for the past, even as he portrays a future present.

Miller's own history, his life, informs the history present in his novel, which is in turn a reflection of another history. In this analysis, therefore, we shall float between time periods even as we follow their usual linear path. We shall connect the earliest Dark Ages to the twentieth century in ways vitally important to the cultures of each, from within Miller's perspective and without. We shall follow Miller's looking glass through the ages, see the continuity he wants us to see, but also use our own eyes to shatter that glass into fragments. In the words of a memorable character from another writer of the Cold War era, Kurt Vonnegut, we are going to come unstuck in time.

Yet if the histories relayed so far, namely Miller's life and critical history, tell us why we must look to the past, we must still consider how to approach that history. It is a more difficult task because Miller draws on such varied aspects of culture, and does so effectively. Our task is to unravel the intricate interweaving of science, Church, and

cultural history. In the rest of this chapter we shall therefore attempt to clarify the methodology that our analysis of *A Canticle for Leibowitz* will follow.

Miller's Mirror: "a scratch where it itches..."

I cite Miller's dedication to his wife, Anne, above because our task as critics sometimes feels much like scratching where it does not itch. *A Canticle for Leibowitz* stands as a testament to Walter Miller's very unique perspective on history and its relation to culture, especially scientific and religious aspects of that culture. He has done all his own theorizing, and it is difficult to come to his work, even posthumously, and declare it accurate or inaccurate without seeming derisive. The reader may remember another dedication from a much earlier science fiction writer, Villiers de l'Isle Adam, "To the dreamers. To the deriders."⁵ Miller is certainly a dreamer, and the critics of his work will always run the risk of seeming the deriders. But it is fitting and necessary to examine the science fiction novel under a high-powered microscope, especially a novel as complex as *Canticle*. To find its "hidden meaning," we must scratch the non-itch.

In the case of the present work, the place it does not itch is the history of the interaction of science and religion. These two aspects of European cultural history are clearly the focus of *Canticle*. The novel pays little attention to the day-to-day life of peasants, those outside the walls of the Abbey, or to the so-called "misborn" genetic disasters that are a continual reminder of the last nuclear war. Instead the narrative is almost entirely from the points-of-view of the book's movers and shakers, the literate elite who are the arbiters of culture. In the first section, culture is carefully protected by not only the Leibowitz order, but the Roman Catholic Church as well. In the second,

science is beginning to develop a patronage among the secular authorities that have sprung up. At the end of this section, Miller makes clear that science has sold its soul to the secular State and “washed” its hands of the potential evil of this union, so that in the third section the Church is unable to exert the proper ethical control of science. Miller’s playbill is restricted to powerful proponents of science and religion, with the added “complication” of secular authority.

In today’s academy the interactions of science and religion normally fall within the purview of the discipline known as the History and Philosophy of Science. This study, however, will take a “cultural studies” approach to the novel. Why? The short answer comes from William B. Drees, one such historian and philosopher of science, who tells us that in his discipline, “a historian of science who used the warfare-style of Draper or White would not receive much recognition from her academic peers today” (89). The “warfare-style” to which Drees refers is the late 19th-century view that the history of the interaction of science and religion is best characterized as one of perpetual conflict. Among historians of science, the warfare model has received a permanent demotion and is now most frequently called the “conflict thesis” (much like the Vietnam War is demoted to “conflict”). As Drees notes conflict is almost universally dismissed for what Science Historians ⁶ call the “complexity thesis,” in which they consider that “there is an enormous richness, diversity, and complexity in the interactions between science and religion in various episodes” (ibid). “Complexity” is essentially a thesis that relies on the negation of conflict in the history of science and religion.

⁵ This is from his *L’Eve Future* (1886) trans. Robert Martin Adams, Chicago, 1982.

⁶ I shall, from this point, refer to established Science History with capitals, in order to better contrast to that marginalized science history that Drees tells us will bring us academic ostracism.

This mode of analysis, the wholesale denial of conflict between science and religion, has already found its way into Miller criticism. We have already heard from Manganiello that Miller does not “pit” science and religion against one another. John Nizalowski, though, also interprets *Canticle* as a work “of speculative fiction which view[s] the relationship of science and mysticism as an intersection rather than an opposition” (11). One might accuse such criticism of an *a posteriori* attempt to appropriate this text, as a cultural artifact, for their own ends, namely to demonstrate the peaceful and complex interaction of science and religion. Such an interpretation (i.e. the complexity thesis) is plausible insofar as it is clearly Miller’s aim to advocate a religious, ethical control of science, especially of nuclear energy. Whether or not he succeeds in this attempt, though, is another matter. He admits failing to write his head back into the Church, so we may also suspect his other, parallel attempt to marry science and religion.

Unfortunate for his apparent goals to depict the peaceful, pastoral interaction of science and religion, is that Miller makes atomic weapons a clear focus of the novel. His obsession with the dangers of nuclear and atomic weapons most likely stems from his experiences as a radio operator/gunner aboard the bombers in WWII. Yet if he meant to point out the peaceful, complex interactions of science and religion, he chose a violent mode in which to do so. As the bomb falls on the abbey, even as Miller’s own squadron’s bombs fell on Monte Cassino, one might read a certain violence into the action of a scientific product destroying religious sites. At the very least and within the context of the novel, warfare is perpetually in the background as science and religion supposedly “intersect.” To assume that neither camp is ever drawn into the various

conflicts, however, is not mere folly, but a well-conceited attempt to remove science and religion from reality.

Those working in the History of science and critics such as Nizalowski who apply science history to other academic areas (such as literature) repeatedly discuss science and religion as abstractions in their process of proving complexity. Critics like Nizalowski are helped in their endeavor by such theorists as Jameson and Agamben. An approach that considers culture only at the social level lacks a fundamental complexity because it never focuses its lens on anything less than the social community; more precisely, the individual human is forgotten. This is an error⁷, a gross misrepresentation of history, and with regard to *Canticle* certainly not the goal of Walter Miller. If nothing else, this novel seeks to humanize the conflict, the residents of the abbey as evidenced by Miller's preoccupation with Monte Cassino, as well as figures such as Thon Taddeo. Any denial of Miller's humanistic goals is a further distortion of history, both in the novel and in Miller's life. When scholars consider science and religion as mere abstractions, then, they employ an inhumane, ahistorical approach that ignores both the human proponents of the conflict and the human victims. Were this line of argument used at Nuremburg, ex-SS generals might have been acquitted on the grounds that not they, but Nazism as an abstract concept, were to blame for the horrible atrocities committed.

Even as Miller argues for the Church to ethically rein science in, then, he does so in such a way that the reader sees a very human struggle. Furthermore, the conflict worsens as the novel progresses and the Church loses its place as the center of knowledge and power. Thus we see the monks in the first section as the peaceful, pastoral caretakers

⁷ We shall engage this topic much more fully at the beginning of chapter 2, when we discuss Jameson's *Archaeologies of the Future* at more length.

of the remnants of scientific knowledge precisely because there is little threat to their monopoly on knowledge. That Francis is killed at the end of the section by a misborn is unfortunate but only related to science and religion in part because the misborn are also a remnant of science (nuclear fallout). In the second section, however, the connection of human violence to the conflict between science and religion is not so tenuous.

The reason for the Thon's visit to the abbey is scientific research, and yet at the banquet in his honor there is almost bloodshed. The poet, whose toe Abbot Paulo almost grinds off, points out that the soldiers who accompanied Taddeo are making drawings of the abbey and is almost killed in return—he will eventually kill and be killed by soldiers, then sainted for the action. Violence in this section is growing on both sides, but finally reaches fruition in the third chapter when the bomb again drops, but not before Dom Zerchi extracts a little revenge. In a heated argument over euthanasia for fallout victims, Zerchi punches the Green Star relief Doctor Cors. This act of violence, and the later rant of Zerchi again against Cors as the abbot lies dying, show at least the willingness of the abbot to engage in violence. In fact, analysis of the three chapters will reveal that the abbey is incapable of separating itself from the warfare around it.

And yet, this is only history as Miller presents it in his novel. We must also contend with the history of western science and its interaction with religion as recorded by those in the History of Science discipline. Roger Luckhurst, as recent guest editor of *Science Fiction Studies*, calls for this approach when he notes, “The strangest silence in sf scholarship has surely been the marginal interface between sf critics and those in Science and Technology Studies and History of Science programs” (2). However, Luckhurst attempts this interface via Bruno Latour and “Actor-Network Theory,” an approach that

stresses networks at the social level and once again strives to inflate science into an abstraction at the expense of the individual (esp. *The Pasteurization of France*). What is more, Latour is a theologian by training that later entered the field of the History of Science, and exemplifies the religious ends to which the complexity thesis may be directed. Considering the similarity of this approach to that of Nizalowski above, as well as many other Miller critics, we can give little weight to Luckhurst's statement that "the revolutions inside the history of science in the last twenty years have passed largely unnoticed in sf criticism" (ibid). This statement by Luckhurst is simply not true.

In fact, the dominant attitudes of Science History disciplines, especially the complexity thesis and even more trenchant criticisms of science, are becoming metastasized in the academy. What this means for a study of Miller's *A Canticle for Leibowitz* is that any relevant study of this interaction of science and religion will run counter to the approach that is currently in fashion. The control that the History of Science approach holds is useful, however, insofar as it allows us to situate Miller within the growing social acceptance of the complexity thesis (evolving since Pierre Duhem first posited "continuity" in 1913, but we shall return to this history later), of which he may not have even been aware.

That Miller was only slightly before his time with regard to what would become the popular approach to science and religion supports our choice of approaching *Canticle* from a cultural studies perspective. And still we shall need to incorporate a comparative approach to history, since there are obviously conflicting and often-polemic accounts of the history of science with which to deal. We shall, in a sense, be holding Miller's mirror up to nature as we compare the histories presented in the novel, their relation to the

History of Science, as well as that history that lies currently on the margins. We do this in order to avoid the sort of tunnel vision that Stephen King's character advocates in this chapter's epigraph. In this instance, the confusion of a Lovecraft story is preferable to the simplistic tunnel vision of a character that echoes the very conclusions of King's novel when he also tells us, "*At the end of all rationalism, the mass grave*" (473, original italics). While this statement may be similar to some written by Miller later in his life, it once again only shows the widespread popularity of the History of Science.

When we approach the first section of the novel, then, it is important to remember that Miller both replays history and distorts it. "Fiat Homo," while essentially a future world in which civilization has collapsed following nuclear disaster, is also the historical time period we call the Dark Ages (not Miller's term, exactly) following the fall of Rome. Yet those in History of Science departments tell us there was no Dark Ages. According especially to Edward Grant, the Middle Ages that he defines as the years between about 500 and 1500 CE, "was one of the most innovative periods in human history" (12). Specifically, with regard to previous 19th and 20th century conclusions that the Middle ages was a "sterile, superstitious" period, Grant responds that, "It is difficult to imagine a more inaccurate and misleading assessment" (4). The Dark Ages, then, ought to be praised as the period that gave birth to such innovations as the magnetic compass, printing press, firearms, marine insurance, universities, etc.

The irony inherent in Grant's analysis is that it points to the origins of the previous, false, view of the Middle Ages in the positivist assumptions of the Renaissance natural philosophers who thought they were doing work more important than any before. And yet, when Grant (and others such as David C. Lindberg) asks, "What have the

extensive research efforts on all aspects of the Middle Ages produced?” (12), he implies a positivist approach to the Middle Ages as well. That is, when such historians hold their own recent research above that of those before, then deprecate those before them, they are being positivist. Such critics as Grant and Lindberg inadvertently do this when they put their approach above other prior methods. Whatever merit Grant’s and others’ position has (indeed the printing press is a great innovation), this irony casts some doubt on the integrity of their analysis.

If we then cast the Dark Ages with human characters, as *Canticle* does, we may also do much to illuminate this time period. Miller characterizes this time immediately as a superstitious one when “there were monsters in the earth in those days” (3). The term monster, as well as a host of others including heathen, barbarian, pagan etc., is language inherited from the early Roman Church fathers in their interaction with non-Christian culture. This “pagan” culture also includes the natural philosophy of figures such as Aristotle and Plato. Christian interaction with the ideas of such figures, we are told was enacted by a “small, highly educated Christian elite” (Lindberg, *Early* 47), such as Tertullian and Augustine of Hippo. However, Lindberg also warns that those critics wishing to find conflict normally selectively quote these early Church fathers, and that the true Christian attitude is best epitomized by Augustine’s “handmaiden formula.”

Augustine established that the natural philosophy of the pagans was to be appropriated by the Christians for their own ends; that the two should strengthen one another, but any disputes would be decided in favor of the Church. His doctrine is often held as the beginning of peaceful interactions between Christianity and science. Certainly, it plays a central role in *Canticle* as Miller clearly advocates science, but a

science controlled by religious ethics. Augustine is even cited in the second section at Thon Taddeo's demonstration. However, far from being selectively cited, Tertullian and Augustine (and many other early apologists) left a legacy that filters into the ages after the patristic period. The result is that terms such as pagan, heathen, and monster are commonplace in a novel like *Canticle*, which stands as a cultural artifact, a direct inheritor, of the attitudes of these early apologists. That these were terms employed to incite the Christian community against pagan ideas and their proponents in Roman society brings Miller's aims into sharp relief. One hoping to find in *Canticle* the ideal of Augustinian peace between science and religion will be sorely disappointed.

However, neither will one find the violence and persecution enacted in the name of Christianity after the Emperor Constantine's conversion. The historical Church was perfectly content to expand its dominion on the coattails of the Roman Empire as emperor after emperor pushed its boundaries into Germania and Brittania. Yet in Miller's post-apocalyptic patristic period, the Church is poor and judging by the presence of the tribal chieftain at the pontifical ceremony, is a benevolent protector of disparate people. The pope is also the protector of the misborn, or "Pope's Children," who might otherwise suffer discriminatory violence. It is important, though, to see that he also has the power to excommunicate if anyone should bother Francis while bearing the *Noli molestare*. The Church, therefore, even in *Canticle* is capable of enforcing a punishment that might lead to death.

In "Fiat Lux" Thon Taddeo is obviously aware that he is quite literally a "barbarian" within the religious community. While he may not face immediate danger from the weakening Church community, still there is a lingering fear of those who

employ such terms against outsiders. This may have something to do with their militaristic meanings, as we shall discuss later, but there is also the knowledge that Taddeo's work, and that of his colleagues, has the potential to offend the religious community of monks. Especially considering the Pope's excommunicatory power, there is reason to fear—at least until he excommunicates Hannegan and reenacts the reformation in the novel. Still, that Taddeo is fearful is telling, as is the fact that he must rely on the patronage of his cousin both to further his work and for protection.

The historical situation of pre-enlightenment Europe is markedly similar to that presented in the novel, but with very subtle differences. For the most part, Miller shows his own position in the twentieth century as he depicts the sixteenth and seventeenth centuries. That is, his characterization of the Middle Ages and Renaissance is generally in line with much of the contemporary, accepted History of Science approach. For example, when Steven Shapin tells us “There was *no such thing* as a necessary seventeenth-century conflict between science and religion,” what he means is that “whatever mismatches there might originally have been between some ‘pagan’ perspectives and Christian doctrine had been ironed out” (136). In the context of *Canticle*, though, we may ask why Thon Taddeo then persists in fearing to pronounce his unorthodox views in front of a primarily religious audience. Is it possible that he knows something of the stories of historical figures such as Galileo, Bruno, or Kepler?

Shapin comments often on Galileo that his “advocacy of Copernicanism as a physically true account of the cosmos was applauded by some quarters of the Catholic Church” (ibid). Others are quick to point out that Cardinal Bellarmine, Galileo's eventual inquisitor, was actually a good friend and that he “would have agreed with most

of these views of Galileo [on Copernicanism]” (Blackwell 111). And yet there was a trial, and Galileo was not only censured for advocating many of the ideas of Copernicus, but also lived out the rest of his life under house arrest. And he fared better than others. Johannes Kepler, despite living outside the influence of the Catholic Church in a newly protestant country, experienced a much fuller extent of the punishment one might expect for advocating Copernicanism. He was forbidden by his local confession from taking communion (equivalent to excommunication) and his mother was tried for witchcraft (related to his text *Somnium*) where she would die of exposure from her extended imprisonment. Not surprisingly, Shapin also never mentions that Bruno was burned at the stake.

Thon Taddeo would certainly have had a reason to fear according to this marginalized history of science—that which critics like Shapin avoid. Fear is especially warranted considering (to borrow a term from the History of Science) the continuity between the early patristic period and the 16th and 17th centuries. The persistence of excommunication as a form of punishment that crossed the boundaries of secular and religious control can even be seen in Hannegan’s excommunication. While Hannegan has enough power to avoid this punishment, Taddeo can rely only on patronage, as did Galileo and Kepler. There is still great reason to fear a punishment in which, “Severance of the relation of individual and group remained the essence[...], though [as] in other punishments entailing exclusion, such as exile or outlawry, loss of life or possessions eclipsed the rupture of social ties” (Vodola 191). According to Catholic and protestant Church alike the wages of sin, even at such a late date, was death.

Furthermore, the stance of the Churches is a direct result of the attitudes of Church fathers such as Augustine and Tertullian. Norman Cohn reminds us in the context of the witch trials of the 13th and 14th centuries that, “According to Augustine, by God’s decree two realms have existed from the beginning of the world, and all history has consisted in the struggle between them” (156). More importantly, “the teaching of the Church continued to follow these lines throughout the thousand years which comprise the history of medieval Europe” (ibid). Considering the power of the Augsburg confession to excommunicate Kepler and to try his mother for witchcraft, as well as the Catholic Church’s obvious history with the Inquisition, there is still a very real reason for natural philosophers of unorthodox opinions to fear.

And yet again in *Canticle* the trials and tribulations of scientists/natural philosophers are markedly absent. On the contrary, from the book one gets an impression of the Church as a benevolent patron of the sciences, and even shock at the fear of scientists like Thon Taddeo. Dom Paulo is especially bewildered when he says, “But if your subject matter is the physical world, how could you possibly offend? Especially this community” (199). Also, there is the repeated statement that the Order saved the scientific knowledge for the benefit of those such as Taddeo, making them a direct patron. The monks offer it freely to those who will come to examine it, trusting in humanity to decide the proper end to which it ought to be put. The line is clearly drawn by the abbot himself when he says to Taddeo, “To serve God first, or to serve Hannegan first—that is your choice” (225). The proper end is thus revealed to be the end of Augustine—science used in the service of God.

The image of the Church as patron of the sciences also bears a striking resemblance to the History of Science. Much of the work done in the twentieth century in History of Science departments is an attempt to deal with, incorporate or deny, the 1913 thesis of Pierre Duhem. Contrary to the view of the scientific revolution that was typical prior to 1913, that of science's break with tradition (i.e. religion) before the sixteenth century, Duhem posited "continuity." That is, his thesis suggested that the work of Copernicus, Galileo, et. al. was in reality a continuation of the work done by Parisian, Catholic natural philosophers of the thirteenth century. Thus, he attempted to rewrite the Church as patron of the sciences. Many historians, including Floris Cohen, have discredited Duhem's approach. Cohen tells us that Duhem's conception of science was such that "we can know the truth only through faith" (46). Truth through faith is not overly problematic until we learn that Duhem distorts history to support his "fierce nationalism and his extremely orthodox Catholicism" (52). Miller also perhaps exploits this view as he positions the Leibowitz Order as science's benevolent patrons.

The access to the Memorabilia that the Order offers so freely, as also Duhem's thesis, differs starkly from that history of Galileo and Kepler discussed above. Were not their texts, an article on comets by Kepler for example or Galileo's *Dialogue*, suppressed by religious authorities? It is possible to see in this section that Miller begins his history in line with those most available to him, the currently acceptable History of Science, but then extrapolates further into blatant reversals of European history. Where practitioners of the History of Science accomplish their aims by carefully editing out victims, Miller puts history into a fictional future that he may manipulate at will. This is his license to take as a science fiction writer, and we may interpret it as fully in line with his aims (also

a thinly veiled handmaiden formula) as we established them before. The careful reader, though, will begin to notice an uncanny cognitive dissonance when reading *Canticle*, as though Miller's mirror, that which he holds up to nature, is a funhouse mirror.

In the third section, then, it is not history, but a near future that we are really meant to see. We know it is future because mankind has begun sending colonists to space, something that perhaps seemed imminent in the 60's but is still only a dream of science fiction writers in 2007. It is future thoroughly invested in the past, however, since Miller places the center of action in a pastoral setting. The reader sees the future of the Abbey, on the outskirts of civilization, rather than a grand technological city. The setting is fitting considering the mystique the southwest acquires in the late 1950's because of incidents relating to science (i.e. Roswell or the Manhattan project). It was a part of the country that everyone believed would embody the future of scientific development. Yet in the novel, the Abbey continues to preserve the Memorabilia and add to it, despite the fact that most of it is obsolete. In this way, the Abbey and the novel anticipate even the future's eventual historicity, an act which comes to fruition with the destruction of the Earth and its supposed new start on Alpha Centauri.

Also, we must return to consider *Canticle* as the cultural artifact that it is, because this effectively places it in our own past. So even though Miller depicts a near future of 1960's America, the reader can still consider his novel a product of the past, if not a depiction of the past. As mentioned before, we may read the preoccupation with sending people into space in the context of the space race of the late 50's and early 60's. We may also interpret certain "reflections of a cold war childhood" into the novel as Amanda Cockrell has done. In light of recent comparisons of cold war translations of *The Lord of*

Rings, where soviet translators conspicuously left out any mention of God, the cold war context could have deeper meanings for Miller's conspicuously religious novel. It is partly that cold war context, Cockrell tells us, that draws Miller to the Catholic Church and, we may extrapolate, what makes the Church "that which endures" in the novel. The contextualization of the novel within the 1950's and 60's, then, also resonates with the History of Science.

In the 1950's A. Rupert Hall published two texts titled *The Origins of Modern Science, 1300-1800* and *The Scientific Revolution, 1500-1800: The Formation of the Modern Scientific Attitude* respectively. In these texts Hall first coins the term complexity as a theoretical approach to the History of Science. As Floris Cohen tells us, for Hall "the pleasure of history lies in its endless variety, and the attendant bane in its equally endless complexity" (115). Though this approach very simply meant to look for deeper meanings of science in the Revolution, and better attention to a wider variety of sources, it has been grossly misappropriated. From Hall grew the current conception of the "complexity thesis" employed by so many practitioners of the History of Science, which is the epitome of that attempt to marry science with religion. Yet it is important that the books were both available, in fact made almost standard histories of science, by 1954—the year before Miller published the first version of *Canticle*.

There is no need to prove the direct influence of Hall's texts on Miller or to prove that Miller read them. It is enough to know that the ideas propounded in these texts became the dominant ones shortly after their publication. They form another context in which to view *Canticle*. When we examine especially the last section of the novel, then, we can see once again how farsighted Miller was. It is in "Fiat Voluntas Tua" that Miller

articulates his own version of the handmaiden formula conceptually, like the History of Science. We may read this formula most clearly in the interactions of Father Zerchi and the Green Star, especially Dr. Cors. Zerchi initially approves of them both as Dr. Cors “was a medical worker, not an executioner. Some of the Green Star’s relief work was admirable. Occasionally it was even heroic” (296). It is only euthanasia that Zerchi opposes as he is “subject to another law.” When a woman chooses euthanasia at the doctor’s suggestion, though, we find Zerchi is not so approving when he punches Cors. This act of violence, coupled with Zerchi’s rant against Cors and science in general at the end, show that Zerchi regards science in a truly Augustinian manner. Man ought to use science for its proper ends (to minimize suffering), but is ultimately beholden to a higher end.

Miller’s approach is therefore strikingly similar to that of critics in the History of Science that were to appropriate Hall’s ideas of “complexity.” Each is concerned with finding a common ground between science and religion, and both tend to criticize science that is not properly subjugated to religious ends, especially if we connect early Dark Ages to 1960’s, apology to history. Again, those working in the History of Science subjugate science *a posteriori* while Miller may much more flexibly position his subjugation in a potential future. Considering the similarity of these approaches highlights the need to examine *Canticle* from a historical perspective, as well as the need to be critical in that examination. We have, however, only scratched the surface of the historicity depicted and ignored in this novel, or its allegiance to established History of Science. A more in-depth, “complex,” analysis is the purpose of the following chapters.

The next three chapters will therefore consider each of the novel's sections in more detail, in addition to a fuller explanation of the historical situation on which Miller draws—and edits. We shall approach them in a linear fashion, though we must maintain the ability to jump between the novel sections and time periods in order to show a continuity of thought. Considering the terms as spelled out in this chapter, our working hypothesis will be that *Canticle* consciously positions itself in the Catholic, Christian community, advocating a religious control of science (a la Augustine), but that this position may also be deconstructed. We are somewhere between the two more popular critical approaches to this novel. More importantly though, it is through a consideration of history, as a malleable concept that is also political in a very real way, that we shall ultimately find a critical middle ground, a complex understanding of *Canticle*.

History is malleable and political because it can be and has been appropriated to concerted ends. Specifically, the discipline of the History of Science has recently created its own alternate history, which often bares a striking resemblance to Miller's depiction of science history, and that ultimately attempts to reinvigorate the handmaiden formula. In this similarity lie Miller's religious aims, to glorify the Catholic Church and to advocate its ethical control of science. It is in the marginalized history, the human victims of the science/religion debate, that we shall be able also to destabilize Miller's goals. Destabilization is possible in this context because Miller so clearly advocates a type of humanism, and because he tells us of his failed conversion. By using Miller's mirror we shall be able to comment not only on this novel, but the current state of history in the academy, as well as revive both that marginalized history and the "warfare" model so often, and so easily, dismissed.

The next chapter will begin with the “non-existent” Dark Ages and the deep rift formed between science and Christianity as the latter seeks to build a wall between itself and pagan logic. We shall then consider the legacy this rift leaves for the later revolution in science, again non-existent according to critics like Shapin. And finally we shall attempt to connect these time periods to the cultural moment in which *Canticle* was created. All of this, though, is the product of a complex analysis of that novel and its uses and abuses of history. Miller’s mirror, then, is first brandished as a mirage in the desert...

Chapter 2: Miller's Monsters

*We are losing, Hiero, slowly but surely we are losing...
Faith alone is not enough. Never was, for that matter.
Again and again in recent years, we have become conscious
of a will, or group of wills, working with the utmost secrecy
and determination against us.
Sterling Lanier, Hiero's Journey*

*This is why we need other proofs, other actors,
other paths, and is why we challenge those scientists.
Because we have other interests and follow other ways,
we find the myth of reason and science unacceptable,
intolerable, even immoral.
Bruno Latour, The Pasteurization of France*

If the last chapter developed the methodology with which we shall approach *Canticle*, and especially the reasons for following those methods, this chapter will begin to apply them. In order to use Miller's text as a mirror, we shall first elaborate current theories of the representation of history in literature, especially science fiction. As we shall find, critics from such diverse fields as literary criticism, philosophy and anthropology all contribute to making history a paradoxical topic in academic study. We shall then contribute to this paradox by elaborating the attempts to obscure historical violence in literary representations of science and religion.

To do this we shall elaborate on the topic of monstrosity in *Canticle*, a term whose exclusionary nature greatly problematizes the idea of peace between religion and science, especially in the Dark Ages as Miller reconfigures it. We shall also compare the desire to peacefully harmonize science and religion in the novel with the standard account of the Dark Ages given by most practitioners of the History of Science. The

similarities between these accounts and Miller's clearly spell out Miller's aims to harmonize science and religion. We may, however, deconstruct these aims by contrasting it with our own account of the Dark Ages, moments of conflict that are normally marginal to the History of Science. We shall also point out the representation of monstrosity, in the novel and without, that presents a challenge to interpretations of peaceful interaction. Miller's monsters, therefore, are the keys to creating a cognitive dissonance that allows us to properly complicate history.

“a noon beyond time”

Before we jump into *Canticle* and the history it presents, we ought to consider briefly the nature of current approaches to history in general, especially in the context of science fiction. In his *Archeologies of the Future*, an attempt to pinpoint the nature of humankind's desire for utopia, Frederic Jameson uncovers a problem in historical considerations of science fiction. He acknowledges, “the very paradox of time itself and what is in history called ‘transition’ and in narratology simply the event itself. The antinomies of cause and effect are today exasperated by the emergence of the notion of system” (87). This system, as it confounds cause and effect—even linear time—sounds remarkably similar to the complexity thesis we have already discussed. It is that ahistorical approach of those in the History of Science to present complicated, yet peaceful, interactions between science and religion. For how could a system be at war with itself? Complexity theorists will always attempt to deflate science in its attempt to marry it away to other realms (i.e. religion). These other realms, which include all the socially demarcated spaces where science may be found, are supposed to be science's system.

No one has done more to put science in its historical place, in a system that is, than “anthropologist” and science historian Bruno Latour (which draws special attention to Luckhurst’s choice of topics earlier). In his *Laboratory Life* he tells us of the social idea of scientific fact, or the

‘out-there-ness’ [which] is the *consequence* of scientific work rather than its *cause*...the outside character of a fact is itself the *consequence* of the laboratory work. In no instance did we observe the independent verification of a statement produced in the laboratory. Instead, we observed the *extension* of some laboratory practices to other arenas of social reality (182 original emphases)

In this statement Latour emphasizes his idea of “social construction” of facts. The idea is essentially of a system or network, one in which science relies on other arenas for its very work and likewise influences them.⁸ This is the now-popular idea of system to which Jameson refers. However, given Latour’s position as a theologically trained “anthropologist,” as well as his often heated criticism of science and modernity (see epigraph), we may see that the idea of system is infused with Latour’s (and others’) political program.

Jameson appears to acknowledge this program in his examination of the influence of Platonism (esp. the disparity between true knowledge and personal belief) on the History of Science. Thus he cites Alexandre Koyré, one of the founding fathers of the discipline, who proposed that “Galileo’s fundamental principle—the mathematicalization of nature—was based not on scientific knowledge, but was rather motivated by what we may call a philosophical opinion or Platonist ideology” (48). As Jameson spells out the “collective dimension” of ideology we begin to see how history itself resembles a system.

⁸ Compare this to Fernando Ortiz’s idea of cultural transfer, in which two cultures meet and are therefore both modified. The result is something akin to two hybrid cultures. Critics like Coco Fusco, on the other hand are critical of Ortiz insofar as both cultures do not change equally—cultural artifacts are appropriated by the dominant culture, whereas the subordinate culture has artifacts forced upon them.

In his configuration, when one introduces ideology to history, the system becomes simply whatever its current adherents want it to be. Jameson tells us

The more successful the historiographic construction—the conviction that everything is of a piece, that the relations between existences and facts are much stronger than their possible relationship to what is no longer and what is not yet, that actuality is a seamless web and the past (or tradition) a mere intellectual construct in the present—the stronger this case is made intellectually, the more inevitable is our entry into a Parmenidean realm in which some eternal system reigns around us like a noon beyond time... (89)

The History of Science, therefore, with its emphasis on the system, does not take a historical approach, but rather engages in contemporary (post-facto) consensus building. Furthermore, this consensus is inherently political in this case as it builds itself around one interpretation of science and religion.

However, we cannot see the political nature of such a posteriori construction of history until we view alternate history as alternative. That is, we must contrast with the accepted history of the system of those in the History of Science a history that is marginal, a history that we come to through our own intellectual efforts. It is not necessary to assert this history, “wie es eigentlich gewesen ist,”⁹ as factual, nor indeed as the only existing interpretation (this is the realm of religion itself). In fact, science fiction finds itself in the unique position to provide such an alternate history precisely because it is fictional and its possibilities potentially endless. Yet *Canticle* fails to take this opportunity, as does *Hiero's Journey*, *She*, *The Anubis Gates*, or most other alternate histories of the last century. In these stories, what we find is a history that is very much within the system, at least that system overseen by Science History. In the epigraph above, Hiero's abbot tells him that they are losing a battle, and that faith alone is not

sufficient to battle the “Unclean.” But we may read in this passage the aims of that novel’s author, Sterling Lanier, himself—that action must be taken against the technologically advanced “Unclean”—to write a history that is counter to technology. As his characters recapture technology in the form of a computer manual, religion (Hiero is an assassin for the Church) once again regains power over the computer, and they conquer where Miller’s monks have failed abysmally.

And yet while *Hiero’s Journey* ends differently than *Canticle*, we might also read Miller’s desire for a utopia in which science is once again handmaiden, especially in the first section of the novel. One might then consider “Fiat Homo” as Miller’s most idealized section. This would seem to make Jameson the perfect interlocutor, except as he divorces religion from the political. While he may anticipate Latour’s bias as “Religion was perhaps the most ancient organizing concept in the emergence of anthropology as a discipline” (95), he does not acknowledge the self-interest of such an “anthropological” approach to science. Latour is one such “anthropologist,” whose thoughts are turned to the favor of religion. Likewise for Jameson, religion and science are allowed to network and systematize. The resulting ambiguity, as we have seen, is the ahistorical history advanced by the History of Science as a discipline, and yet Jameson seems, in this instance, to approve of it. He says, “In SF, however, religion is a kind of mediatory space; it is the black box in which infrastructure and superstructure mysteriously intermingle and celebrate an enigmatic identity” (ibid). Thus, as noted before, Jameson is able to save a space for religion in science fiction by ultimately separating institution from political program.

⁹ Meaning, “as it actually happened,” this statement is Leopold von Ranke’s famous formulation that might help him to find the “hand of God” in history. See his 1824 book, *Geschichte der romanischen und*

Jameson puts himself in line with the History of Science, at least partially, in this action, even as he denounces the oversimplification of good and evil in science fiction. It is paradoxical that one could criticize the means by which an effect is obtained (that oversimplification in the name of complex system) and yet exonerate the political institution behind it. Yet the celebration of religion, of the mythic, occurs everywhere in science fiction criticism, despite the plea of Darko Suvin that the “cognitive,” Suvin’s synonym for the “science” part of science fiction, is opposed to myth.¹⁰ We may in fact see how a complacent attitude has become standard in science fiction criticism because of that very strong push to systematize. Robert Reilly explains how this phenomenon¹¹ becomes the dominant attitude today (within the context of science fiction) as “religion becomes institutionalized, the means of relationship passing from the individual into the hands of some special group, usually a priesthood” (3). Without speculating on who the priesthood of science fiction is, we may safely say that science fiction studies have entered the system of the History of Science.

In the course of our analysis of *Canticle*, then, we shall attempt to attain a view that is both within this system and without it. I have perhaps drawn some suspicion down on the religious motivations of the “system” itself, and no doubt face criticism for having a bias in favor of science. As a humanist, though, there is no vested interest for myself in the sciences. Nor shall I attempt to paint myself as a scientist, as Latour has done, to lend authority to an argument that seems to advance (or denounce, in Latour’s case) the scientific worldview. Rather, our analysis will be an attempt to reinvigorate a historicity that is sorely neglected in the academy today. The focus will thus be on history first, and

germanischen Völker von 1494 bis 1514.

¹⁰ See his essay, “Estrangement and Cognition” in *Speculations on Speculation*, ed. Gunn and Candelaria

only on science and religion in a secondary way, religion because it has a destructive effect on history and science because it seeks to preserve, as if in formaldehyde, that same history. We shall attempt, in short, to put noon back into time.

We shall do this in the next section by reattaching the political program to both the utopian desire as well as to that system of thought from which Jameson allows politics to be divorced. By fusing Jameson's consideration of time with someone like Giorgio Agamben's it is possible to recognize the political move behind abstract conceptual frameworks. Agamben even begins with the originary (sic) feature of politics, rooted in the classical Greek distinction between *bios*, or bare life, and *zoe*, or full life. Essentially, "bare life" is the Jew of the concentration camp that must be excluded from the Nazis' "whole life," their quotidian life (even as they are held within the bounds of the country), in order for them to attain utopia. They are reduced to bare life in the camp, while outside Nazi Germany enjoys full life.¹² In Agamben we may find in the simple act of exclusion the politicization of the idea—the political epistemology—that we seek. Jameson also alludes to this as he stresses the need for utopia to be closed to outsiders. Compare utopia to the History of Science, then, as Jameson says, "Totality is then precisely this combination of closure and *system*, in the name of autonomy and self-sufficiency and which is ultimately the source of that otherness or radical, even alien, difference" (5, my emphasis). The concept both Jameson and Agamben are dancing around is "monstrosity."

¹¹ To meld everything into a system. I mean this quite literally in the Kantian sense...

¹² This is perhaps a theme quite a similar to Ursula Le Guin's short story, "The Ones who Walk Away from Omelas" – I have elsewhere written on how that story is to be read ironically, but that the author urges a political reading. See "Utopia and Irony in Ursula Le Guin's 'The Ones Who Walk Away from Omelas' and Rodolfo Martinez's *El abismo te devuelve la mirada* " *Topic: The Washington and Jefferson College Review* 56 (2008).

“Monster” and “monstrosity” is indeed an “ancient organizing” concept itself in which we find the political *modus operandi* for closure of a system. It is also a fitting place to begin our examination of “Fiat Homo,” since so many have written on the grotesque or distortion, and since this section of the novel begins with a hazy distortion. Monstrosity is a term thrown around loosely in literature, but the meaning is often obscure. Take Victor Frankenstein’s creation, normally referred to as Frankenstein’s Monster, as an example. Is he a monster because of his bulky size, his grotesque, distorted and uncanny appearance? Or is it the political that makes him a monster? Is it that he repeatedly attempts to enter society, Victor’s family, the family of the cottage, and finally his own family with the creation of his bride? It is in fact the fear caused by this moment of his infiltration into the polity, the center of society, that makes him a monster in the oldest sense of the word.

Next in this chapter, then, we shall reinvest Miller’s terminology with some of the meanings that history has abandoned, epistemologies that the History of Science would rather see forgotten. Then we shall examine the nature of the History of Science approach, and Miller’s adherence to it, while comparing it to a more marginal history. As we shall soon see, in examining the marginal history and attempting to enter it into the debate in the academy we are, like Victor Frankenstein, creating another monster.

The doors of perception are closed

I have already cited the first two pages of *Canticle*, but I shall do so again in this context. When the “pilgrim,” who we later find out is the Wandering Jew himself, first appears on the desert horizon he has a “spine-chilling effect” on Francis. He also causes

“Francis to clutch the crucifix of his rosary and mutter an Ave or two” as he “seemed to writhe more than to walk into view” (3). Though we know this is a human from the beginning of the paragraph, Miller shows the fear that such creatures are capable of inspiring even in the faithful monks of Leibowitz. We find the basis of this fear is that the creature is walking during the hottest part of the day in the desert and that, “Only a thing monstrous, a thing preternatural, or a thing with addled wits would hike purposefully down the trail at noon this way” (ibid). Again, Miller introduces us to his future world by relaying our past world—one in which there are “monsters” again. But what is it about monstrosity that inspires so much fear in this recapitulated American southwest, in which the Church is again young?

One critic says of this novel that, “Miller’s use of the grotesque body is considerably more complex than just providing a physical grounding for monsters who function as threats” (Starr 138). Starr continues to reiterate his point that Miller’s aim is distortion of all the “categories of perception,” and stresses the fluidity of meaning throughout the text. We have already seen how this stance is also an attempt to evade a religious reading of *Canticle*, and so deliberately ignores an important facet of the novel. It is, essentially, an oversimplified analysis. Those “monsters that function as threats” may seem simple in the course of such a simplistic, or nihilistic, approach to literature, but they are much more complex. A monster that causes fear, especially in a character like Francis who lies at the center of the novel, is a fearful and complicated amalgam of the historical, political and the biological.

If we examine the term “monster” historically, we find its origin in the Latin “monere” meaning “to warn.” A monster, Starr is partially right to assume, is simply that

which causes fear in someone else, or that warns them of imminent danger. However, if we put this fear into the context of the novel, we may also view it as inherently political. Timothy K. Beal, in his work *Religion and its Monsters*, connects such monsters as are figured in the bible to colonial expansion to the present day. Thus he points out that “oriental” deities are often portrayed as monstrous in the west because they, “supply western culture with the projections of an absolute and homogeneous otherness, an absolutely not-us, against which it can locate itself with greater stability, homogeneity and purity” (116). Monstrosity is thus an act of exclusion that simultaneously seeks to fortify the boundaries of a community. Moreover, Beal correctly places the origin of the impetus for this action when he tells us that “this colonial discourse identifies the colonizers with the holy armies of God and the forces of light” (ibid.). The boundaries erected in the creation of monsters encircle a polity that is decidedly religious in nature. The concept of monstrosity locates itself in religio-politics.

Such politics also find their way into *Canticle*. Not only does Francis’ monopoly on the narration place his perspective at the center of the novel, but the Abbey itself, as well as the Church, have once again become the centers of “civilization.” In fact, the new Church capital has been brought to America and is now called New Rome—it is thus the new *polis*. As Francis muses on his vocation with the order he realizes it was the only choice for him since, on a contemporary map, the Church occupies those “crosshatched areas, which were regions—if not of civilization—then of civil order, where some form of lawful sovereignty, transcending the tribal, held sway” (56). Francis’s only other option was life as apprentice to a “tribal warlock,” from whom he would face death if he ever returned. Francis’s reason to fear is evident as his life is threatened, however, we

also begin to see that monstrosity is contingent on one's position outside the political center of the novel. At least in this first section, that center is occupied almost exclusively by the Church.

Francis is not alone in his fear, though, because the Church too is prepared for any violation of its boundaries—that is, any attempt by monsters to invade the *polis*. We find that, “If the nomadic infiltration in the far northwest threatened a Christian diocese, an encyclical letter might soon be read from pulpits far to the south and east, warning of the threat” (57). The fear inherent in this statement lingers throughout *Canticle* as there is continual fear of outsiders ransacking the memorabilia, as the masses would have done during the “simplification,” or the mass book-burning after the Flame Deluge. The “warning of the threat” in the above passage is the essence of monstrosity, linguistically speaking, while the term's employment in the service of the Church polity to secure its borders is its physical manifestation. When one compares this to the historical situation of Rome as the center of the early Church in our own history, as we shall do a bit later, Miller's use of the term “monster” begins to acquire more depth of meaning. Far from being a simple term, then, when one puts monstrosity into its political and historical context it is quite complex.

While the pilgrim proves himself in this chapter to be only a momentary threat of infiltration, he does lead to the discovery of the fallout shelter. Francis finds the blueprint here, as well as other artifacts pertaining to Leibowitz, that will eventually lead to the order's namesake being sainted at the end of “Fiat Homo.” This is important insofar as Francis makes the trip to New Rome to watch the ceremony and for an audience with the Pope, and is subsequently killed on the return trip. That he is shot by two of the misborn

makes his fear at the beginning of the section quite warranted. Here the fearful portent that is the “monster” is realized in the violent act that, before, Francis could only imagine. Miller thereby encloses the Church’s polity for them by giving weight and added meaning to the idea of invading monsters that was before only an idea.

One might make the argument that our conception of monstrosity, that it is geographically political, is undone because the murder happens outside of one of those “crosshatched areas” controlled by the Church. Even while bearing the *noli molestare*, the threat of excommunication to any who disturb him, Francis is killed. Thus the Church is not all-powerful in this Dark Age. Brother Francis even notices the false pretense of the Church’s power in his audience with the Pope. Amidst the pomp of the ceremony Francis finally “noticed the moth-hole in the Pope’s cassock. The cassock itself was almost threadbare. The carpet in the audience room was worn through in spots...” (112). One might seize upon this moment of disenchantment, indeed as other critics have done, as a further deconstruction of the terms the novel supposedly sets up. That is, some consider the Pope and the Church itself as equally grotesque as the misborn, and therefore as disruptive and destabilizing to meaning in the novel, especially religious meaning.

However, there is more to Francis’s surroundings at his audience with the Pope, namely the other pilgrims in attendance. These pilgrims include two bishops, but also a “clan chief of the forest people, converted but still wearing the panther skin tunic and panther headgear of his tribal totem” (109). Not only is this colorful figure in attendance, but he appears to occupy a special place as the Pope addresses him “with a peculiar hand gesture and a grunted word of the forest dialect which caused that panther-clad chieftain

to glow with a sudden grin of delight” (110). Then when the Pope diplomatically replaces the chieftain’s headgear to its place, “The latter’s chest bulged with pride” (ibid). We must wonder why the Pope gives such care and attention to the clan leader, when it is clear from the narrative that the latter is out of place there—that he is still monstrous. When the Pope turns to talk to Francis his speech changes to a more “curial manner” that we are assured he finds burdensome but necessary when talking to visitors “less savage than the panther chief” (111). What to make of the disparity between the Pope’s attention to the clan chief and the narrative’s harshness?

Surely we may understand the Pope’s affection for Francis as the Church “is a body, so has your Order [of Leibowitz] served as an organ of memory in that Body” (ibid). Yet the narrative is as harsh when treating the clan chief as it is discussing the misborn. The Pope is equally affectionate to those mutated from nuclear fallout, who he makes it unlawful to kill and who are therefore named the “Pope’s Children” or the “Pope’s Nephews.” One may read other motives in this action, though, because that which was “born alive was, by law of the Church and the law of Nature, suffered to live...The law was not always obeyed, but it was obeyed with sufficient frequency to sustain a scattered population of adult monsters” (4). Here the Church, in a foreshadowing of Zerchi’s encounter with Dr. Cors, has already claimed dominion over “Nature” or science. And thus the narrative reveals the true aims of the Church to extend its laws over all of “Nature,” all of mankind. In other terms, the Church is attempting to bring the clans, the misborn, and even science into its “system.” Like Agamben’s bare life, they must be excluded even as they are included, so that the nation state, the polity, may exist. Most importantly, such nation building is effected by creating monsters, and

therefore a climate of fear designed to draw the polity, the religious community even tighter together. Far from disrupting Miller's religious motivations, then, the Church's interactions with monsters only serve to reinforce the author's new handmaiden model.

Miller's aims are further reinforced when one considers the other terms he employs against those characters that lie outside the novel's center, its polity. Especially pertinent to the clan chief of the forest people is Miller's use of the term "heathen" because its original meaning is something akin to "forest-dweller." Its meaning is only later changed in the writings of the early Church leaders to mean one who is not a member of the Christian Church, and it becomes a derogatory term. We may then return to *Canticle*, just after the narrative reminds us of the Church's fear of monstrosity and how that "encyclical letter" might spread the news of infiltration so quickly. This letter gives a call to arms in which:

'men of any station, so long as they be skilled at arms, who, having the means to make the journey, may be piously disposed to do so, in order to swear fealty to Our beloved son, N., lawful ruler of that place, for such period of time as may seem necessary for the maintenance of standing armies there for defense of Christians against the gathering heathen horde, whose ruthless savagery is known to many...' (57)

This call to arms specifically excludes those non-Christians who pose a threat to the Church, and extends that threat to the physical polity that the monster represents onto a conceptual framework (an abstraction). That is, a monster is a physical, even biological, threat to the *polis*, whereas the heathen, at least epistemologically speaking, only poses a conceptual threat.¹³

¹³ Think, for example, of "Birnam Wood come to Dunsinane." It is not literal but figurative encroachment of the forest and the heathen into the city and Christian. Of course, Shakespeare complicates the dichotomy for sake of irony, but the comparison is still demonstrative on a figurative level.

There is a fine distinction, then, between the two terms, “monster” and “heathen,” but in this first section of *Canticle* in which the *polis* is inseparable from the Church, the terms are nearly indistinguishable. Each one, too, in the context of the novel may be used for the misborn and so continues to represent the desire for the Church to extend its dominion over “Nature.” What is even more telling is the decidedly military nature of the response of the Church to infiltration. In Miller’s depiction of early Christianity, there is no turning of the cheek, but the Church means to maintain its grasp on the outlying monsters and heathens (and by extension science) by raising its own army. We must, therefore, conclude that the interactions of religion with the world outside the abbey’s walls are warlike, and that tied up in this war is the concept of the “law of Nature.” In fact, from the perspective of the Order of Leibowitz, the real threat from the outside masses is their potential destruction of the memorabilia, the last repository of science. That Miller repositions the Church as the protector of science and the non-Christian as the greatest threat to science is his own reversal of history and is unable to hide the fact that the Church is truly militant.

The history of another term, used repeatedly in the novel, reinforces the warlike nature of the Church’s impulse to police its borders. Among the items Francis recovers in the fallout shelter are “small tubular things with a wire whisker at each end” and the novice remembers having “seen a shaman of the hill-pagan people wearing a string of them as a ceremonial necklace” (26). We later discover that this is a memory from his childhood as he was “Utah-born,” and originally destined to be a shaman’s apprentice. He describes his fear at returning to Utah, not just because of the “grisly tribal ‘justice’” he would face, but also because it would mean leaving his status as a member of the

educated elite behind. After all, he “suspect[s] that God as well as Nature had beckoned him to become a professed monk of the Order” (56). To return to the hill people, the pagan, is in Francis’s eyes to also go against Nature.

The narrative’s original use of the term “pagan” above is fitting as it merely describes the tribal society that lies outside of the cities, the rural areas of the novel. The term’s Latin root, *paganus*, originally meant “country-dweller” or “rustic” and distinguished those who lived in the hills around Rome to the higher society of the metropolis. It was also used to distinguish the members of the Roman military, *milites*, from what we would think of today as “civilians.” That it is a military distinction is important since Francis even uses it to exclude the Utah people from Nature, the proper dominion (in Miller’s reckoning) of the Church. Furthermore, we have already seen what happens when outsiders attempt to encroach upon the Church’s dominion over that Nature and to the abbey, this equates to a threat to the memorabilia. The Church and abbey turn from pacifist preservers of science to impassioned and militant defenders of Nature.

In the context of the novel, then, “paganism” equates to monstrosity as it again indicates the people who pose a threat to the Church. This is an especially fitting use of that term on Miller’s part as, historically speaking, the meaning of the term is modified by early Church apologist Tertullian. While we shall discuss this at more length later, it is important at least to know that Tertullian appropriates the term in his “De Corona” to designate those not “enrolled in the army of Christ.” The term engenders the very warlike nature of the Church’s response to outsiders, and what is more, this war is centered even in the novel around the concept of Nature and Natural law. Even as Miller

reverses the history of the Church's reaction to science, making it the peaceful benefactor, he is essentially attempting to reverse distinctions made two thousand years earlier. Tertullian rewrites the meaning of a "pagan" word, but appropriates it to his own end. In this sense, his action is an important foreshadowing of the handmaiden formula. Miller, likewise, attempts to give us a world in which religion "supports research and the learning of science until science itself chooses to be directed by immoral powers" (Anderson 285). He will fail in this attempt precisely because we can deconstruct terms such as "pagan," and see that even in the first section there is an innate hostility toward science, and indeed any non-Christian person or concept.

Using the terms monster, heathen and pagan, a list to which we might add barbarian,¹⁴ savage, etc. ad nauseam, Miller clearly defines the early Christian communities figured in his Dark Ages against outside forces. However, as the concept of Nature gets wrapped up in this distinction, along with the remnants of science in the memorabilia, we begin to see the aptness of the conflict model of science history. As a pagan concept, natural philosophy drew much suspicion and hatred from most of the early Church writers. However, they were not averse to appropriate certain concepts as it suited their own ends, as Tertullian's use of "pagan" demonstrates. As Beal tells us, such appropriation has the added benefit of giving religious authority the ability to interpret philosophic concepts for its community—to censor them. In fact they must do this because:

Making enemies into monsters is a kind of conjuring, and conjuring is always anxious and risky, because it is always more than one bargains for. To make another nation into a monster does more than simply mark it as a clear enemy...such conjuring also endows the enemy with a kind of supernatural,

¹⁴ From Latin "barbaricum," again meaning an outsider within Rome, essentially one who has already infiltrated.

primordial, mysterious otherness, an agency that resists being reduced to an easy target (33).

To avoid such power, Miller, through Francis and the abbey, seeks to appropriate the concept of science entirely and reposition it under the watchful eyes of religion. Thus we return to the ideas of that other early Church father, Augustine, who also advocated appropriation. Similarly to Augustine as well, though, what the Church in *Canticle* is unable to appropriate it must condemn and exclude from the polity. We may therefore relate Miller's aims back to both Agamben's concept of bare life and Jameson's desire for utopia.

In Agamben's conception of the camp, the prisoners are reduced to bare life and enclosed, while the outside world enjoys a certain utopia at their expense. Miller, however, advocates a utopia in which science is used only to proper ethical ends within the confines of the Church. Bare life, the monsters and pagans of this first section, is locked from an enclosed utopia, despite the fact that Francis was able to cross that boundary. These boundaries again relate to what Jameson tells us of the propensity for utopias to enclose themselves. He cites the closure of More's utopia in the act of digging a trench. Surely this is meant to keep in what is appropriate to the utopia as well as keep out what is to be excluded. In the case of *A Canticle for Leibowitz*, the Church is the institution that gets to draw the line in the sand, what Agamben would call the sovereign, and from our above analysis of the terms it employs against the excluded, it is decidedly hostile to any who cross that line.

Actually, this assessment of Miller poses some problems to Agamben's philosophy. His use of epistemological distinctions and the demonstration of how they infiltrate into politics resemble what we have done above with regard to monstrosity.

First he points out that, “[The structure of human language] expresses the bond of inclusive exclusion to which a thing is subject because of the fact of being in language” (21). Certainly we see the relevance of this type of exclusion in relation to monstrosity. However, Agamben’s words acquire their full potency when he discusses the liminal status of the Anglo-Saxon term *wargus*, or wolf man. This term denoted an exile or criminal whose exclusion from a community was enforced on pain of death and who was, in fact, a Germanic continuance/equivalent of the Latin monster (not linguistically, but conceptually). Both terms indicate, “a threshold of indistinction and of passing between animal and man, *physis* and *nomos*, exclusion and inclusion” (105). In fact, this instance of the *wargus* reduced to bare life may echo the passage of the pagan (outsider) to barbarian—still an outsider, but geographically located within the polis. However, Agamben would find fault with this correlation because it places religious institution in the place of sovereign, or the (also excepted) source of the decision concerning exception, or who/what is to be reduced to bare life.

Agamben traces the sovereign to the feudal king, he that lives in the tower that overlooks the village, at once a part of the community and separate from it. This sovereign alone decides on the state of exception. Of course, Agamben recognizes that in the twentieth century such a feudal situation does not exist, and so posits that the people, or the nation, have replaced the sovereign. We, the community, exclude the *homo sacer*, or bare life or monster, by communal decision. For the most part, Agamben does a good job of exploring the implications of this exclusion in an unbiased way telling us that, “[*homo sacer*] has been excluded from the religious community and from all political life” (183). At the same time, he gives detailed accounts of atrocities committed in Nazi

concentration camps in the name of scientific research. In other words, he rightly recognizes the complexity of the situation of the sovereign and the source and implementation of his¹⁵ power. However, Agamben has great difficulty in his historical account of the evolution of this power—he does not fully connect it from one situation to the next, like Jameson leaving his ideas in only a nominal form.

If “biopolitics,” as Agamben calls his structure of power, concerns all aspects of a given culture—religion, science and state—then why does he fail to connect historical moments of sovereign decision together? He uses an ancient Greek linguistic distinction as a philosophical paradigm, but applies that paradigm only selectively. At one point he tells us, “the river of biopolitics that gave *homo sacer* his life runs its course in a hidden but continuous fashion” (121). However, Agamben does not entirely demonstrate the continuity of biopolitics. Instead, he uses the Nazi concentration camp as an example of biopolitics that he relates cursorily to current political and cultural situations, such as the growing population of refugees worldwide.¹⁶ Yet he often overshoots the mark in his claims about history. For example, he discusses the mass denaturalization and denationalization of entire segments of the population, such as was inflicted upon Jews and Gypsies by the Nazis. Later, though, he says, “The first introduction of such rules into the juridical order took place in France in 1915...” (132). Surely there were earlier instances of such an action by a “juridical” institution. What reason might Agamben have to make such a claim? Is it because the most obvious historical example of such an

¹⁵ Apologies, but Agamben only ever refers to the sovereign as a masculine source of power.

¹⁶ The idea of the refugee exemplifying “bare life,” or an excluded insider, is an intriguing one. The recent film *Children of Men* (2006) develops this idea in a startling way. Historically speaking, of course, everyone is refugee and so Agamben is quite right to except each member of any particular nation. What one finds striking in *Children of Men*, though, is the revival of devout religion in support of the refugees. It plays a nice counterpoint to the work of missionaries in nearly every war-torn corner of the world today,

action is the Spanish Inquisition and the preceding political banishment of Jews and Muslims, converted or not?

In fact, like Miller, Agamben is quite evasive of the link between religion and sovereignty, which accounts for the myopia of his historical vision. At one point, he is even so bold as to tell us that, “The proximity between the sphere of sovereignty and the sphere of the sacred...is not simply the secularized residue of the originary religious character of every political power, nor merely the attempt to grant the latter a theological foundation” (85). He essentially denies what we have shown above in the link between religious power and exclusion in the creation of monsters. Instead, his conception of this power concerns only the political, and he limits the political to state power and nationhood. If one allows, however, that religious institutions hold immense political power and are, in fact, political institutions in their own right, one begins to see how sovereignty (in relation to biopolitics) persists in much the same form at various points in our cultural history. Such form is not only apparent at a moment like the Spanish Inquisition, but also at later times like the systematic extermination of American tribal nations in the name of religion, first Catholic then Protestant. One might also see the relevance of biopolitics in the Dark Ages, when the various churches of Europe first began to resemble juridical institutions as excommunication evolves.¹⁷

We return now to our earlier question: Why would Agamben distort history as he does, to focus solely on the concentration camp? He answers this question decisively at one point by reminding us that Nazism “did not limit itself to using and twisting scientific concepts for its own ends. The relationship between National Socialist ideology and the

working to simultaneously feed and clothe as well as proselytize and perpetuate religio-political sovereignty into centuries to come.

social and biological sciences of the time...is more intimate and complex and, at the same time, more disturbing” (145-6). Despite the fact that he acknowledges the religious rhetoric used to apologize for the deaths at various camps such as *Erlösung* (redemption) or *Gnadentod* (death by grace), Agamben paints the Nazis as a techno-political regime. I shall not here attempt to point out the various inaccuracies of that conclusion, but merely reiterate that Agamben evades signification of these events based on their religious origins, the granting of redemption from sovereign to sinner, and leaves the blame almost entirely to science. He would, in a manner very similar to Miller’s, prefer to ignore the means by which such horrible actions (i.e. of the camp scientist) are excused and focus on the methods in which they are performed. Given his participation in such a continued act of religious apology, he is in fact writing a utopia or science fiction work every bit as much as Miller or many other Golden Age science fiction authors.

To return to that genre, then, it has become very confusing why Jameson would consider religion a “mediatory space” within science fiction, especially in the context of the split between science fiction and Fantasy. This is not true in the context of Agamben, *Canticle*, nor in a slew of other science fiction novels by highly regarded authors like James Blish, Manly Wade Wellman, Theodore Sturgeon, etc. Religion, especially as it interacts with science is much more akin to Jameson’s idea of utopia as an “amateur activity in which personal opinions take the place of mechanical contraptions and the mind takes its satisfaction in the sheer operations of putting together new models of this or that perfect society” (35). In this conception, we at least find that fear of science that religion replaces with personal belief in the creation of its perfect polity. We may then refer back to what Starr said about *Canticle*; namely that all of the “categories of

¹⁷ We shall return to biopolitics when we discuss excommunication in more detail in the next section.

perception” are distorted. Clearly there is a desire in this novel to bring science under the control of religion, and while one might deconstruct the means employed to do so (as even I have done in this chapter), they remain the novel’s aims. Just as religion in *Canticle* tries to close its doors to monsters and pagans (as well as any unorthodox science), Miller also attempts to close the doors of perception—to make this version of history the “true” version.

Miller’s creation of a potential utopia around religiously-controlled science, however, is modeled on a past. Certainly, he distorts that past, but no more so than any practitioner of the History of Science would also attempt to do today. The very moment I write these words, someone in a History of Science department is doing precisely what Miller does—painting religion as the peaceful benefactor of science in the Middle Ages. What is more, their brush strokes are thicker and defter and threaten to paint over the “doors of perception” entirely. Later, we shall attempt to counteract this destructive process, at least within the purview of this novel. First, though, we shall consider the similarity between the History of Science approach and Miller’s approach to the interaction of science and religion in the Middle Ages.

A discouraging contribution

New Rome in *Canticle* is Rome only in name. There is little left of the ancient city of the wolf twins, except that it is still the seat of power for the Roman Catholic Church. And still the text recreates only a shadow of the control exerted by the Church to unite various feudal kingdoms. Miller’s patristic period draws much on the history of the Church after the fall of the Roman Empire, when its dominion was disjointed except for

the tiny thread of religion holding the Empire together. One might see this push to unite in the text's description of Pope Leo XXI, "Whom alone, God did appoint Prince over all countries and kingdoms, to root up, pull down, waste, destroy, plant, and build, that he might preserve a faithful people" (110). This description of the Pope as destroyer contrasts to the actual figure's gentle demeanor; and the rest of this section portrays the Church as the sole means of communication, transportation, etc. between the various less civilized areas. Communication, the novel suggests, is the key to beginning civilization that New Rome has brought to the savage outsiders.¹⁸

Likewise, those in the History of Science discuss, as I already noted, the innovations of a period that supposedly should not be called a Dark Age. However, these innovations, while of a technical nature, are apparently not of a scientific one, because science did not exist. For example, we are told that "we must continually remind ourselves that 'science,' 'Christianity,' 'theology,' and 'the church' are abstractions rather than really existing things" (Lindberg 58). While the point is well taken that we ought not to reify certain terms in our discussion of this time period, statements such as this also raise all discussion to a level of abstraction. We have already seen how this may eventually be used to remove agency from decidedly political institutions. The other most popular strategy to "complicate" the issue in this period is to deconstruct "science" altogether. Thus we find, "There was nothing in the medieval period corresponding even approximately to modern science" (ibid). *Canticle* seems to adopt this statement most fully as only documents are rescued, but understanding of them is lost.

¹⁸ This is a point that L. Sprague de Camp drives home in his novel *Lest Darkness Fall*, a novel that at least attempts a little more detached view of history...

And yet we find that in the middle ages, the term “middle sciences” was used to denote fields of inquiry like mathematical astronomy or geometric optics. The Latin term *scientia* is used in this context. Edward Grant rightly reminds us that, “Contrary to a commonly held opinion, the word science was not first used in the nineteenth century but was first employed, in a limited sense and in its Latin form in the late Middle Ages” (Grant 21). This may seem a stark contradiction of Lindberg’s above statements, but it is still a very guarded disavowal of the traditional History of Science *modus operandi*. Science, to Grant, is only present linguistically speaking in a “limited sense” in the Middle Ages. The concept of science is as fully deconstructed here as it is in Latour (esp. see his *We Have Never Been Modern*). This may be why, in *Canticle*, science is only a concept hovering in the background of the action, a word always used in the context of the memorabilia. On a larger scale, though, there are more implications for this mode of criticism.

It is interesting to note that most critics in the History of Science spend considerable time deconstructing the notion of science, and little with regard to the idea of religion or especially Church. This is probably due to the fact that science was without a clear institution in the Middle Ages, and in a lot of ways continues to lack a clearly defined space in the 21st century. The Church, on the other hand, was a much more clearly defined corpus, in fact, political institution—especially from the fall of Rome to the Reformation (over a millennium). Miller certainly acknowledges this fact. The bulk of the action in that novel occurs within clearly defined walls, outside of which only death awaits the faithful. One might be confused, then, when confronted with more blanketing statements such as, “the interaction between science and religion in the

Middle Ages was not an abstract encounter between bodies of fixed ideas but part of the human quest for understanding” (Lindberg 59). In this statement we see the movement from deconstruction of terms to the depiction of that interaction as collaborative and peaceful.

Thus science is usually demoted to Natural Philosophy in the Middle Ages, and this in turn helps those historians from History of Science departments to peacefully marry scientific and religious pursuits into one common cause. It is important to note that there is no one standard chronology regarding the end of Natural Philosophy and the beginning of “modern science.” Some histories of science would place this movement in the Copernican Revolution, while others would wait until Newton or the early nineteenth century. Miller gets around this problem by simply sidestepping the issue altogether and portraying a complete lack of science or even Natural Philosophy in his Dark Ages. Yet if we were to return to *Canticle* we would still note the disparity between the depiction of the Church in that novel and the one given by the History of Science. Considering our previous analysis of “Fiat Homo,” the Church has marked out a clearly defined space, as well as outsiders to that space, monsters.

Those working from within the History of Science, on the other hand, would not want the Church so clearly delimited simply because by leaving it a conceptual ambiguity they support the claim for peaceful interaction. We may speculate on this impulse for a moment, as an a posteriori desire for utopia itself. As already noted, Floris Cohen stressed the religious bias of Pierre Duhem’s original “continuity” thesis. But perhaps the impulse is much less concerted than that, and critics are merely attempting to sublimate much of the historical violence in order to give meaning to it. Surely, in Jameson’s

consideration of utopia, the History of Science as a discipline displays many aspects of the utopian program. Perhaps, even simpler still, the motivation to find peaceful interaction is not so obscure. Certainly the fact that the Templeton Foundation gives a million dollar prize to the most prominent scholar, whose conclusion must be similar to Lindberg's above, is incentive enough for many.¹⁹ Even the utopian desire for this type of world made Miller a famous writer.

To return to the depiction of religious institution, then, the lack of delimitation in History of Science accounts does seem strange when set next to *Canticle*. It is important to remember, however, that even that clear religious institution in the novel only interacts with "science" in an indirect way. We must almost read between the lines as we did above with regard to monstrosity, paganism, and Nature. I wholly cede that science or Natural Philosophy is a difficult thing to distinguish in this era, and that this may account for the difficulty in recognizing a clear interaction. Yet the Church is not so diffuse throughout society. There is a much clearer institution, as *Canticle* reiterates, and so we may find a much more standard attitude within that institution. This is not, however, the conclusion to which practitioners of the History of Science would come.

The early Church's interaction with science must be seen in the context of broader cultural interactions. This is done equally by Miller and most critics in the History of Science as they both examine the overall attitude of early Church to pagan culture in general. Thus science is only one facet of pagan culture that early Church leaders address. This brings us back to Tertullian, who in the late second and early third centuries set the stage for much of the subsequent thought on pagan learning. The

¹⁹ John Horgan and Richard Dawkins have both noted the effect of monetary donations on scholarship around this issue.

consensus in the History of Science, though, is that his rants against paganism, especially those regarding science, have been taken out of context and inflated. Lindberg tells us that, “Though superbly educated, Tertullian has been presented (through selective quotation) as radically anti-intellectual” (Lindberg 59). The truth, we are told, is that Tertullian is not representative of the early Church’s attitude as a whole.

In fact, many historians point out the influence of pagan philosophy on Tertullian, something that cannot be denied. Grant tells us very matter-of-factly that, “Despite his assault on philosophy and philosophers, Tertullian was influenced by Stoic philosophy” (104). Now we must return to that idea of the two-way transfer of culture, whereby one culture does not so directly dominate but rather both affect and modify each other. This idea, which I put in Fernando Ortiz’s terms, is not new but certainly has much to do with Duhem’s idea of continuity. In that sense, it is no surprise to find scholars even in 1949 saying quite the same thing, that although, “Tertullian is not of the party of the reconciliation, he will show that in practice complete separation was next to an impossibility” (Ellspermann 23). The typical approach to Tertullian, then, is that while he exhorts against paganism and the pagan, he is unable to do so without employing pagan rhetorical strategies. In fact, this approach is applied sometimes to early Christian apologetics in general. However, Tertullian, more often than not, is considered an “unusual personality” (ibid.), and not entirely representative of early Church thought.

If one takes a moment to consider the popular approach to Tertullian, though, that he appropriates pagan culture even as he condemns it, one might realize just how similar this attitude is to Augustine’s handmaiden formula. What I suggest is that there is a continuity (to borrow a History of Science terms) between Tertullian and Augustine.

And certainly there is some continuity (or contingency?) between these writers and *Canticle*, even with regard to science's place in the background of the struggle between Christian and Pagan. As in the novel, "the remarks of the Christian Latin writers, both adverse and favorable, principally revolve around their expressed attitude toward poetry, philosophy, and rhetoric" (Ellspermann viii). Natural Philosophy, or science, is only a small part of the above philosophy in general, though we do find reference in Tertullian's *Ad Nationes* to "^d<expe>ditis uidemus <p>hysicum," or a physical class of philosopher, who is roundly condemned for his heresy of making gods of the elements (i.e. creation). We must in the rest of cases deal with attitudes toward pagan knowledge in more general way.

Thus for Tertullian, pagan philosophy must be measured by its usefulness in a Christian context. As Ellspermann tells us that in Tertullian's outburst against pagan philosophy, "one must be careful to note that there is an expressed attitude of condemnation, not of all sciences and arts, but only of that false philosophy which was the mother of heresy" (41). And yet in terms of a cultural study, all that this proves is that Tertullian was willing to appropriate from pagan Greek and Roman culture if the artifact (such as pagan rhetoric) suited his purposes. With regard to that willingness to appropriate pagan culture, there is virtually no difference between Tertullian and Augustine in this regard. In fact, Grant admits that "Augustine's sentiments about pagan learning were rather common among more learned Christians" (113). To Grant, Augustine only "endorses" the handmaiden formula, the same that Tertullian uses over a century earlier.

Whoever originated the concept of science as handmaiden, the important part of our analysis is the continuity between Tertullian and Augustine. To someone working in the History of Science like Grant, these apologists equally contributed to making pagan science and philosophy respectable, “where these were thought to contribute to the advancement of Christianity” (114). Yet they are also of one mind regarding that science that did not contribute to the Christian community—they criticized it, often vehemently and violently. In the case of either of these thinkers, science that was not conducive to Christian thought and hegemony was linked intrinsically to heresy. We will discuss in the next section the consequences of that connection. More important for now is that the criticism launched at pagan science is diluted in standard History of Science to mere disagreement or discouragement. Thus we are told that, “Although these early Christian thinkers discouraged the study of Greek pagan thought for its own sake, they made a significant contribution [to science] nonetheless” (ibid).

When stressing continuity between the apologists, then, we may extend that similarity of thought to the first section of *Canticle*, as it reiterates the words and warnings of such thinkers as Tertullian and Augustine. Miller has attempted to simplify the situation by making the Order of Leibowitz the only repository of science left to the world. There is no need to even comment directly on science in this first section since the Church’s appropriation of it is complete. The Church must, however, separate itself off from a place where the principal industries “were hunting, farming, fighting and witchcraft—the last being the most promising ‘industry’ for any youth...having in mind as primary ends, maximum wealth and prestige” (56). Science is equally non-existent in this time period because no one is capable of understanding the memorabilia. *Canticle*,

considering the Church's status as educated elite as well as the apparent lack of science, bears a striking resemblance to the history of the early patristic period painted by the History of Science.

The similarity of Miller's account to that of the History of Science is most apparent, however, in the description of the Simplification. It is at this time in the history of the novel "when remnants of mankind had torn other remnants limb from limb, killing rulers, scientists, leaders, technicians, teachers and whatever persons the leaders of the maddened mobs said deserved death" for their involvement in the Flame Deluge (63-4). Here we see the improper ends to which science was put, the Flame Deluge, and the atrocities that result from such abuse of knowledge. More importantly, though, "To escape the fury of the simpleton packs, such learned people as still survived fled to any sanctuary that offered itself. When Holy Church received them, she vested them in monks' robes and tried to hide them" (64). Thus like the History of Science account, the Church becomes patron of the sciences, not through a cultural appropriation, but because of the atrocities, or heresies, of the outside world. Compare this to the contributions made to science in the History of Science accounts by Tertullian and Augustine .

Then, from the scientists hidden in monasteries, including weapons specialist Isaac Edward Leibowitz, the Albertian Order of Leibowitz is created and named after Albertus Magnus. Albertus Magnus was a 13th Century theologian who demonstrated how to "understand Aristotle's books in a *proper* manner" (Grant 187, my emphasis). Bearing the name of this "patron of men of science" the Order of Leibowitz was charged with "preserv[ing] human history for the great-great-great-grandchildren of the simpletons who wanted it destroyed" (65). At the risk of torture and their very lives,

these “bookleggers” committed volumes to memory and protected them from the mob, perpetuating science and other studies through the rest of the “middle ages.” Thus the outside world is incapable of caring properly for its learning, so the task is carried out by the Church. In Grant’s terms, these “early Christian thinkers” made their own “significant contribution” to natural philosophy and science. Miller has, to all extents and purposes, written what appears very similar to a standard History of Science account.

Miller adheres, and quite faithfully, to the representation of early Church fathers as benevolent patrons of science. In casting it with human characters, and staging mass homicide, he only makes these patrons more endearing to the reader. But I mentioned cognitive dissonance with regard to this science history à la Miller. From that earliest moment of “Fiat Lux” and the threat that the monster in the distance poses to Francis and the rest of the Church polity, one might read another version of history. Even while examining the relatively late middle ages (the time, say, of Albertus Magnus or his pupil Thomas Aquinas), one might alternately notice the very real obstacles the Church gave to scientific endeavors and the human lives lost in the ensuing struggles. In this account, it will not be the mindless mob of heathens that takes the lives of the scientists and attempts to extinguish scientific work, but rather the political force of the Church throughout the middle ages. In the next section of this chapter, therefore, we shall consider a history that neither Miller nor the History of Science would like to recognize or remember.

Dissidents and dissonance

Even if we view Tertullian’s remarks as decidedly hostile as they were, we can still cede complexity regarding this apologist. If one puts Tertullian into the context of

the second and third centuries CE, his remarks seem almost inspired by fear since Christians were still persecuted for their beliefs and in many cases faced death for them. If this exonerates Tertullian even slightly, though, it also serves to further indict Augustine; not to mention the approach of the History of Science historians who favor Augustine's supposedly more peaceful attitude toward science. We have already traced the similarity between these two most well known early Church leaders, including their common hostility. We must acknowledge at least that Augustine and Tertullian equally denounce that science which is not useful to the Christian community—they even use the same derogatory term for such science, *vana curiositas*.²⁰ Context does not help Augustine, though, because his writing comes after the Roman Empire has adopted Christianity as the state religion.

When Augustine says of the mechanical arts for example that, “Now of these arts a very superficial and cursory knowledge is to be required [of students], not with a view to practicing them...but with a view to forming a judgement about them” (qtd in Ellspermann 178), Tertullian's excuse is not apt since the religious guard has changed. What is the importance of Christianity's status as a state religion? Ellspermann cites the Roman adoption of Christianity as the moment “when the Church was finally victorious over paganism and when she was mistress of her own destiny” (3). The result of the Church's victory over paganism is, simply put, the legalization of what was before only a radical cult. Yet legalization can have multiple meanings and each one is fitting to the process the Church would undergo over the next millennium of becoming a political, bureaucratic institution.

²⁰ See again Tertullian's *Ad Nationes* or *To the Nations (Gentiles)* as well as Augustine's *On Christian Doctrine*.

After Constantine's conversion, then, the Christians found their destiny, and that of others, in their hands because of their newfound status as legislators. We find, for example, that "Christian Bishops and legislators indirectly confronted [other mystery cults] when they outlawed sacrifices and magical practices, but they justified this legislation in terms of its potential impact on an individual's beliefs" (Ando 175). In short, the Church becomes not just a vessel of religious beliefs, but also a political force with the power to inflict those beliefs on others on pain of death. The result of their political actions directly affected pagan science and natural philosophy, and certainly not in a benign or benevolent fashion as those in History of Science departments would like us to believe. The effects have been summarized as follows:

At its worst, this politicizing of religious issues produced a climate of fear in which people shunned pagan learning as well as pagan practice. During the witch-hunts under Valens at Antioch, men throughout the east burned their entire libraries rather than be caught owning improper books (177).

Furthermore, where Tertullian could have only hoped for such a result, Augustine openly condones it when he says, "it is well established that it has benefited many to be compelled initially by fear so that later they might learn" (qtd in Ando 177, Epistle 185.6.21).

Timothy Beal, too, acknowledges the political actions of the early Church as it makes monsters to shore itself up against other early competitors, and connects it to even modern monster making. Thus he tells us that, "In the Roman Empire, the religion of Dionysus was a prominent rival to an emerging Christianity, and Christian tradition has never quite forgotten that rivalry" (128-9). He then connects the Othering of Dionysus to the Victorian monster Dracula saying, "Dionysus thus provides yet another screen for projecting Dracula as an image of monstrous religious otherness" (129). Where

Agamben is unable to connect twentieth century monsters to their original cultural context, Beal does so quite clearly. Yet if he is so easily capable of relating Dracula to religions excluded by the early Church, is it not possible to relate the kind of monstrosity that we find in *Canticle* to the lingering suspicion of natural philosophy and science that remains in the History of Science's products to this day?

By perpetuating a fear for his own life and well being in the outsider as well as fear of the monstrous pagan in the Christian the Church sought to solidify and expand its boundaries. That initial landscape of *Canticle*, dominated as it is by Francis's fear, then becomes the site of our initial and continual dissonance. Because Miller employs terms such as "monstrous," "heathen" and "pagan" so frequently, the reader may become confused as to which history he/she is reading. Miller would have us believe that Francis's fear is warranted because there are very real, disfigured humans wandering the desert that would kill him or even worse, destroy the memorabilia. Yet we are also aware that the Church is a law-giving institution in this new patristic period. Are not the misborn suffered to live "by the law of the Church" (4)? Since we know that the historical Church abused its power and itself created the climate of fear, we are able to begin to deconstruct Miller's history.

One might also note interesting disparities in the description of the Simplification. Amidst the mob's mass murdering of scientists the crazed also find time to make sure such knowledge as these scientists possessed is not passed down to future generations. After the Church takes in science, both its practitioners and its texts, we are told that "Monasteries were invaded, records and sacred books were burned" (65). In Miller's version of history knowledge is not edited for that which is conducive to Christian

doctrine, but all of the world's "cultural inheritance" becomes the charge of the Church. In our more marginal history the Church acquires a new power as the editor of just that cultural inheritance, because a few centuries after the fall of Rome they are the only institution left with vellum. Though Susan Spencer only hints at this fact, her words do resonate with those of Augustine as he tells us pagan science is to be avoided. In an age when copyists, like the bookleggers, are the only means for transmitting "cultural inheritance," if this profession (nearly alone in its literacy) avoids pagan texts they will be, and have been, lost to memory.

Dissonance in this case is caused by Miller's extension of the Church's benevolent boon to **all** the world's texts, not just those approved by mother Church. Yet there is also an interesting difference between Miller's account of book burnings and our more marginal one. In *Canticle* it is the mob driven mad by the Flame Deluge that seeks to burn books while the Church tries to protect them. And yet from Ando's description, we get a different picture of the Church abusing its power and persecuting those caught in possession of "improper books." But, one might reply, that was only in the one specific example of the witch hunts at Antioch and one cannot extrapolate from that single event. In fact, what the History of Science does is extrapolate from the warm reception pagan thought receives in limited circumstances (i.e. when it suits the Church's needs). Also, Miller's alternate history is clearly extrapolating on the same theme of the Church's protective role in the scientific culture of the west. It might be forgiven, then, if we extrapolate our history from this one event and say that the Church was instrumental in the suppression and destruction of any culture that did not suit their ends.

In fact we find that we do not need to extrapolate, because the actions described by Ando are only the beginning of a tradition in the Church of suppressing texts. And here we might connect the beginning of the middle ages to the end, even within the purview of the novel, since the most famous of the Church's suppressive acts comes to light during the Spanish Inquisition. I refer of course to the list of books banned by the Church, *index prohibitorum*, which actually existed long before the Inquisition in Spain, as did the legal process known as *inquisitio*. The inquisition is then in a sense initiated in the 1180's when bishops are required to investigate public rumors (*fama*) of heresy. On an individual level this merely gave a bishop the position of judge and prosecutor to the accused, which nearly always led to conviction. On a more public level this leads to the suppression of false teachings, banning texts and silencing those that teach them. The most famous of these mass suppressions (though certainly not the only one) is the Bishop Tempier of Paris's Condemnation of 1277.

On March 7, 1277 the Bishop of Paris issued a list of 219 philosophical and theological propositions that were to be suppressed. He issued this condemnation especially to "some scholars of arts at Paris" or *nonnulli Parisius studentes in artibus* (Thijssen 49). The list forbade them to teach certain interpretations of Aristotle, under pain of excommunication. The mention of "arts" is meant to distinguish those working in philosophy and science (namely with works of Aristotle) from those at the University working in theology. These were the only two choices for scholarship at that university at this time. Tempier's focus specifically on the arts faculty, at the request of the Pope, points once again to the Church's official sanction to suppress works that were counter to their aims, especially in the realm of natural philosophy. One does not see an equivalent

tension between Church and science in *Canticle*. Rather, Miller paints a picture for us of that systematized cooperation between Church and science that are his goals.

Miller and the History of Science are of one mind when they feign ignorance of the suppressive actions of the Church in the middle ages. With regard to the Condemnation of 1277, Pierre Duhem notoriously attempted to salvage these actions by again changing it from a discouragement to a contribution of the Church to science. In his mind, “Tempier had liberated Christian thought from the dogmatic acceptance of Aristotelianism...[and] the condemnation marked the birth of modern science” (Thijssen 41). Only by removing the political tradition engendered in Tempier’s action, and reducing science to an abstraction, is Duhem able to save the Church from embarrassment. Furthermore, we have already heard from Floris Cohen that Duhem’s assessment of this situation is greatly influenced by his religious nationalism. Miller puts his text in line with this ahistorical approach as well when he ignores, in fact reverses, the cultural significance of the Church’s ban on “improper books.” Does not this action cause dissonance in the reader’s mind as well, when they might read their own version of the history of *index prohibitorum*?

One might argue that the *index* is too obscure an artifact historically to be immediately apparent to a reader of the 1950’s. The obscurity of the *index* is perhaps due in part to the efforts of those in the History of Science who follow in Duhem’s footsteps. However, Miller’s readers would readily recognize it as it figures into other Catholic science fiction texts of the so-called Golden Age. It is especially prominent in James Blish’s *A Case of Conscience* (1958) which first appeared in part in *IF Worlds of Science Fiction* in 1953. A text of which Miller would most certainly have been aware, *Case* tells

the story of Jesuit Ramón Ruiz-Sanchez, charged with judging the fitness of the world Lithia for trade. The monstrous Lithians, their resemblance to lizards and their innate sense of logic, make this decision difficult. At the same time, though, Ruiz-Sanchez wrestles with the age-old Manichaean heresy, occasioned in this novel by James Joyce, whose works we discover are still on the *index expurgatorius*. This index is obviously a parallel to the *prohibitorum*, and functions for Blish as an analogy for the act of excluding and destroying Lithia—one again notes the religious impetus for political exclusion. It seems for those who had also read Blish, and certainly many of Miller's readers fall in that category, the *index* as Miller presents it is uncanny.

Dissonance, in this instance, is occasioned when Miller inverts the history of cultural transmission by text. His benevolent patron Church and murderous mobs are different even than Blish's Church/State cooperation that eventually both exorcises and destroys Lithia. Yet this raises an even more serious issue that will become increasingly more important as we consider "Fiat Lux" in the next chapter—the issue of human victims. There is mass murder in *Canticle*, but it is carried out by a mob operating outside the sanction of the Church. Not only do they not condone the killing but also play a key role in protecting the scientists that are the mob's victims. The result of their actions in "Fiat Homo" is the sainthood of one such scientist, Isaac Edward Leibowitz. This one man comes to represent in this first section, and throughout the novel as the monks of his order continue his ideals into the future, the peaceful networking of science and religion.

As we have already noted, though, Leibowitz is only an extension of the efforts of historians to recreate a history that marries science with religion. It is all the more

effective because in this work of science fiction Miller combines these two camps in one character, whose death at the hands of a horde enraged by science endears him to us. Miller only represents in fiction what Duhem, Hall, Grant, Lindberg and many others enact in their re-appropriation of history. He makes the Church into the outsider and the post facto victim of our marginal history. The Church contributes, does not discourage, to Miller. The words of thinkers such as Augustine that led directly to a climate of fear that extends well into the present day should make one think twice about this history. We find the continuity of this attitude, the basis of our cognitive dissonance, in the *index prohibitorum*, but we have yet to discuss the penalties for possessing such an “improper book”—especially excommunication.

Excommunication is a fairly well known punishment of the Catholic Church even today, but lesser known is its rhetorical significance. The Church does not, rhetorically speaking, excommunicate someone, but the individual rather does it himself/herself through their actions. Specifically one adopts heretical thought and is obstinate in that belief. In fact, one accused of heretical belief is given the chance to recant and avoid their excommunication. If they persist, or are *contumacious*, in that belief against the Church’s warnings, they face excommunication. In fact, much of the rhetoric of excommunication is meant to be positive—one is given time to consider one’s position and come around to the fact that the Church is always right. Agamben recognizes the tension of this rhetoric, citing, “The age-old discussion in juridical historiography between those who conceive exile to be a punishment and those who instead understand it to be a right and a refuge”(110). This assessment is already problematic when confronting *Canticle* because scientific thought was often the root of excommunication,

as in the case of the University of Paris in 1277. Miller, though, by removing scientific understanding from the equation, at least in “Fiat Homo” when knowledge of the memorabilia is still lost, also removes it from the suspicion of the Church. Certainly, we see excommunication as punishment in this first section, for example to those who “fear the pagan cabals” (15) or again to anyone bearing the *noli molestare* (113). We do not see, either in *Canticle* or in most science histories, the result of many excommunications.

In their allegiance to Albertus Magnus and his pupil Thomas Aquinas, who “inadvertently conferred autonomy on natural philosophy” (Grant 187), the monks of Leibowitz represent that camp of Science History that views the Church as a spur to science even in the 13th century. This distortion of history again effectively marries science and religion in this century. Yet Grant also tells us that the “discussions,” as he calls them, resulting from the Condemnation made on pain of excommunication “were not religious in nature” (202). This is only half true. Certainly they have more in common with law than religious doctrine, but the Church was the main law making body at that time, so religion and law become intermingled. More importantly, though, these “discussions” were really excommunication trials in the balance of which hung the accused person’s status within his community, that of his family, and even his life. Following Agamben, the excommunicate was reduced to bare life and, though not exiled, banned from social interactions through the sovereign decision of the Church.

Excommunication, at its simplest, meant social ostracism, the prohibition of the excommunicate’s community to interact with him (or her). There were other punishments such as prohibition from communion, but the rupture of social ties, known as “the curse” was probably the most lethal. As Elisabeth Vodola tells us, “The curse

entailed social exclusion or even death—of course, in a community whose members depended on one another for the necessities of life, social ostracism might itself mean death” (2). Again, we must return to the idea of exclusion on which “monstrosity” is based. We return therefore to the connection between religion and the power to exclude, and while Agamben has noted the tension of the exclusion in such situations as excommunication, yet he still avoids making a connection between religion and sovereignty. His evasion is especially surprising given that he begins his account of bare life with a quote from Pompeius Festus that, “The sacred man is the one whom the people have judged on account of a crime [maleficium]” (quoted in Agamben 71). “Maleficium” becomes an important term in the late Dark Ages, as various churches judge those such as Johannes Kepler’s mother²¹ who are accused of witchcraft. That religious institutions act as sovereigns, or “witches” accused of “maleficium” as bare life, is undeniable.

Miller, too, attempts to avoid exclusionary acts, especially those that result in death, but the reader is reminded of them at precisely that moment when he includes monstrosity in his account of the history. This point will become even more apparent in the next chapter when we shall discuss excommunication, especially that of Hannegan, in much more depth. For now it is most important to know that excommunication and the death penalty that it often entails in our marginal history of science and religion is whitewashed in Miller’s and the History of Science’s accounts of that history.

Excommunication, though, brings us back to the notion of human life that we noted was especially absent, not just in the History Science, but also in the sort of neo-

²¹ We shall return to this example later in the next chapter.

Marxist cultural critique of science fiction that Fredric Jameson and others posit. One cannot sufficiently obscure the term “religion” to make it a truly “mediatory space” in science fiction. Miller even is unable to do so in his novel, as we are able to deconstruct the terms he employs as religiously motivated terms of exclusion of the Other. Yet by making religion into an abstraction, and examining it only at the level of collective (as Jameson does in the context of Utopia), one divorces it from its political imperatives. This leaves him free to discuss the closure of system in, for example, More’s *Utopia* but separate this action from the religious history that dominates it (as Agamben also does). One might ask whether or not this is itself the action of a utopian, in which the critic closes off his Freudian-Marxist impulse from the political program that inspires it. Does this essentially place Jameson in the system of the History of Science? If we take Miller as an example of a writer of both science fiction and utopian fiction, and consider how clearly unable he is to separate politics from his desire for that utopian world where religion controls science, we might posit such a conclusion.

This is all the more shocking because Jameson acknowledges the ahistorical consensus on which the History of Science relies. And yet, his view of religion in science fiction rests on a rather ahistorical consideration of the influence religion has on a novel such as *Canticle*. Furthermore, human life is blatantly ignored in this consideration—not just Jameson’s but most History of Science and Miller criticism as well. Even to Miller, who in many ways humanizes the struggle between science and religion by casting it with endearing characters, things like excommunication or the physical war the Church wages on paganism occupy only the background. The reader must reinvest such terms as pagan and monster with their stronger epistemological

significances, as we have done in this chapter, in order to read this novel historically. Only then is the opposition between science and religion humanized.

That Miller sought to humanize the interactions of science and religion, though, cannot be denied. And that is precisely why we are able to deconstruct the “hidden meanings” of such terms as monstrosity. Yet he also feels that desire for Utopia that Jameson outlines and the gravitational pull that surrounds it. The system of the History of Science draws the novel to it at every turn and it is only the historically minded reader that notices disparities between such history and what we might really learn about such times. There is perhaps an affinity between the History of Science and alternate historical fiction in their revisionist (or re-envisionist) strategies. Perhaps this is what draws them so neatly together into a system. As we continue our reading of *Canticle*, though, we shall continue to separate them and attempt a complex reading of either one, if indeed possible. The next chapter, therefore, will discuss the notion of system in more detail, as well as place continued emphasis on human life—this time in the context of the Scientific Revolution.

Chapter 3: Miller's Memeplex

“We don't have to posit self-awareness, conscious thought, to have an organized network that responds to its environment and issues judgements about what its individual nodes should look like.”

“Still sounds like the ghost in the machine to me...”

Greg Bear, *Darwin's Radio* (1999)

“As I keep reminding you, the material construction is irrelevant. It is complexity of organization that creates the possibility of a mind. ...Every action that they take constitutes a ‘thought’ in the mind of the Galaxy.”

Ian Stewart and Jack Cohen, *Heaven* (2004)

In the last chapter, we finished elaborating the methodology with which a careful critic ought to approach a novel like *Canticle*. In order that a single, limited history does not take precedence over another, and for a truly complex reading of the history of science, it is essential that one acknowledge the many layers of history inherent in the novel. For that reason, we have considered *Canticle* in relation to the more popular history advanced by the discipline of the History of Science, then contrasted that with our own, marginal account of the Dark Ages. In examining the cognitive dissonance occasioned by these three competing accounts, we discovered that religion acquires something of an upper hand, both in histories and literary criticism as well as philosophy. The steps of this method, for the most part, will not change in the present chapter.

We begin, in this chapter, with an examination of another means by which history is obscured, namely the notion of a system. Much the same as the last chapter, we follow Jameson's statement about the confounding effect of a system on history in our

assessment. We then examine, in both *Canticle* and in the discipline of the History of Science, the way in which this notion of system limits the history of violence between religion and science during the so-called Scientific Revolution. In order to provide some contrast to these limited accounts, we then consider a case study of Johannes Kepler, an historical figure who is regularly painted as the epitome of science and religion cooperating. This cooperation, the very notion of system or network that we shall explore in a moment, is not so apparent when one considers, as most historians do not, the many challenges posed to Kepler by religious authorities of his day. In this chapter, then, I shall again use *Canticle* as a starting point to elaborate the destructive effects that the notion of a system has on history in general and the history of science especially.

Systemic Infection

“System” or “network”; the notion is the same, whatever term one uses. In the last chapter we examined the historical implications of Miller’s terminology, and how that put him into a system with the History of Science. In this chapter we shall move away from epistemology, but not before examining the notion of a system in much more detail as well as the implications of Miller’s systematization. We are moving away from epistemology because Miller very seldom employs the terms “system” or “network,” whereas one notes in the epigraphs above that science fiction authors of the last ten years have employed them much more readily. As we found previously, Miller was among the avant garde of science fiction writers to approach history in the manner critics from the History of Science had employed since 1913. In my opinion, one might attribute the greater ease with these terms displayed by Greg Bear or Stewart and Cohen to the

popularity of such critics as Bruno Latour (as we also discussed previously). Whatever the reason, “system” is a concept much more accessible to today’s writer of science fiction. Thus, we shall begin this chapter by examining how, and perhaps why, science fiction writers have appropriated the idea of system or network.

“In the next stage of evolution, humans are history...” or so reads the dust jacket of Greg Bear’s *Darwin’s Radio*. It perhaps overstates the main topic of the book, which is a leap in evolution past Homo Sapiens, but does touch on the inhumanity of a system. To Bear, system expresses itself as something opposed to linear, or gradual, evolution. With the introduction of SHEVA, a virus hidden in humanity’s very molecular makeup that the characters conclude accounts for the genetic leap from Neanderthal to Homo Sapiens, Lamarckian evolution (what we typically think of as evolution from ape to human) is undone. Thus we find that that champion of gradualism, Richard “Dawkins is beside himself. I’ve been telling them for months that all that was needed was another link in the chain, and we’d have a feedback loop” (79). It is immediately interesting that Dawkins is such an outspoken atheist, but also that Bear assumes that the notion of system contradicts atheism because the former is a collective and the latter supposedly individualizing. The book goes on to describe a feedback loop as a “Complete circle of communication between individuals in a population” (ibid). Thus, the individual is a useful comparison to the system, but ultimately unimportant to the larger network.

Further comparison is made even to individual body parts, again calling attention to the parts we play as nodes in that system:

That’s the way the human brain works, or a species, or an ecosystem, for that matter. And it’s also the most basic definition of a thought. Neurons exchange lots of signals. The signals can add or subtract from each other, neutralize or

cooperate to reach a decision...Nerve cells are nodes in the brain, and genes are nodes in the genome, competing and cooperating to be reproduced in the next generation. Individuals are nodes in a species, and species are nodes in an ecosystem (84).

Kaye, the main character, is immediately nervous that creationists will claim they are “talking about God.” This anxiety is seconded by Mitch (see epigraph) later in the chapter. However, as these two characters have an evolved child together in an act of rebellion their attitudes seem to change. In fact, the novel appears to posit directly that it is “talking about God” or attempting to find the “Ghost in the machine.” Another character concludes to the approbation of even skeptical Mitch that “This DNA must be a spirit in us, the words our ancestors pass on, words of the Creator” (372).

Bear employs “system,” then, specifically to show God in the machine. What is the result of such a movement in the narration? Does it not have the immediate effect of blurring the boundaries between science and religion? If they are placed in the same system, they become simply “nodes” that communicate and offer one another feedback to their mutual benefit. In this consideration, the warfare model of the interaction of science and religion is entirely undone. It would not surprise the reader once again to find that violence in Bear’s novel is similar to that in *Canticle* as it is enacted by a mob of people who do not properly understand the situation. No proponent of science or religion acts against one of the opposite camp, except in the service of one of these mobs or of the State. Bear uses what is otherwise a scientific concept, especially using ecosystems and extrapolating, to recreate the complexity thesis.

System, in fact ecosystem, is even further embodied in the Stewart and Cohen novel, *Heaven*, where it takes the form of the sentient pond from the planet Aquifer. The

pond is found through accident as one of a fleeing race of polypoid's (sentient squids) flees the soldiers of the Church of Cosmic Unity and "falls" into the oversized puddle. Second-Best Sailor discovers that this pond is an ancient form of life that has developed as a kind of sentient ecosystem. It uses flies for communication, fish for digestion, etc. More importantly, though, it is a foil for the "memeplex" of Cosmic Unity, a religious coalition that is also a system but one based on only two communistic principles (memes). Pond contrasts with Cosmic Unity as "complexity" is contrasted to "warfare," in fact this comparison is especially apt since Cosmic Unity militantly enforces equality among species. The novel makes clear that systematization is unavoidable, all are merely nodes, but that certain systems can become sick when they are not complex enough or they do not have feedback.

Indeed, becoming a part of a system is unavoidable in *Heaven* because, "You are not single, integrated machines. You are evolved organisms, built from innumerable components. Your bodies and your consciousnesses are *distributed*" (304). Even as Stewart and Cohen seem to criticize religion for its simplicity through the depiction of Cosmic Unity, they allow, like Miller, for more nondescript humanistic religion. Essentially, this too marries religion and science peacefully as the idea of "consciousness" is extrapolated into that of the "galactic mind." The pond plays the part of prophet, in this case, as it can empathically sense the presence of the galaxy itself, which in the novel is only a larger, more complex version of the pond. Like certain strands of chaos and complexity theory, in which pattern is found to repeat like the seashells of Second-Best Sailor's home world and the swirl of the Milky Way, the idea of

galactic mind is the “cosmic” unification of science and religion—it is “God in the Machine.”

The two novels discussed so far are only a sample of the force with which the History of Science approach has metastasized in science fiction literature. It is quite obvious that the idea of “complexity” has become the standard approach when *Heaven*, which launches very rationalized criticisms against religion for the first 300 pages, still ends with the conflation of science and religion. It is telling that the notion of evolution figures so heavily into each of these recent accounts of systems (more complexity equals higher evolution), since conflating science with religion is precisely the approach taken by historians trying to reconcile with evolution. One may find the epitome of this approach to evolution in Mary Midgley’s work aptly titled *Evolution as a Religion: Strange Hopes and Stranger Fears*. In a move similar to Latour’s in *The Pasteurization of France*, Midgley attempts to demonstrate the similarity between evolution and religion in their creating a mythology and thereby indoctrinating adherents. Even in the person of Charles Darwin, then, she conflates science and religion as she says:

When the young Darwin immersed himself in the arguments about cosmic purpose in Paley’s theological textbook [...] he was neither wasting his time nor distorting his scientific project [but] seriously working his way through a range of life-positions which lay on the route to the one he could finally use (4).

Midgley, Bear, Stewart and Cohen all essentially reiterate the ideas of Lindberg regarding the Middle Ages, now in the context of evolution, that science and religion are merely nodes in the same system, equally invested in the “quest for human knowledge.”

If we take these two novels, *Darwin’s Radio* and *Heaven*, as examples of mainstream science fiction, we may conclude that the idea of system has become popular

in science fiction in a manner very agreeable to the History of Science. Yet with regard to history, these novels speak mostly to evolution and so fall only on the fringes of the time period examined by *Canticle*'s second section. "Fiat Lux" examines that period sometimes known as the Scientific Revolution²² that many historians place between the natural philosophy of the Middle Ages and "modern science." Again, it depends on what account you read. Some historians of science argue that "modern science" began with Isaac Newton²³, while others would argue much earlier or later. If that is the case, Darwin falls outside the purview of this chapter (or at least is marginally late we assume some overlap of the time periods). Yet the idea of system, even in science fiction of the 21st Century, is dependent on earlier attempts to marry science and religion by such people as Pierre Duhem.

We already discussed in earlier chapters *Canticle*'s relationship to the ideas of continuity advanced by Duhem, that of the monks and the Memorabilia to Duhem's 13th century Parisian contribution to the Scientific Revolution. Duhem and the Scientific Revolution are much more relevant to "Fiat Lux." We may also find in *Heaven*, though, something akin to Duhem's notion that the Condemnation of 1277 actually contributed to, rather than hindered, the Scientific Revolution. As disillusioned Servant of Unity Sam reflects on the atrocities he almost committed, the philosopher Epimenides exonerates him because his thoughts had too narrow, or simple, a context and because a "wider context may alter the whole picture." And consider:

²² In capitals to distinguish the time period from those "revolutions in science" about which Kuhn wrote.

²³ Though this is tenuous also, though, as Historians debunk his science too. That is, Newton has also been "systematized," in a very similar way to Charles Darwin. For example, Betty Jo Teeter Dobbs writes that, "to Newton himself all his diverse studies constituted a unified plan for obtaining Truth, and it is organized around [...] a religious interpretation of all his work" (18).

“This is what makes imagination so powerful, Samuel. And unorthodoxy so dangerous.”

“But unorthodoxy leads to heresy,” said Sam.

Epimenides gave the originator of the Samuellian heresy a level stare. “Yes. That is what makes it so valuable” (333).

To rephrase this passage in Bear’s terms, religion provides a necessary communication with science in the form of a feedback loop, which religion terms heresy. In this conception of “system,” religion is necessary for the advancement of science and the challenges it provides are actually spurs to scientific development. Thus, through Duhem, we can connect Miller to science fiction written almost fifty years later.

More importantly, though, “system” becomes merely a euphemism for conflict, and one must again question the motives of historians who claim “complexity,” especially in a period as tumultuous as the Scientific Revolution. Why must they obscure the violence that did truly exist? Can warfare, conflict, or violence not be complex? The two novels discussed above are not alternate histories, and so are not burdened with the historical actions of the religions they present. The lack of such historical violence, though, stands out as an oversight in works like Agamben’s as the concept of war is apparently beyond understanding. He says again of the concentration camps that without his own assessment of biopolitics, “the incredible things that happened there remain completely unintelligible” (170). Such actions, though, are much easier to understand when put in the context of war, drawing on the examples of atrocities committed in America’s own concentration camps in WWII or Vietnam POW camps. Yet again, Agamben’s notions of history are a bit shortsighted. *Canticle*, too, must deal with violence in its recapitulation of the Scientific Revolution. We shall, therefore, read “Fiat

Lux” as Miller’s attempt to systematize science and religion in his version of the 16th and 17th centuries and his success or failure in that attempt. Again, one finds both success and failure in the three distinct strands of this same time period—Miller’s version, that of the History of Science, and our own.

In Miller’s and the History of Science’s versions, one of course finds systematization and the peaceful interaction of science and religion. These versions of history will become increasingly untenable, though, as we examine the supposed feedback provided by the Church.²⁴ Unorthodoxy and heresy, according to Miller, are virtually non-existent concepts, because the monks of Leibowitz have always protected and even become scientists. Following the History of Science, these legal accusations were small challenges posed by the Church, again normally prior to the Scientific Revolution, which actually had a positive effect on science over time. Yet both Miller and the History of Science approach the Scientific Revolution by positing continuity, either between the flame deluge and the memorabilia or between Paris and Copernicus respectively. These ideas of continuity solidify the system into which they seek to place science and religion. At the same time, however, they do not allow for continuity between Tertullian, Augustine and even Aquinas, as we already discovered, nor will they view the attitudes of the Scientific Revolution in the context of the stance of the Middle Ages Church toward heretics. Like Christian apologists, then, they only apply such terms as continuity when it suits their ends.

²⁴ In fact, as *Heaven* raises the idea of a “sick” system, so we might extend this characterization to the systems discussed in the History of Science. Sickness, though, returns us to the notion of monstrosity and confounds the idea of peaceful systematization by bringing to light the exclusion apparent in such sick systems. Take, for example, the sickness motif of such techno-horror films as *Night of the Living Dead* or *28 Days Later* in which sickness, the invasion of one’s own body, functions as a meta-analogy for the very exclusion of the “infected” monsters at a social level.

Strangely enough, we shall more faithfully apply the term continuity to history in our own consideration of the Scientific Revolution, because we shall connect the ideas of unorthodoxy and heresy in the Middle Ages to the Church's treatment of scientists in the Scientific Revolution. One might argue that in so doing, I am also creating a system. A system, I might reply, is not an inherently negative term when it accounts, as I shall and as many historians do not, for the violence enacted by each of its component parts. In the case of science and religion, one must account not only for the contribution of science to a history of violence, which any cultural critic stands ready to show, especially concerning the nuclear age. The careful critic should also include the violence enacted in the name of religious institutions that are ultimately responsible for many of our society's categories of exclusion. That is why in our consideration of "Fiat Lux" and the Scientific Revolution, we are going to return to "Fiat Homo" and to heresy/excommunication as we have already discussed them, in order to truly complicate our history. Most importantly we shall view unorthodoxy as related directly to science in this second section so that we might see how the punishments for heresy continue to pose a threat to science and scientists during the Scientific Revolution. In heresy one finds a category of exclusion or exception imposed by religious authority. What is more, lives and livelihoods appear to hang in the balance of an orthodoxy carefully weighed by the institution of the Church at this time.

This chapter, then, will begin in a similar fashion to the previous in that we shall first examine how Miller recapitulates the time period known as the Scientific Revolution in "Fiat Lux." Then we shall again compare Miller's history to that of the History of Science discipline, and finally to our own history of the time period. Where this chapter

is different, as I mentioned in the first chapter, is in the fact that we shall have to jump between historical moments. This is possible now that we have two time periods with which to work. We shall put both epochs into communication, into a system, to see what feedback loops are created, but we do this specifically by exploding the idea of a system or network between science and religion. Even as Miller projects history backward²⁵ from his own time period to the Revolution, looking at each as static moments, we must establish a forward continuity between Middle Ages and Revolution, “Fiat Homo” and “Fiat Lux,” in order to break down the false peacefulness of the relations between science and religion. Therefore, history becomes especially complicated in this chapter—is it post-facto consensus and projection, continuous linear time, or neither, or both? These are the questions with which this chapter will begin to wrestle.

Obscenity and simplicity

Miller made us read between the lines to interpret the “thing monstrous” with which he began “Fiat Homo.” We were able, though, by reinvesting monstrosity with meaning, to rediscover the militancy with which *Canticle* is so concerned. In doing so, we discovered both the inability of Miller to adhere to history as told by the History of Science as well as the ineptitude of that version of history itself. War, very real in “Fiat Homo,” runs counter to “complexity” (in the estimation of the History of Science). We do not have to look far for war in “Fiat Lux,” since the first sentence of this section tells us of the moment in which “Marcus Apollo became certain of war’s imminence” (121).

²⁵ It occurs to me again here how this projection backward is important to Jameson’s ideas of Utopia as well. One might see this in the writings of someone like Edward Bellamy, who uses the “future” to replay the wrongs of our history thereby creating a utopia in his *Looking Backward*. We return to Bellamy later.

While the beginning of the chapter discusses this war, waged by Hannegan to unite the continent, at great length, until the end of the chapter when the Poet is killed by cavalrymen there is no physical manifestation of war in the novel. Since we do not see the war and, once again, this section is set almost entirely within the Abbey, or because the text repeatedly and openly asserts it, we are to believe that the Church plays no part in a war that is the realm of politics.

In fact politics is the only social realm with which religion in the novel (or in most historical accounts) does not purport to systematize. Yet Apollo knows, by eavesdropping on courtiers, that war is imminent only because a messenger arrived back safely whose task it was to deliver news of the “Agreement of the Holy Scourge.” This news means the messenger had ulterior motives and Apollo interprets it as an attempt to take over the entire continent by turning all the other territories against one another. Still he discovers this news, in his position as papal nuncio to the Emperor, through political intrigue with courtiers. More importantly, though, the “Holy Scourge” turns out to be a ruse. It was acceptable to the Church before to “wreak stern vengeance on the nomadic peoples” because, “In these times, it’s hard to condemn any man for wanting to unite this butchered continent” (121, 126). The implication is clear that the Church lent its political support, at least in name, to an attempt to bring “civilization” to the pagan nomads. One might conclude, then, that the Church disavows politics in this section only because Hannegan begins working outside the influence of the Church.

That war is obscene (literally off-stage) in “Fiat Homo,” however, is entirely undeniable. There is certainly building pressure toward war among the characters, but the message is quite clear that Miller means to keep it outside the walls of the Abbey

(even as he could not do in life with Monte Cassino). Thus we find at most a forced cordiality between Thon Taddeo, the main proponent of science in this section, and both Marcus Apollo and the monks of Leibowitz. The tenor is set for this tense but cordial interaction even in Apollo's first private discussion with Taddeo when he finds the scientist is too excited for a "fencing match" or "verbal dueling" (126). Mostly because the Thon is a relative of Hannegan's, this cordiality continues with Dom Paulo and the other monks when the Thon goes to visit the Abbey. As closer examination of this section will show, then, the Church does not openly disagree with Taddeo, or science by extension, but rather the political forces with which he is associated.

In this sense, Dominic Manganiello was correct to assume that "Miller is not pitting science against religion" (162), because it is only with the addition of politics that the tension escalates. The Church does indeed have a welcome attitude toward science so long as politics remains distinct from both religion and science. But can the distinction between politics and science or politics and Church ever be complete? We have already seen that Marcus Apollo is wrapped up in political intrigues and that these have an influence on his estimation of Thon Taddeo. Yet most of the action of the novel takes place at the pastoral Abbey setting far from New Rome or Hannegan's Empire. So, the focus of the historical interactions Miller means to show us is that between a politically powerful scientist and the meek monks of Leibowitz. Dom Paulo is not Marcus Apollo, which is made clear when the abbot says of the nuncio that he is "a good priest, but all men are apt to be incredible asses at times" (211-212). Paulo, we are certain, is the epitome of religion's welcoming stance toward science.

Then why the hesitance of the Order to accept the Thon? The scientist's coming incites an internal struggle in Paulo, to the extent that he must go to his friend Benjamin (the same wandering Jew figure from the beginning of *Fiat Homo*) to confess his fears and ask advice²⁶. Benjamin predicts exactly what Paulo fears, that the children of the world "soak up everything you can offer, and then denounce you as a decrepit wreck. Finally, they'll ignore you entirely. It's your own fault" (175-6). The key to Benjamin's statement is the ignorance of the children of the world—that they will stop listening to the Church. Paulo's real fear, then, lies in the fact that "if the pagan scientists are granted access to the *Memorabilia*, they may develop its science for destructive rather than redemptive purposes" (Wood 33). In this sense, fear is motivated by the Church's weakening control of science and the lack of an ethical check on the output of science.²⁷ Paulo eventually overcomes his hesitance, because the books of the *Memorabilia* as Benjamin says, "were written by children of the world, and they'll be taken from you by children of the world" (*ibid*). The Thon, and secular science, are welcomed.

Taddeo, however, does not feel himself as welcome in the Abbey as the monks assure him that he is. In his first day at the monastery the monks surprise Taddeo with the electric dynamo built by brother Kornhoer. The Thon mistakes the dynamo for an ancient invention which the monks have hidden from the world, after which he is indignant. This sets the visit off on the wrong foot, since Kornhoer has surpassed even the Thon's research and, "there was no balm to soothe an affront to professional pride" (192). Yet this is only the beginning of Taddeo's obvious discomfort with his hosts, which becomes more evident throughout the second section, especially at the feast where

²⁶ The return to this "thing monstrous," the Wandering Jew, insinuates that we have once again return to a

Taddeo is to give a speech about his research. It is Taddeo's turn to be hesitant when Paulo asks him to give this speech as he has "an uncertainty about my audience. I would not wish to offend anyone's religious beliefs" (199). Paulo reassures him that "if your subject matter is the physical world, how could you possibly offend?" (ibid).

During his speech we discover that the Thon's hesitance is not over his causing offense but receiving it, that it is caused by his fear for himself. First, the subject of the refraction of light causes Taddeo to add, "I hope none of this offends anyone's religious beliefs" (211). When the Abbot assures him that his fear is due only to Marcus Apollo's rudeness, Taddeo replies, "The answer relieves me...I seek no quarrels" (212). The implication of the Thon's statement is clearly that he fears potential religious persecution at the hands of the monks. It is important to note with regard to this fear that he comes from a "collegium," since we have already discussed this setting in which teachers of the arts faced condemnation from the Bishop of Paris. Taddeo may in fact have in mind something like the Condemnation of 1277 when he chooses not to talk about a project on "the origin of the species" because "it's tending to cause controversy with the theologians" (ibid). Again, however, his fears appear unfounded since the assembly does not descend on him.

All these unwarranted fears paint Thon Taddeo as a rather paranoid caricature of a scientist from the time period of the Scientific Revolution²⁸. Miller implies that the scientists create their own precarious situations through excessive fear. Combine this

situation in which a monster, Thon Taddeo, is attempting to gain access to the polis.

²⁷ Not to mention that fear of the "pagan" outsiders—the role which science adopts in this section.

²⁸ The Thon reinforces for us in his speech that this is the time period he is meant to represent. His speech is "a brief outline of what the world can expect, in my opinion, from the *intellectual revolution* that's just beginning" (214 my emphases).

fear with the clear disdain Taddeo shows toward religion and he then “represents the scientific community with what Miller implies is its unnecessary contempt for religious explanations of scientific phenomenon” (Spector 343). By showing their fear and contempt unnecessary, even paranoid, Miller aligns himself directly with the view of the History of Science, as we shall see in the next section of this chapter. The end result of debunking their fear as paranoid fantasy is that Miller is able to once again paint the Church as science’s benefactor—to reinforce the handmaiden formula.

One especially germane instance of the Thon’s contempt for religious explanations of scientific phenomena is the question posed him by a young monk regarding the origin of the species. This monk very meekly asks whether Taddeo is “acquainted with the suggestions of Saint Augustine on the subject?” (213). The monk then explains Augustine’s suggestion that God created everything in its “germinal cause” which then evolved into more complex shapes²⁹. The Thon’s response is as condescending as his smile: “‘I shall look it up,’ he said, in a tone that indicated he would not” (ibid). Not only a perfect example of Taddeo’s contempt, this is the only instance when Augustine is directly cited in this novel. Though Augustine is only cited once, he is still “a powerful, if deeply submerged, influence in Miller’s novel” (Slater and Jacobs 127). His influence, as “Fiat Homo” and “Fiat Lux” insinuate and later “Fiat Voluntas Tua” drives home, is through the handmaiden formula that he “coined.

Furthermore, the stakes of abandoning the handmaiden formula, of allowing science free rein, are no less than human lives. The conclusion of Taddeo’s speech, which leaves a dark “pall” on his audience, is that “ignorance” will be overthrown and

²⁹ This argument is often advanced today in an attempt to resolve evolution to the Christian worldview.

“Truth” will come to rule in a new technologically advanced society. He essentially predicts an age of Reason. What the monks will object to, however, is how Taddeo says this will happen, that “It will come to pass by violence and upheaval, by flame and by fury, for no change comes calmly over the world” (214). Aside from adding yet another abstract allusion to war in this section, Dom Paulo interprets Taddeo’s prediction of violence as the Thon, and even science, selling out to the warring State. That is, “Thon Taddeo knew the military ambitions of his monarch. He had a choice[...] Evidently, then, he accepted them as inevitable—to avoid having to make a moral judgment” (215). Paulo’s frustrations with Thon Taddeo quickly turn from “him” to “them,” as the Abbot considers that the “wise men” of that time had “chosen as Thon Taddeo chooses. To wash their hands before the multitude” (ibid). Science and scientists are therefore clearly to blame³⁰ for rejecting the Church’s ethical control, and for the resulting violence.

Taddeo’s sin in this case, and therefore science’s as well, is “abus[ing] the intellect for reasons of pride, vanity, or escape from responsibility” (Miller 235), as Russell Griffin repeatedly cites. However, it is most damning at the moment when the Thon refuses the ethical balance that religion offers and therefore condemns humanity to destruction. As Griffin phrases it, “A worldly scholar, Thon Taddeo has no interest in the spiritualism which might allow man to implement the rediscovered knowledge without destroying himself” (117). “Fiat Lux” and much of the criticism dedicated to it, then, is about culpability. Who is to blame for impending violence and war? Yet Dom Paulo oversimplifies the field of debate a bit. As he puts it to Taddeo, “To serve God first, or to serve Hannegan first—that’s your choice” (225). When the Thon refuses to “work for

³⁰ The implication is that if the excuse did not work for Pontius Pilate, it will not work for Thon Taddeo...

the Church,” blame again rests firmly with science because war is the only possible result of the allegiance of science and State.

The other effect of blaming science for its choice of State over Church (oversimplified though these choices may be) is that a boundary is clearly established between religion and warfare, to the effect that these two are entirely divorced. Even as Miller accuses science of washing its hands of violence, *Canticle* the more thoroughly separates its Church from a war that is supposedly entirely the fault of the State. It claims no complicity in the Agreement of the Holy Scourge, or in any affairs of Hannegan’s State. Even as Miller accuses science of washing its hands of violence, he washes religion’s hands for the Church to the extent that the Church opposes a war waged by science and State. Yet Miller creates here a simplistic dichotomy, where science is caught between the ethical forces of the Church and the decidedly amoral forces of the State. The simplicity of the choice offered Thon Taddeo, though, may shed some light on our earlier consideration of “system.”

Twice in their final two conversations, Dom Paulo extends an open invitation for scholars to come to the Abbey and study the Memorabilia. This is essentially an invitation to form a network, a cooperation to the mutual improvement of science and Church. As in the case of excommunication, then, if science and scientists choose to break that network the onus falls entirely on them. In this case the Church considers a rupture in that network when the scientists do not oppose the violence of the state or when they do not succumb to the ethics of the Church. However, in this rupture of network too we see the Church shoring up its borders against war. After Paulo extends his invitation to the scholars of the collegium to study he adds, “Tell them too, my son,

that when the time comes, as it will surely come, that not only priests but philosophers are in need of sanctuary—tell them our walls are thick” (237). Religion, this statement implies, is a system that is entirely “walled” off from warfare. Or to put it another way, warfare must be excluded from their system through religious ethics just as the Memeplex of *Heaven* needs to be expunged by the forces of the “galactic mind.”

Miller clearly falls in line with the complexity thesis in this section, therefore, when he directly opposes the peaceful networking of science and religion to the abstract and obscene concept of warfare. *Canticle* aims to systematize science and religion and displays war as the result of rupturing that system. That Miller aims to systematize, though, does not mean that one might not deconstruct this systematization, or the false dichotomy on which it rests. Though war and violence remain largely in the abstract for most of this second section there are moments in which violence finds its way even into the Abbey—where even the systematization of religion and science as well as the feedback religion offers appears violent.

With the Thon comes a military garrison of Hannegan’s soldiers. These officers spend their time, while Taddeo peruses the Memorabilia, making designs of the layout of the Abbey and weighing it for its usefulness to the military. Once the Thon learns of this he will return the drafts to Paulo, but not before the poet is nearly killed at the feast. It is the Poet that brings the military drawings to everyone’s attention, at which point a soldier draws a sword and tries to lunge at him. There is no real violence here (though the Abbot stomps on the poet’s toe to stop his mouth) as the other soldiers are able to stop him. The Poet, who will later be sainted, is eventually killed by soldiers for intervening in genocide. He himself does not know why he is killed as, “It was not the Poet’s fight. He

cared nothing whatever for the political and religious tastes of either the refugees or the cavalry troop. If slaughter had been fated, fate could have found no less disinterested witness than the Poet” (240). The Poet, then, who plays the part of the disinterested humanist to perfection, is unable to wash his hands of the bloodshed and intervenes on ethical grounds—because the cavalry’s sabers were too dull. Ethics leads to violence at least this once in the case of the Poet.

Yet the Abbot also returns the animosity of Thon Taddeo in more than one instance. In their most heated argument Paulo silences Taddeo by giving him the edict of Hannegan denouncing New Rome and Pope Benedict as heretic and atheist. As the Thon cannot offer to intercede on behalf of the Abbey (remember the military layouts) Paulo tells him to remind Hannegan that “when our altars or the Memorabilia have been threatened, our predecessors did not hesitate to resist with the sword” (236). The implication is clear that Paulo, too, will resist Hannegan violently—and not only Hannegan, but also any scientist who will not openly resist the Emperor. That Paulo also condemns scientists who remain neutral is evident even as he repeats his invitation to the collegium’s scholars, because “Dom Paulo knew that it was no token of any truce but only of mutual respect between foes” (238). Though Paulo’s words again only evoke war in the abstract, they show at least the willingness of the religious to go to war against those who refuse to be in their system.

By allowing the Church total control over the social realms with which it may network and separating it from science and State, Miller overtly aims to keep warfare outside the affairs of religion. One might find moments to deconstruct in which the Church appears to act as militantly as those other social realms, but these are scattered

and Miller's aims remain clear. Emperors may wage war, and science may be complicit, but religion has no part in such political actions in Miller's Scientific Revolution. Religion and those scientists who will submit to it, as a "complex" system, are diametrically opposed to warfare (as an abstract category). How, then, could religion and science ever be at war if they are peacefully networked? "Fiat Lux" dramatizes the very same historical claims made by critics working in the History of Science regarding the period that it claims could not have been a Scientific Revolution.

The next section of this chapter, therefore, will examine the claims of more commonly accepted histories regarding this same time period, in light of those made by *Canticle*. We shall discover just how much they coincide in their obscuring the resistance with which the Church met many of this epoch's most well-known scientists. It should not take much to show the similarity of Miller's approach to the now-standard History of Science approach to such people as Galileo and Johannes Kepler. Later, we shall consider a case study of the latter of these historical figures that will shed a different light on both Miller's and the History of Science's ahistorical regard for them. First, though, we return to that dimly lit basement of the Abbey, where the electric dynamo has been replaced by the rood, and where there is housed an academic discipline known as the History of Science.

The conflict made flesh

The focus of historians of the Scientific Revolution seems to center on the early 16th century, on prominent scientists/natural philosophers of the time who inherited their ideas of the universe from Nicolas Copernicus. Copernicus is credited with first

advancing the idea of a heliocentric universe, contrasting with older Aristotelian or Ptolemaic conceptions placing the earth at the center. Yet critics would quickly point out that in most other ways Copernicus was still firmly invested in the Aristotelian tradition of philosophy. On the contrary, the scientists of a generation or two after Copernicus begin to break with Aristotle and to posit natural, mechanistic explanations for phenomena traditionally thought to have inductive and divine causes³¹. Thus we shall consider here Scientific Revolution to mean that time when “Aristotelian natural philosophy was under assault from a number of directions, including the astronomical theories of Copernicus, Kepler, and Galileo” (Styers 46). However, if Randall Styers leaves room to consider even the interactions of natural philosophy with astronomy as an “assault,” few practitioners of the History of Science will associate such militant-sounding terms with this time period.

Galileo, especially, appears to be a central concern of the History of Science because since 1896, “virtually every discussion of the relationship between Catholicism and science in early modern Europe has begun with the Galileo trial” (Olson 57). 1896 marks the publication of Andrew Dickson White’s *History of the Warfare of Science with Theology in Christendom*, so at least since the mid-1950’s these “discussions” have been attempts to debunk White’s warfare thesis. Critics working in the History of Science employ various strategies to demonstrate the peaceful interactions of science and religion with regard to the Galileo trial, held to determine whether Galileo’s writings on heliocentrism constituted “vanitas.”³² Steven Shapin, for one, devotes much of his text entitled *The Scientific Revolution* to discrediting Galileo’s observations as fact, since

³¹ Gravity, through Pierre Gassendi’s conception, is a good example of the contrast with Aristotle here.

many of them were not able to be independently verified. Richard Blackwell takes his cue from this position and further uses it to discredit notions of conflict between Galileo and his religious inquisitor, Cardinal Bellarmine. Blackwell tells us that while Bellarmine “was not excessively rigid,” he could not due to circumstances (i.e. the Reformation) challenge the church fathers on heliocentrism, “especially because (as he correctly pointed out) it had not been proven” (108). Bellarmine’s hands are tied due to cultural circumstances as well as Galileo’s questionable scientific methods.

Historians do not stop there, however, because even incidental conflict is conflict. They will continue to assert a seemingly amorous relationship between Galileo and the Church. For example, Pope Urban VIII is painted as a great “patron of the arts and sciences” who “had once written a poem to honour Galileo’s work. Galileo was received by him in six private audiences in 1624: the impression is that a discussion of the heliocentric view was considered acceptable if it were treated as a hypothesis” (Drees 58). It is because Galileo does not adhere to this stricture in his *Dialogue Concerning the Two Chief World Systems* that he is brought to trial. He was warned not to present his findings too factually, and yet persisted. His chief offense, then, is also similar to earlier excommunication trials in which an “episcopal letter of proof rarely gave any more definite reason for excommunication than ‘contumacy’” (Vodola 181), contumacy being repeated heresy despite warnings or an unwillingness to repent. Galileo’s trial is, in fact, only a part of the Inquisition and is no different in substance from earlier trials—nor are the stakes.

³² Remember this is the same term used to accuse those of heresy in excommunication trials.

The similarity of Galileo's situation to excommunication, though, also has a greater significance. It strongly resembles Dom Paulo's estimation of scientists, in that blame rests entirely with science, in this case Galileo. It is supposedly only through his own "false teachings" that Galileo finds himself in trouble with the Church. The Church is free from all responsibility for whatever sentence it must pass on Galileo (or Thon Taddeo, for that matter). Historians repeatedly assert the Church's innocence in the matter of contumacious scientists such as Galileo, even though the Inquisition (presided over by Pope Urban VIII) summoned Galileo to appear for interrogation 'under threat of torture.' Drees tells us that, "This was the legal term for formal interrogation, and should, according to contemporary scholarship, not be understood as if Galileo was really threatened with torture" (59). This reversal is the most blatant revision of history effected by critics from the History of Science in the twentieth century, especially as they claim continuity (as Duhem, Koyré, Hooykas, and many others do) or "contingency" (as even Shapin does).

As we have already noted, scholars outside the History of Science such as Vodola and Thijssen at least acknowledge the very palpable dangers facing those accused of heresy or contumacy—the loss of life or possessions or social ostracism (itself leading often to death). Even Miller gives us meek little Francis reassured that a Dominican Inquisitor³³ who visits the Abbey "was not carrying any visible engines of torture" (70). Yet each of the scientists associated with the Scientific Revolution are repeatedly censured, often strictly and sometimes fatally, then the blame for their demise is cleanly left on their own actions and not punishments handed down by Church authorities. Those

working in the History of Science are able to excuse the punishment of these scientists (i.e. Galileo) for two reasons: 1) they fail to posit a continuity between the Middle Ages form of inquisition and the early modern form, and 2) they once again relegate the conflict between scientists and Church in the 17th century to the abstract terms science and religion.

With regard to their first strategy, these historians and Miller equally distinguish the form of inquisition in the Middle Ages from forms of trial in later centuries. Miller, as we have seen, can posit it as entirely unfounded fear on the part of scientists such as Thon Taddeo. Critics working in the History of Science tradition, however, must deal with such events as the Galileo trial and so must assert that Galileo did not really face “torture.” In the situation of Galileo, they are lucky in that he was only sentenced to house arrest and was not burned at the stake as was Bruno. In the established history, scientists do not continue to face death into the Baroque. Drees praises this ahistorical discontinuity when he says, “The work of the historians derives its strength from a self-chosen limitation; they attempt to understand each episode in relation to its own context” (91). Yet perhaps one ought to question the limitation of a situation to the point of discontinuity such as this, especially when in other areas these same historians stress the importance of continuity and contingency. Galileo was subject to the very real punishment faced by scores of contumacious heretics before him. Obscuring these dangers amounts to going “beyond the neutrality of the historian or social scientists [...because] Most authors on religion in relation to science, including [Drees], do so from

³³ This passage also tells us of an “inquisition against Catharism” going on at the time that corroborates our interpretation of “Fiat Homo” as the late Middle Ages.

the stance of a believer” (28)³⁴. History, as Jameson reminds us, is contemporary consensus.

The consensus of contemporary historians, their obscuring of the dangers faced by scientists of the 17th century, is further facilitated by their focus on the theoretical system in which scientific and religious ideas harmonized. For example, when Shapin tells us that “there was *no such thing* as a necessary seventeenth-century conflict between science and religion” it is because “it is obligatory to treat [natural knowledge and] its uses in *supporting* and *extending* broadly religious aims” (136 original emphases). A generic “natural knowledge” (Shapin’s term) informs *broad* religious aims, and therefore one need not focus on Galileo’s trial or arrest, or the various other punishments doled out to Galileo’s contemporaries. Also, to the monks of Leibowitz, scientists’ work on the “origin of the species” may only strengthen the grip of Augustine’s interpretation on the religious community. Like Jameson’s mediatory space for religion in science fiction, then, the History of Science’s arguments are greatly enhanced by raising religion and science above the physical interactions of their proponents and into abstractions.

Another, and very important, strategy often employed to deny the Scientific Revolution altogether is to obscure the notion of revolution by focusing on characters that supposedly represent a fusion of scientific and religious worldviews. This fusion in a person is effected by compartmentalizing abstract science and religion, and showing that person’s affinities for both. The entire Order of Leibowitz is dedicated to this strategy as they function as science’s protector, but no one embodies this fusion of science and

³⁴ Consider also Drees’s statement that “Various studies on the importance of Christianity to the rise of modern science have an apologetic interest, an interest in supporting Christianity today (e.g. Foster,

religion as much in *Canticle* as Brother Kornhoer. We are first introduced to this handy monk as he hurries to complete the construction of his electric dynamo before the Thon's visit. Brother Armbruster, the librarian is instantly suspicious of the dynamo and considers it pagan witchcraft on a number of occasions. Dom Paulo, too, is at first suspicious that the dynamo "is not without a certain vanity" (147). Yet later, Paulo shows his pride that "we have a few rather clever amateurs in natural science right here in the monastery" (199). The Abbot implies that these "clever amateurs," who are also devoted monks, have kept their science and religion sufficiently separate to excel in both. The safe fusion of science and religion, here, might remind one of Francis Bacon's distinction between the Book of God and the Book of Nature, or the old astronomer's adage that religions tells one how to go to heaven and science how the heavens go.

Where compartmentalization of science and religion in *Canticle* further discredits Taddeo's fears and paints the interaction of these camps as peaceful, though, in reality statements like Bacon's were employed by scientists to excuse the work they were doing and to avoid punishment from Church authorities. The History of Science, and Miller as well, attempt to displace this fear by re-locating it within persons that essentially function as systems. Brother Kornhoer is a perfect example of this approach to historical figures of the 17th century, since we can see the distinction he makes between his religious devotion and his technical skill. One is "a life of prayer," while the other "for me seems more like play" (228). Like the pond of *Heaven* also, then, Kornhoer is an ecosystem in which religion and science, like the pond's fish and flies, are only inter-communicating components. The two camps, therefore, peacefully coexist within one person.

Hooykaas, Jaki, Kaiser, Nebelsick)" (85). Many of these authors have greatly influenced the discipline of

Coexistence, even within an ecosystem personified, does not mean equality. Just as scholars at the University of Paris in the 13th century were required to take an oath to resolve any disputes between their philosophic work and orthodox doctrine in favor of the Church, so Kornhoer will firmly resolve himself to his religious vocation. When the Thon approaches him about going to the collegium to study, Kornhoer is reluctant and affirms his subordination to the Abbey and its abbot. After Taddeo and Paulo's most heated argument, though, Kornhoer clearly decides in favor of his religious devotion. He creeps into the room with the cross that was moved to make room for the electric dynamo, which the Abbot is surprised to realize he did not request. When Paulo asks Kornhoer how he knew that the Abbot wanted it, the scientist monk responds, "I just decided it was about time, Domne" (235). The young monk thereby decides the conflict between his abbot and the visiting scientist, as well as his own internal "conflicting" affinities.

What Miller does through the person of Brother Kornhoer, historians often do with contemporaries of Galileo. They shift focus from the trial of this most well known scientist to others, like Johannes Kepler, who did not face the inquisition in Rome. Even earlier, in the 13th and 14th centuries for example, they would point to figures such as Thomas Aquinas or his teacher Albertus Magnus, who are truly Brother Kornhoers in that they are amateur natural philosophers who use the early Church fathers to justify their work. Many even speculate that Aquinas was a target of Bishop Tempier's in Paris. In the context of the later Scientific Revolution, though, there are few figures like Aquinas (though that does not stop historians from reiterating the contribution of Jesuits to science

ad nauseam). In many histories Kepler is the scientist “who showed his fellow Protestants how to reconcile Copernicanism with the Bible” by using “the Augustinian principle of accommodation to justify the figurative interpretation of biblical references to the motion of the sun” (Davis and Winship 121). When compared to Galileo, we find that the Italian scientist “behaved rather like a Protestant” and forced the Church to rule that heliocentrism was heretical (ibid).

Accounts of Kepler therefore often paint the Galileo conflict as the actions of a haughty Catholic Church reacting to the reformation. Heliocentrism is merely one of many scapegoats of the counterreformation. On the contrary, Kepler is the epitome of a system, able to reconcile his religion and science safely in the confines of the Holy Roman Empire. As he spends much of his career in the service of the Emperor, he is perhaps at first a good comparison with Thon Taddeo. However, Kepler is not the “narrow-minded” scientist that Taddeo is, who rejects religious explanations of natural phenomena. The History of Science sees Kepler as the foremost of those scientists who “were equally at home with the mystical and practical uses of mathematics” (Olson 47). In painting Kepler in that manner Olson perhaps overshoots the mark a bit, because Kepler is still of that school of mechanistic philosophers³⁵ that did much to disenchant the universe of its previously divine explanations. More importantly, though, a focus on Kepler’s own reconciliation of his religion and his science does not necessarily mean that others, including religious authority, were so quick to accept Kepler’s heliocentric ideas.

The assumption that Kepler did not face physical danger because he reconciled religion and science, like Thon Taddeo’s paranoid fear of religious persecution, obscures

the historical situation. We might again see here how the extrapolation of the science fiction writer is very similar to the way that the historian inflates religion and science into abstraction in order to marry them. They equally obscure Kepler's historical interactions with religious authority for contemporary consensus, for the successful systematization of science and religion. The next section of this chapter, therefore, will attempt to unravel the oversimplified version of his life told by the History of Science, and to provide an alternative version of that same history. We shall see that the strategy of personifying the marriage of religion and science in their abstract cannot sufficiently obscure the persecution faced by even those persons typically seen as a fusion of the scientific and the religious.

The choice of Kepler is especially fitting to this study of science fiction and history, since he is both an important historical figure and, as an author, an important precursor to science fiction as a genre. His *Somnium*, or *The Dream*, is the story of a dreamlike voyage to the moon in which he "represents scientific findings disguised as fantasy" (Aldiss 151). That is, he incorporates his mathematical and astronomical findings and hypotheses in the physical description of the moon. As Brian Aldiss points out, science fiction writers today "owe much to those who have forged the imaginative path before us" (158). Yet even Aldiss considers this text only a precursor to science fiction because "Kepler's mind was by no means free of mysticism; perhaps it was mysticism as much as observation and calculation which led him to discover the mathematical relationship..." (151). In the context of science fiction Kepler is still seen as one who fuses religion and science. Yet even the events surrounding this text are

³⁵ This school, like Descartes and much later, Locke, first interpreted the cosmos as a giant clock, rather

enough to cast some doubt on the scientist's ability to reconcile his science with religious authority.

In the next section, therefore, we shall consider both Kepler's life and his very important work of "fiction" and wrestle both with his religion and science as abstractions as well as his interactions as a proponent of science with religious authority. The religious authority of the next section is especially important since it is the Augsburg confession, a protestant church which the History of Science seems to find much more lenient on scientists than even the Catholic Church. There is, in fact, little difference either in these two churches' attitudes toward science or in the legal procedures they use to deal with the unorthodox. We shall view all this then as a case study, since so many critics and historians seem to interpret Kepler as a system of science and religion. If he is like the pond of *Heaven*, we shall now drop a pebble into the shallows to see if the surface does indeed remain smooth as others tell us it is, or if there are not a few ripples.

A case of conception

The *Somnium* begins with a narrator we assume is Kepler falling "into a very deep sleep" in which he is "reading a book bought from the fair" (11). This beginning immediately places the book in that common 17th century genre of the "dream vision." Yet the dream scenario also quickly divorces this text from his others in that it is clearly a fiction, and neither a scientific work of rationalism nor a theological discourse. As a fiction, Kepler perhaps anticipated vehement criticism to it. Mary Baine Campbell has insinuated that because this text was fictional it "had to be posthumous" (233). Why

than a divine celestial being.

would Kepler have deemed it necessary to publish this work posthumously? There is a sense of fear, perhaps since Kepler was witness to “the treatment of certain Italians who had not properly administered their own repression” (232). Most notable, of course, is Galileo, but although Kepler and Galileo had a professional relationship, that is not the focus of this section. It will suffice to quote one piece of their correspondence, a letter, in which Kepler appears to have more confidence in “Germany” having an accepting attitude toward science. He tells Galileo, “If Italy seems a less favorable place for your publication, and if you look for difficulties there, perhaps Germany will allow us this freedom³⁶.” With this optimism in his own country, why then does he fear to publish his fiction? There might be a myriad answers to this question, three possibilities of which are discussed below.

In 1611, a copy of the *Dream* (it was written in his graduate studies first in 1593) was stolen in Prague. Kepler suspects in note 8 to the 1634 edition, the author of *Ignatius His Conclave*, who he does not realize is John Donne as it was published anonymously. He suspects this author because of the attack Donne launches on Kepler in that text. Kepler’s suspicion is especially important because this stolen manuscript leads to the eventual trial of Kepler’s mother for witchcraft. In the text *Duracotus*, the narrator, tells us his mother’s name is Fiolxhilde who earned her living by “Gathering some herbs with many rites” which she “carried to a nearby port to sell to the ship captains” (12). The mother later summons “The Daemon from Levania” who is to be their transportation to the moon. The presentation of the witchcraft is nothing new to literature, employed as it is in much of the writing of the 16th century as the inquisition gets into full swing. Yet

³⁶ Source: <http://www.law.umkc.edu/faculty/projects/ftrials/galileo/letterkepler.html>

despite its popularity in literature, Kepler finds himself in 1620 on his way to Württemberg to defend his mother. She had been accused of witchcraft and was being held in a prison at Württemberg awaiting trial. She would later be acquitted, but during her long imprisonment became ill from exposure and died shortly thereafter.

Why is it that Kepler, or his mother, is singled out? Perhaps *Somnium* provides the key as Duracotus tells us that it “delighted me first on my return to find my mother still active and engaged in the very same pursuits as before” (13). Taken together with the fact that Fiolxhilde is literally the driving force of the story, this is far from a condemnation of witchcraft. On the contrary, the fictitious scientific observations made in the story by Duracotus, himself a student of Tycho Brahe, would not be possible without the magical intervention of the witch. The fictionality of this story, however, is supported at the end of the story since, as Duracotus and his mother meet the demon they “covered our heads with our clothing” (14). Later, when Kepler “wakes up” he humorously claims to have “found my head really covered with the pillow” (29). This reinforcement of the fictional nature of the text is not enough to remove doubt from the depiction of witchcraft by a Copernican scientist. That he already faced one trial before the book was even made public is perhaps reason enough to keep him from publishing it again.

Yet there are other contentious topics contained within Kepler’s text that, when forwarded by other scientists, received public outcry. Not least among these topics is that of “secondary light,” that is, the reflection of the sun’s light by the earth onto the moon. This term was not new to this time, as it was employed by many scientists, and integrated into much artwork of the time. As Elaine Reeves demonstrates in her work entitled,

Painting the Heavens, secondary light, even as applied to the moon, was a common theme of painters of the early modern period. Yet we are told also that Galileo and his peers (which we must surely consider Kepler) “tended to see the argument in much more polemical fashion,” so much so that “Those who accepted it would have been almost invariably showing their support for a Copernican world system” (8). It is precisely this support, again not adequately fictionalized, which plagued those “certain Italians” as it garnered “Campanella all those long years in prison, Bruno dead at the stake, Galileo imprisoned and forced to recant” (Campbell 232). Certainly, there is precedence for Kepler to fear.

To be sure, he should be afraid, as he unabashedly displays this secondary light as seen from the surface of Levanian (the moon). He says:

For although the Subvolvan [that hemisphere of the moon that can see the earth] night lasts as long as fourteen of our days and nights, nevertheless by its presence Volva [the earth] lights up the land and protects it from the cold. Indeed, so huge a mass, so intense a brilliance cannot fail to impart warmth. (27)

The characterization of the earth in this way, as a “huge mass,” effectively “draw[s] it into ‘the dance of the stars,’ that is, into the company of the other planets” (Reeves 8). Essentially, this equates earth to all the other planets, anticipating the Copernican worldview that advocated a heliocentric universe as opposed to geocentric. We are no longer the center of the universe. The deprecation of the earth is partly what caused trouble for the Copernicans. However, this view also attacked the character of the sun, as it is no longer the only celestial body able to “impart warmth.” Those who clung to the traditional Ptolemaic worldview considered this rather essentially as it debunks the idea of the sun as the center of life. Secondary light means that the sun is no longer the life-

giving source of the universe, but the earth is also capable of this feat. Much of the public world interprets it, though especially the major European churches, as a theological argument.

Indeed, it is not Kepler alone who considered theology and astronomy together as we are told that in certain Catholic churches “the astronomical question appeared together with the complicated issue of the Immaculate Conception” (Reeves 139). For the Catholic Church, however, it was much more of a contemptuous consideration as “Galileo’s depiction of a rough, solid, opaque, and spotted moon[...] violated certain cultural presuppositions, ones based as much on religious conventions as on astronomical thought” (138). These presuppositions are the identification of Mary with the moon just as the sun was associated with God. Moreover, the moon was said to be a translucent globe of pure white, a symbol of the purity of the Virgin Mother. Those who were at this time lobbying for the acceptance of the Immaculate Conception as doctrine received as a direct challenge Galileo’s depiction of the moon, which Kepler accepted.³⁷ Notable among these lobbyists were many Jesuits and Franciscans. Kepler, then, who certainly knew of the contentiousness of the issue of the moon’s divinity, having seen his confidant at the middle of it, no doubt knew that it would earn him the censure of the catholic countries if he should publish a text that considered it.

Consider it he did, to the extent that he gives us a very detailed description of the rough terrain³⁸ of Levania. It certainly posits a drastic contrast to the smooth globe believed to be the perch of the Virgin Mary. Consider the following passage:

³⁷ There is contention as to who formed their argument for the opacity of the moon first, as there is in much of the scientific advancement of these two figures.

³⁸ If the reader will forgive my use of that geocentric term.

The whole of Levania does not exceed fourteen hundred German miles in circumference [...] Nevertheless, it has very high mountains as well as very deep and wide valleys; to the extent it is much less of a perfect sphere than our earth is. Yet it is all porous and, so to say, perforated with caves and grottoes everywhere... (27)

Certainly, this is not a smooth sphere considering the “high mountains” and “deep valleys,” but also significant is the fact that it is porous. In the traditional platonic system the moon was a globe of glass that held in vapors. That the moon is literally covered with pores stands in direct contrast to this prior outlook and puts Kepler in danger of offending the Protestant countries as well, as they held to the platonic worldview. To be sure, then, these two moments could be read as further catalyst for Kepler’s self-censorship when it came to this book.

Admittedly, on the last point, Kepler is not Catholic and therefore did not face any immediate censure from the Church for *Somnium*. However, he was censored by the religious authorities of his own country, as they suppressed an article on comets he wrote in 1607. Eventually he was forbidden to take the Eucharist at his home church in 1612 for his Copernican views. Thus he knew the physical manifestations of public reactions to his work almost as well as, if not more than, Galileo. In some instances forbidding one from taking communion was just the beginning of the legal procedure against excommunicates. Thus “anathema” was “full social and religious exclusion” while excommunication meant “mere exclusion from the Eucharist and other sacraments” (Vodola 29). But as his writings were also suppressed for their unorthodoxy, Kepler must have certainly felt like a heretic suspect. The actions of his confession, then, are clearly a warning since, “For heretics who refused to recant, excommunication was only a prelude to the penalties that quickly followed transfer to lay officials—often

imprisonment, even death, and confiscation of property” (32). One could compare these actions of his confession to Agamben’s formulation of the medieval “ban.” Again he relates bare life and the wolf-man to the inclusive exclusion that gives the sovereign his power, or “The ban is the force of simultaneous attraction and repulsion that ties together the two poles of the sovereign exception: bare life and power” (110). In Kepler’s case his confession is clearly the sovereign that decides to exclude the astronomer and his unorthodox ideas in order to fortify its own power.

Given that his mother also faced a similar trial, though for witchcraft, Kepler could not but have noted the warning in the actions of his confession. That his mother died from her imprisonment affirms Vodola’s statement that imprisonment can lead to death. The Augsburg confession is clearly threatening Kepler’s life. Much like the “threat of torture” used to summon Galileo, there is no obscuring the physical threat implied in the exclusion inflicted on Kepler. One might find it particularly strange that, though the legal proceedings were very similar and often adjudicated by the same bishops, witchcraft trials are much more often recognized for their violent outcomes than the trials of scientists. Even their heresies could be conflated because they were equally concerned with cosmology (indeed Kepler was forced by his patron Emperor to make astrological predictions). Yet even his scientific work looked *plus ultra*, or beyond the miserable conditions of earth and into the heavens, which violated doctrine because “demons were confined to the dark air immediately above the earth” (Cohn 66). Kepler faced the same fate as his mother.

Still, one might argue that he was never brought to trial³⁹ and therefore never faced anathema or death. Social exclusion in the astronomer's case, though, appears to have been enforced even without trial. In 1620, Kepler tells us in note 6 of the *Somnium* that while he was traveling, he and the group with which he traveled were approached by a Lutheran in a conflict over his Copernican views. This trip was actually from Linz, where Kepler was living at the time, to Württemberg, where the trial of his mother was just beginning. At the same time his mother's life was endangered by religious authorities he says,

A theologian who professed the Augsburg Confession attacked us with great vehemence. He was convinced that he was drawing from Scripture weapons with which to assail us. Finally, becoming enraged by our self-defence, he raised his voice and, calling on everything sacred as witness, he shouted that this teaching [Copernicanism] was 'in conflict with all reason' (37).

Kepler himself, therefore, related (if not equated) his mother's imprisonment and trial to the criticism he endured for his Copernican views. In addition, he views these as "attacks," and the critical evidence provided by the religious as "weapons" to which he must provide "self-defence." Kepler quite evidently feels religious authorities are launching an attack when he experiences acts of social exclusion such as this.

In Kepler's own words, therefore, there is a conflict in his time between science and religion, even for him, who is now so often espoused as the epitome of scientific and religious cooperation. More than mere conflict, though, he considers this interaction in the violent language of military endeavor. The historical situation around Kepler is not so complex that it could be construed as a "symbiotic" cooperative effort *ad maiorem*

³⁹ It seems that, though Protestant, his confession employed a form of excommunication older even than Protestantism—*latae sententiae* excommunication. This form legally excommunicated one at the moment

gloriam dei. At the very least, this is not a *post-facto* imposition of conflict to show that science was victorious. Kepler, in a very real way, felt attacked. It is wholly ceded that Kepler's religion and science were mutually exclusive, even with regard to his mechanistic view of the universe as a clock as he says, "He who believes the clock is animate attributes the glory of the maker to the thing made" (qtd in Olson 72). His own ability to reconcile his spirituality with his science does not, however, obscure the resistance with which religious authority met his scientific work.

Interpreting Kepler as the embodiment of science and religion "operating in close alliance," then, is possible only when viewing him as an enclosed system. Again following Drees, Kepler's own views of science and religion are the limit of the consideration he receives from most historians. This is a rather simplistic argument and is one designed to provide the contemporary consensus of the academic community that religion and science harmonize. If we remove this artificial limitation and consider the outside influence of religious authority, we find a much more complex system that includes conflict. There were admittedly those who "saw the astronomical argument not only as entirely compatible with religious faith, but as inseparable from it" (Reeves 120). Kepler is such a person. However, focusing only on his private life is perhaps misleading since there was no matter of agency in this consideration. Quite literally, it was illegal to believe publicly something that religious authorities saw as contrary to their dogma. Doing so might earn one's texts suppression, not to mention censure and even death for the individuals concerned. This is also true in Kepler's case as his texts were suppressed, he essentially banished from the Lutheran church, and his mother dead from exposure.

the heretical action was committed, foregoing the need for trial.

Kepler never publishes his *Somnium*, Galileo appears for his trial under threat of torture and Thon Taddeo fears to offend religious beliefs. Are all of these fears as unfounded as Dom Paulo, Miller or the History of Science would have us believe? If we limit our consideration of the Scientific Revolution to the abstract “system” of the History of Science, then the above fears appear paranoid. Whether religion is a motivation of Kepler’s science or provides the ethical balance that Thon Taddeo’s science lacks, enclosing a system obscures its history. That is, when a history of science does not fully establish continuity, or establishes only a selective continuity like Duhem or Shapin, historical conflict is unnecessarily obscured. Our current understanding of the notion of a system further facilitates this obscurity when it artificially encloses an historical figure, or even more importantly a time period, from the more complex interactions of social forces. Complexity is therefore opposed to conflict *only* under the artificial conditions orchestrated by advocates of established History of Science, like Miller.

Thus we return to Jameson’s statement that history is “exasperated by the emergence of the notion of system” (87). We might now see that the “notion of system” involves a static cross sectioning of history, in however small pieces, be they the close confines of Leibowitz Abbey or the person of Kepler. Related to this is also the relation of system to the post-facto creation of history by those with other motives. The size of the cross section depends on the results the historian wishes to create. For example, Pierre Duhem may claim continuity because it is continuity between 13th century theologians and 17th century scientists, subjugating science to religion in an

epistemological fashion. Continuity is not allowed, however, between the trials of unorthodox-thinking scientists and the trials of slightly earlier heretics, because historians need to posit complexity while obscuring conflict (in order to avoid their own academic persecution). It is due largely to the notion of system, especially the manner in which those working within the History of Science employ it, that in the current study of literature and science we must examine three distinct versions of history. We must attempt to reconnect the fragments of history left us by the ahistorical efforts of the last century of writers and historians.

In re-establishing continuity, or linear history, we are therefore positioning ourselves against the history-destructive notion of system. The last two chapters have considered history and system in some detail, while examining historical periods especially important to the history of science and religion. In the next chapter we shall attempt to connect the prior two historical moments to the one in which Miller created his novel. Yet we shall examine “Fiat Voluntas Tua,” and therefore the historical period of the late 1950’s and early 1960’s, not only as the time period in which *Canticle* was created, but also as a direct inheritor of the periods already discussed. We shall thereby establish continuity between early Church, Middle Ages, Scientific Revolution, and “modern” America.

Chapter 4: Miller's Milieu, or the Cultural Moments of Late Humanism

In this chapter we return to the context of chapter one, but not explicitly to discuss Walter Miller Jr.'s life and times as we did in that chapter. Rather, we shall discuss his milieu, or, both his physical and temporal cultural surroundings. Not only shall we discover what social forces were at work in America in the mid-20th century, but also the development of these forces across time. It seems fitting to examine Miller's cultural milieu as one that is historical, since we have traced some matter of continuity between the preceding sections of Miller's novel, *A Canticle for Leibowitz*, and the time periods they present. Because Miller seeks to portray a history of the development of science, we must establish a connection between the intellectual movement of the History of Science, the revolutions in that discipline during the early 20th century, and the mid-century "Golden Age" of science fiction of which Miller was an important part. Only after doing this shall we be able to connect, later in this chapter, the preceding sections of the novel to the moment in which *Canticle* was conceived.

Ma Bell meets the 14th Century

Many critics and historians of science fiction designate America in the 1950's and 1960's as the "Golden Age" of science fiction. As I write this chapter the Science Fiction Research Association (SFRA), America's oldest and most respected professional organization devoted to the study of science fiction, is planning its annual conference around the theme of "The Golden Age of SF"—in conjunction with the Heinlein Studies

Society. It seems that the myth of the “Golden Age” continues to deem the “technocratic dreams” of one such as Heinlein the pinnacle of science fiction (Luckhurst, *Science Fiction*, 81). These technocratic dreams are not, as might first be assumed, the ideal of science running the world, but rather they yearn for the dominion of certain “little scientists,” standing outside the influence of nationalism, who exert a rational control on the world. It is not a long leap from these “little scientists” of Heinlein’s reckoning to Walter Miller Jr.’s meek Order of Leibowitz—those “amateur” scientists who also adhere to the ethical boundaries imposed by the Church, but we shall explore that connection later in this chapter.

Roger Luckhurst’s position in his “cultural history” of science fiction (2005) is that the so-called “Golden Age” of science fiction is not defined by the great faith in science and technology in the mid-20th century (e.g. Dupont’s slogan of “better living through chemistry”), but rather the critical backlash occasioned by atomic demonstrations in 1945. I shall attempt rather to show that the elevation of the post-war era into the “Golden Age” of the science fiction genre is occasioned not generally by atomic anxiety, but specifically by the simultaneous backlash against science in the wake of the progressive era and later WWII from religiously motivated critics, as well as the conceited attempt to disguise the religious origins of that criticism. The confluence of the imposition of religious ethics onto science in general and the attempt to conceal their religiosity points immediately to the religio-political motives previously advanced by the discipline of the History of Science as early as 1913.

Luckhurst begins his account of “Golden Age” science fiction in 1939, when John W. Campbell began to report on the contemporaneous advancements in atomic physics.

So detailed were his accounts that the Army Counter-Intelligence Corps launched an investigation trying to link Campbell and the writers in *Astounding Science Fiction* (including Robert Heinlein and Lester Del Rey) to scientists within the Manhattan project. Campbell thereby becomes an authority in the science fiction world based on his supposed proximity to the government work going on in atomic physics. As Luckhurst tells us, “Campbell’s claims for the technocratic version of SF relied on technical exactitude and the accuracy of prediction” (*SF* 101). One might consider Heinlein’s *Starship Troopers* (1959), where Luckhurst ends his account of the “Golden Age,” the extreme of Campbell’s version of science fiction. *Troopers* is a text in which technological description (i.e. of body armor) is exact ad nauseam, and that also is highly predictive in its form of cultural critique. The overt militarism, coupled with high technology, also exemplifies Campbell’s “technocratic dreams.”

Starship Troopers, though, is also a story of spacejocks, and is somewhat predictive even in its depiction of space travel. Certainly, *Canticle* also predicts in its third section since we are told, “There were spaceships *again* in that century” (245 my italics). “Again” implies that space travel was nearly a reality at the time of this novel’s publication, also in 1959. We may infer from these two novels that the “Golden Age” draws deeply from the Cold War space race of the late 1950’s and early 1960’s. In fact Luckhurst tells us that the space race is intimately tied to the utopian visions of machines providing for humanity in an “era of post-scarcity” (142). He implies that technocracy, as a faith in machines, is exemplified by the space race when he says, “This sort of technological sublime culminated in the Apollo moonwalk of 1969, the apotheosis of Golden Age SF dreams and the American Rocket State”(143). Apotheosis is an

interesting choice of words—it evokes once again the conflation of science and religion as exemplified in Latourian histories of science. The similarity of Luckhurst’s statement to Latour, though, is not accidental.

In this “cultural history” of science fiction, Luckhurst cites Bruno Latour in order to debunk “Technological determinism [that], by definition, isolates a single factor in history and often implicitly regards technical rationality as acting on social worlds from some exterior space” (83). Luckhurst is especially wary of historical isolation, or the idea of a one-way transfer of culture, from science to society. Rather, he would prefer to view the “Golden Age” in the context of such diverse social conditions as “everyday life and the newly intensified rhythms of mass production, consumption and advertising; suburbanization of 1950’s America; different geographies...” (84). This assessment is correct in one sense: certainly popular encouragement reflexively fueled techno-scientific research at this time. The sublime power demonstrated at Hiroshima and Nagasaki coupled with the awe inspired by such incidents as the apparent UFO crash in Roswell, NM in 1947 both inspired and was fueled by the public’s anticipation of scientific utopia. Yet this utopia is perhaps overly focused on the future in Luckhurst’s assessment.

For a “cultural history,” which is how Luckhurst characterizes his text on the first page, *Science Fiction* has a rather static view of history itself. Even while arguing for “open networks” regarding science and society in the “Golden Age,” it considers only a cross-section of history. In other words, there is no notion of continuity between the post-war era and the culture inherited from pre-war America (to be fair, Luckhurst does voice his hesitance to posit a complete break in 1946—yet still effects such a break rather definitively). One major point of contention that we shall consider is that the military-

industrial complex is supposed to have evolved almost exclusively from atomic research during WWII, especially the Manhattan Project. I certainly do not mean to underrate the importance of this moment in the history of technology, but I shall argue that it is dependent on a series of moments before it. Most notably, I find the lack of consideration given to the Progressive Movement, inspired in part by the utopianism of Edward Bellamy, and the subsequent backlash by corporate America, a large omission.

In addition, Luckhurst does not mention the rise of the History of Science as a discipline, or its importance as another cultural factor. He is content with Bruno Latour's *natura naturata* account of science, but does not take note of Pierre Duhem and his followers or detractors, or the influence they have had on the public conception of science. The History of Science inherits much from the rise of the Public Relations industry in the 1920's, not to mention the backlash against Nazism (painted as a technocracy) that Adorno and Horkheimer spearheaded in the late 1940's. In the process, this discipline of the History of Science, which is usually and erroneously thought to exist only in academia⁴⁰, becomes a powerful societal force in its own right. It is thus impossible to fully understand the post-war era without examining the rise of the powerful cultural meaning-making (propaganda) machines of the preceding decades.

The first two decades of the twentieth century saw a growing distrust of the large corporation, in part due to the popularity of Edward Bellamy's utopian novel, *Looking Backward*. In this novel Julian West falls asleep in a trance in 1887 and wakes in 2000 to discover that commerce and government have entirely altered for the better in the Boston of the future. The greatest difference is that the nation has, in the future, organized into

one giant and public corporation that provides for the public good. The contrast of Boston in 2000 to that in 1887 epitomizes the kind of cultural critique of 19th century America that Bellamy sought:

the obvious fact was perceived that no business is so essentially the public business as the industry and commerce on which the people's livelihood depends, and that to entrust it to private persons to be managed for private profit is folly similar in kind, though vastly greater in magnitude to that of surrendering the functions of political government to kings and nobles... (42)

Furthermore, in the revolt against “private profit” corporations, there was no violence necessary. All that was needed to effect the momentous change from Capitalist corporations to Socialist Corporation was “public opinion” (ibid). It is this idea, that the public could effect change in the fabric of a capitalist society by simply observing and having an opinion, that became the cornerstone of the Progressive era.

For three decades after Bellamy's novel,⁴¹ then, popular unrest and discontent with the corporate model of capitalism grew exponentially. As one historian writes, public opinion was so distrustful that, “Whatever corporate leaders did [...] their intentions and activities were being chased by a relentless chorus of suspicion. The pursuit of profit itself was colored by a taint of malevolence” (Ewen 61). Bellamy's and the other Progressives' influence was so great that no corporation for nearly twenty years was able to escape the public's suspicion. Incidentally, it would be a form of technology—the telephone—that would finally break the spell cast by the Progressive era. It is here, and not in the much later State-sponsored Manhattan project, that the

⁴⁰ Steven Shapiro, for example, continues to this day to submit regular articles to the *New Yorker*, putting his Science Histories to a general audience. Also consider the so-called Fundamentalist papers of the 1920's, many of which are private letters and editorials, publicly debating evolution.

⁴¹ I do not mean to insinuate that *Looking Backward* was the only source of the Progressive movement. Progressive opinion was widespread in the media, including in *McClure's*, *The Atlantic Monthly*, etc. I merely take Bellamy as the epitome, and perhaps originator, of this mode of thought.

vision of idealized technology began. One must, in a history of science fiction, account for this much earlier moment in “science history,” as well as Bellamy’s even earlier utopia, when considering a “Golden Age” text such as *A Canticle for Leibowitz*.

The corporate response to progressivism was first seen in the maneuverings of AT&T (American Telephone and Telegraph Company). While this is not the most hi-tech science one could now imagine, for the early twentieth century it was infinitely more important. Furthermore, we might see its relevance in relation to *Canticle* for the emphasis this novel places on communication—in the last section epitomized by the Autoscribe—but more on this later. The Bell System,⁴² as AT&T called itself, is even more important in this discussion as it first begins to bridge political rhetoric and technology. As Ewen tells us, “To reach the objective of a Bell System monopoly over all wire communication in the United States, company leaders reasoned, the public had to be diverted—at least in respect to AT&T—from its general distrust of big business” (85). This one company did the most to bring the public relations industry into existence as they launched a campaign to convince the nation that their monopoly was for the public good. Repositioning itself as “Ma Bell,” it consolidated its near monopoly and did the impossible—manufactured public trust.

While this type of PR, especially in the context of big business, suffered major setbacks during the depression and the subsequent New Deal era, the beginning of the Second World War revitalized propaganda machines. We must note the continuity here between the rise of PR and the public faith in technology displayed during WWII—it is by uniting the country against fascism, propaganda for war, that big business and

⁴² The use of the term “system” in relation to technology will remind the reader of Latour’s “Networks.” See Chapter 3.

technology are conflated as trust in each is manufactured. The military-industrial complex was therefore already conceived by AT&T, at least nominally, thirty years before WWII and is the logical predecessor of such cooperation as Luckhurst attributes to the Manhattan project. Thus we may connect AT&T and the early twentieth century to post-war sentiments exemplified here by one advertising agent, W.J. Wier, who said in 1942:

We can awaken in the American people the dream they have been looking for and asking for and begging for since the turn of the century.

We can explain why the American way of life—with its bathtubs and pop-up toasters and electric refrigerators and radios and insulated homes—is worth sacrificing anything and everything not only to preserve but to take forward in a future more glorious than ever (qtd in Ewen 341).

Such statements as these began in the early 20th century, but grew to consume the minds of the public in the 1950's and 1960's to the extent that technology became reified as the nation's only hope for utopia.

It is to this secularized hope for future utopia that science fiction of the so-called “Golden Age” reacts. As previously noted, Luckhurst again posits something of a break in 1959 between the “Golden Age” and “New Wave” science fiction. Thus he places texts such as *Starship Troopers* or *Canticle for Leibowitz* on the cusp of these epochs. Were one to point out the religiously inspired cultural criticism inherent in these two novels, it would push them into Luckhurst's emerging “New Wave” (indeed, it is in the context of this category that Luckhurst mentions Miller at all). This New Wave is supposed to be, “the satirical writing that took aim at the technologies of consumption and the domestic paranoias (sic) induced by the Cold War, and which consequently distanced itself from the technocratic dreams of ‘Golden Age’ SF” (81). That a strand of science fiction took issue with Campbell and company's “technocratic dreams” is wholly

ceded. However, there is no reason whatsoever to consider it an emergent strand occasioned by the Cold War. On the contrary, we shall discover how this strand of science fiction, especially that which is religiously motivated, begins to materialize long before 1959.

First, though, some may object to characterizing *Starship Troopers* as religiously motivated, and certainly it is a difficult novel to characterize at all. Yet I posit that it at least plays with ideas of spiritualism. As evidence we may call into question the use of bible quotes as chapter epigraphs, not to mention Heinlein's preoccupation with spiritualized technocracy in the novel he published two years later, *Stranger in a Strange Land* (1961). What is a religious motivation? Some may accept that Heinlein envisions a despotic world that utilizes religion as an opiate for the masses, and others may not. Very few critics, however, would question the overt religiosity of a novel like *Canticle*, in which the criticism launched at the technological utopianism of America is clearly dogmatic in nature. Moreover, there are a host of others, normally considered science fiction novels, which are just as overt in their religiosity (e.g. *She*, *Mansions of Space*, and many more). It is these texts that become problematic in any attempt to break up science fiction into distinct time periods.

If one considers, then, that pivotal year of 1959 as the beginning of New Wave science fiction, one could just as easily place *Canticle* in this later epoch. However, this misplacement is once again why it is important to know something about the novel's publication history.⁴³ We may trace this novel even beyond the publication of the original short story in 1955 to its initial conception in WWII. Though Miller does not admit an immediate conversion after his participation in the bombing of Monte Cassino

(1944), he does convert to Catholicism by 1947. Even his begrudgingly admitted connection of Monte Cassino to the Order of Leibowitz as “after-the-fact speculation” allows us to tie it, albeit loosely, to WWII. History is not static, and calling Miller a “Cold War storyteller” (Cockrell 22), as another critic has done, does not instantly divorce *Canticle* or Miller from the earlier World War. Therefore, while there are certainly aspects of Cold War paranoia in this novel, especially the atomic paranoia that continues well into Miller’s later life, it is equally invested in the lived past of Miller’s experience in WWII.

Also knowing *Canticle*’s allegiance to other religiously inspired writers, both contemporary and in the decades preceding the 1950’s, places this novel in a tradition that predates the “New Wave.” I have previously mentioned Miller’s exact contemporary, Manly Wade Wellman, whose fantasy novels also bore a strong religious commentary on an increasingly secular, technology-driven society. Consider especially his “Strangers on the Heights” (*Startling Stories* 1944), though he continued to publish through the 1950’s. There are many other texts from the “Golden Age,” though, that are much more often considered science fiction. *Canticle*’s nearest contemporary would probably be James Blish’s *A Case of Conscience* (1958), a novel that is equally as Catholic as *Canticle* and as critical of rationalism and atomic research. In Blish’s book, Jesuit Ramón Ruiz-Sanchez must wrestle with an alien race that displays an inborn rationality and therefore no need for religious ethics. Because they also experience all the stages of evolution in their gestation process, Ruiz-Sanchez judges them a “trick” of the devil, and so exorcises their entire planet, even as scientists’ atomic research destroys it. The cooperation of science and Christianity in condemning the world posits a

⁴³ Again, this topic is covered in much more detail in Chapter 1.

handmaiden formula quite similar to the one forwarded by *Canticle*, that science may only effect good when under the influence of religion.

Blish's novel is only one relatively contemporary example of the religiously inspired critiques of technocracy so abundant before 1959. Also from the mid 1950's we find in England Arthur C. Clarke's *Childhood's End* (1953), which points to the futility of science in the face of a non-descript cosmic mind. Or consider the works of L. Ron Hubbard, the founder of Scientology. *To the Stars* (1950), as one example, displayed the devastating effects that technology would have on man when space ships began to inflict time lapses upon them. At the same time, it leaves much "in the hands of God" (198). What is more, this novel was first published in *Astounding Science Fiction* and greatly championed by no less than John W. Campbell Jr. himself. It appears that not even Campbell's cohort was free of a religious strand of cultural criticism, though Campbell would ultimately distance himself from Hubbard when Scientology became a religion. Still, we can extend this strand back before even 1950.

In the midst of WWII, and also on the other side of the Atlantic, C.S. Lewis wrote his Space Trilogy, in my opinion the inspiration for many of the novels mentioned above. Especially when examining the final novel of that trilogy, *That Hideous Strength* (1946), one finds precisely what Luckhurst locates in later, New Wave, science fiction—the critique of "technocratic dreams." This novel overtly suggests Christian faith and divine intervention as a cure for the ills of a society ruled by the very Nazi-like "National Institute for Co-ordinated Experiments" (N.I.C.E). The fringe Christian community must halt this technocracy from ushering in "the *really* scientific era" (38). What is more, Lewis wrote this novel (c. 1943), indeed the entire trilogy, long before the atomic

demonstrations at the end of WWII. He even cites the earlier writings of J.R.R. Tolkien as inspiration for the trilogy. I do not intend to begin a long study of inter-textual influence, though, but merely to point out that the critique of “technocratic dreams” that so often is reserved for discussion of post-Golden Age science fiction actually has much earlier origins. These origins extend, I would argue, back to the 1910’s.

What societal influence could have inspired such early religious critiques of a technologized society? One might initially suspect the Progressive movement, with its communal distrust of big business. Yet Bellamy’s vision of the future was not of a pastoral countryside, like the desert surrounding the Leibowitz Abbey, nor torn apart by technology. Bellamy’s Boston is, in fact, a utopian vision in which people use technology to provide for their basic needs and pursue a life of luxury⁴⁴. If the Progressive era was not fundamentally anti-technology, then, there is no other societal influence as strong as the burgeoning discipline known as the History and Philosophy of Science. The publication of Pierre Duhem’s continuity thesis in 1913, I shall posit, had much more influence on science fiction (and society at large) than other critics generally allow, and inherited much from the public relations response to the Progressives.

The prevailing attitude in the early twentieth century toward the history of science might be exemplified by the text published in 1896 by Andrew Dickson White titled, *History of the Warfare of Science with Theology in Christendom*. White’s book envisions that Christianity has historically positioned itself against scientific advancement, forcing science to repeatedly defend itself. White’s suspicion of religion in relation to science is

⁴⁴ Consider, for example, the music piped into every home from the great conservatories and music halls (a rudimentary “satellite” radio).

perhaps parallel to the contemporary suspicion of big business by the Progressives⁴⁵.

Warfare is only a sample of the popular notion of science, not limited to the academy (White was president of Cornell University), to which Pierre Duhem responded in his *Leonardo studies* from 1906-1913. Rather than the positivism implied in White's triumph of science over religion, Duhem suggests that the Scientific Revolution was rather a "triumph, prepared long in advance, of the science which was born in Paris in the 14th century over the doctrines of Aristotle and Averroes, which in the meantime had been restored to honor by the Italian Renaissance" (qtd in Cohen 45). Duhem thus established "continuity" between the great scientists of history and theologians of 14th century Paris, much as Miller paints the monks of Leibowitz as important "forerunners" of such scientists as Thon Taddeo.⁴⁶

Though Duhem's thesis became extremely popular for its ability to marry modern science to religious tradition, it was simply not a strong argument (lacking a variety of sources). Note Cohen's hesitance regarding this continuity, "On the surface, to say the least, it is not so readily apparent that, generally speaking, the Parisian thinkers did more than question certain separate statements in the received body of Aristotelian doctrine" (48). Yet Cohen's is far from a complete disavowal—note the extremely weak language and multiple disclaimers of the above sentence. His hesitance to criticize Duhem too harshly is due to the fact that, while continuity between 14th century Paris and 17th century is not entirely allowed even today, the notion that science owes its existence to Christianity in general is an idea that has enjoyed much popularity in the History of

⁴⁵ We must note, however, that these suspicions have different sources. The Progressives' in the politics of those like Bellamy, and science historians' in the philosophy of Auguste Comte (via William Whewell ...according to Cohen).

Science discipline since Duhem's thesis. To contradict Duhem is almost tantamount to accepting White, and as William Drees reminds us, that would be to earn one's self academic ostracism (89). Thus while Cohen may criticize Duhem's overt nationalism and "Catholic chauvinism," and does so at length, he must still find that Duhem's thesis "possessed a reasonable core suitable for adoption by all" (Cohen 53). In spite of its mediocrity, Duhem's thesis effectively changed the way the world thought about science and the effects have lasted even until the present.

Thus Duhem was able to refashion the popular suspicion of religion in relation to science and technology in much the same way that AT&T was able to regain public trust in big business. Positioning Christianity as an early benefactor and supporter of science is similar to, and happens concurrently with, AT&T becoming Ma Bell. Moreover, it is one of many apologetic strategies employed repeatedly in science fiction and fantasy of the first half of the 20th century. It is suspicious that any history of the science fiction genre should gloss over the Progressive era, the PR industry, or Duhem's thesis. One might even suspect such a "cultural history" of continued apology, of a veiled affinity with the texts it seems to forget to criticize. The omission of Duhem, with his great importance to the History of Science, is especially strange for a critic who calls for the "interface" of the History of Science with science fiction studies (as Luckhurst does in the March 2006 issue of *Science Fiction Studies*), or who cites Bruno Latour. Is this perhaps because Duhem's religious bias is too overt—like that of C.S. Lewis, L. Ron Hubbard, or Walter Miller Jr.?

⁴⁶ This character is from section 2 of *Canticle* and, I argue, is a composite representation of scientists from the Copernican revolution like Galileo and Kepler.

In obscuring the religious (or apologetic) motives of a large portion of science fiction literature, critics of science fiction are today interfacing with the History of Science much more than they realize. One might see the similarity of science fiction to approaches within the History of Science in their mutual emphasis on complexity. While I have discussed this connection at length previously, I shall here only briefly reiterate that the so-called “complexity thesis” in the discipline of the History of Science *demand*s that the historian find little or no conflict between science and religion, especially Christianity. Pick up a history of science by any of the foremost authorities (Koyré, Dijksterhaus, Lindberg, Shapiro, Grant, etc.) and one will inevitably find the same rhetoric—that the “conflict” thesis has been replaced by the “complexity” thesis. The hegemony that this critical approach has enjoyed since the 1920’s has wide-reaching societal influence, especially into mainstream science fiction literature.

The major problem with the complexity thesis, though, is that it is not very complex. In many, if not most, cases it actually obscures the trials faced by scientists at the hands of religious authorities. By claiming complexity, for example, a critic may focus on random cultural facts, like the poem Pope Urban VIII wrote about Galileo, to obscure the “threat of torture” faced by that scientist. Likewise, one might obscure the cultural facts, like Kepler’s mother’s trial for witchcraft, by focusing on Kepler as “representative of an emergent rationalism coupled with devout Christian belief” (Dorman 44). By this account, one need not notice the persecution Kepler faced for his scientific and literary works. Yet the complexity thesis also has a literary counterpart in the works of those such as C.S. Lewis. As recently as the Spring 2007 issue of *Extrapolation*, critics have drawn on the affinity between popular “complexity” accounts

of scientists like Kepler to the simplistic Good/Evil science fiction of C.S. Lewis. It is no coincidence that such analyses are drawn to compare “complexity”⁴⁷ accounts of the Christian scientists to the science fiction of the 1940’s and 1950’s. Such is the great influence that “continuity” and “complexity” have had on Miller’s milieu.

Both the complexity thesis and the science fiction of the Golden Age (and beyond), therefore, display a characteristic lack of interest in the human struggles of scientists with organized religion. Only in a cultural movement (or so we ought to consider the “discipline” of the History of Science) that was spawned in the same brood as the public relations industry could the resistance faced by scientists such as Galileo, Newton, or Darwin be re-framed as supportive. Cohen even acknowledges there is “more than a tinge of paradox” in attributing scientific developments of the 17th century to Christian thought because, “to say the least, the new science was accorded a less than enthusiastic acclaim by many religious authorities of the time” (309). In fact, religious authorities, whether Catholic (Galileo) or Protestant (Kepler), often reacted with violence or intimidation under threat of violence. But in a discipline where these violent interactions were once used as proof for positivistic generalities to the detriment of religion, the figurative pendulum has swung the other way. Since the 1920’s the newer empty rhetoric of “complexity” obscures any notion of historical conflict.

One other strong factor in the rise of Golden Age criticism of science needs to be taken into account, namely the *a posteriori* depiction of the Nazi regime as a technocracy. As Luckhurst points out, this account of Nazism is most strongly advanced in Adorno and Horkheimer’s *Dialectic of Enlightenment* (1947). These two German critics, exiled

⁴⁷ I should reiterate here the proximity of A. Rupert Hall’s coinage of the “complexity thesis” in the early 1950’s to *A Cantic for Leibowitz*.

to America in 1938, wrote of both German fascism and American modernism that “the Enlightenment had been hijacked by inhuman technics” (Luckhurst 90). Rather than seeing Adorno and Horkheimer, in relation to science fiction, as overtly critical of a supposed Golden Age “anti-humanism,” though, one ought to view their critique as equally feeding that other strand of science fiction so infused with the ideas of the History of Science. That is, the painting of the Nazi regime as a technocracy was also a part of the wider cultural push to discredit scientific positivism (à la Duhem) and establish complexity through ethical, religious control of science—as in *Canticle*.

Furthermore, as Agamben’s considerations also belie, the conflation of Nazism with technocracy is a concerted attempt to discredit science as inhuman and monstrous, while simultaneously saving the Church from criticism. Focus on the Nazi abuses of science, therefore, obscures such damning cultural history as the Catholic Church’s doctrine of non-involvement in WWII, or certain Nazi officials’ (including Goebbels’s) painting of Nazism as a protestant, positivist religion. The obscurity of such cultural history stems from the texts written directly after the war that “proved” Hitler’s anti-Christianity, most notably *Hitler Speaks* by Hermann Rauschning. That such texts are now almost entirely discredited, though Church historians persist in using them⁴⁸, does not mean that they did not affect Adorno and Horkheimer’s assessment of science and technology. It would be absurd, then, for these humanist critics to raise the issue of religious bias in their assessment of Nazi technocracy, as it would to acknowledge the struggles of scientists facing a seeming theocracy.

⁴⁸ See Steigman-Gall, Richard. The Holy Reich: Nazi Conceptions of Christianity. Cambridge: Cambridge UP, 2003.

It is not surprising, then, that science fiction writers such as Walter Miller Jr. neglect to mention such struggles. Thon Taddeo of “Fiat Lux” is merely an extension of the heathen “monsters” so feared in “Fiat Homo,” though the scientist’s own fears of religious persecution are shown to be unfounded. What of the human struggles of scientists in Miller’s world? Do they not exist? It ought to be slightly surprising that Miller forgets to mention these struggles since, as critics so often remind us, he too is a humanist⁴⁹. In one of the few public statements he made after *Canticle*, Miller edits the collection called *Beyond Armageddon*, which he claims is not about “cataclysm, religious or thermonuclear,” but rather it is “about people”(xii). Yet he then launches into an exegetical exercise on the topic of “Logos” that draws on Christian, Greek, and Taoist traditions; reminding us that by 1985, his conversion to Catholicism had failed. His later writing is non-descript in its humanistic allegiances (as we shall examine in the Conclusions section).

The Walter Miller of the Golden Age, though, is a distinctly Christian humanist. As such, he draws on the apologetic strategies employed in the growing discipline of the History of Science while writing *Canticle*. Working in the avant garde of this tradition, he will logically omit the human struggles faced by scientists historically, so that religious authority (in this case the Catholic Church) is not seen in “conflict” with science. That is not to say that Miller is not sincerely a humanist. He portrays very realistic and endearing characters such as Brother Francis, whose continual trials lead to frequent fainting spells. Miller does attempt to present the human condition. However, the view of humanity that he offers is one influenced, even dictated, by the strong cultural forces surrounding him. This influence is especially apparent considering the continuum

⁴⁹ See, for example, Thomas Morrissey (205), or Ulrich Hörstmann (188).

drawn between the Progressive era, the public relations industry, and Golden Age science fiction offered thus far in this chapter.

Humanism through the lens of the History of Science, as exemplified by Golden Age science fiction like *Canticle*, is different from the Victorian and even modernist humanisms before it (as displayed by Bellamy and the progressives perhaps). That is why I have chosen to title this chapter “the Cultural Moments of *Late* Humanism.” In my opinion, though the History of Science and the Golden Age do not entirely herald the death of humanism, they do effect a change in the way human predicaments are discussed. Thus, just as Jameson posits a change in capitalism with regard to post-modernism, I would suggest that the humanism displayed by science fiction in the Golden Age is a “late humanism.” Again, this is not a complete rupture of the humanist tradition, but one that is now more tightly controlled by strong arbiters of culture that demand “complexity” with regard to science and religion. Jameson sums up this shift nicely:

What “late” generally conveys is rather the sense that something has changed, that things are different, that we have gone through a transformation of the life world which is somehow decisive but incomparable with the older convulsions of modernization and industrialization, less perceptible and dramatic somehow, but more permanent precisely because more thoroughgoing and all-pervasive (*Postmodernism* xxi).

It is this new form of humanism that Miller displays in *Canticle*, and is especially important to that novel’s third section, “Fiat Voluntas Tua,” as that section reflects the Golden Age itself.

The next section of this chapter will therefore attempt to show how the new humanism of the Golden Age finds its way into *Canticle*. For the reasons stated above, we shall focus on the third section, but will also attempt to establish something of a

continuity between the other, preceding sections. The main reason for establishing continuity is to once again show that even though we are placing Miller clearly in a Christian humanist tradition, that tradition can be deconstructed in a comparatively historical context. It is no less true in this third section that one might read a marginalized history, such as the one presented above in contrast to Luckhurst's "cultural history," over and against the history, or rather the cultural moments of the 1950's, as presented in *Canticle* (or by critics within the History of Science for that matter). In the next section then, we shall discover the meaning of "late humanism" in a historical context.

What rough beast

Atomic or nuclear weapons are not the first technology mentioned in "Fiat Voluntas Tua." This honor is reserved for space travel, even a space race, in which humankind arrogantly attempts to master nature. According to Miller, "it was manifest destiny, they felt (and not for the first time) that such a race go forth to conquer the stars...and certainly to make speeches about the conquest" (245). While space travel recalls, in a general way, the speculative awe encapsulated in the late 1950's in such events as Roswell, the "speeches" being made more specifically points to the political race to be the first nation into space/on the moon/etc. By presenting the space race first, Miller alludes to the fact that the time period depicted in "Fiat Voluntas Tua" is the time period in which he writes the novel itself, or at least briefly thereafter. In this sense, the novel is, in the Campbellian tradition, somewhat predictive of JFK's Rice University speech three years later ("We choose to go to the moon...").

Miller, however, is critical and sarcastic. His is not a “technocratic dream,” but rather a critical response to the idea of humans attempting a mastery of nature. The narrative that began above quickly devolves into a rant about “singing garbage men,” “chromium-plated artifacts,” and Hiroshimas, ultimately ending with the report that “Lucifer is fallen,” meaning atomic weapons have been used. Miller even manages to work in a bit of German despotism: “*Wir*, as they say in the old country, *marschieren weiter wenn alles in Scherben fällt*⁵⁰” (246). The reversion to a WWII theme contrasts with the earlier depiction of the space race, so much that already in the first pages of this section one might see that Miller straddles the gulf between Golden Age and New Wave science fiction. The reliance on WWII imagery, though, points strongly to this text’s affinity with writers of the 1940’s, especially Adorno and Horkheimer’s philosophy, than with later writers of the 1960’s.

There is no distinction, then, at the beginning of the chapter between space travel and atomic science. Science becomes a general term here, to the effect that Miller even equates space travel and the arrogant emphasis on reason (instead of faith) to the technocracy of Nazi despotism. In so equating science in general to WWII despotism Miller is making science into the same monster that Adorno and Horkheimer would. Science’s monstrous character is equally evident as the story next moves to Dom Zerchi’s interactions with the “Abominable Autoscribe.” The machine is supposed to take dictation and translate instantly for transmission by telegraph⁵¹, but as it first mixes capitals with lowercase letters then types backward, Zerchi rules it an “unslayable dragon” (250). Though what follows is a rather humorous divergence from the

⁵⁰ Roughly “We march on [as] everything [falls] to pieces.”

discussion of atomic testing, it is actually a comment of technology with a much broader significance to the cultural surroundings of this third section.

The humor of Zerchi's battle with the Autoscribe is the humor one finds in a burlesque performance. The utter failure of the Autoscribe to perform even the minutest task of taking dictation is clearly an parody of the technocratic dreams of the post-war era. Far from the vision a life of leisure, full of "bathtubs and pop-up toasters and electric refrigerators..." Miller shows us the utter failure of technology—from atomic testing to an intelligent typewriter. Miller even poses a direct challenge to his milieu and their technophilia as Zerchi "could not see that it [the Autoscribe] was any improvement over a carefully trimmed goose-quill and a pot of mulberry ink" (256). Zerchi, in one statement, entirely deflates the notion that advances in technology make our lives easier. Yet his statement is not to be read as mere philistinism for its own sake, but rather the reader ought to seriously question the critical nature of Zerchi's outbursts.

Zerchi first compares the Autoscribe to a dragon, and himself to George, already drawing on a mythic history in his disavowal of technology. His rancor, however, soon begins to take on a more serious character. At one point he calls for a human stenographer, "preferably a Christian," because the Autoscribe is to him, "a damned infidel or worse" (251). Though humorous, this statement is the first to hint that Miller's critique of "Golden Age" technocracy is a decidedly religious one. The religious character of the critique is confirmed as Zerchi muses on the "pagan notion" that the machine might be able to think. As he says, "It knows good and evil, I tell you, and it chose the latter" (252). One gets the impression that, even veiled behind Zerchi's

⁵¹ Again, note the importance of communication here in relation to the Church. Also, this is perhaps an interesting allusion to AT&T...

humorous outbursts, the text is launching a serious critique at scientific rationalism by equating it to paganism. Zerchi's musings on the machine's soul might even recall for the reader the Manichaean heresy discussed in Blish's *A Case of Conscience*. Certainly there was little humor in that novel regarding the Lithian "tricks" of the devil. Why, then, should we allow humor to obscure the seriousness of Zerchi's charges?

That most accounts of this passage see little more than humor in it is probably to due the inability to connect the Autoscribe to earlier depictions of monsters. Many of Miller's critics read book three as a historian from the History of Science might, that such an interaction as Zerchi with the Autoscribe "knits together in complex and difficult stitches religious exchange with exchange through cultural artifacts" (Walker 83). Of course this type of account, though it pretends to advance "complexity," leads to the reinforcement of religious principles, or that "Zerchi concludes rightly that the human race has failed miserably the test of fidelity to God's word" (Manganiello 163). Such religion-affirming accounts are quite the norm in Miller criticism. However, there is also that other strand of criticism that constantly seeks to disrupt a religious interpretation of *Canticle*. Such is David Seed's aim when he reads such scenes as "cultural watersheds" (262), neither affirming nor denying religion. Seed's position actually affirms the "complexity" account more than it disrupts it, however, and he ends up helping the same cause he seeks to negate.

That reading such interactions (e.g. Zerchi and the Autoscribe) as disruptive can actually strengthen the opposing interpretation is especially apparent with regard to history. For example, Seed tells us that, "Miller sets up countless obstacles to reading history as linear progress by inverting his images, shifting contexts, and introducing

reversals” (ibid). This statement affirms a humorous reading of the third section by distancing very serious concepts such as the fear of monstrosity in the first section. Humor, in turn, allows one to downgrade the seriousness of religiously based charges of paganism and infidelity launched against technology, and so to miss many cultural references. As noted before, one cannot entirely separate religion from this novel, through disruptive deconstruction or otherwise. It is possible, however, to criticize the religio-political nature of Zerchi’s, even Miller’s, debunking of science by reattaching such textual moments as the battle of the Autoscribe to their cultural counterparts. We must, therefore, establish a linear history or continuity between the first moments of the novel and the last.

When Zerchi calls the Autoscribe a “damned infidel or worse,” a pagan, etc., it should recall for the reader the very opening of the novel and the “thing monstrous” approaching Brother Francis through the desert. This earlier cultural moment was one in which the Church sought to entrench itself and was constantly fearful of outsiders, or the pagan and heathen monsters. The Church’s fear then extends through the “Middle Ages” to the moment of the “Scientific Revolution,” when we find Dom Paulo consumed with a foreboding fear of allowing Thon Taddeo access to the Memorabilia. We then come to the Autoscribe in the third section—and the Church was correct to fear because technology has not only reproduced Babel in the abbot’s office, but also ushers in a new atomic age. And still, this is only one account of history in *Canticle*, our own account. Neither Miller nor the History of Science trend of which he is a part would attempt to establish such continuity. Their own version of continuity seeks only to establish a bond between modern science, only that science which is helpful, and the contributions to

science made at earlier moments by religious persons (compare again the Duhem thesis to Brother Kornhoer's contribution in "Fiat Lux").

The discipline of the History of Science, then, may be seen to exert a great influence over this third section of *Canticle*. We may see in the Autoscrite an echo of earlier instances of the religio-political exclusion of non-Christians. However, I mentioned above that the typical strategy of critics in the History of Science, abusing the complexity thesis, was to obscure such historic moments as the persecutions of scientists at the hands of religious authorities. Indeed in "Fiat Voluntas Tua" there is little physical persecution of scientists, as we might expect, though not only because science is no longer beholden to the Church for its livelihood. The entire section functions as a trial and judgement of science by religious authorities. Furthermore, with the atomic apotheosis of Rachel and the destruction of the rest of the world, punishment of a biblical scale is doled out. Nowhere is it more evident that religious authorities still place themselves in a position to judge, or that Miller is entirely in line with most historians, than in the interaction of Zerchi with the "Green Star" relief worker, doctor Cors.

After at least one missile attack on Texarkana, and the abbey had sent out its space missionaries (we will return to this in a moment), the Abbey converts to a refugee camp to help with the victims of fallout. Zerchi meets with Dr. Cors to discuss the latter setting up a Green Star Relief Camp within the Abbey, but the Abbot is hesitant. The Government of this third section has passed the "Radiation Disaster Act," a law that "authorizes euthanasia *only* after due process" (294). That is, hopeless radiation cases may go to a Green Star Mercy Camp and receive legal euthanasia. It is to this that the Abbot objects, calling it "Due process of mass, state-sponsored suicide. With all of

society's blessings" (ibid). Cors at first disagrees with the Abbot's assessment of euthanasia as wrong, saying, "I feel that the laws of society are what makes something a crime or not a crime. I am aware that you don't agree" (295). Yet he does not seek a quarrel with the Abbot, and also says so.

It is at this point in their conversation that Miller presents the only glimpse of Cors, in fact any scientist in this novel, as human. Zerchi acknowledges that "Some of the Green Star's relief work was admirable. Occasionally it was even heroic. That in some instances it wrought evil, according to Zerchi's belief, was no reason to regard its *good* works as tainted" (296). But still the Abbot hesitates to allow the camp into the Abbey. After Cors explains the procedure for a "crit-dose" radiation victim getting a "red ticket" to a Mercy Camp, the Abbot will not allow one to be written in the Abbey. The two then argue more vehemently about this, but Zerchi will not budge. When the doctor states that "pain is the only evil I know about. It's the only one I can fight" (298), the situation almost escalates. Zerchi, however, keeps things calm in this instance. He merely extracts a written promise from the doctor not to recommend euthanasia to a patient. Cors is then allowed to set up camp.

The reader cannot help but feel the tension during this conversation, and the reasons seem fairly evident. On the surface their argument is, as Dr. Cors says, about "moral theology," with one advocate of faith and religion and another representing rationalism and science. It is not until the Abbot is left alone, though, that another source of tension comes to light. Zerchi is especially frustrated with Cors's statements that society determines right and wrong, and that pain is the only evil. To Brother Pat he wonders, "Dearest God, how did those two heresies get back into the world after all this

time” (300). The promise Zerchi extracted from Cors begins to look different in light of this statement, if one considers the notion of heresy historically. Zerchi it seems is subjecting the doctor to the Church’s own form of due process, namely excommunication trials, in which the heresy suspect is first warned to discontinue the action deemed heretical. In a more famous context, this was what happened when the Inquisition first warned Galileo⁵² not to present the Copernican heliocentric world-view as factual. If the heresy suspect follows the strictures of the Church the process stops there.

Galileo did not entirely submit to Church authority, though, and neither will Dr. Cors. The Green Star medic soon seeks out the Abbot to declare “challengingly” that he has broken his promise and given a red ticket to a woman and her child. At this point he has, in the parlance of the Church, declared himself contumacious, or persistent in his disobedience. Yet this is also where the influence of the History of Science upon Miller shows most clearly. Zerchi allows Cors to stay and finish his work because there are no more “crit-doses,” though he is afraid, “If I see you again—I’m afraid of what I’ll do” (308). When Cors says that he will leave anyway, he is living out the rhetoric of excommunication to its fullest. That is, the excommunicate bears the burden of communicating him- or herself from the good graces of the Church, rather than the Church kicking an excommunicate out. More importantly, in avoiding a Church-imposed punishment of this scientist, Miller is clearly in line with the “complexity thesis” that does not allow for a conflict between science and religion. The struggles faced by the doctor and, as we shall see, especially those imposed by the Church, are notably absent at the end of the novel.

⁵² If we connect Galileo to Thon Taddeo, this also helps us establish continuity between the three sections of the novel.

Despite Zerchi's repeated warnings to "Bear it and pray," then, the woman and her child persist in going to the Mercy Camp (around which monks parade with signs saying "Abandon Every Hope Ye Who Enter Here"). The Abbot tries to stop her, and almost succeeds, but two police officers, and Dr. Cors, intercede and take the child in to be euthanized. As Dr. Cors tries to apologize, though, Zerchi punches him in the face. While he is ashamed of this act of violence, his shame we are assured is mostly over his inability to dissuade the fallout victims. That is, "It mattered little to him at the moment what they [the police and Cors] might decide to do. He could think only of the girl and the child" (322). This act of violence is normally read only in the context of the Church's stance on life and euthanasia. One may, however, also interpret such violence with the "complexity thesis" in mind, in which case the focus on the woman's suffering at the hands of science, while well worth considering, overshadows the suffering of the scientist at the hands of the Abbot. Considering the violent interactions of proponents of science and religion, though, is especially apt since the Abbot had just claimed authority, or "the authority of Almighty God...in the name of Christ the King" for the woman victim not to lay hands on her child (318).

In Miller's narrative, euthanasia and Dr. Cors are conflated with the same science that brings an end to the world. Zerchi, in Dr. Cors's statement that pain is the only evil, finds also its "positive equivalent, the craving for worldly security, for Eden [in which] you might have your 'root of evil'" (330). This statement, uttered as Zerchi lies dying from an atomic blast, is directed at Dr. Cors as a representative of the kind of technocratic optimism Miller sees in his own society. Thus Miller is once again launching a critique of science, like Adorno and Horkheimer, in which science itself becomes the root of evil.

When Zerchi (or the narrator) then says, “The trouble with the world is *me*. Try that on yourself, my dear Cors. Thee me Adam we” (ibid), we can be sure that the Abbot, with the “authority of Almighty God” on his side, is “in no way directly responsible for the holocaust that envelops the world” (Bennett 489). All blame for the world’s destruction and “maximum suffering” rests with the science that tried to improve on nature. But what of Dr. Cors’s suffering? Or, for that matter, any complicity in the world’s destruction of the institution responsible for the categories of Good and Evil in the first place?

It is ultimately the lack of “complexity,” in Miller’s estimation, that leads to earth’s destruction. Religion and science are not allowed to properly network, in the Latourian sense, and so religion is not able to check science’s “perverse” optimism. One finds this type of networking in its positive form in the final cooperation of science and religion that brings some “hope” to the end of the novel. “Fiat Voluntas Tua” ends on a theme similar to that with which it began, namely space travel. That a small contingent of monks and colonists may survive the world’s destruction through space travel may at first seem to confound things in this chapter. Many critics find, in the final image of this craft leaving earth, evidence of “Miller’s eschatological optimism... grounded in the biblical experience of divine renewal” (Manganiello 166). Furthermore, this image is one of few images, another being the person of Brother Kornhoer perhaps, of a cooperation between science and religion. Or, as another critic puts it, “It is clear that [Miller] wishes science and religion to act in unison to bring forth the future” (Spector 345). That Spector does not believe such unison is ultimately possible does not invalidate it as Miller’s wish.

Miller no doubt had much material from his own surroundings to draw on as he describes in this section a space race. The narrative explains that when the first starships were built, it was clear that only government could fund them, that it was an unprofitable venture. Governments, however, insist on outdoing each other so as not to appear less advanced than other nations. As Miller sees the space race, then, it is a “flurry of starship launchings as colonies of black people, brown, white, and yellow people were hurled into the sky toward the Centaur, in the name of racism” (301). *Canticle* gives a rather bleak impression of space travel, the motives for which are quite similar to those for nuclear war—racism. Also at this point, though, we are reminded that, while even government space travel was restricted, “a State-Church concordat had existed for a century and a half now; it clearly exempted the Church from licensing procedures...” (300-1). Not only does the Church cooperate in this instance with State powers, it also does so in order to more fully engage in a scientific endeavor. It will exercise this power before the end of the novel.

In fact, it is a spacecraft that will not only allow humanity to continue, but will also save the Order of Leibowitz and its entire Memorabilia. The Order will continue as the Church’s “organ of memory” in the future, “For some may forget. Some may be lost for a time from the Faith. Teach them, and receive into the Order those among them who are called. Pass on to them the continuity” (291). The term “continuity” is not accidental. This group of monks and children will not only ensure the survival of humanity and Church, but through the Memorabilia, it will also in time revive science. Just as the Albertian Order replayed the contributions of Albertus Magnus and Thomas Aquinas to science during the Simplification, so the stage is set for monks and faithful

pilgrims to do so again. The Duhem thesis, Miller assures us, will be proven yet again in the hopes that humanity will learn from its past mistakes. Continuity, in both Miller's and Duhem's sense of the term, is a certainty when in the last two pages of the novel the craft bearing the religious pilgrims lifts into space.

If there is still any doubt that "To Miller's mind, That Which Survives is the Church" (Cockrell 23), it will be quashed by another lingering image from this novel's end. Indeed, an account of *Canticle* would be remiss not to mention Rachel, the second head of Mrs. Grales that comes alive in the final atomic blast and who is blessed with "the preternatural gifts of Eden" (336). Critics and exegetes (or is there a difference in Miller criticism?) interpret Rachel sometimes as a Mary figure, sometimes the Holy Spirit incarnate. Most, however, agree that Miller means to herald the fulfillment of Revelations through this character, who we find is equipped to judge even Abbot Zerchi. Her power over Zerchi thus also alludes to a Judgement day, which in the Christian tradition is the day when God will return to earth to judge both the living and the resurrected dead. The image that we ought most to consider, here, is when Rachel touches Zerchi's forehead and utters the word "Live" (336). In that one word, we are assured that "Fiat Voluntas Tua," if not the entirety of *Canticle* is about judgment.

Judgement though, whether Rachel's judgement of Zerchi's immortality or the judgement passed on science by religious authority and Miller himself, means something else as well. That science is judged as unfit to govern itself, and the suffering of scientists is judged not noteworthy next to the suffering of the religious, means that Miller is changing the meaning of humanism. Much like Tertullian and Augustine modified words like "pagan" and "monster" to concerted religious ends, Miller limits

humanism to the Christian. A scientific humanism, such as that of Dr. Cors, is unfit simply because it does not include religion in its equations, and the supposed result is nuclear destruction. Or as one critic put it “An ungodly humanism results, alas, in an awful anti-humanism” (Wood 37). Church and humanity are therefore saved by a science governed by religion, or a spaceship under the control of the Church. Those such as Dr. Cors are nowhere to be seen; though Zerchi is also “saved.”

Walker Percy has notoriously remarked of *Canticle* that to discover if one “got the book or missed it,” one need only ask him/herself a question, “Who is Rachel? What is she?” (qtd in Cockrell 33). Perhaps the answer is not so easy, though. She represents the worst outcome of science imaginable—deformation, agony, and death. However, she also is an apotheosis—Yeats’s “rough beast” slouching its way to Bethlehem. In Rachel, Miller puts a heavy capstone on his condemnation of science, even as he puts a triumphant crown on that unlikely creature. One thing is certain, when Rachel tells Zerchi to live, she also tells those like Zerchi to “continue” their ethical control of science. As she utters “Live,” then, she also declares “Die” to a science that would escape the control of the Church. Miller’s Christian humanism will live in the new age as the age of scientific humanism comes to an end.

As I noted above with regard to Fredric Jameson, living or dying, humanism continues, but in a drastically altered form. The new form of humanism, championed by strong cultural forces like the History of Science discipline, reacts against the humanism before it by obliterating the importance of history. Rather than the importance of conflict to the old humanism, the History of Science places its emphasis on rhetorical

“complexity” and the rest of society follows suit. Yet the new humanism, in its tyrannical control of historiography even in such forms of literature as science fiction, destroys history and defeats itself. Criticism becomes historical fact and:

Insofar as the theorist wins, therefore, by constructing an increasingly closed and terrifying machine, to that very degree he loses, since the critical capacity of his work is thereby paralyzed, and the impulses of negation and revolt, not to speak of those of social transformation, are increasingly perceived as vain and trivial in the face of the model itself (Jameson, *Postmodernism* 5-6)

While we may see that, in the case of humanism and the History of Science revolt acquires a distinctly different character than it does in the context of Jameson’s late capitalism, still the overemphasis on the critical model (“complexity”) is the same.

The almost simultaneous effects of the dominance of the History of Science may be seen in a novel such as *Canticle*. As the discipline grew from the negation of historical conflict, one may see the emphasis in *Canticle* on cooperation or “networking” of science and religion. Also considering the time in which the History of Science developed, the simultaneous rise of the PR industry and its application to the World Wars, one considers the oversimplification of “good” and “evil” in the novel in a new light. Most importantly, the many “evils” of science allow a rewriting of history to the extent that from the early patristic period and the Middle Ages to the 20th century, any conflict between proponents of science and religion is ignored. This again is done by repeated overemphasis on other cultural facts (poems about Galileo?), so that the reader of a text like Miller’s comes to such historical moments as the author presents expecting a peaceful network—and the text does not disappoint. Jameson might be talking about this novel when he says that the use of such historical names “operates powerfully and systematically to reify all these characters and to make it impossible for us to receive

their representation without the prior interception of already acquired knowledge or doxa” (24).

The presentation of science and religion in *Canticle*, therefore, serves both to reinforce the “prior knowledge” we inherit from the History of Science as well as to distract from “any solid historiographic formation on the readers part” (ibid). In the cultural moments of this novel then, the lived history of scientists such as Galileo, Thon Taddeo, Johannes Kepler, and Dr. Cors is not orthodox. History must not include conflict to be orthodox. The juxtaposition of history and doxa leads us back to the idea of religious motivation. The strong voices of the discipline of the History of Science are arbiters of culture who currently pass judgements about the worthiness of certain aspects of history, and those aspects judged unworthy are summarily excommunicated from their history books. That their depiction of history bears some similarity to the Inquisition is not surprising considering the religious motivations of the discipline’s founders (i.e. Duhem). Religion was therefore present from the beginnings of the History of Science and continues to play a strong role in its critics’ “history.”

At this time, we ought to point out that Jameson is not the perfect interlocutor. Even in *Postmodernism*, in which he seems to criticize cultural forces like the History of Science, he anticipates (chapter 6) that later text of his, *Archaeologies of the Future*. As he will again do in that later book, he says already in *Postmodernism* that, “Utopian visions are not yet themselves a politics” (159). Thus he too disguises the political nature of a vision such as Miller’s, based as it is around a religious polity. When we add to this the statement in *Archaeologies* that, “In SF, however, religion is a kind of mediatory space” (95), we see once again the danger of allowing criticism to reify terms and

establish its own hegemony. Because Jameson, too, does not base his consideration of the rise of postmodernism or his account of science fiction on lived experience, but rather on abstract critical terms, he contributes to the very change in humanism that his change in capitalism seems to anticipate.

Yet we have modified our own focus slightly as well. While we began this chapter by tracing the religious origins of strong cultural moments (such as the progressive era or the rise of PR) and their influence on science fiction, we have now begun to discuss lived experience. I would argue, however, that it is through lived experience that such cultural moments exercise their influence on phenomena like *Canticle*. Walter Miller lived before, during and after WWII, and saw the rise of such technocratic dreams as AT&T began decades earlier. How else would he launch such a strong critique of them? One might argue, then, that his novel is in fact based on a lived history and therefore not on outside cultural forces like the History of Science discipline. Yet he admits that his connection of the Leibowitz Abbey to Monte Cassino, for example, was only “after-the-fact speculation.” In addition, he does not limit the novel to his own experience in WWII, but presents nearly two thousand years of history. His lived experience, history as he knows it, is therefore limited to a time in which all two thousand years of that history is being rewritten—the moment of history’s creation is always post facto.

It becomes even clearer in this third section of the novel that Miller’s “after-the-fact speculation” is based heavily in the newly-established tradition of the History of Science. We may therefore enclose the hermeneutic circle we began in chapter 1, when we asked what came first; Miller or the History of Science. From the tradition as we

have established it in this chapter, a tradition not considered in Luckhurst's (or any other) highly regarded history of science fiction, we have found an answer to that question. The History of Science, reacting to its own predecessors like Andrew Dickson White, borrowed from the PR industry and gave birth to its own hideous progeny. The push to rewrite history took hold of science fiction long before it came to Miller, as one might note in the disparity between writers such as Bellamy or even Wells, and later authors like Lewis. That is not to say that science fiction has not also affected the History of Science, especially in recent years—Latour's *Pasteurization of France* reads very much like a science fiction novel.

Then why study Miller if his is not uniquely beholden to the ideas of the History of Science? The answer lies in the preceding pages. He attempts to present the standardized, orthodox history, and yet fails in some remarkable ways. Remarking on his failures, as we have done in the preceding chapters, presents his readers with a means to deconstruct the very science history that the novel seeks to engender. No longer is orthodox science history taken *sui generis*. Miller gives us a mirror in which we may map the very creation of orthodoxy in relation to science history—and it is a good thing that he does. Without texts such as *A Canticle for Leibowitz*, one might have no idea that an orthodoxy existed with regard to science and society.

We are lucky, then, that *Canticle* has stood the test of time, and is still taught in college science fiction courses. Years after a late humanism was established, *Canticle* still captures the popular imagination. And that is a significant point in itself—this novel has not been as harshly ghettoized as so many other science fiction texts have. One is able to discuss the text outside of the science fiction classroom, just as it was widely

reviewed in the 1960's—not just in pulp magazines dedicated to science fiction, but in a variety of “mainstream” journals and periodicals. It is surely significant that, at the height of the shift in humanistic tendencies as outlined in this chapter, a science fiction novel was able to speak to a larger audience than the readers of pulps. By way of conclusion, then, we shall now discuss these reviews, and precisely how they were able to escape the science fiction ghetto.

Conclusions

The previous three chapters raised many seemingly disparate questions, but we shall now attempt to tie them together in a meaningful way. We have thus far demonstrated a “who,” a “what” and a “why.” That is, the previous chapters show that the movement of the History and Philosophy of science (who) has in the course of the last century instated an ideological approach to history that limits and modifies approaches to humanistic study (what). Furthermore, I have shown to the best of my ability, that this modification of history and humanism is an effort to efface historical violence for personal, religious reasons (why), as demonstrated by Miller’s novel and its comparison to cultural criticism of the 20th century. Now, however, we shall explain *how* this change was effected. Walter Miller alone could not have brought about such a drastic turn in cultural history, especially with only one novel and a handful of short stories. He is only one actor, of many, in this play. Rather it is the critical response, not merely in the academy but in the public at large, which helps to reinforce and reify the ideas Miller presents in his novel. Thus we must look for a moment at the response to this novel, unique as it is for a science fiction work.

The purpose of the first section, then, is to show that Miller’s work garners attention not only by the magazines in which his work was being published, but also by the same people that reviewed such mainstream authors as Vladimir Nabokov. In fact, the reviews of *Canticle* appear alongside reviews of Nabokov in more than one instance. When one reads closely the reviews that are there, whether positive or negative, it

becomes clear that *Canticle* evades the same sort of pigeon-holing that most science fiction experiences. Even more importantly, though, the reason for the widespread appeal of this novel is evidently the religious nature of the text. The reason for this religious appeal is, in turn, the check its adherents intend to put on nuclear science—a popular notion in 1960’s America. Such notice from reviewers, then, bolsters the argument of the last chapter that a distinctly religious humanism has become the popular characterization of humanism.

This theme carries over into the final section, in which we once again look at Miller’s writings, this time his later writings, in the context of complexity and the History of Science today. We shall look at a work from 1986, perhaps the last written work of Miller’s life, to see how his views changed and how that change corresponds to changes in complexity theory and, of course, the new humanism. We then conclude this work with a few statements about the nature of the problems posed by Miller and complexity in our own day and age.

In the world of science fiction criticism, it can be difficult to classify the publication from which one’s information comes. Early “fanzines” created by such notables as Hugo Gernsback and Sam Moskowitz were little more than typewritten documents furiously reproduced in the editor’s basement with circulations ranging from a dozen to, if lucky, the low hundreds. The content of these magazines varied from fiction short-short stories and poetry to soapbox rantings against one’s critical opposition. However, as these publications grew in readership and attracted better, more diverse writers and artists, the presentation of the fanzines evolved as well. As they matured,

they became virtually indistinguishable from their more widely read and professionally printed counterparts such as *Astounding Stories* or *The Magazine of Science Fiction and Fantasy*, in which *Canticle* first appeared. The appearance of academic journals such as *Extrapolation* and *Science Fiction Studies* only served to complicate matters more, as such serious theoretical approaches to science fiction, most of which could not find a home in other academic journals, had previously been the product of fanzines. The problem this confusion presents to us here is that of distinguishing between what is meant by “mainstream” and what it means to be outside of this category.

Certainly, fanzines are not mainstream and the editors of these publications would be greatly disturbed if a literary critic termed them thus. Yet what about *Astounding Stories*? For the purposes of this chapter we shall also consider such magazines, though fairly extensive in readership, in the same marginal category as their fanzine predecessors, namely the science fiction ghetto. Ghetto is the term most often used to refer to the margin to which literary critics who limit the canon to “serious” writers relegate science fiction and many other categories of “genre fiction”. Even peer-reviewed academic journals such as *Extrapolation*, though gaining wider acceptance in later years, are not nearly as highly regarded as their literary counterparts. The first category we shall define in terms of the reaction to Miller’s work, then, is specifically the science fiction community that broadly encompasses fanzines, magazines and journals dedicated specifically to that genre.

The next category that we shall find it important to define is also marginal, and yet less so than the science fiction community. Due to the religious nature of *Canticle* there were a host of other journals that sought to bring the novel to their readers’

attentions and that were interested specifically in promoting the novel's religious themes. Notable among these publications addressed solely to a religious audience are *Catholic Digest* and *Extension*, a journal in which Miller had previously published short stories. While such journals enjoy a much wider readership than those dedicated specifically to science fiction fans, they are still directed to a specific community. In this way, such journals are different than the third and final category in which one found reviews of *Canticle*.

While one might argue the religious neutrality of such periodicals as *Time* and *Newsweek*, which seem to regularly dedicate entire issues to "The Mysteries of the Bible" or "The Historical Jesus," yet traditionally they are known as mainstream publications. More than their tradition, though, they enjoy a readership that is the envy of nearly anyone else in the publishing world. In that same category one might therefore place periodicals as diverse as *The New York Times* and its various "review" spin-offs, or *The New Yorker*, or *The Nation*, all of which gave at least some notice to Walter Miller Jr. And this notice is significant. As almost no other science fiction novel of its time was able to do, *A Canticle for Leibowitz* found its way into the hands of reviewers who normally did not deign to consider the science fiction text. Authors like Orville Prescott normally left to the science fiction community the task of promoting or condemning its own texts. Interestingly, the reviews both within and without this community are equally diverse in their positive or negative assessments, and yet much more plentiful in journals and periodicals that we shall consider outsiders to science fiction.

To begin from inside that community, though, the first of the reviews in science fiction journals both give minimal notice to the novel. Damon Knight tells us in 1960 in

The Magazine of Science Fiction and Fantasy, the same that published Miller's original stories but now with a different editor (Robert P. Mills), that Lippincott has published the novel version...and not much more. Likewise in 1960, P. Schuyler Miller gives a slightly more evaluative review to the novel, which he predicts will win the Hugo award (which it does). More interesting than this rather bland review, though, is the fact that the editor of the predictive piece is no less than John W. Campbell Jr. In the British version of this same issue Campbell calls those who believe alien invasion is imminent "barbarians" (3). Also in true Campbell style he tells us that Aliens would not want to use us as slaves because it is not economical—the same reasons that stopped human slavery, he says, and not "preachments, ideals or any moral force" (125). These statements against moralism might seem to confirm those who point to Campbell as the Golden Age epitome of morally bankrupt technocracy. Yet it is significant that *Canticle* is reviewed positively under his watch, and even accurately predicted to win the Hugo. The Campbellian legend continues...

It is not until February 1961, however, that the science fiction world comes out with a truly substantive review of Miller's newly hard-bound work. Floyd C. Gale, in *Galaxy*, tells us that although Miller's style is quite humorous, "the story far transcends the humor of incongruity" (139). Later in July of that year, S. Cotts, in *Amazing Stories*, calls *Canticle*, "a truly original novel" that supplies "a conscience for this era when Man seems ready to show his folly again" (136-7). In fact many of the reviews quite rightly point out the relation of the novel to atomic angst in the midst of the cold war. However, Cotts is also quick to point out that, "it is an extremely important book, not only for its message but also for its high literary quality" (136). This importance seems to have taken

it off the radar for the fanzines of the times as there are only brief references to it such as “Canticles from Labowitz” a fanzine published by Gary Labowitz or “A Canticle for P. Schuyler Miller,” a memoriam done for one of Walter Miller’s earlier reviewers. Yet everywhere else, within the science fiction community and without, *Canticle* was widely noticed and it is our purpose here to find out why.

As Cotts points out, there is a dichotomy in the work between its message and its literary quality. In fact, most reviewers who look positively on the book seem to find no fault with either. Hence Gale’s praise above addresses Miller’s style, but also the spiritually supportive messages that this style presents. The review further tells us,

Practically all SF stories dealing with religious themes have been top-drawer, written with a careful eye toward perfection because of their controversial nature. Miller’s belongs at the very top of the top. It has many passages of remarkable power and deserves the widest possible audience (139).

Gale’s statement that it deserves the widest possible audience is based not on the story’s elegance or Miller’s craft, but on the “power” of a few passages, insinuating the controversial religious power. This passage is only mildly predictive, though, as reviews were already appearing in diverse corners of the reading world—Miller had already found a very wide audience, and it becomes quite clear in analyzing the responses to his work that this popularity is due in large part to the religious message of *Canticle*.

Miller’s novel in fact has come, “as close to being an undisputed masterpiece as any that has come out of the science-fiction movement” (278), as D. Mullen will tell us later in *Science Fiction Studies* in 1975, the year that a new version of the book appeared on the market. In the same year, Martin Last shows in *SF Review Monthly* how *Canticle*, “caught the attention of the mainstream, even though it was essentially an s/f work, while at the same time it established itself as a masterpiece of the genre” (10). The statements

concerning the book's place in science fiction history are as true now as they were in 1975, though we shall discuss in a moment the evolution in mainstream notice of the book. *Canticle* is as popular now with critics and professors of science fiction as it was to *Science Fiction Studies*' readers 30 years ago. The reason for this continued popularity, I would argue, lies not in the novel's aesthetic qualities, but rather the "power" of its religious sentiments (to those in the discipline who are religious-minded, who are many). Alluding to this notion himself, Last's historical claims turn to prediction when he tells us, "the book will certainly survive long and be a wonder of exploration and interpretation—much like the Bible" (11).

One might expect from this assessment that these reviews' counterparts in religious journals and magazines would be as equally supportive and for the most part they are. One exception, though, lies in Ferdinand Ward's 1960 review in the Catholic magazine *Extension*, a publication in which Miller had previously published some short stories. Ward finds fault with *Canticle*'s lack of "an appealing important character" and the fact that "Dr. Cors of the Mercy Camp and Mrs. Grales, one of the few women in the story are repulsive." His problem with the story, therefore, is in its execution and not in the message it puts forward. As Ward then says, "Miller has written an imaginative story, but he has not made it an enjoyable one" (4). One has to wonder if Ward in fact read the novel. Yet Stanley Rowand in a May 1960 issue of *Christian Century* reminds us that the book is able to rise above its weak characterizations because of its "honest moral passion" (641). Such reviews taken together point once again to the tension between style and content with which Miller's critics have to contend.

However, (Father) Francis B. Thorton gives us perhaps the most enlightening review to come from religious publications. He tells us in the September 1960 issue of *Catholic Digest* how many “Outstanding reviewers of the U.S. speak of *A Canticle for Leibowitz* in superlatives” (11). The reason again for this popularity includes the timeliness of the message. When Thorton tells us that *Canticle* is “a novel about man” (10), he means to tell us that it is about the crisis of faith in the face of the problems confronting “men” of the 1960’s, namely technological threats. The novel’s strength lies in the possible solution it provides to that crisis since, “It is impossible, in a short space, to suggest the enormously rich texture of this fantastic book... The theme of the book is deeply Catholic. Men may go on making ferocious mistakes, but they need not do so if they follow the guidance of God’s Church” (11). It should not be surprising that this message is not so explicitly characterized in other reviews (with some important exceptions that I shall point out in a moment), since the power of apology seems to lie in its avoidance of that moniker. Thorton, though, puts his finger on an important reason for the book’s popularity—it simultaneously plays on the fears of 1960’s technophobes (which was understandably a vast group when nuclear threats abounded) and provides a religious explanation and solution.

One might also notice, however, that when Thorton tells us this novel is about “man,” he is making a larger claim than is first apparent. In a majority of the reviews from any type of source, and regardless whether the review is positive, negative or ambiguous, the reviewers tend to assume that *Canticle* deals specifically with humanism. Whether they discuss the human race, the human condition or call humanism by name, they tip their hat to why this novel is reviewed so widely in the first place—the misplaced

notions of humanism that the book, as discussed in the last chapter, seeks to advance. Speculative though the novel may be, do its covers encapsulate the entire breadth of the human experience? Is humanism, even humanism limited to the post-WWII/cold war era, limited to angst regarding science's part in our future and the corrective measures proposed by religion? In the new, "complex" assessment of humanism in the 1960's the answer appears to be "yes."

It is not surprising, therefore, to find some confusion and more than a little disagreement among the more popular reviews of the novel. John Coleman, in *The Spectator*, exemplifies this confusion as he says the novel, "is more likely to appeal to Catholics and classicists than it did to me" (444). This characterization might lead one to believe that the review is a negative one, but this is not the case. Coleman praises Miller for using "SF jargonry" sparingly and gives "considerable credit" to the novel for the subtleties of its plot. The reviewer's statement above that the novel did not appeal to him as much as it did to Catholics and classicists, therefore, must allude to some other quality of the novel. In fact, he tells us that "For one thing, its humanists got such a poor deal that it depressed me more, probably, than it was meant to" (ibid.) Yet, the explanation ends here, and what follows in the review is essentially plot summary except for the few judgements already noted. Coleman, one of the first reviewers of the novel, points to the gap that *Canticle* creates and the basis of our analysis here. He assumes that the novel pits humanists (one must assume he means Dr. Cors, et. al.) against the religious (Catholics, at least). However, when seen in the larger context of the complexity movement, the novel clearly advocates the replacement of secular humanists like Dr. Cors with a strictly religious humanism. Coleman is perhaps (forgivably) confused.

That the novel is meant in fact to be a humanistic novel, albeit a strictly religious one, is touched on by many more of its other popular reviewers. By the end of the 1960's a *Publisher's Weekly* reviewer declares that *Canticle* is "part fantasy, part allegory, part philosophy, part science-fiction and very humanistic" (67). The questions of genre raised by this statement are many, but perhaps the most pressing is how these many "parts" are equal or complementary to humanism. Can one truly combine fantasy with science fiction, or philosophy with science for that matter? Such questions open a bottomless chasm of interpretation that science fiction scholars have grappled with for years. Allegory, perhaps as an extended form of irony, could play the part of an intermediary for these varied parts—the Victor Frankenstein that sows together his exhumed raw materials. This irony and its instability in the novel, while helpful to our interpretation of it as attempting a change in humanism, is one area in which critics may easily dismiss the book as not serious and banish it once again to the science fiction ghetto. Such critics, one must note, are not the same discussed in chapter one who seek to divorce the novel from its religious underpinnings. Critics of Miller's irony appear to be those who take a utilitarian stance toward literature and dismiss science fiction as trivial.

Two clear examples of such dismissive reviews come from two of the most well known arbiters of high culture in America, *The Nation* and *The New Yorker*, both in 1960. Whitney Balliett tells us first in *The New Yorker* that "Miller, who is a dull, ashy writer, is forced to depend, in addition to his conjuring tricks, on heavyweight irony... But irony, after all, is only a kind of high-toned mockery. It entertains, but it changes nothing" (160). It is especially important to note in this review that Balliett does not disagree with the technophobia exhibited by other critics of the novel, or even Miller

himself. By extension then we might also assume that the review is not negatively disposed toward the religious critique of science, but only the method by which Miller employs it. While this review does not specifically claim religious humanism, yet one might read it as a lament for the missing gravity of religious conservatism.

Marcus Klein drives home this lament in his review from late 1960 in *The Nation*. As he says, “This is no time for scoffing secularists, but Mr. Miller’s is a comic view of the sundered atom which amounts to withdrawal from all immediacy. One wouldn’t want the wretched darkness in order to prove his hopeful theology” (401). The “time” that Klein alludes to is certainly not the speculative epochs painted by Miller, but the technophobic present contemporary to the review and the novel. Indeed, Klein is not a “scoffing secularist” in this review, encapsulated as it is in a larger article entitled “A Slouch Toward Bethlehem,” not so much a throwback to Yeats as a religio-political diatribe. Complexity even finds its way into the article as Klein tells us that “Things have got very complicated” and that it is perhaps too late to “be unilaterally moral” (398). Again, it is very clear that these fairly negative reviews are not critical from the stance of postmodern instability, or of the religious message of the novel, but rather criticize the comical irony on which Miller relies. Yet irony and allegory are necessary for the special brand of “willing suspension of disbelief” called for by the science fiction genre. These two reviews are, in a sense, criticizing that such a powerful story appears in a genre that intellectuals in the reviewers’ own circles would never take seriously.

There are, however, reviewers who do criticize the religious themes of Miller’s novel, or of novels of the time period in general. These critiques, however, are only able

to express their inability to criticize. James Yaffe, for example, in the *Saturday Review* says that,

It is peculiarly difficult for a critic to discuss books with a religious point of view. Any criticism of a writer with sincere religious convictions tends to be interpreted as a criticism of the convictions themselves, especially when these convictions are mingled with the kind of easy idealism about outlawing the atomic bomb which is fashionable nowadays (21).

And yet Yaffe goes on to discuss the book citing Miller's "fluency" and "cleverness" as virtues that merely "call attention to the emptiness which they are trying to hide" (ibid.). While this review points to a problem in criticizing the religious themes of the novel, it seems to have no problem doing so itself. One must wonder whether Yaffe has considered why he is even aware of the book, or why the *Saturday Review* has deigned to notice a work of genre fiction.

Malcolm Bradbury, in *Punch*, also seems to point to a lack in the message of the novel, though he has difficulty in characterizing the role that religion plays in Miller's prose. Comparing Miller to Charles Williams or an "early William Golding," Bradbury claims that the novel's, "religious feeling is in excess of what it tries to communicate" (562). This review, though, also tells us, in a different way, that the novel's themes seem to encompass a sort of humanism. It is, in Bradbury's words, about "the relations of knowledge and innocence, of totalitarianism and individual integrity, of the brute nature of man and the pure pursuit of intellect" (561). That Miller attempts to relay these themes in a pretentious way does not mean, in Bradbury's estimation, that *Canticle* does not "merit high respect for the nature of the attempt" (ibid.). If Miller's methods, though, are later deemed pretentious, then one might conclude that in this instance the "nature" of Miller's attempt to which the review alludes is a religious one. In this review as well,

then, we find that religion is not only unquestioned but correlated in some way to a positive sort of humanism. In *Punch* too we find that the reason a science fiction text is reviewed is left relatively unquestioned, though whether this magazine is “mainstream” is debatable.

Time magazine, on the other hand, is unquestionably mainstream and one might be surprised that in its February 22, 1960 issue it too weighed in, albeit briefly, on *Canticle* in an anonymous review. While it uses the book’s dedication against it, calling it “intellectually speaking” only a scratch where it itches, the importance of this review is simply that *Time* notices a science fiction novel in the first place. But why? Why would a publication whose cover has borne so many important historical figures lift a finger to point at a text from a genre that it, and most every other mainstream publication, continues to ignore to this day? It might be because, “Miller’s faith in religious faith is commendable but not compelling.” In fact, to this reviewer, Miller’s only fault appears to be that his religious themes are overtly Catholic and, “It is difficult to tell whether he believes that better bomb shelters or more Roman Catholics are the hope of the world.” Perhaps such anti-Catholicism is the reason this review remains anonymous, but it also appears that the author too is ignorant of his or her own reason for noticing the novel. If *Canticle* is intellectually bankrupt, why is it noteworthy if not for its religious themes?

If Miller’s Catholicism is too aberrant for *Time*, however, the *New York Times* is able to avoid that problem by boiling it down to a nondescript Christianity. Orville Prescott, himself a well respected writer, assures us in a lengthy review, published the same day as *Time*’s review, that *A Canticle for Leibowitz* is news “that’s fit to print.”

Perhaps not surprisingly, considering Prescott's status, this review is not very guarded in its reasons for tackling the book:

This is an eloquent, an angry and a sad book. But it is not written in any spirit of futile resignation. Mr. Miller, if I read him aright, is saying that men may well repeat past errors, but that they need not. And some men will always preserve the spiritual values and teachings of the Christian religion. Whenever enough do, the vicious circle may be broken. "A Canticle for Leibowitz" is a thesis novel with a devoutly Christian message.

Although Prescott is merely interpreting Miller's own message, one must note that Catholicism has become Christianity. Furthermore, it is this very message that allows the novel to "[soar] above the level of mere science fiction." Again, Prescott very unguardedly tells us that religion, and a general religion at that, is the reason he, an author and reviewer of high culture, has noticed this lowly work of genre fiction.

Religion alone, though, is commonplace enough in literature of the 1960's and though it gives reviewers a reason to notice the novel is not entirely sufficient to account for *Canticle's* popularity. Prescott astutely recognizes that this novel, with its "devoutly Christian message," is also "Mr. Miller's commentary on the nature of man and of history." While the review later misses the mark to some extent in assuming that Miller is portraying science and religion as irreconcilable, the above statement is important in that it rides the current of the popular push to equate the ethical control of science, so in fashion under the threat of atomic and nuclear disaster, to humanism itself. There is an inherent reductionism in this and many other reviews that demonstrates the extent to which "complexity" and its predecessors (i.e. contingency) have inhabited the center of debate in discussions about science's place in society by this decade. The attention from such mainstream reviews attests to this popularity—the *Times* has, in fact reviewed

Canticle three times, twice in 1960 and once in 1986 when a new edition of Miller's novel was released.

If there is still doubt as to the popularity of Miller's own brand of religious humanism, though, there are a host of other reviews that we shall not consider in depth but that also corroborate our interpretation. A brief mention will suffice. G. Wills, in the *National Review* assures us this is a "rare book," and Paul K. Cuneo agrees in *The Critic* saying, "Here is a novel so far above the great majority of those published today." Cuneo even goes so far as to say that the novel "is deadly serious about the gravest problem facing the human race." Maurice Richardson in *New Statesmen* gives us a reason why this story is so "powerful" in that "The post-apocalyptic scenery is well done and the level of theological disputation high." And if some reviews, such as Edwin Kennebeck's in *The Commonwealth*, claim the novel is two-dimensional because a "substratum of pietism persists" (634), we are quickly assured that religion is integral to the novel's broad humanistic appeal. Perhaps W. Norris Clarke, in *America*, sums up this point nicely when he says

The book poses squarely to the reader one of the central problems of our own and *all future* times: Does secular science for its own sake, freed from the control of religion, possess a fatal inner dynamism for its own self destruction and the destruction of the *humanity* that pursues it (712, my italics).

And there are still more reviews that say much the same thing: this is a good novel because Miller proposes an ethical, religious control of science and this stance is the new humanism.

The popularity of *A Canticle for Leibowitz*, the same that seems to take it off the radar for the marginal fanzines of the time, is therefore due in large part to the relation, in its pages and in the minds of its readers, of religious control of science to the "human

condition.” This relation, this new humanism, is precisely what the burgeoning field of the History of Science, with its emphasis on complexity, seeks to support. One might even notice the evolution in the reviews as they begin in the science fiction community with some mention of religion, then expand into religious journals and finally mainstream periodicals that say much the same as their religious counterparts. There is a striking similarity between what Francis Thorton says in *Catholic Digest* and what Orville Prescott tells us in the *New York Times*. By preying on the angst people feel at the threat of nuclear destruction in the 1960’s Miller and his reviewers are able to relate an Augustinian religious sentiment to humanity itself.

Yet we still have not asked whether this suspicion of science is perhaps a good thing. Certainly to readers in the 1960’s it seemed like a great idea to check the process of nuclear armament in any way possible. And religion is perhaps a peaceful way in which to do so. However, one cannot believe that Miller would have advocated the kind of rewriting, even whitewashing, of history that continues to this day in the name of complexity. Sure he did the same thing himself in this novel, but he did so, in the opinion of most of his reviewers, with a very real fear of nuclear weapons and in an earnest attempt to rethink their place in this world. Is this the reason that so many historians of science today ignore historical conflict between religion and science, in fact rewrite history to entirely deny and obscure it? Such actions seem contrary to the message of *Canticle*. The monks of Leibowitz guard knowledge, both scientific and historical, with the hope of avoiding the same violence and ignorance in the future. Even within the novel, how does forgetting the conflict between religion and science build a peaceful network in any but the worst kind of bad faith?

If we may speculate for a moment while glancing at the vast number of reviews of *A Canticle for Leibowitz*, one has to wonder why, with all his success, Miller was unable to ever finish another work. The first assumption is that his inability to write a sequel was due to his inability to ultimately reconcile with the Catholic Church, and that seems fitting given the overt Catholicism of *Canticle*. A tension with his failed Catholicism would have been nearly unavoidable in the sequel. However, again given his popular success and his pronounced analytical skills, could one also not speculate that he noticed the very change in humanism of which he was a part—and regretted it? He lived on until 1996, and surely must have seen critics of science (including complexity theorists) grow in popularity. Could it not be that he saw, in Jameson's words, that critical model becoming an ever more enclosed system? Perhaps he understood on some level how young people in 1930's Germany were initially taken with an idea only to regret it later, and his own words came back to haunt Miller: *Wir marschieren weiter wenn alles in scherben fällt*.

That there is no conflict between science and religion seems to overshadow all of the innumerable other inaccuracies represented as facts by the social movement of the History and Philosophy of Science. One might readily see the inaccuracy of such a statement in interpreting a novel like *A Canticle for Leibowitz* because there is conflict even in this novel, wholly dedicated to a new sort of handmaiden model for religion and science in post-nuclear States, both real and imagined. There is evidently conflict even in the author's own mind, at least as far as is demonstrated by his oscillation between religious faith and nondescript humanism, Catholicism and a sort of techno-Buddhism.

We certainly must consider the act of violence that ended his own life as having something to do with conflict. And in enacting such violence he continually has his finger on the pulse of the movements on which he draws, as is evident in both his early writings (as we have sought to demonstrate thus far) and his later rantings.

Though in his later years Miller gives us very little on which to comment, what is there is rather revealing, not only of a mind in great conflict but also of a social critic with insight into the evolution of movements that, like him, criticize the role of science in society. We might see both revelations in the introduction to *Beyond Armageddon*, the collection of short stories that Miller co-edited in 1985. With regard to Miller's own conflicts, one need look no further than the prologue to the collection, a poem titled "Alibi" and signed "Walter M. Miller, Jr." The poem seems to be partly an answer for Miller's own reclusion and part delirious rant about WWII. It begins, "You ask where have I been for twenty-five years./I will tell you./I live here in the swamp./I live here to save my hide." Twenty-five years certainly alludes to his own reclusion since 1960. However, the poem ends in a much different tone and in prose: "My name is Hitler, Adolf. I shot myself in the mother. Now I live in the swamp with a little brown pussy named Eva. Sieg heil!" One cannot, perhaps, assign to this poem any more importance than a continuation of the rather absurd irony that is Miller's style. Still, it is a rather flippant answer to those who questioned the author's silence for two and a half decades.

His irony continues into the actual introduction, which he titles "Forewarning," when he takes up the topic of Armageddon itself. Immediately evident again in this irony, though, is his own nuclear angst as he offers his own, "modest proposal. It seems to me that if Muammar and Fidel and Zia and Stroessner and the Iroquois Nation and the

Hairy Ainu had a few small bombs, the superpowers would suddenly yearn for real nuclear disarmament” (xviii). Even more typically Miller-esque, though, is that he claims his writing and those he has collected are not really about eschatological technology, but about man’s reaction to such technology. As he says at one point, “It’s just as well that we not try to compete with John’s Revelations and the motion picture *Threads*—both state-of-the-art in portraying cataclysm, religious or thermonuclear. We’d lose. This book is about people” (xii). Twenty-five years, then, has not changed Miller’s emphasis on the new humanism created by the social movements like the History of Science and advocated in *Canticle*. Nor has time lessened his deference to religious authority, transparent though it still is, in claiming humanism as his primary interest.

Things have, however, greatly changed. For one, Miller is no longer the devout Catholic he once was, as we noted in chapter one. This change would seem to exhibit itself later in the “Forewarning” when Miller discusses “Logos” as being a negative form of reason/discourse that “create[s] the object-world, as a dark mirror between us and the One” (xxi). The world, Miller tells us, has come to worship this Logos, which Miller is really equating to science and technology, especially the kind of physics that gave rise to nuclear energy. In other words, empirical (and perhaps teleological) reason and humankind’s fascination with it is to blame for the threat of world destruction. Much more preferable to the “Logos” in Miller’s estimation is the “Tao,” which he equates to something like the Kantian noumenon, or the thing itself (*ding an sich*), before it is inscribed in the Logos-inspired system of language. Thus he says the Tao, “is the Silence without which no word can be spoken, the Emptiness without which no form can

appear” (xxiv). His reliance on religion is thus still apparent, though that religion itself has altered from a devout pre-Vatican II Catholicism to a nihilistic and Americanized Taoism/Buddhism.

Yet the most telling of statements in this introduction comes at the very end. Still referring to the Tao, Miller tells us, “It is the silent Night outside the glaring and roaring city of man, to which one in extremity may at last turn in recognition and spread wide his arms to her: *O Mother Chaos!* Save us from the outcome of our own mad Reason!” (ibid.). Martin Greenberg, in a postscript, will cite this introduction saying, “Like any great science fiction writer, Walt was ahead of his time” (xxv). Greenberg’s assessment is fairly accurate. Miller does predict the popularity of fundamentalists like Jerry Falwell. However, especially considering what is possibly Miller’s final public written statement above, he is firmly invested in his present—the contemporary developments in the efforts to marry science with religion. Thus I interpret Miller’s rants not as destructive of science, but again only that science that lies outside the bounds of religion which, like a good apologist, he equates wholly to State-sponsored nuclear programs. Such science, to him, is “mad Reason.”

In Miller’s estimation there is, however, good science, or ways of knowing, that speak to the Taoist silence he advocates. In Miller’s westernized version of this religious approach to reason, science is only acceptable if it acknowledges the Silence that produced it, the Tao. In other words, science is only acceptable if it acknowledges its uselessness, its ultimate relativity. Relativism, in fact, seems to be the point that we, the reader are to take. In dealing with only the observable, physical world, science is always inscribed in a system that reveals only the system. In order to discover any real truth, the

scientist must acknowledge and defer to the unknowable, the Tao, the One—God, by any other name. Whether Miller is prescient in this assessment, though, is debatable because of his invocation of chaos in the last line. Is not mother Chaos merely the consort to complexity, that avatar of Siva, who as a pair meet by night at the mountaintop to find god in the machine? Is not Miller once again merely reflective of a social (and academic) push to bring science under the reign of religion? A brief note about chaos and complexity might help us to clarify Miller's statements about it.

I have perhaps focused too much already on the Templeton Foundation, so I shall not now cite the funding they have given to research on Chaos even in such well-respected institutions as UC-Irvine or Johns Hopkins University. Instead we shall briefly look at the Santa Fe Institute, which has been a headquarters since its founding in the mid 1980's (note the proximity to Miller's writings) of research on chaos and complexity. Such researchers, who science writer John Horgan calls "chaoplexologists" because of the similarities of the two theories, split their time between running complex computer simulations of "emergent" natural phenomenon and ruminating on "the secret of existence." Chaoplexity is in a sense about the same kind of relativism that Miller employs. Horgan tells us in his own caustic way that, "complexity exists, in some murky sense, in the eye of the beholder (like pornography, for instance)" (197). We have already seen this assessment of relativism hold true with regard to the application of complexity to history where "under threat of torture" can become a friendly invitation, as to a dinner party. But what do we make of Miller's use of the term Chaos and the relativism that comes with it?

Again, Miller seems to very astutely recognize, even perhaps contribute to, the changing approaches of those social movements that would bring science and religion into a peaceful network. Shortly after the publication of *Beyond Armageddon* and the founding of the Santa Fe institute, chaoplexity became “a full-blown pop-culture phenomenon” after the publication of *Chaos: Making a New Science* by James Gleick. A host of other texts then emerged on the same topic, and indeed a new science was made, one that fortuitously continued the tradition of nuclear angst-ridden denigration of science past the end of the Cold War. If to the reader this suspicion smacks of a paranoid conspiracy, though, consider Horgan once again:

Researchers have at times debated whether complexity has become so meaningless that it should be abandoned, but they have invariably concluded that the term has too much public relations value. Santa Fe’ers often employ “interesting” as a synonym for “complex.” But what government agency would supply funds for research on a “unified theory of interesting things” (197-8).

Admittedly “unified theory” is Horgan’s own words, but after our prior discussions of the nature of complexity this statement ought to resonate with the reader. First it should sound like they are finding god in the machine, but also interesting is that they are employing the strategies of public relations to do so.

One might note a trajectory then from the initial advancement of contingency by Pierre Duhem in 1913 and the subsequent reliance of the History of Science on public relations strategies to the state of chaoplexity 80 years later (and beyond). The turning point, though, from an ultimately fragile contingency to a powerful complexity comes about in the mid-1950’s with A. Rupert Hall and, of course, the publication of novels like *A Canticle for Leibowitz*. It is here that theory and public relations achieve an ideal symbiosis, because what is public relations if not the manufacture of consent in the

masses? And what is more representative of the masses than humanism itself? The new humanism of the late 1950's, therefore, by playing on atomic angst, injects into the very system of complexity theory the means by which to justify the existence of such a theory. One needs only cite as evidence of this cooperation the thesis of Miller's novel, science's subservience to religion, and its popularity with reviewers as demonstrated in the first half of this chapter.

The popularity, or the mainstream status of *Canticle*, is nearly impossible to question, as is its reliance on the message of science's subservience to religious authority, after noting the popular reviews of the novel. The importance of Miller's later writing and its proximity to later manifestations of complexity is that they remind us that complexity's program is an on-going process. Chaoplexity, in continuing to inflate science into a theoretical search for divinity, is merely a scientific counterpoint to the complexity of historians that erases historical conflict. Both are part of the same program, a program that spurns method for irresponsible theoretical conclusions. Their lack of method even leads Horgan to call complexity (among other theories), "ironic science," though another term for ironic science might be "mere science fiction." Complexity theorists may sit at computers and run programs that involve no control or experimental group and that deny the legitimacy of empiricism, but they also write histories that claim a humanistic complexity without researching much further than their complexity colleagues. And always religion and science cooperate. What of conflict? What of that very human tendency to combat one another, of Carl Jung's "nature of the beast?"

One might pose another question—what is humanism?—and cite this essay’s lack of a definition. In fact, I have only described a bit of what humanism is not without offering an alternative, and perhaps it is not possible now to remedy this problem. A work that engages both religious and secular humanism must, perhaps stand apart from both the humanities and the sciences, not in the way that Latour seeks to legitimize his work as a pseudo-scientific palimpsest but rather because the humanities in this case seem to be lacking. What is humanism? Apparently *A Canticle for Leibowitz* following the reactions to that novel considered in this conclusion. According to his critics Walter Miller Jr. has written one of the most humanistic novels of the 20th century. And as I have shown, *Canticle* is only a microcosm of a much wider reaching cultural narrative that continually posits the immorality of science as an impetus to violence. In fact, given the bulk of histories, literary critiques, reviews, articles, novels, etc. that collude in the creation of this cultural narrative, one might be tempted to believe that science is uniquely responsible for all of the violence in the world.

Does this oversimplified conclusion, though, not signal a crisis in the humanities? If we revert to Augustine’s 1800 year-old assumption that everything that is immoral is worthless, we find that religion and the religious become custodians not only of science but of humanism in general. In that space the religious become sovereign and may decide at whim what is moral and what is immoral—mores after all are only culturally accepted traditions. What must be remembered, at our own peril, is that in giving our consent to this oversimplification we are also allowing religious authority to continue the very actions that we ignore in history. That is, when religious authorities or adherents claim the immorality of science they engage in the same program of exclusion that has

historically led to violence with similar exclusionary terms like “witch” or “heretic.” It is the duty of a cultural historian to record the historical violence enacted by each facet of the society it engages. If one does not do this, he or she is simply not a humanist and the project of the humanities begun as “Humanism” in the Renaissance has failed.

Such a historical glance at humanism also perhaps explains the impossibility of defining the term in this work. In the Renaissance when the term “Humanism” was first widely used, it denoted a study concerned primarily with the secular world of both the arts and sciences. Half a millennium later humanism has become the humanities and in the institution of the academy is now that which is distinguished from the sciences. Yet the humanities now encompass such disciplines as the History and Philosophy of Science, a discipline that seeks to greatly diminish the scope of humanism itself. Humanism does not exist, at least not as it once did, so perhaps we can never define it. Perhaps it has been too obscured by the program of “complexity,” but that does not mean that we must give our consent to a program of exclusion that continues to this day to deny historical violence. Granting such consent contributes to continued acts of exclusion and violence, though it seems popular in the so-called humanities. In that sense, the sciences have become far more humanistic than history or literature because their ideals, for the most part, appear to be the improvement of the human condition.

But the human condition is not important to the cultural narrative one confronts when dealing with complexity theory. What matters to this movement, as is shown in its microcosm *Canticle*, is that every part of its system peacefully networks and that the narrative and those who adhere to it remain sovereign. By being sovereign they claim to arbitrate a supposedly non-existent conflict between science and religion. Yet the current

state of complexity theory is such that it is a misnomer. It severely limits the very humanism it purports to expand—the human condition since the birth of scientific reasoning. The Santa Fe Institute I discussed above is only one example of this brand of relativism. And if *Canticle* is evidence of complexity's popularity mid-century, then one need look no further for an example that is our contemporary than Cormac McCarthy's *The Road*. McCarthy's is yet another novel about relationships (namely father-son), or networks, in the aftermath of what appears to be the nuclear destruction of civilization. McCarthy, who resides at the Santa Fe Institute and consulted its ironic scientists in creating the novel, won the 2007 Pulitzer Prize for that work. Miller had to settle for a Hugo. Yet the destruction of the world in this novel, unlike in Miller's, is unexplained. It seems that science has become even less important now than the networks that outlive it, the father and son that "carry the fire." McCarthy's novel is just one more example of the turn from humanism to humanities, from a concern with the human condition to a concern for the integrity of the system.

Must we accept the limited scope of this humanism and accept their definition wholesale? If we can avoid this limitation, then Bruno Latour's words (see chapter 2) might take on new meanings. Perhaps we can "challenge those [ironic] scientists" and "follow other paths" ourselves, but first we must accept that science and conflict and all the messy intricacies that challenge complexity's enclosed system also inhere in a truly complex humanism. We must both acknowledge the angst brought on by nuclear armament **and** recognize that this tension has itself been mythologized by those with "other motives," such as theologically-trained "anthropologists." Then we shall find the myth of immoral science and reason wholly unacceptable, in fact a very simplistic way of

considering the interactions of science and religion. And that is ultimately what *A Canticale for Leibowitz* is trying to avoid, a discussion of any war between science and religion. And yet, because it is enclosed in a theoretical system, *Canticle*'s messages conflict.

It is true that in Miller's history, as in complexity's, religion has always acted in science's best interests. However, another important message to take from *Canticle* is that hiding the knowledge of the conflicts of the past inevitably leads to their repetition. It is pointless and dangerous, therefore, to obscure the conflict between, say, Galileo and the Inquisition or Newton and his Anglican colleagues. What motives lie behind the push to obscure historical conflict other than merely saving face for religion when that leaves the door open for such conflict again? That question should give us all pause. The Irish saved civilization, those booklegger monks in the dark ages on which Miller perhaps draws, but did they save it only to destroy it again in the future? Will there be a future in which scientists are again forcefully suppressed, even tortured? The answer could be no. No, not if we expand the bounds of humanism and place conflict once again within the purview of complexity and of history. Acknowledge at every step the mistakes of the past, the violence enacted in our names and the names of our ancestors—we ought to be experts at acknowledging complicity living in a globalizing, post-colonial world. And when Miller's Abbot or anyone else for that matter asks if we are “destined to do it all again,” we may then in much better faith reply with a resounding “No!”

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