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Accommodating the Posthuman in Twentieth Century

Dystopian Literature

A Dissertation Presented

by

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Abstract of the Dissertation

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This dissertation brings together Anglo-American literature, literary theory and the discourses of science and feminist studies of science to articulate a more socially responsible account of science, technology and humans. Central to this project is something that has been called the posthuman, a term which comes freighted with its own baggage, admittedly, but which, nevertheless, is a useful, even necessary trope to illustrate an aesthetics reflective of the technologically mediated world in which the human is immersed.

I have opened and closed this study with Marge Piercy's *He, She and It* because the novel's parallel narratives circumscribe chronologically the de-humanizing of humans and the emergence of the posthuman. The sub-narrative, a fictional rendering of Rabbi

Loew of 16th century Prague who creates, from the mud banks of the Vltava, a golem, rehearses the stock admonishments against human creation. The main narrative, set in a futurist, highly technologically mediated society, recounts the tentative evolution of a non-human centered worldview.

While the selections by Henry Adams, *The Education of Henry Adams* and *The Degradation of the Democratic Dogma*, and Philip K. Dick, *Do Androids Dream of Electric Sheep?*, are, to varying degrees, anxious over the loss of human sovereignty, Kazuo Ishiguro's *Never Let Me Go* and Thomas Pynchon's *Gravity's Rainbow* affirm, in distinctive ways, what feminist science studies writer Donna Haraway refers to as "cyborg politics," a rewriting of humanism's anthropocentric view of the world, the recognition that one is not human, the autonomous being endowed with innate capacities of reason, freewill and self-determination. Rather, he or she is a creature constructed of heterogeneous influences, material conditions and historical consequences. The shift in perspective, as dramatized in these novels, from a sovereign self versus the world to an agential figure more intimately attuned to its own continuity with the world, offers a re-imagining of the future, a hoped for alternative to the speciesist hierarchism of liberal humanism.

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I. Introduction: Golem Alterity

When the pieties of belief in the modern are dismissed, both members of the binary pairs collapse into each other as into a black hole. But what happens to them in the black hole is, by definition, not visible from the shared terrain of modernity, modernism, or postmodernism. It will take a superluminary SF journey into elsewhere to find the interesting new vantage points. (Donna Haraway, "The Promises of Monsters" 114).

To worry or to smile, such is the choice when we are assailed by the stranger; our decisions depend on how familiar we are with our own ghosts (Julia Kristeva, *Strangers to Ourselves* 191).

In Marge Piercy's retelling of the golem myth in her novel, *He, She and It* (Published in the United Kingdom as *Body of Glass*), Rabbi Loew, the Maharal of 16th century Prague, is at once apprehensive and exhilarated about his plan for the protection of the Jewish ghetto. Without the means or mandate to form a brigade of regulars to defend against the sporadic attacks of anti-Semitic thugs, he turns to the mystical teachings of the kabbalah and creates, out of inanimate mud from the banks of the Vltava, an animated being, a golem. As God would be the first to admit, creation involves risk; the Maharal, contemplating the work before him, is, likewise, "speared through by what he has conceived," terrified both of success and failure (Piercy 58). Is his attempt at harnessing the ultimate power of the Word, a blatant act of overreaching, an example of

“unbridled ambition”(58)? By breathing life into a lump of clay, is he usurping Nature by taking women’s place to give birth, or worse, is he playing at being the God of Creation?

These moral, philosophical and theological issues, while consequential, are, for the moment, secondary to the immediate defense of the ghetto. Joseph, Rabbi Loew’s golem, is a boon to the Jews of Prague. His superhuman strength, speed, cunning and wile give him the advantage over any adversary in hand to hand combat. He is tireless, does not sleep, eats earth, and, though created anatomically in the shape of a man with the respective genitalia, is sexually inert. Most importantly he is unconditionally obedient to his master and creator, the Maharal. Yet the Rabbi’s ambivalence persists: “Why do I imagine he is thinking and feeling? Because it looks more or less like a man, I think of it as a man. But it is a tool. A clumsy and dangerous tool that must be carefully controlled” (108).

The Rabbi is careful to let only a few trusted confidants know of Joseph’s extraordinary origins. In the performance of its duty as guardian and protector, however, the golem must circulate among the people he is charged to defend. He must, therefore, be socialized to some degree so as to appear more or less humanlike, to pass among the populace and not incite undue curiosity. But socialization, the Rabbi finds, is not a unilateral proposition:

“You don’t need to look at people so hard,” the Rabbi

advises Joseph, "It frightens them."
"But you don't want me to be stupid. I'm trying to learn,
Teacher. Teach me." (108)

Socialization entails a messy exchange, going beyond merely getting along with people. It becomes evident to the Rabbi that Joseph, despite not being human, does indeed possess feelings and has wants. Primary is his desire to be accepted as a member of the community, a proposal the Rabbi adamantly resists.

"Joseph, you are not a man. You cannot make minyon."
"I am not a man, but I am a Jew. Thus you made me. . . . If I was an angel, would you tell me I could not make up a minyon?" (112-3).

Joseph persists, however, debating the Maharal point for point.

"In dealing with angels and demons, the kabbalah teaches us to be precise. To say exactly and no more. . . . You are a creature of magic, Joseph, and whether you are angel or demon or new life is only for the ha-Shem to say."
"I don't think I'm an angel or a demon," Joseph says. "I have no memories of life before the life you gave me. Like you, I am created of dust and water, as the Torah says." (261)

Joseph's desire to assimilate into the society of the ghetto culminates in his hope of having Chava, the Rabbi's widowed granddaughter, as wife, but this is contrary to the laws of God and nature because, though Joseph may have affection for another, he cannot procreate. Though he desires things beyond crude necessity, this fact does not qualify him for what normatively passes as a self-determining individual among humans.

He is absolutely obedient to the Rabbi and goes nowhere without his permission. The one time he ventures without the Rabbi's knowing outside the ghetto walls, he grows weak and faint and must hurry back.

Later, in a period of relative peace, the Rabbi, increasingly apprehensive of Joseph's anthropic sensibility, decides to undo what he has done. His decision is justified on the presumption that as a nonhuman, the golem has no civil rights: "What he [Joseph] wants now he cannot have, for he is not a man, not a human being, not even an animal" (400). Joseph cannot be "killed" because he was never born; instead, the breath of life is taken back out of him. During the deactivation, his features, face and limbs lose articulation and distinction until the entire body is smooth again as stone. The remains are stored away in the attic of the Altneushul for another time when the ghetto is threatened at the gates.

The narrator of this short history within Piercy's novel comments, for the benefit of her listener, that "creation is always perilous, for it gives true life to what has been inchoate and voice to what has been dumb" (67). Joseph, the golem, Hebrew for a "shapeless thing," "matter," or "lump," formed from mud, earth, has been given the shape of a human man; he has been given speech by which he expresses reason, desire, curiosity, imagination and a yearning for transcendence. The demands of this humanoid are alternately heard or ignored in the novel, heard in the sense that "every artist creates

with open eyes what she sees in her dreams,” or not heard because “the new is necessarily dangerous,” a challenge and threat to the old and familiar, making known what “we were more comfortable not knowing” (67). Loew, his granddaughter, Chava, and others of the community are, to varying degrees, anxious and accommodating towards the strangeness of Joseph. Angels are to be welcomed, of course, and demons are to be shunned, but how does a human comport him or herself toward the otherness of “new life”?

The disparate attitudes we see in Piercy’s novel towards this Other, as characterized by the discomposure of the Rabbi, his seemingly tyrannical control over every aspect of Joseph’s existence at one end, and the conditional acceptance of Chava, describe two responses towards the new: anxiety and accommodation. These responses do not manifest absolutely in either the Rabbi or Chava. Though Loew displays a measure of affection and real interest in Joseph, he is, ultimately, more apprehensive toward him than accepting. Chava does not let her consternation of Joseph’s mystery overshadow her sympathy for him as another who is othered by a patriarchal society. Her rejection of his offer for marriage is perhaps more a rejection of marriage, the institution, than it is of Joseph as a mate. Their responses, Rabbi and granddaughter, enact modernism’s own ambivalence toward the new, its own schizoid hesitations and endorsements.

I describe the Rabbi’s comportment toward the otherness of Joseph as *Modern* in the sense that Clement Greenberg has used the term, that is, not as a particular set of

theories, styles or ideologies, but an “attitude and an orientation” which selects its myths and aesthetic standards from the past. Modernism in this sense is not so much a break with the past but a “means of living up to the past.” Apropos of Rabbi Loew’s predicament, the defense of the Prague ghetto, modernism is a defensive posture in “answer to a crisis,” or as Malcolm Bradbury put it aptly, a response “to the scenario of our chaos” (27). For those aesthetes of the previous century, the crisis was the ossification of a certain Romantic sensibility in art, architecture and music. The remedy was the implementation of a criteria which “reaffirmed the past in a new way.” In this sense, the modern was more reactionary than revolutionary: its practitioners “were reluctant innovators at bottom, innovators only because they had to be—for the sake of quality, and for the sake of self expression”(Greenberg). This particular style of modernism may be understood as “a holding operation, a continuing endeavor to maintain aesthetic standards in the face of threats As the response, in effect, to an ongoing emergency . . . threats from the social and material ambience, from the temper of the times . . .”. Greenberg’s version of modernism is paradoxically a movement that is *retrospective* in outlook, one that is “called into being by new and formidable and middlebrow threats to aesthetic standards that emerged or finished emerging.” Chronology notwithstanding, modernism used in relation with Loew’s attitude towards Joseph is to be understood as a specific impulse towards the preservation of a core aesthetic sensibility. Or as Bradbury phrases it,

“the task of [modern] art is to redeem, essentially or existentially, the formless universe of contingency” (50).¹

What Greenberg derogatorily calls “the ‘postmodern’ business” is typified by him as “a retreat from the major to the minor.” Where Anglo-American modernism is a gathering of selected, so called, universal standards against the chaos of mass modernity waiting in the wings, postmodernism dispenses with the idea of meta-standards altogether. We may, indeed, refer to postmodernism, like modernism, as an attitude, but one that is open to standards which arise according to the situation; there are criteria, rules and principles, but they come with a shelf life. Postmodernism, like modernism, acknowledges the fragmentation of the old order and the impulse to create anew, but not with Anglo-American modernism’s desperate sense of apocalyptic alarm and nostalgia; rather, it embraces the disruption as a source for the opportunity, for the re-verberation of voices repressed by modernism’s neo-Platonic rules of engagement. Opening to the new necessitates certain major adjustments in one’s relations to the status quo, a manifold response: extension, recognition, provision, a giving up and giving away.

Susan Friedman in her article, “Definitional Excursions: The Meanings of

¹Andreas Huyssen cautions against a too neat division between high art and mass culture. He states: “What I am calling the Great Divide is a kind of discourse which insists on the categorical distinction between high art and mass culture. In my view, this divide is much more important for a theoretical and historical understanding of modernism and its aftermath than the alleged historical break which, in the eyes of many critics, separates postmodernism from modernism” (viii).

Modern/Modernity?Modernism,” makes a useful distinction between two modes of modernism. What she refers to as the “nominal mode” is specific to “a set of characteristics with particular material conditions and spatio/temporal locations.” The “relational mode [on the other hand] looks for the latent structure rather than the manifest contents.” Thus,

modernity need no longer reside solely in a specific set of institutional, ideological, or aesthetic characteristics emergent in the post-Renaissance West . . . *Instead, a particularized modernity located in space and time could potentially emerge wherever and whenever the winds of radical disruption blew*, the conditions of rapid change flared up, or the reflexive consciousness of newness spread—whether these were eagerly sought or resisted: whether imposed from without or developed within. (503; emphasis added)

In the relational sense of the term as Friedman employs here, Aeneid’s flight with his father from Troy to Carthage and then to Latium’s shores could be construed as a Modernist narrative, the import and sense of which, a reluctant hero leading a motley fleet on an otherwise meandering junket around the Mediterranean, is rendered, through Virgil’s vivid narrative imagining, into an ordered historical scheme, a mandate for the future Romans to continue the glory that was Greece.

Similarly, what makes Rabbi Loew’s response modernist, as I use the term here, is that the golem was created by means of a particular transcendent aesthetic, an imposition of the *logos*, the universal principle giving order and light to chaotic darkness for man’s

purpose on formless, chaotic nature. Like Michelangelo's "The Dying Slave," Rabbi Loew's creation of the golem on the banks of the Vltava is the rendering of order out of lumpish, shapeless matter, a revealing of the harmony, structure and uniformity that inheres, awaiting the hand of man to administer the template of meaning. Rabbi Loew's fashioning of the golem, transforming a nebulous lump into a speaking, thinking and breathing being through the power of the *logos*, here the kabbalah, is the craftsmanship of a modern artist albeit in Renaissance time:

It is always the entrance of the Word into Matter and everything is born again. He [Loew] feels the energy of something strange and new and terrible and focused to a spear piercing through him and into the clay before him. . . . We are tool and vessel and will. We connect with powers beyond our own fractional consciousness to the rest of the living being we all make up together. The power flows through us just as it does through the tiger Creation is always perilous, for it gives true life to what has been inchoate and voice to what has been dumb. It makes known what has been unknown (Piercy 64, 66, 67)

The irony in the story that the threat more critical than the Dominican, Thaddeus, and his murderous anti-Semites rattling the framework of the ghetto's gate is Joseph himself; his uncanniness strains and threatens the onto-theological framework supporting the Rabbi's universe, in particular his humanist notion of what it means to be human. His is a cosmology "steeped in ancient tradition so that the Torah haunts and informs and sculpts the world for him . . ." (Piercy 21). The science of his day, in which the Rabbi is

conversant, provides a useful description of mundane reality, but often it is at odds with the higher order of religious truths. In that logocentric realm, “thought is action and words are not signifiers of things or states but real and potent forces” (24). And, as the Rabbi soon learns by his experience with Joseph, what is difficultly named is difficult to control.

The golem’s unique monstrosity makes absolute command of him a precarious enterprise at best. Though formed in the shape of man, the golem is nevertheless a “real making new” and so there is a nebulosity about him which can’t be controlled fully. This negativity, mystically created “without thinking about or discussing it,” lies at the root of the Rabbi’s anxiety. Consequently, he is very careful about what he says and what is said to the golem: “[H]e’s obedient. We must simply be careful what we tell him to do—be precise, be careful exactly what we say. Because what we order, he will carry out” (84). Joseph must be spoken to in short simple imperatives and declaratives only, nothing said beyond the immediate situation at hand. Yet, almost from the moment of his creation, the golem threatens to eclipse the Rabbi’s tight verbal control. Walking, he exhibits a childlike, wordless wonder at the world, “gaping at every tree, every bush. The flight of an owl through the darkness brings him to a standstill, mouth open” (83). His interest and naive inquisitiveness regarding people and the world cast them into unique perspectives: “Why do parents love their children What does it mean to mourn?” (111). Such inquiries are met by Loew’s simple command to attend to his duties as the synagogue’s

custodian. Observing the development of Joseph's curiosity in the world around him, the Rabbi comes gradually to be filled with consternation. Ever the neo-Platonist, he tries desperately not to be fooled by the appearances of the senses, but to look beyond sensory illusion for the order giving essence: "Why do I imagine he [Joseph] is thinking and feeling? . . . Because it looks more or less like a man, I think of it as a man. But it is a tool. A clumsy dangerous tool that must be carefully controlled" (108).

Enthralled to the hermetic cosmology of the Talmud, Loew blinds himself to the fact that the golem he has created is much more than a mere tool. While he may not in essence be human according to the Rabbi's humanist thinking, Joseph possesses human-like features; he is curious, he learns and has hopes. Secretly, it is his desire to "be a man like other men . . . to have his own life" and marry (371). As far as the Rabbi is concerned, however, the golem has been an extempore solution to a pressing need, an instrument in the immediate employ of humans. Yet the mitzvah Joseph has accomplished by making the streets safe and the amicable, human-like relationships he has formed with the other residents of the ghetto complicates the golem's deactivation. Yakov's bumbling ruminations reflect the mixture of feelings, the ambivalence felt by all those in attendance: "It's like the death of a man . . . I like the big guy. He's brave. So he shouldn't marry Chava or anybody else. How can a golem marry? He can't procreate. He isn't human, but he thinks, he feels. He saved us. We all know it." (397)

Yet the members of the council are not willing that their religious world-order be challenged or disrupted. They foreclose on the possibility of entering into a fully alterous relationship with Joseph, for that would entail initiating a complete reevaluation of their own humanness, an upheaval of truly universal proportions. As a nonhuman, Joseph is not entitled to inalienable civil rights, so it does not matter that he wants to continue to exist: “he is not a man, not a human being, not even an animal” (400). The chaos of the new has been thwarted, put back into the bottle by the strength and rigidity of humanist taxonomy. Ironically, what the Rabbi and his confidants do not realize is that in Joseph’s yearning to live like a human, the golem evinces, much like his own creator, the humanist desire of transcendence.

What of Chava’s response to the new?

In *Strangers to Ourselves*, Julia Kristeva writes that otherness is disturbing to our “own and proper.” All disturbances, however, are not injurious, some are beneficial, providing opportunities for growth and change. Chava’s encounter with the other can be understood as an invitation to inquire, through the strangeness of the other, into the strangeness of her own ego, the putative human self, a process, by the way, that has already begun by her being female in a patriarchal society. “It is through unraveling transference—the major dynamics of otherness, of love/hatred for the other, of the foreign component of our psyche—that, on the basis of the other, I become reconciled with my

own otherness–foreignness, that I play on it and live by it” (Kristeva 182).

This strangeness within the self is expressed by Freud’s use of *unheimlich*, the uncanny strangeness, the strange within the familiar. The uncanny is that category that is frightening to the self, can only be frightening, because it is familiar to the self, because it was there at the start: “The archaic, narcissistic self, not yet demarcated by the outside world, projects out of itself what it experiences as dangerous or unpleasant in itself, making it an alien double, uncanny and demonical” (Kristeva 183). Thus, what is uncannily strange is for the ego nothing from outside; it is already established in the mind. This resident, strange double cannot be destroyed any more than the ego can destroy itself; rather, it is subjugated, through repression, controlled, but always there waiting to emerge at the proper provocation . . . such as the meeting with a foreigner:

Strange is the encounter with the other–whom we perceive by means of sight, hearing, smell, but do not “frame” within our consciousness. The other leaves us separate, incoherent; even more so, he (*sic*) can make us feel that we are not in touch with our own feelings, that we reject them or, on the contrary, that we refuse to judge them—we feel “stupid,” we have “been had.” (Kristeva 187)

This disorientation is either anxiety ridden, perceived as threatening to the consummate ego, or welcomed as it presents the prospect for an opening to the new. As a “crumbling of conscious defenses resulting from the conflicts the self experiences with the other—the strange,” the experience of the *unheimlich* is a de-structuration, a de-

humanization; it is the annihilation of boundaries that may “remain as a psychotic *symptom*, or fit in as an *opening* toward the new, as an attempt to tally with the incongruous” (188). “Magical practices, animism,” Kristeva points out, “intellectual uncertainty and disconcerted logic are all propitious to uncanniness” (186). To be sure, there is certainly the overwhelming presence of the *unheimlich*’s ambivalence, a “fascinated rejection,” in the story of Chava and her magical encounter with the golem, Joseph. Through the mystic incantations of the kabbalah, Rabbi Loew has exploited “the power of the Word in [material] creation” (58). Just so, Kristeva affirms: in the semiology within which the *unheimlich* emerges, “the symbol ceases to be symbol and takes over the full functions of the thing it symbolizes . . . the sign is not experienced as arbitrary but assumes a real importance” (186).

Negative attitudes toward the strange, Kristeva comments, can nullify the effects of strangeness: “Uncanniness, for that person is changed into management and authorized expenditure” (190). Careful to remain in control, the Rabbi exercises rigid, inflexible authority over not only the golem’s behavior, but his own speculations and reflections as regards the golem’s otherness. Speech to Joseph must be limited, only the minimal directives. Thus enclosed within the logo’s fixed hierarchical chain of being and confined within the strictures and responsibilities of executive power, the Rabbi does not recognize the golem’s yearning for transcendence—to be a man, to marry and be able to make

minyan. His desires are subjugated, repressed, refused and ultimately rendered mute.

Chava's accommodation toward Joseph begins in earnest by her recognizing their mutual otherness: "You're strange . . . So am I" (290). Her situation, as a widowed, literate, independent minded midwife in 16th century Europe already makes her an other in the ghetto. As one who, because of her gender, is denied speech and education, appeasing Joseph's desire for friendship and learning, even after learning that he is not human but a golem, is not a terrible stretch for Chava.. Yet her response goes much further than simple kindness; it extends to openness: "Whatever you are, you are not less than a man" (113). The contrast here from the Rabbi's anxious designation of Joseph as "tool" could not be more acute. Chava's accommodating attitude towards Joseph breaches the hermetic seal of humanism's human,² an enclosure her grandfather is determined to preserve. Her appraisal of Joseph along non-humanist lines leaves room for an alterity according to a situational ethics of a performative relationship that complicates the traditional notions of human and non-human.

Unlike the Rabbi, Chava is not constrained by a set of Talmudic and medieval hierarchical complexes which impose totalized values on the human and the world.

² As used in these specific chapters of *He, She and It*, which take place in the Prague Ghetto, being human encompasses certain privileges, identity, duties and responsibilities having to do with the law, marriage, family and defense of the ghetto. For the Rabbi, the human denotes the autonomous individual created by God, capable of self determination.

Because she is a woman, and so, like Joseph, not allowed to make up a minyon, a bond develops between them born of their exclusion and oppressed statuses. Chava finds out that Joseph's origins are not biological; still, she reasons: "All children are made by a mother and a father. So poor Joseph has only a father one who does not cherish him. Am I to think the less of him for that?" (113). In Joseph, Chava recognizes the *unheimlich*, the uncanny strangeness, what Kristeva calls "the foreigner within" in herself.

"And I am not a man."
"No, Joseph, and that's part of why I like you.
You're strange too. So am I." (290)

Chava is, furthermore, responsive to his desires for transcendence, for they, in many respects are like her own yearnings for recognition as an intelligent, independent woman living in a patriarchal society. Joseph asks her to teach him to read. Literacy among women, Jewish or Gentile, was rare, and so the golem's request resonates with her own previous struggle to gain literacy. Already othered, in the sense that she is a literate, single woman in a society that does not recognize the worth of her intelligence, this strangeness of herself is accommodated and nurtured in Joseph's own struggle for recognition. In company with Joseph, she listens and expresses herself from a point within herself of her own demand. In Joseph's *unheimlich*, Chava "touches" her own strangeness; she "plays on it and lives by it" (Benso 196, Kristeva 182).

The "glory and the guilt" which the Maharal experiences with regard to his

creation manifest the ambivalence, the conflicting sensibilities, that underlies the Rabbi's relationship with Joseph. For Loew, the golem represents, on the one hand, a modernist's desire fulfilled in effective mastery in the administration of knowledge over formless matter, and yet the triumph is suffused with an overwhelming anxiety in regards to the stability of his religious humanist world view. It is up to Chava, the midwife, and others like her who are in some way already othered, who are in touch with a strangeness they already own, to be openly accommodating to the prospect of "golem" alterity, thereby opening the human to the possibility of other conceptual incarnations.

"A Superluminary SF Journey" (Haraway, "Promises" 114)

The episodic history of the midwife, Chava, and the golem, Joseph, is told in *He, She and It* by one of the Rabbi's distant descendants, Malkah, an aging anarchic programmer, living in a future dystopian world. The experience of Chava and Joseph parallels in many ways the characters in the main narrative, Shira, Malkah's granddaughter, and the cyborg, Yod. A young single woman, othered by the masculinist society in which she lives, develops an alterous relationship with a golem, formed not of mud, but of circuits and silicone computer chips. For all their similarities, the stories are not simple retellings of each other. One of the major differences between them, besides Chava's ultimate rejection of Joseph's advances and Shira's acceptance of Yod's, are the

significant differences between the golems, Joseph and Yod. Joseph, huge, clumsy and dull, is devoted but must be closely supervised; he is, furthermore, hardly an attractive candidate for Chava. Yod, on the other hand, is the product of 500 years of science and technology separating him from his prototype. He has the strength and finesse of a superhero; he is hyper-intelligent, considerate and an untiring lover. Moreover, he can act on his own, spectacularly defiant, as shall be seen.

In 16th century Prague, modernization was still in infancy. Only the well educated, or highly literate, like Rabbi Loew, had access to the knowledge and learning of science then being generated. Technology was even more limited, used primarily to wage war, to construct weapons and artillery, faster and more powerful ships and the research and development of navigational instruments to get those ships across trackless oceans. By contrast virtually every aspect of Shira's future world is already highly mediated by technology and the epistemology of scientific thinking. To paraphrase Frederic Jameson, science and technology is not a choice, but a cultural dominant with no external location. The thorough integration of techno-science into the lives of the posthuman³ actors in the future have changed their ideas of what they are and what the other is. During a tense moment in their relationship, Shira feels compelled to say to Yod that "[W]e're all

³ Here and throughout, I will use posthuman and human more or less interchangeably. Posthuman means an epistemologically denatured, technologically mediated human. In those sections where I am discussing humanism and liberal humanism, it should be obvious that human is used in the humanistic sense.

unnatural now. I have retinal implants. I have a plug set into my skull to interface with a computer. I read time by a corneal implant. . . . We're all cyborgs, Yod. You're just a purer form of what we're all tending toward" (150). For over half a millennium, humans have been "tending toward" a reevaluation of the human of which retinal implants are only one small expression.⁴ Shira's unnaturalness, her uncanniness and willingness to engage with Yod in a way that Chava cannot yet conceive of with Joseph—"I no more desire to marry him that I do . . . your doorstep" (372; ellipsis in original)—depends on Shira's different view of self: she does not think of herself as human but as a denatured human, a *posthuman*. Shira's posthumanity is not just a matter of technological enhancement but her sense of her own subjectivity in relation to Yod and others. As Katherine Hayles states in her book, *How We Became Posthuman*, "Whether or not interventions have been made on the body, new models of subjectivity emerging from such fields as cognitive science and artificial life imply that even a biologically unaltered *Homo sapiens* counts as posthuman" (4). The accommodating interrelationship between Chava and Joseph adumbrates, or gives us a foretaste, of the more fully realized *intrare*lationship between Shira and Yod. What we see between Chava and Yod in Renaissance Prague is an affiliation between persons who are not considered fully human

⁴This is not to suggest that how *Homo sapiens* see themselves has been static up until now, only that the modern review is different because it is largely conditioned by the mediation of science and technology. See Huyssen 9.

in the onto-theological world view of Early Modern humanism and the Talmud. Yet it is the very condition of being othered which allows them a small measure of freedom to fashion their own personalities and relations. In Shira's future world, the influences of humanism and the Talmud is attenuated. The connection between Shira and Yod is a true *intrare*relationship in the sense that it is co-constituting, not of discreet, natural egos, but of what Donna Haraway calls "permanently partial identities" ("Manifesto" 13). In this future affiliation, the machine gives way to a "person," the human gives way to a posthuman.

The Posthuman Condition

No attempt is made here at a definitive meaning of "posthuman."⁵ Denatured humans are posthuman; beyond that, however, the posthuman defies durable definitions. Rather than conceptualizing the posthuman in entitative or ontological terms, I want to think of posthuman as a *condition* or a set of conditions in open evolvment. This idea, I think, may best be represented in the centrifugal and centripetal dynamics, what has been

⁵Many theorists, Haraway notably, are reluctant to use the term "posthuman" and even more squeamish about affixing "ism" to it. This may be because of its (unfortunate) association with the discourse of transhumanism, which is a reductionist idea that humans are essentially information, and that the formal means of this information is incidental. In its popular interpretation, transhumanism is the technological enhancement of the biological human. Extropianism, its extreme version, posits that humans are information everlasting and they can assume any form conceivable, form itself being information.

referred to as “the coming and dying of meaning,” of the novel form (Holquist xviii).⁶

The novel, from inception, a marginal, bastard offspring of multiple genres, with its cacophony of voices, does not recommend itself well to the intentions of monologic discourse. Rather, the logic is irreducibly multiple; it is, as Bakhtin writes in his seminal essay, “Discourse in the Novel,” “dialogic,” by which he means,

the characteristic epistemological mode of a world dominated by heteroglossia. Everything means, is understood, as part of a greater whole—there is constant interaction between meanings, all of which have the potential of conditioning others. Which will affect the other, how it will do so and in what degree is what is actually settled at the moment of utterance. The dialogic imperative, mandated by the pre-existence of the language world relative to any of its current inhabitants, insures that there can be no actual monologue. (426)

The novel, this playground of language, is not tendered as any kind of substitute for the methodology of science but as a compliment to it, or more precisely, understood as a corrective to science’s pretensions to “certain knowledge.” By complicating its claim to disinterested knowledge with the idea, purveyed through the novel, that knowledge is socially and historically situated, that it is partial, this dissertation undertakes the task of (re)visioning science as a more socially responsible discourse. As such this project

⁶ Unlike the epic or the Bible, which share “a presumption of authority, a claim to absolute language,” the novel is, he continues, “aware of the impossibility of full meaning, presence, it is free to exploit such a lack to its own hybridizing purposes” (xxxiii).

occupies a liminal space between so called fact and fiction, moderating their dialogue, complicating their meaning and reveling in their lack of closure.

The literature I have chosen for this dissertation thematizes evolving and emerging conditions of our posthuman selves which I feel are important in articulating a new mode for social and environmental negotiation. These modern works span more than a century and vary according to subject and genre. One characteristic they all have in common is a preoccupation with science and technology in relation to the human being. Technological mediation is a *fait accompli*. The effect of this transformation is to give the narratives a climate of consternation, a dystopian *mise en scène*.⁷ None of the works are naively optimistic that science and technology are the paths to a ideal world promising universal freedom and happiness, yet none are anti-science either. None have much science and technology *per se* in them; rather they are *about* science and technology and the looping, constitutive feedback between science and technology and society.

As to the conditions of the posthuman, the first considered is posthuman

⁷ Though Adams's works and Pynchon's *Gravity's Rainbow* are not usually thought of as dystopian literature, they are, like the other works considered, "watchful over the intrusion of scientific values—objectivity, neutrality, instrumentalism—into the social imagination" (Aldridge ix).

Discussing the genre bending aspects of *Gravity*, Brian McHale writes that "Thomas Pynchon's position in the feedback loop between SF and postmodernist fiction is . . . more crucial than [William] Burroughs's *Gravity's Rainbow* (1973) in particular, is pervasive in cyberpunk fiction at all levels, from the minutest verbal details right up to the paranoid world-view and conspiracy theory of history characteristic of most cyberpunk fictional worlds" (231).

epistemology. Henry Adams's *The Education of Henry Adams* is not considered in its entirety, only those chapters in which he discusses knowledge, science and technology and the scientific mind, all issues which receive a much fuller, climatic treatment in his posthumously collected volume of essays, *The Degradation of the Democratic Dogma*. Adams's great anxiousness was not in regards to golem or cyborg humanoids on the near horizon but an abiding consternation with a way of thinking that is posthuman.

Adams's prescience as regards science and technology was remarkable. He was not a techno-enthusiast, nor was he a Luddite, but he sensed that one could not remain neutral in the face of the transformations science and technology were bringing. His immediate concern was with the power of techno-science and the paradigmatic changes it was having and would have on human thought. Science and technology, he believed, must be conscripted within the granderegis of human knowledge and progress or it would subsume humankind. His attempts at gaining the upper hand were in accord with the liberal humanist⁸ assumption that because human reason transcends experience, belief, culture and history, human knowledge, even if incomplete, is, potentially at least, unified. With the right reasoning, anything can be understood: things may be unknown,

⁸ Catherine Belsey, in *The Subject of Tragedy*, states that "the common feature of liberal humanism . . . is a commitment to man, whose essence is freedom. Liberal humanism proposes that the subject is the free, unconstrained author of meaning and action, the origin of history. Unified, knowing, and autonomous, the human being seeks a political system which guarantees freedom of choice" (8).

but they are not unknowable. But by the late 19th century, the dream of epistemic closure was already being undermined in some areas of inquiry. Research was conceived as the determination of riverbed propositions not bedrock facts. Parity gave way to probability: it was not that Newton was wrong, and certainly not that his accomplishments were obsolete; they were simply inadequate to account for some of the new findings that came with increasing rapidity in physics, astronomy and the natural sciences. Ultimately, Adams's attempt at unifying human knowledge scientifically was a failure. His work must stand as a highwater mark in liberal humanism's will to unify knowledge.

These differing epistemologies, liberal humanist and posthuman, are illustrated dramatically in Kazuo Ishiguro's recent novel, *Never Let Me Go*. Human clones are raised in institutions so that their organs, upon maturity, can be harvested to save the lives of normally conceived and delivered humans. A group of humane, well meaning educators, the so-called "guardians" of the clones and several philanthropists set for themselves the task of proving to the world that the clones are in essence, if not in conception, human, that they have "souls." Their strategy is to demonstrate that the clones are more than animals, that they are endowed with faculties that transcend mere instinct. They will accomplish this by developing the artistic talents they feel inheres in the minds of the young clones. Though they do manage to focus some public attention on the material conditions of the clones, that interest is short-lived. The clones gain no reprieve,

ultimately, and their lives are condemned to “run the course that’s been set for it” (266).

What is of interest for the present discussion is the standard by which the guardians propose to affirm the clone’s humanness. Ishiguro taps into a liberal humanist strategy of developing the “properly human” through being “reared in humane, cultivated environments” (Ishiguro 261). The instantiation of this ideal references what I call the “Huxleyan Individual” as it is represented in that other British novel about cloning, *Brave New World*. Huxley, a political writer, understood that freedom, autonomy, the capacity to act independently of instinct or environmental influences, all emanate from the human’s innate sense of him/herself as an individual. Art is a kind of supreme expression of this individual for it possesses a kind of “super-truth, more probably, more acceptable, more convincing than fact itself” (Huxley, *Music at Night* 5). Art and the affective and aesthetic sensibilities necessary to produce and appreciate it are uniquely human, Huxley believed; they are “compulsions of [the] individual” (Birnbaum 64). Huxley’s ideas on human knowledge were complex and nuanced. He did not, like Adams, concern himself with unifying knowledge scientifically. In fact, as far as Huxley was concerned, the inadequacies and contingencies of science were readily apparent. Yet, like Adams, Huxley was anxious about the fragmented state of the modern world and concerned with finding a “unitive knowledge” by which to bring “the mess of human problems” under control (Birnbaum 78).

An alternative view of the clones' humanness is to be found in the narrative text of *Never Let Me Go* itself as told in the personal journal of a female clone we know only as Kathy H. The "author" of the journal creates a unique notion of the self through the compilation of selected fragments arranged into a coherent, identifiable "literary" person. The person that emerges from the journal pages is not the intrinsic autonomous individual of liberal humanism, Huxley's individual, but a Proustian Self, a composite of many overlapping layers of affective experiences.

The next chapter is concerned with the constitution of the posthuman actor. In Thomas Pynchon's *Gravity's Rainbow*, Lt. Tyrone Slothrop, during the final days of the Second World War, attempts to find his identity, his selfhood, in the nowhere land of the Zone. Wandering around from town to town, assuming an array of guises and names, partaking in sundry escapades and crusades, Slothrop's sense of himself overtime gradually becomes de-centered and de-essentialized. At the end of the novel, the former self known as Slothrop is emptied of essence, vanishing into a self that is superpositional, of no location at all. Prior to that end, however, the multiple narratives in the novel suggests a fresh conception of alterity for the posthuman. The complementary relationship between Slothrop and the V-2 rocket is conceived not on the ontological notion of presence but on the Eastern mystical conception of emptiness. Using Maurice Merleau-Ponty's understanding of reversibility, a perceptual process establishing the

intra-corporeality of the sentient and the sensed, I demonstrate how *Gravity's Rainbow* reconfigures the human, in contradistinction to the plenary individual of liberal humanism, as constituted in a chiasmus with the other.

The final chapter concerns itself with the posthuman ethics of the non-human. In Philip K. Dick's novel, *Blade Runner*, here cited under its original title, *Do Androids Dream of Electric Sheep?*, and Marge Piercy's *He, She and It*, posthumans have already been living in thoroughly technologized worlds. Both novels raise the ethical issue of cyborg rights: does the fact that cyborgs are self-aware privilege them with the same rights as humans? The novels give the same answer—yes, they do—but for very different reasons. Though liberal humanism's physical human is absent from Dick's work, its ideal, what Dick refers to as the "the authentically human mind" ("Android" 196) is ever present. By virtue of this essence, posthumans are validated. Dick's "Family of Man," in other words, is not closed to cyborgs and androids as a genus. If these humanoids behave according to certain prescribed modes, certain of which rehearse core principles of liberal humanism, then these non-humans are accorded "a humanity which no analysis of its transistors and relay-systems can elucidate" ("Android" 186).

Piercy's novel takes a different approach. The modern human and its epistemology, excepting a few elders of traditionalist thinking, are absent. In its place is a more neutral, inclusive trope, the *person*. Piercy's person is not descended from the

intrinsic corporate body of modern jurisprudence but what I see as, borrowing a concept and term from anthropology, a “dividual,” a self-aware actor constituted of heterogeneous sources material and immaterial. Both *Homo sapiens* and self-aware cyborgs are, the novel suggests, person(al) dividuals to be accorded the same rights and privileges.

One looks reflexively for an overarching theme in *He She and It* to characterize the differences between Chava’s nascent and Shira’s more mature accommodation of the non-human other. Chava’s relationship with Joseph begins with them both considered other-than-Man. The society of Orthodox Judaism was/is patriarchal, assigning women a lesser natural status than men. Unattached women like the widow Chava were relegated to an even more tenuous station in life. Indeed, as Ruth Bienstock Anolik states “an unmarried woman is called a golem, since her nature is not fully rounded until she is married” (42). In 16th century Prague, opportunities for women outside marriage and home making were extremely limited. This constraint was no doubt exacerbated in the confines of a ghetto. Chava, the midwife, has ambitions far beyond the tradition role for women; she is curious about the world, wants to travel, and, most importantly, as regards Joseph’s alterity, she does not have a closed view of what it means to be human.

In Shira’s future world, though sexism is still latent and expressed, the most extreme prejudices of patriarchy have been mitigated. At the end of the novel, with Yod, her cyborg lover, destroyed, Shira emerges stronger from her long struggle for custody of

her child and on behalf of Yod's civil rights. She increases her involvement in the life of her town, Tikva, assuming positions of authority and responsibility, and getting appointed the Base (the Net) Overseer. We see her discovering "a swelling power, an intensifying concentrated energy for work She too could scheme; could fight; could kill" (423).

Yet rather than tease out a thesis from past and present conditions of modernity, how feminists have successfully critiqued the practice and discourse of science and technology for an emancipatory politics which has simultaneously contributed to anti-humanist discourse, I would prefer to focus attention to more specific instantiations of the feedback and recursivity between Haraway and Piercy's works as regards "cyborg ontology."

At the close of her "Manifesto," Haraway describes "cyborg politics" as "the struggle for language and the struggle against perfect communication, against the one code that translates all meaning perfectly, the central dogma of phallogocentrism (34). Haraway maintains that it would be a mistake for feminists, because of bullying and because of the past and present injustices of sexism, to cede the field of science and technology to white male capitalists. She argues instead that cyborg feminists and anti-humanists alike must engage themselves in the rewriting "of their bodies and societies" ("Manifesto" 35). This exhortation is indeed a major theme in Piercy's novel. While

Shira's transformation and "swelling power" are important and positive developments, the fruition of a self that Chava could only dimly hope for, it is Malkah, the erstwhile anarchist and grandmother, more than anyone else in the novel, who embodies and enacts the spirit of Haraway's "cyborg politics." Though Yod was engineered by Avram, a white male humanist, to be "pure reason, pure logic, pure violence," Malkah subversively writes Yod's software program to have a "gentler side, starting with emphasizing his love for knowledge and extending it to emotional and personal knowledge, a need for connection" (142). "[P]lundering" Avram's log books and reprogramming Yod's disposition, Malkah made sure that Yod would not be the pure scion of male scientific power.

Malkah's piratical ventures are not equal, either in drama nor in number, to her daughter Riva's, but for the purposes of a posthuman politics, her subversion is seminal and exemplary. In *The Golem: What Everyone should know about Science*, the authors make the analogy that science and technology are like a golem, a creation that is very powerful but not always tractable and so potentially dangerous: "it will follow orders, do your work, and protect you from the ever threatening enemy. But it is clumsy and dangerous. Without control, a golem may destroy its masters with its flailing vigour" (1). Whether the golem of science and technology is used for domination or liberation depends on who is giving the commands. To command, of course, one has to be literate in the language the golem understands, a fact with which the Rabbi and his distant

discendent, Malkah, are well acquainted. The purport of Collins and Pinch's book, so they state, is "to change the public understanding of the *political* role of science and technology" (145; emphasis added). They attempt to accomplish this by demystifying science for the non-scientist: science is not, they demonstrate, the straightforward operation of theory and result, but a human discourse subject to the whims, prejudices and constraints of any other social endeavor. This does not involve so much the public's comprehending science in its technical intricacy as knowing more *about* the context of science, its drama of money, of power, of institutions and personalities, its politics. Their book is a call to the public to be more actively engaged in scientific debate. Like Haraway's cyborg politics which "insist on noise and advocate pollution, rejoicing in the illegitimate fusions of animal and machine" (35), Collins and Pinch want to complicate science's perceived notion of "certain knowledge" in the hope that "a more useful understanding will emerge" (Collins 148), one that is more publically responsible.

We can no longer afford to be "Modern,"⁹ which is to say we can no longer afford to be human. That epistemic center is not holding. The literature discussed in this dissertation are without exception cautionary tales for a global community. In their

⁹ I use "Modern" here, in the sense that Bruno Latour uses the term in *We Have Never Been Modern*, as an epistemology that purifies humans from non-humans. Latour's theory will be explained further in the next chapter.

separate, imaginative ways, each of these works of literature issues the same call that Collins and Pinch's book does: Don't leave science to the scientists. We cannot, like Rabbi Loew when we are fearful and insecure or don't particularly need it, put the golem of science and technology in a remote closet and forget it until we need it later. A technologically mediated world will increasingly be a given in our posthuman lives. Most of the works of literature considered here take place in a future. But those futures are not bright nor particularly promising. The predominating tenor is dystopian. Space and time have shrunk. There is little wiggle room and a diminishment of headroom. Because the world's margin of forgiveness has narrowed anxiously, options have shriveled or become non-existent. Unlike the works of imagination considered here, however, our future is as yet unwritten. It is up to those who conceive of themselves as posthumans whether they will allow the Avrams of the world to script the future for their own humanist ends, or whether they themselves will take part in its writing.

II. A Theoretical Interlude: Imagining the Posthuman

In the relational sensibility of the present era, conceptual approaches like hybridity, agglomeration and connection, strategies which regularly transgress given boundaries have found traction and supplanted in many areas of science older models of organization based on distinctive exclusivity. In the place of ontologies of essential entities, there is what might collectively be called an economy of connectivity or relationalism.¹⁰ We may mark the inception of this view with the frustration, over a period of time on a variety of fronts, toward an attitude that understood humans and the furniture of the world as qualitatively discreet constituents, as intrinsic subjects and objects. Specifically, this view has failed to adequately account for the range of action(s) that has transpired between humans and the environment. Ontologies and epistemologies, employing a panoply of ideas structured as dualities and capacities, were imposed upon a world-in-itself that yielded, supposedly, with persistent probing, its presumed secrets. Yet it had become increasingly difficult to maintain the clean, positive cleavages between subject and object

¹⁰ This economy emphasizes, among other strategies, the actionable practices of science between observer and observed in lieu of mastery over an otherwise stationary menagerie of objects. In *Engaging Science*, science studies scholar, Joseph Rouse, argues that science should be philosophically reconceptualized as something scientists *do* rather than as a body of knowledge and methodology (37).

on which this view depends.

The focal question of Modernism, How can man be both constituted and constituting? has been rephrased in the quantum era as “The problem of measurement.”¹¹ Scientists in some fields of inquiry have come to see that the observer was never ‘over against’ the observed, hermetically removed, but that, in the act of observation, the observed was in some way constitutive of the observer also. A rather major adjustment in the epistemic topography of modernism was necessary: into the chasm dredged between subject and object by the concepts of dualist epistemology were thrown the constituents themselves, mind and body, human and world, both de-essentialized and reclassified as indistinct “actors,” and agents, inextricably “entangled” and entwined with each other.

Historically, the response of humans to the demands of non-humans has been privileged denial, privileged because humans in the West, or at least those with the means, have for some time had the luxury to ignore the call of non-humans. In the past half century, however, the strategy humans have employed, using non-humans against themselves, that is, technology that humans have implemented to great effect in the abstraction, reifying and distancing of non-humans, has come full circle. As Bruno Latour claims in his opening argument to *We Have Never Been Modern*, “A single thread links

¹¹ There are no clean descriptions of nature. In our macro world such contamination goes unnoticed; on the quantum level, however, spill-over is a brute fact: measuring and observation do something to the observed. How quantum probabilities are converted to well-defined outcomes, i.e., reality as we know it, is not well understood.

the most esoteric sciences and the most sordid politics, the most distant sky and some factory in the Lyon suburbs, dangers on a global scale and the impending local elections or the next board meeting” (1). The epistemic contortions humans have depended on for centuries to keep the liberal humanist chain of being entire has simply become impossible to maintain: “Press the most innocent aerosol button and you’ll be heading for the Antarctic . . .” (2). Our “kinship,” the relatedness and connections between ourselves and non-humans, is part of our everyday life. Hoping to appease the non-human we have for so long exploited, we recycle at the curbside, we buy products only from renewable resources, we bundle our errands about town into one trip and conceive of ourselves and the world as One. But that isn’t enough.

The overdetermined “anxiety” of modernism, an anxiousness about the modern, of everything from the mechanization of “mankind,” to reproduction, to the low brow aesthetics of mass culture, has lost its critical edge. In old age, modernism has become reflexive: does it still provide the warrants necessary to remain “modern?” In the face of increasing mediation, hybridity and contingency, the “guarantees”, as Latour refers to the vouchers of modernism’s constitution, have been attenuated or expired altogether. “The Constitution explained everything, but only by leaving out what was in the middle Now hybrids, monsters . . . [and] cyborgs are just about everything” (47)¹² and

¹² Modernism’s four constitutional guarantees are: 1) Nature has always existed and has always already been there. 2) Human beings, and only human beings, are the ones

everywhere. At issue is the set of operations and maneuvers modernism uses to divvy up the world: human and non-human. Latour explains that nature, its things and processes, is allocated to science; humanity, on the other hand, falls to the purview of sociology. He calls the work of these respective disciplines “translation” and “purification”; that is, while science engages in the creation of “mixtures between entirely new types of beings,” sociology goes about keeping that world at arm’s length by the creation of “two entirely distinct ontological zones” (10). As “long as we consider these two practices . . . separately, we are truly modern” (11). The problem for modernism is that lately it has become more difficult to maintain that border. The work of mediation and purification can no longer be parsed functionally because mediation of the human is everywhere evident. For some time now the purifying terminology of subject and object has been untenable: it is difficult if not impossible to frame discourse in the neat nomenclature of human and non-human. A new lexicon is indicated, a new epistemology needed.

Denaturing The Human

For pre-moderns the uniqueness of human capacities was deduced, among other

who construct society and freely determine their own destiny. 3) There exist a complete separations between the natural world (constructed, nevertheless, by man) and the social world (sustained, nevertheless, by things); thus, there is a separation between the work of translation and purification. 4) God existed to create Man and earth, but he doesn’t meddle in the affairs of either (Latour, *We* 30, 31).

epistemic strategies, qualitatively through observations of nature and extrapolation, or by scriptural exegesis, typological resemblances and analogies. Categories between species were not rigidly fixed. In classical mythology, gross interspecies violations occurred as exemplified in the transformation from classical mythology of Daphne turning into a tree to escape the clutches of Apollo. Pre-modern folk culture similarly abounds with trans-species creatures that were part human and part wolf, or horse, etc. Even the boundary between animate and inanimate matter was not robust but indistinct and permeable.

For the moderns, humans were uniquely accorded singular faculties; these capacities when they were not “self-evident” were established by reason, induction or experientially demonstrated. According to Descartes, “Man” was distinguished from all creation by a vital consciousness that can deny everything except its *ability* to deny. Beasts, by contrast, lacking freewill, were specified in terms of instinctual mechanism. Descartes of course did not have the last word on the essence of modern humans. Many theoretical models of the human followed throughout the course of the Enlightenment. What emerges from this era, however, is a sense of autonomy: no longer was “Man” an endomorph, ancillary to divine will, but innately possessed with freedom and the light of reason.¹³ His sovereignty was expressed in the orienting of himself at the center of the

¹³ In “The Laws of Ecclesiastical Polity,” Richard Hooker writes that “by force of the light of reason, wherewith God illuminateth every one which cometh into the world, men being enabled to know truth from falsehood and good from evil, do thereby learn in many things what the will of God is; which will himself not revealing by any

natural world around him. During the great age of taxonomy in the 18th and 19th centuries, a period during which species—and knowledge itself—were divided and subdivided into intricate disciplinary branches of origination and development, humans were contrasted with other species as tool and language users. Humans were emotive and reflective; capacities, attributes and traits which were, on the evidence selected, exclusive to the human experience.

“[A]nthropological discourse” Nicholas Pethes writes, “has always been based on exclusion and distinctions, framing the ‘inside’ of humanity by excluding mere mechanics, mere nature, and supernaturalism. Based on these exclusions, the fundamental anthropological distinctions—freedom versus determinism, culture versus nature, individualism versus uniformity—were developed” (178). Many modernist philosophers of this century have continued to think of humans in these terms of intrinsically unique endowments. For Levinas, humans are exclusive ethically in that they “break with the pure being [of animals and of Heidegger’s *Being(!)*]. . . the struggle for life” because humans know that “there is something more important than my life, and that is the life of another” (Levinas 178). We may regard Heidegger and Levinas (along with Sartre’s neo-Cartesian phase) as a culmination of two strands of modern liberal humanism:

extraordinary means unto them, but they by natural discourse attaining the knowledge thereof, seem the makers of those laws which indeed are his, and they but only the finders of them out . . .” (36).

Heidegger's pure Being and Levinas's Infinity of the Other. Despite deep discrepancies in their views of humanity, both share a view of the human as inimitable

In recent decades this proposition has become difficult to defend. The accelerating pace of technology and the constitutive role of humans in quantum theory experimentation, cellular biology and neuropsychology, together with a deeper understanding of animal behavioral psychology have all jeopardized the strong program of human exceptionalism. The challenge has come not only from a different understanding of science. Philosophically, poststructuralism and postmodernism have questioned the production of modernism's primary ideologies, undermined its taxonomical hierarchies and de-naturalized capacities which modernism had overlooked or left largely unexamined. Mainstream scientists, however, have regarded postmodernism's critical approaches as altogether misguided or going too far in the direction of relativism. This remark by science philosopher Larry Laudan is not untypical: "The displacement of the idea that facts and evidence matter by the idea that everything boils down to subjective interests and perspectives is—second only to American political campaigns—the most prominent and pernicious manifestation of anti-intellectualism in our time" (qtd. in Sokal 50).¹⁴ Certain other critics, too, have resisted the program of strong constructivism to

¹⁴ Efforts by philosophers of science, such as Thomas Kuhn (*The Structure of Scientific Revolutions*) and Paul Feyerabend (*Farewell to Reason, Against Method*), have generally tended to inflame and alienate the scientific community rather than find common ground.

come out of postmodernism's linguistically formal framework, but for reasons different from the realist elitists. These thinkers, practicing an interdisciplinary form of anthropological genealogy, are historically sensitive, cognizant of language's constitutive role, and, simultaneously, possessed of a sense of the world as materially real—but not scientifically so.

Donna Haraway's work is situated at an intersection of materiality, language/history and acting agents. In an interview she speaks, on the one hand, of the "historical contingency" of nature, "the thoroughgoing artifactuality of a scientific object of knowledge, that which makes it inescapable and radically contingent"; and yet "[t]he objects of these discourses, the discourses themselves, have a kind of materiality; they have a sort of reality to them that is inescapable" (Penley 8). Constructivism she feels, is only a partial measure; more can be said than that reality is constructed. We have to insist, she writes "on a better account of the world; it is not enough to show radical historical contingency and modes of construction for everything. Here, we, as feminists, find ourselves perversely conjoined with the discourse of many practicing scientists, who, when all is said and done, mostly believe they are describing and discovering things *by means of* all their constructing and arguing" ("Situated" 175; emphasis in original). Haraway's critical anthropology is not about the propositioning of big questions seeking transparent attributes or essential natures about humans and the world. Meanings are

sedimented in layers and are to be sought at the permeable interface of relationships between actors, observers and observed. Things themselves are not “in themselves” but come with their world. “I am committed,” she replies in another interview, “politically and epistemologically to stylistic work that makes it relatively harder to fix the bottom line” (Lykke 333). Categories and taxonomy are usefully employed, but are impermanent classifications, not written in bedrock.

The cyborg, a cybernetic organism, is an important literal and figural trope in Haraway’s work for its hybridity embodies both the social reality and fiction she believes goes into the constitution of anything in the world:

The cyborg skips the step of original unity, of identification with nature in the Western sense. . . . The cyborg is resolutely committed to partiality, irony, intimacy, and perversity . . . the cyborg does not expect its father to save it through a restoration of the garden . . . [it] would not recognize the Garden of Eden; it is not made of mud and cannot dream of returning to dust . . . they are wary of holism but needy for connection. (“Manifesto” 9, 10)

Cyborg is a provocation, the destabilization of liberal humanism’s individual autonomous subject. In answer to a question regarding the relationship between research subject and an object figure, Haraway replies that “Figures are never innocent. The relationship of a subject to a figure is best described as a cathexis of some kind Articulating the analytical object, figuring, for example this family or kinship of entities, chip, gene, foetus, bomb, etc.(it is an indefinite list), is about location and historical

specificity, and it is about a kind of assemblage, a kind of connectedness of the figure and the subject” (Lykke 338).

Haraway does not use the term often, yet the politics her cyborg announces is posthumanist: “one must think not in terms of essential properties but in terms of strategies of design, boundary constraints, rates of flow, systems logics, costs of lowering constraints” (“Manifesto” 21). Her uses of cyborg, an amalgam of fantasy and techno/bio/logies are less in the interest of building a better human, the object of popular posthumanist, so called “transhumanist,” thinkers, and more about the articulation of a liberatory ethics in a society that has moved away from “Nature” per se and naturalization, to embrace its own technologically mediated world view.

As a creature of fictive history *and* lived experience, Haraway’s cyborg functions as a corrective, not only for humanism’s speciesist reign of privilege, but for what she calls postmodernism’s “textualization of everything” (“Manifesto” 11). As such, her “Manifesto” and other writings, in particular “Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective,” provide a possible means by which to redress the frustration critical theorists find with postmodern theories’ lack of “distance.”¹⁵ In “Situated,” Haraway writes that her self appointed task is how to think

¹⁵ Fredric Jameson has frequently pointed out that postmodernism’s identification and infatuation with the culture of image and simulacra affords it no effective critical perspective. In *Postmodernism, or, The Cultural Logic of Later Capitalism*, he writes that “No theory of cultural politics . . . has been able to do without one notion or another of a

simultaneously an account of radical historical contingency for all knowledge claims and knowing subjects, a critical practice for recognizing our own ‘semiotic technologies’ for making meanings, *and* a no-nonsense commitment to faithful accounts of a ‘real’ world, that can be partially shared and friendly to earth-wide projects of finite freedom, adequate material abundance, modest meaning in suffering, and limited happiness. (“Situated” 187; emphasis in original)

Haraway’s polysemic cyborg, a “material-semiotic-actor,” may be employed as a vehicle by and through which the historically real may be (re)glimpsed. That is to say, from this platform’s “partial perspective” what Fredric Jameson calls a “certain minimal aesthetic distance” may, in some sense, be realized. Haraway, herself, makes no claim that cyborg perspectivism is outside Jameson’s “Being of capital.” She admits that “The main trouble with cyborgs is that they are the illegitimate offspring of militarism and patriarchal capitalism, not to mention state socialism. . . . But,” she continues, “illegitimate offspring are often exceedingly unfaithful to their origins” (“Manifesto” 10). In its chimerical hybridity, its commitment to “permanently partial identities” to “irony,

certain minimal aesthetic distance, of the possibility of the positioning of the cultural act outside the massive Being of capital, from which to assault this last. What the burden of our preceding demonstration suggests, however, is that distance in general (including ‘critical distance’ in particular) has very precisely been abolished in the new space of postmodernism” (48).

Another expression of postmodern’s deficiency is that an emphasis on semiotics and deconstruction has led in last part of the 20th century to “a solipsistic hyper-consciousness of language whereby the recognition that language forms reality has acquired a newly literalistic meaning; as if the analysis of ideology in language can completely encapsulate the life world of its user” (Bell 18).

intimacy and perversity” cyborg ontology allows us to map a new “social and bodily reality” (20) that is intractable to, if not completely other than, the patriarchal hegemony found in the praxis of science and the scientific community.¹⁶ We who have historically called ourselves human, Haraway explains, are at once imaginary and physical: “[W]e are all chimeras, theorized and fabricated hybrids of machine and organism; in short, we are cyborgs” (“Manifesto” 8).¹⁷

Like Haraway’s cyborgs, Bruno Latour’s *quasi-subjects* and *quasi-objects* have no

¹⁶ In a footnote she replies directly to Jameson’s concern: “My position is that feminists (and others) need continuous cultural reinvention, post-modernist critique, and historical materialism; only a cyborg would have a chance. . . . If we are imprisoned by language, then escape from that prison house requires language poets, a kind of cultural restriction enzyme to cut the code; cyborg heteroglossia is one form of that radical culture politics” (“Manifesto” 11).

¹⁷ Another devotee of the manner of connectivity, Karen Barad, defines “agential realism” as “an epistemological and ontological framework that provides an understanding of science as ‘material-discursive’ practices” (2). Her use of classical terms, she explains in a footnote, actually denotes the collapse of the two systems, and so, supposedly, of any dualism in the sense that being and knowing are inseparable. Barad’s neologism for this new scientific framework is *epistem-onto-logy* (8). Her work, like Haraway’s de-legitimizes a masculinist science that seeks a final descriptive account of nature; in its place, she proposes a science committed to the full disclosure of its own means of (ongoing) production. Instruments, for example, are not considered isolated from the object of measurement but are “themselves complex material-discursive phenomena, involved in, formed out of, and formative of particular social processes” (6). These “things” of science are *per accidens*, not *per se*, constrained, contingent, materially discursive in the sense that the experimental outcome is of a process fully implicating all participating agents, human (language, knowledge, body) and non-human (material, energy).

pretensions of totality. But whereas Haraway's actors owe their pedigree to a deconstruction of invisible masculine structures in the ontico-epistemological assumptions embedded in the scientific practices of Western research and development, Latour's actors spring out of the failure within the discourse of modernism itself to sustain its own taxonomical hierarchy between humans on the one hand and non-humans on the other. Despite these differing origins, both theorists share the same connecting tissue—physical, linguistic and communal—when it comes to reconceptualizing the modern human. Latour's "quasi objects" do not belong to Nature, or to Society, nor to Language, but are "*simultaneously* real, discursive, and social" (*We* 64; emphasis added). In later works, in particular, *Politics of Nature*, Latour prefers to characterize humans and non-humans in terms of "collectives" since "we know what procedures the . . . subjects and objects must go through in order to . . . rediscover their capacity to come together" (82). The humans and non-humans in these associations are thought of not as entities but as "propositions" in the sense that they retain an uncertainty, an intractable agency, a resistance to conceptual completeness.

Because there is no impartial view accessible to humans, an account of phenomena is not a matter of mere representation of inert matter by a removed, observant "modest witness." As Karen Barad states "the world kicks back." Accordingly, "agency is a matter of *intra*-acting, an enactment, not something someone or something has" (7).

Agents or actors are not totalized entities; rather, they are heterogeneously constituted via gatherings of interactive force-sources. The generative idea, as Katherine Hayles explains, is that reality *emerges* at the interactive “cusp” between the undifferentiated “flux” and that of “representation.” This “constrained constructivism” creates a “reality that is meaningful to us through the dynamic interplay between us and the world” (39). Thus, non-humans possess a degree of agency such that the resulting reality is not a matter merely of anthropocentric representationalism with a foundational self as virtuoso observer; rather, it is a collaborative constitution by human (language) and non-human (materiality). Nature as *topos* and as *tropos*: the world is made but not made up. Reiterating this idea, Haraway writes that the world is “both fiction and fact . . . If organisms are natural objects, it is crucial to remember that organisms are not born; they are made in world-changing techno-scientific practices by particular collective actors in particular times and places” (“Promise” 65). Coming from a techno-science perspective, Latour makes a similar argument for his “quasi-subjects” and objects: “The quasi-object is a continuous passage, an interchange between what humans inscribe in it and what it prescribes in humans. It translates the one into the other. This thing is the non-human version of the people, it is the human version of things” (*Aramis* 213).

The co-constitution of reality as it is understood by these theorists works to invalidate the human as autonomous and individual; in the same stroke, it voids the

modern notion of the material world as passive. As Haraway has said many times in many different ways: “Objects like bodies do not pre-exist as such. Similarly, ‘Nature’ cannot pre-exist, but neither is its existence purely ideological. Nature is a commonplace and a powerful discursive construction, effected in the *interactions* among material-semiotic-actors, humans and not” (“Promises” 68; emphasis added). The resulting “partnership” retains an integrity, an unencroachable otherness, whose “boundaries [nevertheless] materialize in social interaction among humans and non-humans . . .” (“Promises” 68).¹⁸

No Mind? No Matter

What is underway in the cultural economy of connectivity is an accommodation of the non-human, but this maneuver piggy-backs the accommodation of another actor, the posthuman. A change in the modern notion of matter effects a change in modern notion

¹⁸ Similarly, Barad claims that “Reality is not composed of things-in-themselves or things-behind-phenomena, but things-in-phenomena. Because phenomena constitute a nondualistic whole, it makes no sense to talk about independently existing things as somehow behind or as the causes of phenomena” (7). In a footnote to the same article, she says, however, that “[j]ust because ‘phenomena’ are ‘produced’ does not mean they aren’t real. On the contrary, I shall argue that agential reality is as solid as a table” (8). The human, or as we should call it now in its denatured form, the *posthuman*, nor matter can be considered independently of the other. The “*intra-action*” between them foregrounds each component’s inseparability from the other. Since there are no hermetic borders between them, direct knowledge cannot be attributed to either. They are produced and yet real, “continually reconstituted through our material-discursive *intra-actions*” (7). Summarizing her position, she explains that “the referent is not an observation-independent reality, but phenomena,” that is, a reality that is humanly mediated, “not nature itself but our participation within nature” (7).

of mind. The topological coordinates that had fixed the human individual at ground zero of the universe have lost their points of reckoning. There is no stable center. Reality is redefined as a collaborative action, a joint feedback project of mutual checks and balances of posthumans constraining the world, epistemologically and linguistically, and the world, agentially constraining that account. Crucial to this economy is the idea that the collaborative reality is not fixed but changing, continually reconstituting, modifying and building on the past. “This world,” Maurice Merleau-Ponty writes in *The Visible and the Invisible*, “is nothing mysterious: it is, whatever we may say, this world, this Being that our life, our science, and our philosophy inhabit” (117). He means not that the world is transparent to our observations and can hide nothing; nor does he suggest that we whimsically make up the world from whole cloth, language. Because the world is not over there, infinite and unknowable, but here on the same side, limitations are contingent on our inhabitation (not cohabitation) with the world. “We have to reject the age-old assumptions,” he continues, “that put the body in the world and the seer in the body, or, conversely, the world and the body in the seer as in a box. Where are we to put the limit between the body and the world, since the world is flesh? Where in the body are we to put the seer, since evidently there is in the body only. . . more of the visible?” (138). Consciousness-of-the-world and the material body are inseparable; embodiment means having a world, to be of it, in it, coterminous, mutually alterous.

III. The Disunity of Knowledge: Henry Adams and Post-Human Epistemology

“[T]he posthuman does not really mean the end of humanity. It signals instead the end of a certain conception of the human . . .”

N. Katherine Hayles, *How We Became Posthuman*

Nineteenth-century Europe witnessed a period of transformation unprecedented in human history. Mechanization, rising literacy, population growth, expansion of banking, implementation of monetary and economic reforms, shifting political alliances and the growth of democratic and communal ideals at the expense of a centralized aristocracy, superseded a way of life that had been typical for most people since the middle ages. Many of these transformations begun during the late Renaissance, accelerating into a full blown industrial age by the 19th century, resulted in more equitable distributions of wealth and a higher standard of living for many. But as western Europe and the United States rushed toward an urban, mechanized future of national identities, many felt a deep pervasive anxiety, an apprehension that “order had been sacrificed to formless and entropic anarchy” (Sheppard 326). The mechanical regularity of the factory machines, the punctual routine of the workers who manned them, and the systematic grids of uniform compartments built to house them betrayed, or, so many of these anxious

individuals thought, humanity in the spasms of chaos and fragmentation, if not collapse.¹⁹

As the century turned, many modernist artist and writers in Great Britain and the United States found themselves distressed over the present state of affairs. Their anxiety grew from a fear that the widespread changes wrought by modernity could not be controlled, that the tremendous amounts of revolutionizing energy circulating throughout the western world were not channeled meaningfully but surged and ebbed chaotically from demotic, irrational impulses. For many of these aesthetes society seemed already out of hand. Cities were swelling with masses of the uneducated and unwashed. By numbers alone, the hoards of people coming in from the countryside were a force to be reckoned with. The resulting demographic changes ushered in civic administrators who were more sensitive to their needs and merchants more responsive to their plebeian tastes. Many modernists were of a mind that humanity was experiencing a time of cultural and artistic

¹⁹ In his book, *Against the Great Divide*, Andreas Huyssen reminds us that “Modernism was never a monolithic phenomenon” (186). The anxiety among many modern artists and writers in Great Britain during the turn of the century must be considered together with the accommodating even euphoric attitude towards the innovations of modernity of the Futurist and historical avant garde on the Continent. Their art celebrated an aesthetics of mechanism. The Dadaists in France were, on the whole, philosophically much opposed to many of the views of the aesthetes in England, some of whom held rather defensive, elitist and institutional ideas about art. In the opinion of many artists on the Continent, art and life were not to be considered separate. The aestheticist notion of the autonomy of art, they believed, led to its institutionalization and so the death of art. Futurists and the Avant-Garde sought an integration of art and society, a lived art. See Peter Bürger’s *Theory of the Avant-Garde* for a fuller treatment of the continental art scene after 1900.

upheaval in which humanist ideals of art and decorum were superseded by the vulgar, the colloquial and the demotic. If the masses read at all, they didn't read poetry or canonical works of literature but the drivel from the popular presses. Interest was in the here and now, in the particular needs of the day rather than the eternal and universal.

There were exceptions of course, but modernists in Great Britain did not feel especially motivated to join their art to current political and social discourse as did many modernist movements on the Continent; instead, they aspired to present "a more beautiful mysterious and passionate alternative to it. The beauty of the unusual rather than the beauty of the normal" (Williams 27). In the Theosophists, some modernists found an attractive, eclectic mix of religion, myth, the occult and mysticism to satisfy their desire for metaphysical order. Others turned to ages past for inspiration, Greek and Medieval, the last of which, Yeats claimed, was an example of "the unity of being" for the chaos of modernity (qtd in Williams 80). Their task, as some of these modernists saw it, was to be agents of continuity, to preserve that which was eternal for the next golden age: "There may be poverty in the universe and a trauma in man, but the artist has the means to transcend both history and reality by the dispositions of his technique, creating 'luminous silent stasis of aesthetic pleasure'" (Bradbury 25, 26). Like Averroës, they would be the keepers of the flame, the deputies of verity through the coming dark period of upheaval

and untruth.²⁰

Anxiety and a sense of deep desperation about the modern was by no means limited to artists and writers. Nor was this anxiety limited in its focus to culture at large. A great deal of anxiousness was directed at Man (*sic*) himself, both as an ideal and his day to day situation. Intellectuals in the social sciences like Max Weber were apprehensive regarding the tumultuous turns of the age as it affected the human. In his seminal text, *The Protestant Ethic and The Spirit of Capitalism*, (1904-05), Weber wrote that the “rational asceticism” of the modern worker in the capitalist West “turned with all its force against

. . . the spontaneous enjoyment of life and all it had to offer” (166). Nowhere was this transformation more evident, he felt, than in the United States. Here,

²⁰ Of course, this notion of progressive dialecticism was not universal among modernists. Some believed that human progress, the humanism of Hegel, was untenable. In its place they held a darker view, the nihilist pessimism of Schopenhauer. Human history, or, so they concluded, was not progressive, linear, spiral or otherwise, but merely cyclical with no *telos*. The anti-humanist tenets of Eastern thought, mutability of world, life is suffering, flesh is a burden, personality a prison, escape from which could only be found in sublimation and so dispersal of the individual into the whole was corroborated by the anarchy they saw in world around them. That which changed, yet did not ultimately change, because it was repeated eternally, was circular. Adoption of a circular archetype for human history gave the modernist a model by which to explain the superficial transitions and upheavals in life, but also provided them with the assurance of permanence and stable structure underlying the flux. Art was their avatar of stability, at the calm center “holding transition and chaos, creation and de-creation, in suspension;” it’s task “to redeem, essentially or existentially, the formless universe of contingency” (Bradbury 49,50).

the pursuit of wealth, stripped of its religious and ethical meaning, tends to become associated with purely mundane passions, which often actually give it the character of sport.

No one knows who will live in this cage in the future, or whether at the end of this tremendous development entirely new prophets will arise, or there will be a great rebirth of old ideas and ideals, or, if neither, mechanized petrification, embellished with a sort of convulsive self-importance. For of the last stage of this cultural development, it might well be truly said: “Specialists without spirit, sensualists without heart; this nullity imagines that it has attained a level of civilization never before achieved.” (182)²¹

The effects of mechanism on life were far reaching. In other essays Weber discusses the diminished state of man within “the permanent character of the bureaucratic machine”: “[T]he professional bureaucrat,” he writes, “is chained to his activity by his entire material and ideal existence. In the great majority of cases, he is only a single cog in an ever-moving mechanism which prescribes to him an essentially fixed route of march” (“Power” 73).

In America, the historian, Henry Adams, was well situated to bear witness to the effects of modernity on the nascent world power and its inhabitants. A well traveled intellectual, a distinguished historian descended from America’s first political dynasty’s, Adams’s life spanned the most consequential years in the formation of late modernism.

²¹ Of “modern man,” Weber wrote in the same chapter that he “is in general even with the best will, unable to give religious ideas a significance for culture and national character which they deserve” (183).

Born in 1838 in New England, he witnessed the transition in the north east from an agricultural to an industrial economy. He died in 1918, at the end of The Great War, a decade after Einstein published his Special and General Theories of Relativity.

At the turn of the century, what Adams, the historian, held in common with modernist aesthetes in Europe was the view that civilization was in a phase of decline. Yet beneath the apparently directionless chaos of human activity, he believed an order existed that could be discerned by the trained eye. Adams understood the function of the historian similar to that which Eliot and Pound espoused for the poet: “to preserve the sense of eternity which inhabits the few fragments left to them by the past and without which all would be blackness and despair” (Sheppard 324). Thus Adams’s self-appointed task, was, with his historian’s diachronic vision, to discover the enduring principles within the discontinuities and multiplicities manifest in flourishing social industry going on all around him.

Adams’s *The Education of Henry Adams* (1907) has been called “one of the earliest expressions of modern nervousness” (Wieseltier xi). Certainly there lingers, especially in its closing chapters a tone of apprehensiveness toward the modern and the fate of the human similar to that felt by modernists in England. Security, purpose, progress, hope and a clear sense of destiny—the by-words for industrial America in the previous century—are not foremost in these final pages of *The Education*. The reader

closes the book on a man who seems deeply dismayed and confused by the competing tensions, philosophical and material, of the effects of modernization on human history.

In writing *The Education*, Adams joined a long line of European notables, beginning with Aristotle, Aquinas, and Kant in the modern age, who have attempted to perform a crucial service during a period of intellectual instability and social fragmentation. The task, as they saw it, was to bring stability and unity to an unsettled world by demonstrating how seemingly incommensurable differences could be reconciled into a logical vision of the whole. This was a task that could only be and must be accomplished by humans. Adams believed that in the human was a will to unity, to historicism, to preservation, to continuity.

Yet humans were at a crucial turning point in their history. Modern advances and discoveries in the field of science at the sub-atomic level in the late nineteenth century had broken the continuity of knowledge maintained since Galileo and Bacon²²: multiplicity was the new paradigm, not unity. Causality, long an *a priori* fixture in the classical world, could not be assumed to operate the same everywhere every time. Similarly, the fundamentals of empiricism, measurement and replicability, were not

²² To be more exact, this line of reasoning was already severely strained by the work of Ludwig Boltzmann which led to the discover of entropy (the universe is tending toward equilibrium, heat death) and Michael Faraday's work which proved that there was no ether, a discovery that complicated the accepted, Newtonian notion that light was (only) wave like.

always and everywhere the constant by which the properties of the world could be verified. These epistemic ruptures—most conspicuous in the sciences—in the relatively stable development of knowledge of past centuries gave rise to what may be called the *epistemology of the post-human*.

The forces of modernization changed not only, as Weber points out, the way humans lived, worked, worshiped or did not worship, and how they spent their leisure time and whether or not they cared about high art, they also changed humankind's horizon as regards the nature and possibility of knowledge, its scope, limits, how knowledge is acquired by humans and how it is used. That knowledge can be or is unified was a basic assumption by which practitioners of modern humanism functioned. Because reason, an innate human faculty, was thought to be independent of experience and so transcendent, knowledge, in theory at least, was unified at some higher level. Like a picture puzzle, there was only one way to put the puzzle together, and it could form only one picture. The unified image was somewhere there in the pieces; mankind had yet to assemble it into its coherent whole. The introduction of *probability* into scientific research, first in thermodynamics and then in quantum theory, explicitly forecloses on the possibility of total knowledge, predicting the outcome every time of a given procedure. It must be emphasized that this is *not* a question of incomplete information, that if all properties of an interaction are known, the outcome could be accurately deduced. The

uncertainty of knowing is built into the system. The acceptance of this limitation and the recognition of the disunity of human knowledge denotes a fundamental shift epistemically in the way humans regard themselves and their relationship with the world. Humans were no longer masters of the world. For that matter, they are no longer humans.

Henry Adams would not accept this version of knowledge. His annoyance with many prominent scientists of the day who did accept it coincided with a turning point in the history of human knowledge in the West. The polymath Adams believed that a coherent understanding of the world, even theoretically speaking, was paramount to man's nature, his essence and freedom. His convictions about the nature of knowledge and the appeal of unity (though the one quoted here would later be modified) were evident from his earlier chapters in *The Education*: "For young men [like himself] whose lives were cast in the generation between 1867-1900, Law should be Evolution from lower to higher, aggregation of the atom in the mass, concentration of multiplicity in unity, compulsion of anarchy in order; and he would force himself to follow wherever it led He took his education as a Darwinian in good faith. The Church was gone, and duty was dim but Will should take its place, founded deeply in interest and law" (218-19). The generation of scientists he encountered at the turn of the century, however, were not the philosophers and renaissance men of an earlier era but highly specialized experts in their fields. Adams was convinced that there was unity; it was just not apparent in the

jumble, proliferation and fragmentation of knowledgeable disciplines. Those specialists did not have the perspectival distance to see it. The task Adams set for himself in the coming decade as a new historian was to bring all these fragments together within a unified overarching directive. Science, that discipline which had played such a large role in the fragmentation of knowledge, would be the means by which it was again unified.²³

Henry Adams was captivated by scientific knowledge and developments of his era. Yet, like many modernist, this fascination was tempered by a concern with science and technology's sheer force to transform the lives of humans and the way they thought. Indeed, it was science and technology that arguably gave rise to modernity in the first place.²⁴ Adams believed that knowledge itself was power. If humans could harness the logic of science for the purposes of unifying the proliferation of knowledge, humans could remain in control of their destiny. If they failed in that task, they would fall back to the level of humans in premodern times, enthralled to the forces and whims of nature.

²³ Adams's respect for science, its reasoning and methods, can hardly be underestimated. In his essay, "The Tendency of History," Adams expresses his views towards science in no uncertain terms, "A science cannot be played with. If an hypothesis is advanced that obviously brings into a direct sequence of cause and effect all the phenomena of human history, we must accept it, and if we accept it we must teach it. The mere fact that it overthrows social organizations cannot affect our attitude. The rest of society can reject or ignore, but we must follow the new light no matter where it leads" (*Degradation* 131).

²⁴ Huysen, for example, notes that "mass culture . . . in the West is unthinkable without 20th century technology" (9).

Breaking the Historical Neck

At the age of sixty-two, Adams attended the Great Paris Exposition of 1900 with his scientist friend, S.P. Langley. Reviewing in succession one industrial exhibit after another, they stopped at the great hall of dynamos. The respective reactions of Langley and Adams to the huge electric generators differed markedly. The engineer, Langley, so Adams suspects, was mildly intrigued by dynamo's revolutionary engineering, yet another way to turn coal into energy. Adams, on the other hand, saw in the dynamo an "occult" power, which transcended its mechanical materiality to become finally a "symbol of infinity" no less compelling than the Blessed Virgin Mary (353). Adams continues piecemeal through succeeding chapters of *The Education* to forge a conception of the dynamo as the avatar for the modern age. His presence there the hall of the dynamos takes on for him the aura of a religious pilgrimage. In the quiet, steady mechanical power of the generator, he recognizes the promise of a "moral force," a new mechanist ethic to replace the deontology of the vitalists. Adams's inclination, he confesses, is to get on his knees and pray to the machine, welcoming it to the world as a new god.

Many progressive thinkers of the 19th and early 20th centuries adapted in some way the scientific method to their own discourses. The methodology of science, with its

concrete mode of inquiry, experimentation and data registration, was coming to be viewed as the means by which a discipline legitimized itself. By the end of the 19th century, psychology, sociology, and other new areas of discourse, ethnology and economics, were all departmentalized in universities as authentic fields of study and pursued in standardized, quasi scientific ways.²⁵ Although an ancient discipline going back at least to Herodotus, history, too, among many of its practitioners, sought to professionalize itself based on the legitimacy of the proven fact.

The *historical fact* was itself a new idea in modernism. As Hayden White points out in his essay, “The Fictions of Factual Representations,” that prior to the 19th century, history was regarded more as literary art²⁶: “Specifically, it [history] was regarded as a branch of rhetoric and its ‘fictive’ nature was generally recognized [O]n the whole,

²⁵ Max Weber was one important exception to this general movement. As Andrew Koch points out in his article, Weber believed that with the externalization of reason by science, “[h]uman beings are reduced to ‘objects’ for control and manipulation To Weber, this meant that ‘complete’ human nature, that is both reason and emotion, was subordinate to the objectification process in modern rational culture that the march of ‘science’ and the bureaucracy were inevitable and that ‘modernity’ itself represented a valueless, nihilistic void” (143).

²⁶ Exceptions exist, of course, most prominent would be Edward Gibbon, regarded as the first modern historian. About his *The History of the Decline and Fall of the Roman Empire*, (1788), he said “I have always endeavored to draw from the fountainhead; my curiosity, as well as a sense of duty, has always urged me to study the originals; and if they have sometimes eluded my search, I have carefully marked the secondary evidence on whose faith a passage or a fact were reduced to depend.” Compare Adams’s words in this regard: “He [Adams] never invented his facts; they were furnished him by the only authorities he could find” (*The Education* 426).

historiography [was not viewed] as a representation of the facts unalloyed by elements of fancy” (123). In post-revolutionary Europe of the 19th century, fiction, in the context of history, was to be clearly distinguished from and regarded as a hindrance to the realm of factual event. Thus was born, White continues, “the dream of a historical discourse that would consist of nothing but factually accurate statements about a realism of events which were observable in principle” (123). The professional historian of the 19th century believed that “if one only eschewed ideology and remained true to the facts, history would produce a knowledge as certain as anything offered by the physical sciences and as objective as a mathematical exercise” (124-5). There was no lack of adherents to this credo, Bancroft and Prescott in the United States, Ranke in Germany.

Adams, the author of *History of the United States during the Administrations of Jefferson and Madison* (1889), was a very enthusiastic adherent to the historical fact and the potential for the unity of knowledge it invited. By the end of the century, however, he had become frustrated with historicism, and abandoned the theory on which it was based. James Stone writes that Adams did not reject historicism so much as tried to transcend it: “Thoroughness, objectivity and accuracy became, instead of the ends of contemplation (as most of his fellow historians then supposed), only necessary adjuncts to a wider process of thinking” (540, 41). In *The Education’s* chapters entitled “The Abyss of Ignorance” and “Vis Inertiae,” Adams recounts his discursive intellectual wandering, his rereading

Descartes, Hume, Berkeley, Kant, then Comte, Darwin and Spencer. And then came his disillusionment with that intellectual tradition at the Paris Exhibition when he felt, in the quiet circular humming of the dynamo, a sense of inevitable force—moral, symbolic, material. The experience had been everything a religious revelation should be: ecstatic, seminal, inarticulable. In the circularity of the dynamo, Adams perceived a mystical force that could not be understood by the rational systems of thought on which he, and the age in which he lived, had been intellectually nurtured. The force of the electron, electromagnetism, was something that, for the present, had to be accepted “in faith” (353). The leap over reason, the “parricide” Adams must commit is to forego unconditional belief in causality, the bedrock of both Newtonian mechanics and the historical fact, the unquestioned foundation of Western thought. The electron inhabited a ‘supersensual’ world that denied the observer not only the immediacy of his senses, but because of its lack of dimensional extension, it defied classical conceptualizations of space and time altogether. Like the apophatic God of the gnostics, nothing with absolute certainty could be said about it other than that its force was always and everywhere omnipotent.

Adams’s prostration before the dynamo, his “historical neck broken” there in the exhibition hall in 1900 was understood by him as an important milestone in human history, an experience not unlike that of Constantine, whose establishment of the Cross in

CE 310 signified the advent of a new universal force. Through historicizing the dynamo *alongside* Western religious icons, Adams recognizes the dynamo as a new trope for human history, an entirely new paradigm, a new way of thinking and organizing the world. For the continuation of humans as a race of self-determining and free beings, a principle unifying these forces was essential.

Taking his cue from Michael Faraday, who discovered that electricity and magnetism, heretofore considered fundamentally distinct, were really just aspects of the same essential energy, electromagnetism, Adams concluded that the common denominator subtending both the power of Blessed Virgin of the 15th century and the electromagnetic dynamo of the 20th was “attractive force.” For unity and direction, a force from outside must function as the shaping influence for both mind and matter; otherwise total chaos reigns. By virtue of the universality of that attractive force, relativism could be expunged, and the basis for the unity of knowledge established.

The sense of urgency to his purpose was deep. Scientists in the latter part of the 19th century had, so Adams believed, lost their direction and with it, their mandate as grand explicators of the world. They took a rather modest and cautious view of their own working results. Unlike earlier empirical realists, they did not necessarily look at science as the means to absolute knowledge about the world. It was understood in more instrumental terms, as means to an end. Speaking at the same Paris exhibition which

Adams had attended with Langley, Poincaré expressed the more modest and humble demeanor that would characterize science and its practitioners at the turn of the century: “Physicists were not decipherers of nature’s laws, but librarians and cataloguers of experience. Theories and principles are not true or false, but more or less useful” (qtd. in MacLeod 10).²⁷ In *The Education*, Adams discusses at length his impatience with this turn in science theory. Of Karl Pearson, a prominent science writer of the day, he wrote, “Pearson shut out of science everything which the 19th century had brought into it. He told his scholars that they must put up with a fraction of the universe, and a very small fraction at that . . .” (417).²⁸ Pearson’s theory of scientific knowledge short-circuits Adams’s hope for a unity of knowledge, for a complete and truthful understanding of the world. For Adams this retreat was inadmissible: “Every man with self respect enough to become effective, if only as a machine, has had to account to himself for himself

²⁷ Poincaré and Pearson’s views of scientific knowledge find resonance with Joseph Rouse’s contemporary notion of “deflationary or non-reifying account of scientific knowledge.” Deflationary knowledge, he writes in *Engaging Science*, “is directly opposed to those epistemological views that take knowledge to constitute a theoretically coherent kind. . . . The deflationist, by contrast, recognizes a wide range of examples of knowledge but denies that they collectively constitute a coherent kind” (28, 29).

²⁸ Pearson was a scientific idealist and a relativist. “There are many signs,” he wrote, “that a sound idealism is surely replacing, as a basis for natural philosophy, the crude materialism of the older physicists.” (*The Grammar of Science*, Preface to 2nd Ed.) Further, he stated, “...science is in reality a classification and analysis of the contents of the mind....” And, “In truth, the field of science is much more consciousness than an external world.” (Ch. II:6) “Law in the scientific sense is thus essentially a product of the human mind and has no meaning apart from man” (Ch. III: 4).

somehow and to invent a formula of his own for his universe” (437). This is not to say that Adams was after a full and complete theory of everything, a perfect plenum, but man, if he is to remain self-determining, the charter of his own course in history, must be guided by some principle operative in the universe, something external with which to unify the diversity of experience: “a spool on which to wind the thread of history without breaking it a common factor” (*The Education* 437). Pearson and others’ foreclosure on the unity of scientific knowledge could only promise dystopia, “a land . . . where order was an accidental relation obnoxious to nature; artificial compulsion imposed on motion; against which every free energy of the universe revolted; and which, being merely occasional, resolved itself back into anarchy at last” (424).

Adams’s response, in the final chapters of *The Education*, to Pearson and others’ lack of intellectual fortitude was his own attempt at unifying knowledge: “A Dynamic Theory of History.”

[A]ssigning attractive forces to opposing bodies in proportion to the law of mass, takes for granted that the forces of nature capture man. The sum of forces attracts; the feeble atom or molecule called man is attracted; he suffers education or growth; he is the sum of the forces that attract him; his body and his thought are alike in their product; the movement of the forces controls the progress of his mind, since he can know nothing but the motions which impinge on his senses, whose sum make education. (439)

All the antithetical elements with which Adams wrestled for years are here in his

scientific theory of history—attraction and opposition, mind and body, mass and energy, ignorance and intelligence, motion and stasis—melded into a universal principle. History and Science, then, like electricity and magnetism, were really just aspects of the same ultimate force. In his study on Adams’s scientific thought, Henry Wasser argues that Adams’s conflation was a foregone conclusion given Adams’s belief that “history was a science of vital energy which had been tending, along with every form of physical and mechanical energy, towards mathematical expression” (88). The attractive force for the scholastics, the Aristotelian premoderns, was (to be found in) God. Adams now saw that the absolute force was not other worldly, but here in this world; furthermore, that the “mechanism [of attraction] has always been the same” (*The Education* 451). Dynamism or Force is the single principle, the entelechy governing the fundamental constituents of matter; and since man is matter, he, too, would be subject to the same controlling forces.

To Adams the primary difficulty with his theory was that while the force of physical action was commonly measured, the force of thought was not. Adams’s analogized the mind as a comet, a “complex of minute mechanical agencies, reacting within and without, and guided by the sum of forces attracting and deflecting it” (*The Education* 453). Because force subtends both the matter around us and the thoughts in our minds, “the true measure of both thought and matter is mass in its astronomical sense, the sum or difference of attractive forces” (453). Thus, according to Wasser, Adams inferred

that at some point in the future, “[t]he motion of thought as continuous force could be measured mathematically, and a law of acceleration devised, by which history itself could be measured since the laws of history only repeated the lines of force or thought” (Wasser 31).

Adams’s scientific theory of history as outlined in *The Education* left much to be desired, as he himself admitted. He had observed that a shift in human history of paradigmatic dimensions, from unity to multiplicity, had taken place, but this was news only to anyone unfamiliar with the evolutionary thrust of Darwin’s theory. The larger quandary was the speculative nature of his main thesis: it contained little scientific fact. His attempts at bridging the divide between mind and matter through a underlying mutual medium (force) lacked the rigorous inference and logic to warrant serious attention by other philosophers and scientists in the field. While the mind may be like a comet in art, in science there is no meaningful basis for comparison. Such rhetorical flourishes, even as they attempted to generalize and conceptualize an overarching idea, did more to confound the issue than clarify it. Adams’s task required a more systematic and rigorous foundation.

An Attempt at Unity

The first decade of the new century was unique for Adams in that he published

almost nothing. When he did publish again it was clear that the historian of America's presidential colonial administrations had become less interested in the past than in the future. Adams saw the rising popularity of socialism and communism, the great social levelers, as a symptom of the end of the progress and the forward movement of Thought. The median meant equilibrium and equilibrium meant stasis; in science equilibrium was the absolute cessation of the exchange of energy; it was death. As the mechanistic structures of modernism spread, insinuating themselves into every facet of society, human life loses that which makes it unique and irregular. Adams's anxiety differed, however, from Weber, his European counterpart, in taking on a more apocalyptic tone. By degrees Adams came to believe that the mechanization of human life was a symptom of a larger universal degradation that had been going on since the beginning of time, but because of the way the law of acceleration worked, an idea only adumbrated in the penultimate chapter of *The Education*, that degeneration was only now happening rapidly enough to be evident to anyone with a trained eye, a historian for example.²⁹

In 1910, after Adams's Dynamic Theory of History failed to mobilize the imagination of Western intellectual thought, Adams composed a number of essays,

²⁹ "Only by watching its motion on the enormous scale of historical and geological or biological time can one see,—across great gulfs of ignorance,—that the current [of Thought] has been constant as measured by its force and volume in the absorption of nature's resources, and that, within the last century, its acceleration has been far more rapid than before . . ." (*The Degradation* 304).

collected posthumously by his brother Brooks, as *The Degradation of the Democratic Dogma*. This compilation, which draws heavily on scientific scholarship of the mid to late 19th century and the Second Law of Thermodynamics, attempted to formulate quantitatively a time-line for the sequential passage of history. Adams draws together, from an extraordinarily wide range of disciplines, disturbing global evidence that, taken in the aggregate, signals human dissipation and decline. In the final essay of the collection, “The Rule of the Phase applied to History,” Adams uses the Second Law of Thermodynamics to explain the past and foretell the future.³⁰ The prognosis is not a cheery one:

The law of thermodynamics must embrace human history in its last as well as in its earliest phase. If the physicist can suggest any plausible way of escaping this demonstration, either logically or by mathematics, he will confer a great benefit on history; but, pending his decision, if the highest Will-power is conceded to have existed first, and if the physicist is to be granted his postulate that height and

³⁰ Briefly, the Second Law of Thermodynamics has to do with heat transfer between systems. Heat cannot flow (or more precisely, has never been known to flow) spontaneously (of itself) from a system of lower energy to a system of higher energy. Cosmically speaking, the universe, as it seeks equilibrium, seems to move always from higher to lower with a concomitant increase in entropy. The process is not reversible. This means, consequently, that the universe is running down to eventual heat death, absolutely uniformity. The First Law, by the way, is The Conservation of Energy. Energy is never lost or gained. The First Law, for Adams, correlates to the Newtonian mechanism of 1600 to 1900. The relation of the two is that while energy is never lost (or gained), in a closed system, a universe, a boiler, everything goes to equilibrium, to uniformity. For work to be done, there must be a transfer of energy; this can not occur in an absolute equilibrium.

intensity are equivalent terms, while fall and diffusion are equivalent to degradation, then the intenser energy of Will which showed itself in the primitive extravagance of variation for which Darwin tried so painfully to account by uniformitarian formulas, must have been—and must be now in the constant process of being—degraded and lost, and can never be recovered. The process, in physics, is not reversible. (195, 196)

With its final, eschatological overtones of a cosmic ‘heat death,’ the Second Law was perhaps too much for Adams to resist. And, of course, it was science.

Though discouraged by a lack of progress and an embarrassing plethora of dead ends after the publication of *The Education*, Adams had not given up his dream of knowledge unified in the form of a totalizing scientific theory of history. If anything, he grew more adamant and openly ambitious that such an feat could be accomplished: “Historians will not, and even if they would, they can not, abandon the attempt. Science itself would admit its own failure if it admitted that man, the most important of all its subjects, could not be brought within its range” (*The Degradation* 126). The vague sense of anxiety in the closing chapters of *The Education*, an anxiety that humanity was losing its grip on its capacity for self-knowledge and self-determination, becomes palpable in *The Degradation*. Adams firmly believed he was standing on the threshold between one era and another. The imperatives of modern science and technology could not be ignored. He was convinced that mankind must take the initiative, gain the high ground of a unified knowledge or be condemned to dwell within the relativism of mechanical

instrumentation.

At the same time, the results of his research would ultimately foreshadow humanity's doom. As William Jordy writes, "From his optimistic belief that democracy afforded the ultimate theme for historical study, Adams shifted to the pessimistic assertion that annihilation provided the final goal for historical prophecy" (128). To the eye sensitive to historical change, the evidence was everywhere: "Not a day passes," he wrote, "without producing some uneasy discussion of supposed social decrepitude;—falling off of the birthrate;—decline of rural population;—lowering of army standards;—multiplication of suicides;—increase of insanity or idiocy,—of cancer,—of tuberculosis; —of nervous exhaustion, —of enfeebled vitality, —‘habits’ of alcoholism and drugs, —failure of eye-sight in the young, —and so on, without end . . ." (*The Degradation* 187). Anthropologically "man was decidedly a degraded animal reflecting the generally degraded energies of his earthly habitat. Specifically, the intellectual specialization of the human being had occurred at the expense of his physical well-being" (*Degradation* 135).³¹ Progress had been made in some fields of human endeavor, to be sure, but that

³¹ The idea was by no means original with Adams. Henri Bergson, *Creative Evolution* (1910), managed to formulate an entire philosophy opposing instinct to intellection. Adams who had read Bergson's work said, "I like best Bergson's frank surrender to the superiority of Instinct over Intellect. You know how I have preached that principle and how I have studied the facts of it. In fact I once wrote a whole Volume—called my *Education*—. . . in order to recall how Education may be shown to consist in following the intuitions of instinct" (qtd in Baym 57).

progress was local and specialized. There was no coordination between disciplines, no governing mandate by which to sanction the advancement in the name of human welfare. Cosmologically speaking, the net result as regards humanity had been a loss of energy, an overall degradation.

Between the publication of *The Education* and the composition of the essays that would be gathered in *The Degradation*, science and technology had taken a somewhat sinister turn in Adams's mind. In the earlier volume, the promise of a "moral force" which Adams discerned in the dynamo, whose circular humming "would not wake the baby lying close against its frame," is missing. In its place in these essays is a gloomy sense of resignation to a future society fragmented and destabilized by the domination of an instrumental scientism and its technology over the lives of common folk. It is a sober work of reason and evidence with an abundance of journalistic and scholarly quotations like this observation from William Thompson's "Mathematical and Physical Papers" on heat death (1882): "Within a finite period of time past, the earth must have been, and within a finite period of time to come, the earth must again be, unfit for the habitation of man as at present constituted, unless operations have been, or are to be performed, which are impossible under the laws to which the known operations going on at present in the material world are subject" (qtd in Adams, *The Degradation* 141-42).

Despite his deep misgivings of science, he entrusted the search for "the new

unity” to its methods, practices and instruments. Because science was impersonal, however, the unifying principle it came up with “would not be an intelligence, probably not even a consciousness” (399). What the “kinetic [thermodynamical] theory of gases” revealed, so Adams (and many scientists) believed, was not only the secret of matter but an explanation of time (heat transfer is not spontaneously reversible; that is, entropy does not decrease, so time can go in only one direction, the increase of entropy). All that was lacking, as far as Adams was concerned, was “whether a still deeper analysis [of thermodynamics] would reduce the atom of gas to pure motion. Thus, unless one mistook the meaning of motion . . . the scientific analysis commonly called unity was the scientific analysis commonly called multiplicity. The two things were the same, all forms being shifting phases of motion” (*The Degradation* 399).

The “Rule of Phase” which Adams constantly refers to in the concluding chapter of *The Degradation* refers to a formulation by Josiah Willard Gibbs and denotes the possible number of degrees of freedom in a closed system at equilibrium in terms of the number of separate phases and the number of chemical components in the system. The Rule of Phase as Gibbs used the term concerned the physical change of a substance once a critical value has been reached; the change is not gradual but precipitous, saltative, and complete. Ice for example will stay frozen until a precise temperature is reached whereupon the entire quantity turns to a liquid. The theory was deduced from general

thermodynamics in the 1870s and published as “On the Equilibrium of Heterogeneous Substances.” It was Gibbs who demonstrated that heat was actually the mechanical agitation of molecules.

Adams had large ambitions for Gibbs’s rather prosaic principle. In a letter, he wrote that ““what [the physicist] conceded to motion in its phase as matter, he must concede to motion in its form as mind”” (qtd. in Wasser 103). Motion then, not force as previously thought, would provide the necessary connection between mind and matter that Adams had been searching years for. But because molecular vibration did not imply direction, it had to be linked with mind, the sole source of meaningful orientation. The potential implications for Adams’s big theory were immense, as Wasser explains: “Since the processes of history were irreversible, pressure could be exerted in only one direction. The motive force in history was attraction. Attraction in history was the equivalent of pressure in physics since it, in the historical rule of phase, gave human society its forward movement” (104).

Believing that he had linked the material and immaterial, Adams asserted that “we have learned to recognize that everything, animate or inanimate, spiritual or material, exists in Phase; . . . and that our whole vision is limited to the bare possibility of calculating in mathematical form the degree of a given stability” (*The Degradation* 282-83). Adams can then go about reconciling, or rather reducing, the respective vocabularies

of history and physics. What is commonly referred to as “pressure” in physics is “attraction” in history; “temperature” in physics corresponds to “acceleration” in history. “Volume” works as the same in both (280-1).³² As for Adams’s formative articulation of the rule, then,

[M]an’s thought, considered as a single substance passing through a series of historical phases is assumed to follow the analogy of water, and to pass from one phase to another through a series of critical points which are determined by the three factors Attraction, Acceleration and Volume, for each change of equilibrium. (281)

The gap has been closed. In summary Adams explains that, “The historical inquirer may assume that Thought is a historical substance analogous to an electric current which has obeyed the laws of Phase” (283). Confidently he exclaims that:

Thus results the plain assurance that the future of Thought, and therefore History, lies in the hands of the physicists, and that the future historian must seek his education in the world of mathematical physics. Nothing can be expected from further study on the old lines. A new generation must be brought up to think by new methods, and if our historical department in the Universities cannot enter this next Phase, the physical department will have to assume the task alone. (283)

If we are to take Adams’s use of “The Phase Rule” literally as the algorithm subtending human history, then knowledge is subject to the same transitory phasic

³² The “Hyper thought,” about which Adams refers in this passage, functions as a kind of entelechy, a dynamic, universal force: “[t]his solvent–this ultimate motion which absorbs all other forms of motion is an ultimate equilibrium” (281).

dynamic as matter. That is, knowledge transforms from phase to phase. Astrology's phasic evolution from action-at-a-distance superstition to the hard causal science we know as contemporary astronomy exemplifies this process.³³ "Intellect," Adams says, "should bear the same relation to Instinct that the sun bears to a gaseous nebula" (206) such that "Reason can be only another phase of the energy earlier known as Instinct or Intuition; and if this be admitted as the stem-history of the Mind as far back as the Eocene lemur, it must be admitted for all forms of the Vital Energy back to the vegetables and perhaps even to the crystals" (192-3). Knowledge of a new and unknown phenomena may exist as some pseudo-science or local belief which has not yet been 'hardened' by the quantification and replication of scientific method. Adams's analogous use of the comet illustrates the process: knowledge about the composition and origin of that particular celestial phenomena was mysterious; it was used to portend great things or devastating debacles. Now we know comets come from the Oort cloud, about one light year away and that they are big balls of dust and ice. Their appearance and location in the sky is calculably accurate.³⁴

³³ Contemporary accounts of knowledge approximating Adams's phasic explanation are found in Thomas Kuhn's *The Structure of Scientific Revolutions* and Michele Foucault's *The Order of Things*.

³⁴ Adams adds that "[T]he comet is a sort of brother of Thought, an early condensation of the ether itself, as the human mind may be another, traversing the infinite without origin or end, and attracted by a sudden object of curiosity that lies by chance near its path" (*The Degradation* 301).

Adams believed that “The Rule of Phase,” applied to social history, provided a means for predictive deductions. Because the curvature of the acceleration of civilization “too closely resembles that of the vaporization of water” from a liquid, Adams concluded that a homologous linkage existed between Thought and water via the “familiar law of squares” (291). Further analogies between Thought and physical phenomena are warranted, so he believed, when one examines the typical paths of comets. They reveal that,

if the calculated curve of deflection of Thought in 1600-1900 were put on that of the planet, it would show that man’s evolution had passed perihelion, and that his movement was already retrograde. . . . Calculating that the Mechanical phase has lasted 300 years, the next phase would have a life equal to about 0300, or about seventeen years and a half, when—that is in 1917—it would pass into another or Ethereal Phase, which would last only 017.5, or about 4 years and bring Thought to the limit of its possibilities in the year 1921. It may well be! Nothing whatever is beyond the range of possibility. (303, 308)³⁵

It comes as no surprise that Adams’s application of Gibbs’s Rule to human history was neither in his time, nor ever since then, well received. Requests directed to scientists asked to comment were most often met with respectful silence. Contemporary

³⁵ It must be mentioned that opinion is very divided over the intent of these final essays. Jordy relates that Howard M. Mumford, for example, believed the essays were “meant as a joke, to demonstrate the folly of taking a scientific theory of history seriously” (ix).

reactions have been even less polite.

Knowledge Disunified

Knowledge exploded in the later 19th century into a spectrum of proliferating disciplines branching vertiginously into sub-categories and specialized areas of thought and research. No one field of study, let alone human, could possibly circumscribe everything. Adams, utterly awed on that day in 1900 at the Paris Exhibition, believed he had caught a glimpse of eternity in the spinning, circular movement of that modern avatar, the dynamo. In that vision he sought, like many other modernists, to imbue the impersonality of the mechanical with a deeper, transcendent significance. The circular revolutions of the dynamo, like Windham Lewis' vortex, always in motion yet the same, portended a sense of calm, composed power, of assurance and quiet control at the center despite the lurching twist and turns of the chaotic world and humanity. Here in the dynamo was a display of energy that was not random and unpredictable but with direction and stability, the very ideal of equilibrium between action and stasis.³⁶

A critical point in human history had been reached at the turn of the century;

³⁶ Other modernists were also enamored with circular imagery. Pound's interest in the "Great English Vortex" and Yeats's gyres. Lawrence's 'male' wheel of endless motion, diversity revolving around the 'female' axle, stable, inert, eternal; thus, a man without a woman is like a wheel without an axle, energy spent without direction; and woman needs man to propel her stasis into motion (Williams 161).

clearly the center could not hold, for “the mind had already entered a field of attraction so violent that it must immediately pass beyond into a new equilibrium . . . or suffer dissipation like a meteorite in the earth’s atmosphere” (*The Degradation* 459). Yet, unfortunately, so Adams believed, it was those who were best placed to utilize their knowledge about the world that lacked the nerve and will to serve humanity in its hour of need. Those intellectuals, educators and scientists, by insisting either on a naive realist or instrumentalist view of the world, missed the opportunity for realizing the potential of science as the unifying grammar of human history. Without a mother tongue to make sense of it all, modernity was bound to continue on its path to chaos. In a letter, Adams wrote resignedly that “There are but two schools; one turns the world onto me; the other turns me onto the world; and the result is the same,” that is, Man adrift “on a makeshift raft of constructs in an ocean uncharted” (qtd in Jordy 236). Regardless of how much force the instrumental scientist marshaled by his technology, a science predicated on epistemology of ends only could not determine direction. Adams was not so diffident.

IV: The Huxleyan Individual and the Proustian Self: Two Modern Paradigms of the Posthuman in Kazuo Ishiguro's *Never Let Me Go*.

[I]f we could communicate with the gnat, we would learn that he likewise flies through the air with the same solemnity, that he feels the flying center of the universe within himself. There is nothing so reprehensible and unimportant in nature that it would not immediately swell up like a balloon at the slightest puff of this power of knowing.
--Friedrich Nietzsche, "On Truth and Lies in a Nonmoral Sense."

The alumnae of Hailsham, a boarding school in Kazuo Ishiguro's dystopian novel, *Never Let Me Go*, are not humans in either the humanist or biological sense: they are *posthumans*, products of a post-war, political and bio-technological apparatus. Technically they are clones "modeled" on real-life people; that is, genetic information is taken from traditionally conceived humans and used to grow a replicate. Any consideration of them within the discourse of humanity must take their posthumanity into account.³⁷

Conceivably any number of replicates can be made from the clones as long as the genetic

³⁷ Yet, for that matter, the so called "normals" in the novel are posthuman as well, if one accepts, and this dissertation does, Katherine Hayles thesis that "Whether or not interventions have been made on the body, new models of subjectivity emerging from such fields as cognitive science and artificial life imply that even biologically unaltered *Homo sapiens* counts as posthuman. The defining characteristics involve the construction of subjectivity, not the presence of non-biological components" (4).

information is not corrupted.³⁸ In the novel it is the presumption of the “normal” humans that humans cannot be reduced to information: there is something transcending analysis in their makeup, something indissoluble in their constitution which is not captured in genetic coding. On this presumed ineffable turns the justification for the organ donations programme. Since the clones are not “humans,” normals feel ethically free to harvest the organs of the clones upon maturity. When the clones die after multiple donations, they will not have been murdered, they will have “completed” their function in life.

It is the object of a few well meaning humans, however, to demonstrate to society at large that the clones should be considered more than just animals on the hoof. They should, in fact, be considered as human. The *sine qua non* of humanity, they believe, is the soul. This small, idealistic and dedicated group of educators, known as “guardians” in the novel, in league with a few philanthropists intend to show the world that the clones are endowed with faculties that exceed brute animal existence—indeed, that they have souls—by their ability to produce art. The strategy is not curious. In humanist thought, the soul was considered that which gave the human his or her quintessence.³⁹ Any two

³⁸ I say conceivably. In fact this concept is not borne out in the lab. Actual cloned animals having the same genetic sequencing are not identical twins; their appearance can be quite different.

³⁹ Humanism is a hugely broad and encompassing discourse, and I make no attempt at a definitive report here, however, the outlining of a few characteristics will be propaedeutic to the discussion ahead. Humanism is based on a number of assumptions, first of which is that man is more than an instinctual beings; he is a part of nature, to be

animals of the same species are essentially alike because they are instinctual and lack soul. Any two humans are also alike biologically, but they also have souls, and their souls are not fungible, but individual, total. A work of art is considered in this same train of thought to be the creative, singular expression of a unique individual. Because it is connected with the affective nature of humanity, it is, furthermore, considered beyond the purview of science's relentless, reductive analysis. The guardians' notion of art as the touchstone for the soul appeals to a modernist aesthetical sense of what it is that makes humans exceptional in nature. It is, the thinking goes, the capacity for art, for beauty—a synthesis of thought, affective and aesthetic sensibilities—which sets humans apart from other animals. Humans are born, they eat, lust, cohabit and then die, but they are possessed of a faculty to appreciate that which has no direct benefit for their survival. This aptitude derives from the human soul, an endowment unique in creation. As the window onto the soul, art is the soul's outreach, its *extensa*. As the physical instantiation of an inner essence, art attests to the presence of humankind's quiddity, that which is insubsumable to mechanistic reduction. Clones, so the majority of "normals" believe, enjoy no such privilege. It is this unexamined assumption that the guardians' project

sure, but unlike all other parts of nature, "man (*sic*) is not a finished product." Because this lack does not allow him to function automatically, man has to act ethically: he has to decide how to behave in any given situation. Therefore, he or she is self-determining, the author of his or her will. He must use this freedom for his own as well as his fellow man's good. That is, he must join his resources with others for the mutual progress of his specie (Munson 539).

seeks to overturn.

The clones do make art, lots of it. At Hailsham art classes are emphasized. The most accomplished student art is chosen and taken away to a gallery where it is stockpiled by a mysterious woman known only as “Madam.” Exhibitions of the clones’ art are given, and, for a brief period, debate ensues, funds are pledged, investigative committees are commissioned. Yet despite their best efforts, the project ultimately fails to decisively capture society’s attention, and the clones gain no reprieve. In the end, the sedimented ideals of humanism remain unbreached and sacrosanct: matters of the soul, individualism, self-determination and freedom, are the reserve of normal humans only. The cloning program is allowed to proceed unimpeded by any further conflict of ethics.

By the end of the novel, however, if not before, the readers of *Never Let Me Go* will have come to a different conclusion: the clones are the same as the normal humans. But they will arrive at that impression for reasons entirely different from those upheld by the guardians of the art program at Hailsham. *Never Let Me Go* is told in the form of a personal journal by a Hailsham alumna known only as Kathy H. Written in first person, from her unique perspective, her view of her experiences as a clone comprise an original aesthetic artifact. It is an immediate, emotionally intimate and vivid account of her life at school and her years later as a “carer” for other clones in the process of “donating” their organs for the benefit of normal humans. This is not to say that Kathy’s journal

demonstrates that she has the soul of an individual. Her journal is not an archive of direct, comprehensive self knowledge. All we know of Kathy is through her journal, the events and feelings she selected and the narrative structure by which she chose to tell them. The character that emerges is not that of an intrinsic, soulful individual, but an amalgam of impressions that, by their very selection, connection and the use to which they are put, deliver a serial coherency that we may call a self. This self does not designate the unified entity of classicism's ipseity: rather, it is "the accumulation of its consecutive states sedimented over time;" she is what might be called, a "Proustian Self" (Landy 100). This self, "moi," consists "not in a gallery of transmitted dispositions but in a set of identifications with different objects of desire, belief and adherence" (98). This is a notion of the self as a compilation of selected fragments arranged into a coherent, identifiable "literary" person. The object of the guardians' endeavor—to show that the clones have souls like normal humans—fails, but Kathy's journal reveals, through her narrative episodes of love, conflict and yearning, that the clones are, in fact, as emotive and singular as the humans. Perhaps, given their precarious situation in life as basically meat on the hoof awaiting use, they are even more so.⁴⁰

⁴⁰ That the cloning of full animals is science fact and not science fiction at the time Ishiguro published *Never Let Me Go* gives his work a social valence uncommon to literary art. The ethical, social and economic ramifications at issue in cloning are enormous. The debate itself is international in scale and runs from pulpits, to popular media, to trade, and professional journals. Ishiguro's decision to enter his fictive art into public discourse links his project, socially and philosophically, with the historical avant

The well-meaning but ultimately misguided project of the guardians assumes that art is validated *qua* art through its inclusion in a gallery, a museum, an institutional archive for the reification of the soul's output. The idea is situated in a tradition of the human and art that endorses, in a broad way, the aesthetic ideals of liberal humanism. More specifically, given the pivotal role of science and the technology of cloning against which humanity struggles to define itself in *Never Let Me Go*, it references what may be called the Huxleyan Individual as it is portrayed in that other novel that deals with the science and technology of cloning, *Brave New World*.⁴¹

garde of France and Germany in the early 20th century. This radical, short-lived artistic movement sought the de-institutionalism of art and its integration into politics and society at large. Peter Bürger writes that "The European avant-garde movements [of which Dadaism is a close cousin] can be defined as an attack on the status of art in bourgeois society. What is negated is not an earlier form of art (a style) but art as an institution that is unassociated with the life praxis of men" (49). The targets of the avant garde were bourgeois aestheticism and classicism's institutionalization of art *qua* art. They wanted to bring art to the people, off the walls, out of the museums and into the streets and parks. Their work challenged the humanist notion of art as the product of a virtuoso artiste. They did not deny the value of classic art or its merit but wanted to disrupt classicism's pat definitions and secured sense of aesthetics. In *Never Let Me Go* Ishiguro has used aesthetics in its radical sense, not as high art, but in the sense that real human life is a work of art, not secured institutionally, a commodity to be fetishized.

⁴¹ Huxley felt that free willed individuals were crucial to the survival of Western civilization because it was the individual's nonconformity that had been responsible for humanity's every move forward, its progress. It was the self-conscious free thinker who could not accept the status quo, who sought to make things better for all humanity. The anxiety with modernity as manifested in the techno-philia of Futurism, the collectivization of Europe and Russia and the materialist capitalism of the US was that humanity was threatened by standardization. In that futurist homogeneous society there was no place for Huxley's individual: "This tendency" he wrote in an article on America, "to raise the

Because of its relative geographical isolation, or its patriotism and strong sense of national identity, or because of its relatively stable economic situation and economic development, the manifestations of modernism in Great Britain was quite dissimilar to that experienced on the Continent. Many modernists in Great Britain regarded post-war Europe on the whole as a culture in a state of decline. Bertrand Russell complained that “our age is one which increasingly substitutes power for the older ideals” (Baker 64). This state of spiritual malaise was reflected in much British poetry and fiction at the time. E.M. Forester’s novel, *A Passage to India* and George Orwell’s short work, “Shooting an Elephant,” reflect the British Empire, and Western Civilization in general, in decline, without mandate, its deputies abroad concerned mainly to “avoid looking a fool” (Orwell 2233). Eliot’s poem, “The Wasteland,” in many ways emblematic of the era, depicts the anomie of an effete and enervated society incapable of pulling itself out of its own ennui and despair. Great Britain was by no means exempt to the excitement and chaos found in

ordinary, worldly man to the level of the extraordinary and disinterested one seems to me entirely deplorable. The next step will be to exalt him above the extraordinary man, who will be condemned and persecuted on principle because he is not ordinary—for not to be ordinary will be regarded as a crime. In this reversal of the old values I see a real danger, a menace to all desirable progress” (qtd. in Firchow, *End* 35).

The political and philosophical ideology Huxley expresses in *Brave New World* was to change over his long literary career. By the end of his life, his views towards the role of science in society had moderated such that he became somewhat scientific in his thinking. Thus, the Huxleyan Individual as expressed here is that entity as it is understood in the early part of Huxley’s life.

Europe's urban centers; indeed, the profound sense of dislocation in the work of artists in Britain intensified in the years immediately following the end of the Great War. The inter-war generation of modernists was generally insistent in its rejection of classical intuitions of aesthetics, but, unlike the Futurists in Italy and France, it also expressed a deep apprehensiveness and anxiety regarding the future role of art and its attendant responsibilities in a world mediated by mass culture and the technology that made that culture possible. The approach of these high modernist was more circumspect. The spontaneous, iconoclastic and absurdist spectacles in the arts, popular in France and a mainstay among the Italian Futurists, never gained wide audience in Britain.⁴² Instead, a proprietary urge was felt by many serious artists that art must not appeal solely to the sentiments and primal energies but be "dry and hard"; it must take work to understand it, it must be responsible (Zach 239). The sense of "hardness" in particular, reflective of the harsh state of the world after the war, characterizes the aesthetics and moral attitude of much modernism in Great Britain after The Great War. It might be called siege modernism because in some of its aspects, it strikes a defensive posture to deflect the

⁴² Of course Wyndam Lewis's Vorticism was every bit as vociferous as Futurism in its denouncement of any prior aesthetics, "there must be no echo of a former age, or of a former manner" (qtd. in Bradbury 187); similarly, there was an insistence on "movement, energy and intensity" (Zach 236). Both Futurism and Vorticism claimed a revolutionary aesthetics; what was missing in Lewis' somewhat marginal movement was the ambition for social change through populist action: "We want to leave Nature and Men alone" (Zach 237).

encroachment, material and ideological, of modernity, its masses and their overwhelming transformative power.

Aldous Huxley's early fiction radiates a "sense of crisis, social disintegration and imminent collapse" (Baker 5). Here modernization has not in the main been in the best interest of humanity. Modern thinking had, according to Huxley scholar Guinevera Nance, "reduced man to a physiological organism; Freudian psychology had replaced love with the libido; and the war had shattered the ideals of social and political order" (20).⁴³ Socio-politically, the future of the individual looked grim indeed to Huxley. The forces of modernity were, in his opinion,

really tending in the same direction, that of the world state. All of these forces share the claims of 'totality,' to a final knowledge of the nature of man and of his proper political condition. . . . They all glorify machines and modern technology. They all, to a greater or lesser degree, subordinate the individual to the claims of a collective whole: the class, the nation, or the business economy. (Firchow, *End* 83)

Huxley was not against modernization per se. Indeed, it is the cautious use of science, always in the employ of humanistic progress, which furthers the interest of

⁴³ Huxley writes in his non fiction work, *Beyond the Mexique Bay. A Travelers's Journal*, that "Advances in technology have led . . . to vulgarity Universal education and relatively high wages have created an enormous public who know how to read and can afford to buy reading and pictorial matter. A great industry has been called into existence in order to supply these commodities. . . . [as a consequence] the proportion of trash in the total artistic output is greater now than at any other period" (274).

liberal humanism, but the priority of humanism, the human individual, must not be lost, explained or subsumed by science. Huxley did not, on the whole, view the technological and social innovations of the age as liberatory and beneficial for people; modernization must be managed and administered prudently, not accepted simply because it was new. The distribution of knowledge, for example, more accessible to more people than at any other time in history, was not in itself a thing for the good. The instrumental use of knowledge, especially as it pertains to science and technology, and not unified within the sphere of progressive humanism, could, Huxley felt, be used to invalidate and neutralize, by displacing humanity's reason-for-being, the inviolability of the individual.⁴⁴ In his "Foreword" to the second edition of *Brave*, Huxley describes the dilemma facing modern humanity regarding science:

⁴⁴ Nuclear scientists, Huxley wrote, were "Procrustes in modern dress . . . [who] will prepare the bed on which mankind must lie; and if mankind doesn't fit—well, that will be just too bad for mankind. There will have to be some stretching and a bit of amputation—the same sort of stretching and amputations as have been going on every since applied science really got into its stride, only this time they will be a good deal more drastic than in the past. These far from painless operations will be directed by highly centralized totalitarian governments. ("Foreword" *Brave* xi). Elsewhere, Huxley expressed a more balanced view of science. Milton Birnbaum writes that Huxley valued science in the same way he valued art: "facilitating the apprehension of the nature of ultimate reality. Science, like the arts, should never become an end in itself: both science and the arts should not be worshiped as ultimately divine entities. Science and technology, unless carefully controlled, can cause many evils: increased mediocrity, rising unemployment and the barbarism of warfare and totalitarianism. Science and technology can, however, help man wisely use earth's natural resources and can even aid him in achieving the end and ultimate purpose of human life: Enlightenment, the Beatific Vision" (qtd in Birnbaum 151).

[U]nless we choose to decentralize and to use applied science, not as the end to which human beings are to be made the means, but as the means to producing a race of free individuals, we have only two alternatives to choose from: either a number of national, militarized totalitarianisms, having as their root the terror of the atomic bomb and as their consequence the destruction of civilization . . . or else one supra-national totalitarianism, called into existence by the social chaos resulting from rapid technological progress in general and the atomic revolution in particular, and developing, under the need for efficiency and stability, into the welfare-tyranny of Utopia.(xiv)

The industrial and social revolutions of the 20th century had changed humanity's traditional institutions: mankind worked in a factory instead of the farm; it paid allegiance to a new bureaucratic authority or nation state instead of to God. If humans do not use the innovations of modernity wisely, that is, if they do not subsume them to the interest of human freedom, then, the thinking goes, there is the danger that humanity becomes vulnerable to enslavement by fascism. Humans must remain vigilant against the "sense of universal futility, the feelings of boredom and despair" which can come from modernity's effects on people's sense of self and place. Thus, humanism must remain a fixed ideal in the whirlwind of modernity's relentless upheaval, a bulwark against "[t]he sense that everything was 'entirely temporary and provisional,' . . . that nothing had any ultimate meaning" (Nance 20).

Though inimical to collectivism, Huxley, nevertheless, did not welcome

unconditionally the expansion of democracy in the 20th century. He preferred, rather, a form of meritocracy: “the ideal state . . . is a material democracy controlled by an aristocracy of intellect” (qtd. in Baker 49). The core values of the West, freedom and self-determination, were being threatened by the expansion of unchecked capitalism, exemplified by Henry Ford’s River Rouge Plant in Detroit.⁴⁵ Science and technology were the means by which the ideals of capitalism were implemented.⁴⁶ According to Huxley, what stood in the way of human enslavement by the institutions of modernity was the individual.

Freedom, autonomy, the capacity to act independently of instinct or environmental influences, all emanated from the human’s innate sense of individualism. It was how

⁴⁵ Huxley’s dislike of political ideologies as disparate as democratic capitalism and Leninist communism reveals the wide spectrum of his anxiety towards the modern. Communism’s centralized governmental planning carried its own risks for the fate of the individual; but the US perhaps represented an even greater threat as “a fusion of “some of the worst features of the Rousseauian ideal of democratic political equality and Soviet mechanization. Huxley’s shorthand for the American threat to the humanist individual was “Ford.” Fordism for Huxley, as Firchow relates and quotes, “is an ascetic religion that worships the deities of cash and efficiency and that ‘demands the cruellest mutilations of the human psyche . . .” (qtd. in *End* 103).

⁴⁶ Though not a science per se, Marxism declared that its socialist political practices were based not on utopian ideals but on a scientific understanding both of history in general and of modern capitalist societies in particular. Ford’s assembly line, though not Ford’s idea, was developed by him through the implementation of the latest technology and labor saving techniques. Experts studied human motion in time and space to find the most ergonomically efficient expenditure of energy.

humans were distinguished from non-humans. The individual had always been under threat from larger social forces, but, for Huxley, the means by which the institutions of modernity threatened the individual were particularly insidious. Coercion until the 20th century had taken the form of brute force: one army gaining advantage over another, laying waste to those who resisted and enslaving those who submitted. In either case, the innate freedom of the human was not sacrificed, not necessarily. Even a slave, though he be forced to do his master's bidding did not have to do it willingly; in his mind, he could always resist and in some sense remain free. Modern institutional enslavement, on the other hand, was comprehensive in the sense that the slave was complicit in his own bondage. Body and mind were both enslaved.

Fear for the future of the individual is palpable in *Brave New World*. Composed in the early 1930s, after the Bolshevik revolution and during the rise of fascism in Europe and the climax of western industrialism, the novel was, in conception, not belletristic, but satirically polemical. The West was crippled economically. Fascism in Italy, Germany and Spain was on the rise. The demands of mass culture and the introduction of new mechanical implements challenged sedimented notions of what a free and vital human was. Like many writers in the UK of the previous generation, Huxley conceived of human history in cyclical terms, or gyres. When the ministrations of mechanism had run their course, a new age for human vitality, freed from the distortions of scientific

instrumentalism, would be at hand. In the interim, however, the ideals of humanism must be kept alive. It was Huxley's intention that *Brave New World* stand as a register of the dangers inherent in the mediation of liberal humanism's individual by an unregulated, instrumental exercise of science.

In the futuristic dystopia of The World State, the inherent nature of the humanist individual is threatened by the imperatives of the political collective and their instrumental use of science and technology for world domination. Huxley proposes the imminence of a change in human nature itself: through genetic manipulation and controlled conditioning, humans are made to "like their unescapable social destiny" (*Brave* 10). This new mode of governing was an "affair of sitting, not hitting. You rule with the brains and the buttocks, never with the fists" (33). The alteration was accomplished by controlling the human interior so that the human's "natural" proclivity towards freedom was excised through exhaustive engineering, its behavior analyzed formulaically, the data crunched and then applied to the species as a whole. The reconditioned human did not want individual freedom, was afraid of it and fled from its very prospect.

The cloning in *Brave* is science fiction; it functions in the novel as a the quintessence of the instrumental use of science by a totalitarian collective to acquire and maintain power over humanity. Cloning coupled with behaviorist conditioning and

environmental nurturing have reduced humankind to a cipher, a fully determined static figure, who, arguably in the novel, is not human at all, but a “species of machine” (Firchow, “Science” 3), lacking vitality. By technologizing the essence of human nature, the individual, denaturing its unique properties so as to render uniform populations of complacent citizens, industrialism and fascism afford the means for the few to control the many. Allying fascist and communist collectivism with “Fordism,” free-reign capitalism of the assembly line where workers are little more than animated machines, Huxley manages to deride and critique the deleterious effects of modernity’s two grand social and economic ideologies on liberal humanism’s individual.

Art was central to Huxley’s humanism. The dearth of religious feeling in modernity, could, he felt, in post war Europe, be compensated for by art, for art gave us a distinctive insight into the nature of the world. The best art discloses, he said, “something significant about the ultimate reality behind appearances” (qtd. in Firchow 62). Furthermore,

good art possesses a kind of super-truth—is more probably, more acceptable, more convincing than fact itself. Naturally; for the artist is endowed with a sensibility and power of communication, a capacity to ‘put things across,’ which events and the majority of people to whom events happen, do not possess. (Huxley, *Music at Night* 5)

Art and the affective sensibility necessary to produce and appreciate it are a uniquely human capacity. As such art and artistic feelings are “compulsions of [the]

individual” (Firchow, *Quest* 62). The art teachers at Hailsham subscribe essentially to the same belief. Their humanitarian project to demonstrate the humanness of the clones is predicated on the idea of art as a unique expression of the individual. As such, the so-called “guardians,” are the defacto custodians of a humanism à la Huxley. At the end of the novel, in a frank confession to Kathy and Tommy, another alumnus from Hailsham, the head guardian, Miss Emily, tells them: “We took away your art [to the gallery] because we thought it would reveal your souls. Or to put it more finely, we did it to *prove you had souls at all*” (260; emphasis in original). “[I]f students were reared in humane, cultivated environments,” she continues, “it was possible for them to grow to be as sensitive and intelligent as any ordinary human being” (261). The idea that Miss Emily explains, art is that which makes us human, is taken whole cloth from the 19th century school of English humanism. The best of the students’ art was to be collected and put on special exhibitions. “‘There, look!’ we could say. ‘Look at this art! How dare you claim these children are anything less than fully human’” (262). But hard reality got in the way of these humane intentions. If the clones were deemed the same rights as normals, humans would be without a steady supply of fresh, healthy organs; they would die. Miss Emily explains to them the hard truth that,

[P]eople preferred to believe these organs appeared from nowhere, or at most that they grew in a kind of vacuum However uncomfortable people were about your existence, their overwhelming concern was that their

own children, their spouses, their parents, their friends did not die from cancer, motor neuron disease, heart disease. So for a long time you [clones] were kept in the shadows, and people did their best not to think about you. And if they did, they tried to convince themselves you weren't really like us. That you were less than human, so it really didn't matter. (262)

The very reason for the clones in the first place was as organ donors for normally conceived humans; if they were not cultivated to provide organs and die, then they would not have existed in the first place. Thus, by society's cognitive dissonance—the propagation of beings capable of human affectation and self-consciousness which can, nevertheless, be radically exploited so that other normal humans can live—the national organ programme continues unabated. “Your life,” she tells them at the end of their meeting, “must now run the course that's been set for it” (266).

The reader of *Never Let Me Go* is witness to evidence of the clones' humanness differently conceived than through the modern institution of a museum, the gallery of student artwork. Kathy's journal documents her life and the lives of her other cloned companions. But for the fact of their in vitro conception, they are virtually the same as normally conceived humans. They attend school classes, progress through levels, eat together in a large communal hall, play sports, and like typical adolescents, talk late into the night with each other. The girls have crushes on the boys and vice versa. In short, life for these student clones is no different than student life at any other boarding school in

England, at least superficially. Once a month the students endure rather detailed medical exams to make sure they are healthy and that their organs are maturing properly. Too, all clones in the nation wide donations programme are told of their special status as a cadre of organ donors as soon as they can comprehend the fact:

None of you will go to America, none of you will be film stars. And none of you will be working in supermarkets as I heard some of you planning the other day. Your lives are set for you. You'll become adults, then before you're old, before you're even middled aged, you'll start to donate your vital organs. That's what each of you was created to do. . . . You were brought into this world for a purpose, and your futures, all of them, have been decided. (81)

Yet there are at Hailsham special programs and activities by which the clones learned to function more or less like normal adolescent individuals on the outside. As the clones grew into their teens, a sense of individuality and privacy is evident from their secretive and exclusive behavior with regard to each other and the guardians. Each student had his or her own "collection" of personal items, their "private treasures," acquired from the monthly Sales and Exchanges, things which were kept in wooden chests with their names inscribed. These items were bought with tokens earned for studious and meritorious behavior. Kathy muses that "all of us at Hailsham had little secretes . . . private nooks created out of thin air where we could go off alone with our fears and longings" (74).

For clones who are about to complete and for others who come after her and read

of her experiences, Kathy's recollections transcend her individual narrative to become a kind of collective memory, for the journal speaks to an audience larger than the clones to whom it is putatively addressed. Normals, we readers, also share in the "care" offered through her mnemonic collage. In a direct address to her readership, she writes, "I'm sure somewhere in your childhood, you too had an experience like ours that day; similar if not in the actual details, then inside, in the feelings. Because it doesn't really matter how well your guardians try to prepare you; all the talks, videos, discussions, warnings, none of that can really bring it home" (36). Kathy here ostensibly addresses other clones like herself who would identify and recall their own particular experiences with the "guardians" to whom they were entrusted. However, the "experience" she relates is by no means exclusive to clones; normals, too, presumably have had similar, if not exact, experiences with guardians, normally called parents.

This diary of hers is a collection of "her fears and longings" strung together by incomplete, selective and erring memory: "[M]aybe I'm remembering it wrong" she cautions the reader from the beginning (8); "This was all a long time ago so I might have some of it wrong"(13), she reminds us again later. Reiterating the uncertain conditions of the text, she puts us, the reader, on notice that we should not expect direct knowledge, not an infallible view of what follows. Memory's complex interest in the past is necessarily selective; what we read is what happened to Kathy according to her own account, for she

alone “knew and remembered things no one else did” (5). The writing of the journal is, furthermore, what she calls a “seeking.”

The correlation here with that other well-known search of the past, Marcel Proust’s *À la Recherche du Temps Perdu* (*In Search of Lost Time*), is instructive. In his article on Proustian memory, Thomas M. Lennon points out that what we remember “can be phenomenologically dissociated from any past event” (62). Seeking then is like remembering in the sense that it is done inexactly, more or less well, not like the reporting of an event but a (re)construction that can only be approximate. Indeed, facts themselves are not that important; rather, it is the reworking of selected events, filtered through her affective sensibilities, which are then linked together into a formidable aesthetic whole of experience. Some things are not recalled accurately, or they are left out all together. The success of the journal, how it speaks to us—normals or clones—is to be found, as Kathy writes, “not in the actual details [but] inside, in the feelings” (36). Here Kathy’s sentiments on narrative recollection echos Proust himself who said, “[O]ur true life is reality as we have felt it” (qtd. in Landy 110). This *creation* of the past, simultaneously real and fictive, temporal and eternal, is a particular arrangement of event and affectation, a process of bricolage whereby, working with the fragments of the past, a coherent tableau takes a unique but recognizably meaningful shape. The *artistry* behind the production of Kathy’s journal is, then, not so much journalistic, but literary in the

sense that she has transformed the pieces of her own raw existence into . . . a work of art.

These stirrings of memories, “an urge to order . . . to get straight all the things that happened” (37), came at a time of transition in Kathy’s life. Her time as a carer was coming to a close and her time as a donor imminent. She begins to assemble her memories at the aptly named “Recovery Centre” where she had come to visit an old friend from Hailsham recuperating from her first organ donation. After that intensely emotional encounter, she is inspired to begin “seeking out for my donors, people from the past, and whenever I could, people from Hailsham” (5). Soon after, in her role as carer for a donor who, after his third donation, is about to “complete,” she sees the therapeutic power of her “constructed past” as a means to escape or at least endure the awfulness of the existential present: “What he [the dying donor] wanted was not just to hear about Hailsham, but to *remember* Hailsham, just like it had been his own childhood . . . so that . . . the line would blur between what were my memories and what were his” (5, 6; emphasis in original).

Paraphrasing Proust’s thoughts on the self, Landy writes that “The search for lost time is a search after truth—for truth buried in lost sensation, but which when recovered is the basis for self and all art” (62). If truth may be said to exist, not eternally in a soul, but in the aesthetic formation of past recollections, a distillation of the past, then what emerges out of Kathy’s *auto/bio/graphy* is a layering of many selves. Kathy’s journal then

is an artifact which is much more than the guardian's humanist notion of a "window-on-the-soul," for it reveals the "the subjective component, the way in which our taste buds receive information, the way in which we put things together . . . a unique and diachronically stable self" (Landy 105). The notion of self as a particular alignment across time of heretofore disparate fragments of personality, psyche, (inter)action and happenstance, is a unity that does not inhere in an individual but is imposed synthetically by language, here the prose of Kathy's journal.

The process of artistry, the performative aesthetics of art, is embodied in serial enaction becoming, in the aggregate, a conscious style, perspectival and temporal. Proust's understanding of style was predicated on the self's lived perspective, the very genesis of art. Writing in *Time Regained*, he explained that style was,

the revelation, which by direct and conscious methods would be impossible, of the qualitative difference, the uniqueness of the fashion in which the world appears to each one of us, a difference which, if there were no art, would remain the secret of every individual. Through art alone we are able to emerge from ourselves to know what another person sees of a universe which is not the same as our own Thanks to art, instead of seeing one world only, our own, we see that world multiply itself and we have at our disposal as many worlds as there are original artists, worlds more different one from the other than those which revolve in infinite space. (qtd in Landy 107, 108)

Kathy's auto/bio/graphy is a series of performative, temporal seekings, meaningful measures in the overall search of self-truth. Two searches in the novel involve

tracking down normals from whom the clones are copied. These ill-fated quests are important to the clones for reasons any normal would find understandable: “[s]ince each of us was copied at some point from a normal person, there must be, for each of us, somewhere out there, a model getting on with his or her life. This meant that, at least in theory, you’d be able to find the person you were modeled from” (139). The clones are, in effect, seeking their parents. So, when a “possible” normal is sighted, based on a visual similarity to one of the clone, the possible is checked out. In Kathy’s particular case, because she had strong sexual urges and feelings as an adolescent, she regularly thumbed through porno magazines looking for her ‘model,’ the normal from whose genes she was developed. Finding her model would “explain why I am the way I am” (181). This search for parent models reveals their romantic desire to find origins, but more importantly it points out the tension felt between the mechanical account of themselves—their issuances from a genetic code—which is the only part of them recognized by most normals, and their synthetic sense of themselves, layer upon layer of experience. The impetus for the quest, Kathy says, is that “we all of us believed that when you saw the person you were copied from, you’d get some insight into who you were deep down, and maybe too, you’d see something of what you life held in store” (140). The clones’ seek for similarities to themselves in their possibles, but they also seek out differences, that which constitutes their unique selves. For in the subjective experience of embodiment—here in particular

the search for their “possible parents,”—is something that their models will never experience, can never access.

Another search, seemingly incidental, is for a particular cassette tape, Judy Bridgewater’s collection, *Songs After Dark*, stolen long ago from Kathy’s private trunk back at Hailsham. As adults, many years later, rummaging in a second hand shop in Norfolk with Tommy, Kathy finds Bridgewater’s tape, but she is not sure it is the original tape taken from her or just another copy. There is no way to tell for certain:

[Tommy] “Is that it?”

[Kathy] “Yes, this is it,” I said. . . . “Can you believe it? We’ve really found it!”

“Do you think it could be the same one? I mean, the *actual* one. The one you lost?”

“For all I know, it might be,” I said. “But I have to tell you, Tommy, there might be thousands of these knocking about.” (172; emphasis in original)

Tommy’s obsession with the “*actual*” tape reflects his concern with an identity of origins. But human memory for the Proustian self is a “seeking” not a “finding” (Lennon 62). For Tommy, identity is bound up with origins, the tape becomes a material fetish, a logos. Kathy, on the other hand, sees the fact of the tape’s originality as less of an issue. The cassette, regardless of origins, becomes for her something of an ‘objective correlative,’ productive for a new set of memories and emotions, grist for further autobiography: “[T]oday, if I happen to get the tape out and look at it, it brings back memories of that afternoon in Norfolk every bit as much as it does our Hailsham days” (173).

The lost tape and Kathy's relationship to it are analogous to the novel's theme of replicability and singularity as regards the clones themselves. Like their genetic coding from which any quantity of particular clones can be duplicated, any number of any given cassette tape can be copied, sold and listened to. But no single experience of the song, not even by the same person, is ever the same. The notion is illustrated dramatically in an exchange between Kathy and Madame about an incident that happened long ago at Hailsham. As an eleven year old child, Kathy is discovered by Madame dancing in a room by herself with a pillow clutched to her breast. The song she dances to is "Never Let Me Go" on the Bridgewater tape. Because the moment is intensely personal and private, both are embarrassed and uncomfortable at being discovered. Madame leaves without a word, but Kathy had noticed her eyes full of tears. At the meeting years later, they discuss the episode, the song's meaning, the dance, and Madame's tears. The incident denoted very different feelings in the two. Kathy's own idiosyncratic interpretation of the song's lyrics is that it is about an infertile woman who miraculously conceives and gives birth. "[W]hatever the song was really about, in my head, when I was dancing, I had my own version" (271). The chanteuse, so Kathy imagines, sings "Never let me go" because she's afraid something might separate parent and child. Kathy assumes this is Madame's interpretation as well which would have explained her tears. Yet Madame admits she was crying for entirely different reasons:

When I watched you dancing that day, I saw something else. I saw a new world coming rapidly. More scientific, efficient yes. More cures for the old sicknesses. Very good. But a harsh, cruel world. And I saw a little girl, her eyes tightly closed, holding to her breast the old kind world, one that she knew in her heart could not remain, and she was holding it and pleading, never let her go. That is what I saw. It wasn't really you, what you were doing, I know that. But I saw you and it broke my heart. And I've never forgotten.
(272)

The two perspectives of the singular incident, Kathy and Madame's, and their later reflections later in time and space, is indicative, for each of them, of "style." The "truth" of the incident was not in the neutral facts of the event, elements which, in themselves, mean nothing, but in the way they are related, expressed in language and emotively recalled. The incident is not rendered *tout court* but filtered through the sum of their former selves and fabricated and refashioned by the gaze of the artist, the hand of the bricoleur striving for some kind of coherency. The incident, long ago but still vivid to them both served "as a boundary marker for an internal chronology" (Landy 98) of their lives' story. As such the experience represents a geological layer of their stratified selves. Their mutual admission, the exchange of memory of differing perspectives on a single shared event in time, and the emotions it precipitates reveals the justificatory action involved in the composition of self out of the trivia of raw fact.

[Madame to Kathy] 'Your stories this evening, they touched me too.' . . . She [Madame] reached out her hand, all the while staring into my face, and placed it on my

cheek. I could feel a trembling go all through her body, but she kept her hand where it was, and I could see again tears appearing in her eyes. (272)

Echoing Proust, Landy writes that “the success of our attempts at self-unification depend on the measure of artistry we import into our existence” (119). Art is a window, not on the soul, but on the embodied, that is to say, experiential self in an aesthetic encounter with the world. This aesthetic self is not to be understood as something enduring and immutable, but not entirely relative either. Rather, the self’s emergence arises and evolves out of an ongoing process of embodied and aesthetic encounters with the world and the aesthetic *souvenirs* of all its former encounters with the world.

The uncertainty clouding the ending scene of *Never Let Me Go* suggests more than the dim immediate future of the clones. Clutching each other in a field, Kathy and Tommy cling to one another against the encroaching darkness of uncertainty itself. Throughout the novel, uncertainty is contrasted with togetherness. Beginning with the title, the theme of togetherness against encroaching chaos appears in passim throughout the novel: in a park, the image of a man holding onto the strings of balloons which threaten at any moment to pull free. At one point Kathy writes, “But the fact was, I suppose, there were powerful tides tugging us apart by then If we’d understood that back then—who knows?—maybe we’d have kept a tighter hold of one another” (46). And again, “a part of us [clones] stayed like that: fearful of the world around us, and—no

matter how much we despised ourselves for it—unable quite to let each other go” (120).

Just the fact of being together imposes meaning, any meaning. In the scene which closes the novel, Tom, after the visit with Madame and Miss Emily, rages madly in the mud of a wet, moon lit field at an unconcerned universe. But he is not alone like King Lear with the onset of insanity. Kathy, ever the carer, is there together with him and does not let him go:

I caught a glimpse of his face in the moonlight, caked in mud and distorted with fury, then I reached for his flailing arms and held on tight. He tried to shake me off, but I kept holding on, until he stopped shouting and I felt the fight go out of him. Then I realized he too had his arms around me. And so we stood like that, at the top of the field for what seemed like ages, not saying anything, just holding onto each other . . . and for a moment, it seemed like we were holding onto each other because that was the only way to stop us being swept away into the night. (274)

And about what is it that Tom rages? An existential truth? Miss Emily explained to them that “we [the guardians] were able to give you something . . . and we were able to do that principally by *sheltering* you. Hailsham would not be Hailsham if we hadn’t. Very well, sometimes that means we kept things from you, lied to you. Yes, in many ways we *fooled* you” (268; emphasis in original). Miss Emily’s admission reveals the dread latent in the autonomous individual as regards uncertainty and the dream of containment; for humans too, the putative “normals,” are seduced by the ruse of self-mastery and so sheltered, lied to and fooled--no less than the clones--by the guardianship of humanism.

V. The Chiasmatic Novel: Reversible Alterity in Thomas Pynchon's *Gravity's Rainbow*

So do not take the lecture too seriously, feeling that you really have to understand in terms of some model what I am going to describe, but just relax and enjoy it. I am going to tell you what nature behaves like. If you will simply admit that maybe she does behave like this, you will find her a delightful, entrancing thing. Do not keep saying to yourself, if you can possibly avoid it, 'But how can it be like that?' because you will get 'down the drain', into a blind alley from which nobody has yet escaped. Nobody knows how it can be like that.

Richard Feynman, *The Character of Physical Law*.

Despite a motley mob of comic book characters, a profusion of improbable, dead-end and disjointed subplots, and a deliberate and complete disregard for anything approaching denouement, *Gravity's Rainbow* (hereafter *Gravity*) turns around a rather focused suspicion: an uncertainty as to whether or not the universe is continuous or discontinuous. Yet, rather than endorse one world view over another, *Gravity* probes, to often comic—and pornographic—effect, the human compulsion to make order of chaos, of which the binary continuity/discontinuity is but one example. “You’ll want cause and effect” *Gravity*’s narrator, like a side show barker well versed in human desire, baits the reader (663). And there is enough (barely) plotting of the cause and effect kind to claim that *Gravity* has a story. But the narrative arc itself is so tenuous, elliptical and refractory that conventional critique by way of narrative analysis is fraught with frustration. Like individual pixels in a digital image, *Gravity*’s “plotlets” in themselves make little sense.

A vision (of sorts) emerges only with perspective. It is better to regard the intricate story—an amalgam of responses, loosely stitched, to a variety of encounters and confrontations erotic and hostile—as a means to certain ends, as a vehicle by which Pynchon foregrounds his concern with, among other things, the use and abuse of humans, non-humans and the parameters of knowledge.

At one time in the not too distant past, it was presumed that the universe out there was ordered and systematized to respond to stimuli in a manner that was methodical and predictable; furthermore, that this order could be understood potentially at least without final recourse to intuition. A continuous, connected, clockwork universe implied, theoretically anyway, that comprehension was exacting. Yet within this assumption, there was an anxiety lurking about that comprehension was itself precisely ordered, which constraint put into question free will, a linchpin for human exceptionality among earthly species. In *Gravity* the legacy of modernism's anxiety regarding agential freedom lingers within a binary speculation that is the obsession of many characters. On the one hand, there are the “paranoids” who believe that the universe is connected. While paranoia may be comforting in the abstract—there would, after all, be meaning and a purpose though we may not know it—free agency would seem to be precluded in that there would be no room for the “swerve,” for spontaneity, randomness. Opposing the paranoids are the “anti-paranoids” who think “nothing is connected to anything,” a condition the narrator intones,

“not many of us can bear for long” (434). For one Lt. Tyrone Slothrop, the corpulent, hapless protagonist, who, more than anyone else in the novel, qualifies as the main character in the novel, the existential freedom that comes with an unconnected universe is not particularly desirable: “Either They have put him here for a reason, or he’s just here. He isn’t sure that he wouldn’t, actually, rather have that reason” (434; ellipses in original).

Slothrop’s equivocation, a paranoia that his *being* is unparanoid, is understandable. As a young pubescent boy, he was the focus of an unethical Pavlovian experiment at Harvard in stimulus and response conditioning involving the aroma of a synthetic plastic used in the manufacture of Nazi V2 rockets and his penile erections. The experiments had been a resounding success, apparently. So well had They “busted the sod prairies of his brain” that Slothrop’s identity as an agential individual is, so he feels, uncertain. His search for selfhood, a quest ostensibly with the aim of discovering the *cause and effect connection* between himself and the Rocket, is a meandering, overland journey taking him across the Channel to the Continent, a dystopian landscape occupied by a bizarre cast of characters disaffected and marginalized by the aftermath of war.

But there is the psychical dimension of his journey too. As the novel progresses, Slothrop’s quest for his self-hood becomes his emancipation from the desire of self-hood. To give away the ending here at the outset, Slothrop never finds the putative *Id* that is the

promise of individualism. Instead, after being inducted into the mysticism of emptiness, wherein his alterity is revealed to be situated, not in identity *per se*, but complementary entangled with others, he is freed not only from an obsession with the fantasy of selfhood, but the controlling machinations of They.⁴⁷

At what point does a polygon become a circle?

The work of identification, “the act of naming . . .” (366; ellipses in original) a self or an object, is analysis. Analysis begets difference. Further analysis may account provisionally for those gaps, yet it cannot account for all the gaps. To do so would be to negate the work of analysis altogether; it would be to reestablish the whole. Analysis is thus *defined* by a lack; it does not and can never account for the whole. Analysis’s horizon figures thematically in *Gravity*: on the other side of this horizon there is freedom from instrumental use and mastery; it is reified in the novel as “the change from point to no-point [that] carries a luminosity and enigma at which something in us must leap and sing, or withdraw in fright” (396). Analysis is *illiterate* when it comes to reading the

⁴⁷ Self, Identity, Individualism used herein presuppose the modern idea of an essential human nature. Louis Althusser, writing in “Marxism and Humanism,” describes human nature as having two postulates: “1) that there is a universal of man, and 2) that this essence is the attribute of ‘*each single individual*’ who is its real subject. If the essence of man is to be a universal attribute, it is essential that *concrete subjects* exist as absolute givens; this implies an *empiricism of the subject*. If these empirical individuals are to be men, it is essential that each carries in himself the whole human essence, if not in fact, at least in principle. . . . (30, 31; emphasis in original).

singularity, the “It from the things they stand for” (510). Despite the speed at which a film is run, or the total amount of information articulated in a rocket manual of diagrams or the calculus of integral equations, interstices will remain unaccountable. Those gaps, however negative, are not void, not holes of total emptiness. Something is (*everything* is?) in the fine black striae between the frames. To attempt to frame the negativity or articulate it further simply makes more gaps not less. Yet, articulate it we must, for the desire to analyze and order, as *Gravity* affirms, is humanly irresistible: the post-lapsarian sin of modernism is not disobedience but “Analysis,” and this “Subsequent Sin is harder to atone for” (722). Even those characters who would resist the conspiracies and controlling scientific interests of They are bound by analytical inquiry and induction. “We are obsessed,” the Argentine spy Squalidozzi explains, “with building labyrinths, where before there was open plain and sky. To draw even more complex patterns on the blank sheet. We cannot abide that *openness*; it is terror to us” (264). Yet as Katherine Hayles points out, “[i]f the act of naming itself introduces division, what could these moments bring into being but the fragmented reality that cognitive processing implies? And if the fragmentation of that named creation is only another version of Their synthetic, fragmented world, then the whole project of escaping Their control has been co-opted and subverted by the very attempt to speak it” (186). The suspicion persists: resistance may be impossible; it may be just another form of conformity.

*The They*⁴⁸

It is the singular obsession of “They,” Pynchon’s sinister, invisible cabal, to read *between the frames*, as it were, in an attempt to exert *totalized* control over human and non-human ecology. Lucidity is a rare article in *Gravity*, but one idea that is consistent throughout is that systems whose purpose is completion and closure are programs of ossification, of death. Scientism as embraced by Them and practiced by Dr. Pointsman is in really an extension of earlier theocentric and providential views of the world. Pynchon’s association of religion and scientism rests on their mutual objective: totalization. Just as the Church at one time had its hand in every aspect of human life from birth to death to afterlife, so is Their intended reach, through scientific regulation, universal. Despite its numerous aliases and guises—The Firm, The P.W.E., The Man—They, by its pronominal anonymity, functions as an instantiation for the institutional will to universal supremacy. Their means are not forceful; rather, they employ strategies of stealth: conspiracy, mind control, subterfuge, etc.. World War II, it is hotly speculated,

⁴⁸ “They” recalls Heidegger’s term, one translation of *das Man*, to refer to the basis of inauthentic response; that is, doing, choosing, thinking something only because everyone else is doing it. In *Being and Time*, Heidegger writes: “In inconspicuousness and unascertainability, the real dictatorship of the “they” is unfolded. We take pleasure and enjoy ourselves as *they* [*man*] take pleasure; we read, see, and judge about literature and art as *they* see and judge; likewise we shrink back from the ‘great mass’ as *they* shrink back; we find ‘shocking’ what *they* find shocking. The “they”, which is nothing definite, and which all are, though not as the sum, prescribes the kind of Being of everydayness” (164). In this chapter, I consider “They” an avatar of modern Western scientism.

was not so much about freeing the world from fascist tyranny, but planned by “Them” as a means of merging and consolidating military and industrial power with capital. Pre-war Germany’s close, amiable association of generals, industrialists and politicians was the prototype on which the business and politics of the post-war US would model itself. As far as business was concerned, there were really no “sides” in the global conflict: US and UK industries, GE and Ford, et al., supplied parts to both the Allies and the Axis powers. Evoking Clausewitz’s dictum that war is the continuation of politics by other means, the narrator reveals that “The Germans-and-Japs story was only one, rather surrealistic version of the real War. The real War is always there” (645). Even peace, when it comes, is just “another bit of propaganda . . .” (628). The war on one level was a “laboratory” staged to run experiments, involving, among other things, psychotropic drugs and behaviorist conditioning.

Operation PISCES—Psychological Intelligence Schemes for Expediting Surrender—is responsible for research on mind control. Dr. Edward Pointsman, PISCES director, functions, when he’s not pursuing sex with young boys, as the front man in the novel for cause and effect reasoning. Pointsman, the scion of Dr. Ivan Pavlov, the father of the conditioned response, possesses a deeply held “faith . . . in a pure physiological basis for the life of the psyche. No effect without cause, a clear train of linkages” (89).⁴⁹

⁴⁹ The connection between They and Dr. Pointsman is purposely ambiguous. Pointsman and They seem to be on opposite sides in the war, but in fact he is doing Their

From the secretive stronghold in England known as “The White Visitation,” Pointsman indirectly directs Slothrop’s junket through occupied war-torn Europe in an attempt to close the intelligence gap that exist between the conditioned response of his erections and the V rockets that rain down on London to great destruction and death. Pointsman’s epistemic foil is Roger Mexico, a statistician in the same employ, whose method of estimating where the rocket bombs will fall is more successful than Pointsman’s. For a given number of rockets fired, Mexico’s “Poisson equation” tells how many designated areas will get none, one, two, and so on. Where cause and effect analysis cleaves and separates, statistics moves back in space and time gaining, distance in an attempt to “glimpse” a frame of the phenomenal whole. Their respective approaches to the science of risk management is the difference between classical induction from empirical evidence and the probabilistic deduction from mathematical principle. Where Pointsman’s domain is the “zero and the one,” Mexico’s is “*between* the zero and the one . . . the probabilities” (55; emphasis in original). But even the relative success of Mexico’s probability function is not absolute: “No matter how many [rockets] have fallen inside a particular square, the odds remain the same as they always were. Each hit is independent of all the others” (56). The singularity of the stria are not mediated; there is no absolute predictability, no pre-

bidding. In any case, *Connection*, of which Pointsman is the point man, is always allied in the novel with the controlling interests of They. Too, the ambiguity suggests that the Allies and Axis powers were really on the same side.

recognition, because statistics never pretends to be anything it is not, that is, the whole.

Between Pointsman and Mexico much more than differing methodologies is going on. The two incommensurable techniques of ordering reality thematize in the novel differing epistemological sensibilities. Molly Hite writes that modernism conceived “Order [as] a human phenomenon . . . and because order alone confers significance, we must conclude that reality, apart from the imagination’s forming and informing, is meaningless alterity, chaos” (7). The indirect realism outlined here acknowledges a mind independent world in combination with the view that in perception we discern quantities and qualities of an otherwise unobjectified world. *Scientism*, the view that the methods of the natural sciences can be applied to all areas of inquiry, is modernism’s twin, in that it, too, responds, as Malcolm Bradbury claims, “to the scenario of our chaos” (27).⁵⁰ In his work *Seeing Like a State*, James Scott writes that

high modernism . . . is best conceived as a strong, one might say muscle-bound version of the beliefs in scientific and technical progress associated with the process of industrialization in Western Europe and North America from roughly 1830 until the First World War. At its center was a supreme self-confidence about continued linear progress, the development of scientific and technological knowledge, the expansion of production, the rational design of social order, the growing satisfaction of human needs,

⁵⁰ That chaos refers specifically to the loss of Newtonian absolutes of time and space by Einstein’s special and general theories; Heisenberg’s uncertainty principle revealed an absolute limit of knowledge regarding a particle’s momentum and position; Bohr’s wave/particle duality.

and, not least, an *increasing control over nature (including human nature)* commensurate with scientific understanding of natural laws. High modernism is thus a particularly comprehensive vision of how the benefits of technical and scientific progress might be applied—usually through the state—in every field of human activity. (89, 90; emphasis in original)

Scientism and so, in a sense, modernism's promise of intellectual unity, an internal synthesis, lures humanity with the hope of securing essential meaning, a (godless) revelation of the gnosis.⁵¹ For Pynchon's purposes in *Gravity*, scientism's dream corresponds to the compulsion of their instrumentalism by which disinterested human observation attains determinant, yet not necessarily ontological, knowledge of the world. Their world view is Laplace's clockwork cosmos *updated* whereby the world in all its wetwear diversity becomes manageably linked together through psychological behaviorism and neurochemical regulation.

Unbeknownst to Slothrop, he is the guinea pig of Pointsman's secret research program, "Operation Blackwing." As a "monster" formed of close operant behaviorism, Slothrop is for Pointsman, the "exact experimental subject" by which to "show again the stone determinacy of everything, of every soul" (86). Slothrop's conditioned response, an

⁵¹ Hite makes the point that modernism's epistemology is theological in origin: "The notion that seems distinctively modern, that order is subjective and unreal, whereas reality is incomprehensibly disordered, follows logically from a sort of historical sleight-of-hand whereby the theocentric world view lost its God but maintained the rest of its assumptions intact" (7,8).

erection at a site in London where invariably a rocket later lands, presents the ultimate and irresistible challenge to Pointsman's scientism, for it combines both matters of the affective sensibility (the libido) with theory and quantifiable experience. The project is, as Timothy Melley explains, "the desire to understand desire itself—to access the inmost reaches of an individual in an attempt to stabilize the plaguing problem of uncertain agency" (724). In defiance of Newton's laws of cause and effect, Slothrop's erections, originally conditioned *by* the smell of a synthetic plastic in the rocket—pure behavioral stimulus and response—come *first* and *then* the stimulus, the rocket explosion and the release of the synthetic plastic. Pointsman is not shaken by this apparent reversal of a basic law of the universe. A logical explanation will be discovered to this conundrum; it is only a matter of patience, persistence, a yet further refinement of the causal method of analysis: "[Slothrop's] reflex," he surmises, ". . . is something we're too coarsely put together to sense . . . a sensory cue we just aren't paying attention to. Something that's been out there all along, something we could be looking at but no one is" (49).⁵² A scientific account of the relationship between Slothrop and the Rocket, encompassing

⁵² To a substantial degree, Pointsman labors under the realist view of early modernism. Nancy Murphy explains this belief as having three central philosophical theses: 1) epistemological foundationalism—the view that knowledge can only be justified by reconstructing it upon indubitable foundational beliefs 2) representational theory of language—the view that language must gain its primary meaning by representing the objects or facts to which it refers, and 3) atomism—an approach to ethics and political philosophy that takes the individual to be prior to the community (292).

both affective and cognitive sensibilities, would be the “Prize” for Pointsman, a global validation of stimulus and response conditioning, for it would show that the mechanisms operant in animate and inanimate matter are parallel, a development that could render agency obsolete.

And Yet. . .

Yet, despite the great success of the causal method, it is not adequate to the task of accounting for the pesky randomness exhibited now and then by physical reality, a phenomena described in the novel by Murphy’s Law, “that brash Irish proletarian restatement of Gödel’s Theorem—when everything has been taken care of, when nothing can go wrong, or even surprise us . . . something will” (275). Reality was sticky in the sense that “the very need to measure interfered with the observations” (452). One had to back off, way off. The inferential statistics of the kind Mexico employs to formulate a distribution curve of the frequency with which the rocket bombs, fired from the Nazi launching pad in Peenemünde, Netherlands, strike the City of London, takes a wide sample of what’s on the ground to determine a pattern of “pure numbers” out of the “day-to-day” (54). The turn from causality to probability was made because, as Mexico explains, “there’s a feeling about that cause-and-effect may have been taken as far as it will go; that for science to carry on at all, it must look for a less narrow, a less . . . sterile

set of assumptions” (89). Statistics does not eliminate the unknown, it merely tells what can be anticipated. For rocket bombs falling out of the sky, it cannot say where they will fall, only how many are likely to fall in a certain area. The statistician’s style does not look for absolute parity between his theory and reality: one must “relax, grow passive watch for a shape to develop” (218), and accept the first proverb of the Paranoids: “You may never get to touch the Master, but you can tickle his creatures” (237). This quiescent attitude of the observer is unacceptable to Pointsman: it is Modern Man who imposes his meaning on the world; the world doesn’t have that much to do with it. The impossibility of knowing completely, that is, conceding that meaninglessness exists in some areas of the universe beyond the reach of intelligence and calculation, rouses in Pointsman a deep anxiety: “Can’t you . . . *tell*,” he demands of Mexico, “from your map here, which places would be safest to go into, safest from attack?” “No,” Mexico replies, “Bombs are not dogs. No link. No memory. No conditioning” (55, 56). The absence of “connection,” the deficit of an absolute parity between world and theory, is calamitous: “No links?” Pointsman asks, “Is it the end of history?” (56). Perhaps, but that which occludes the possibility of an historical *telos*, may obliquely hint at a (scientifically!) verifiable alterous otherness of contingency. The world may well have an order but one we may never have a scientifically verifiable account . . . which precept, ironically, is established by science. The prohibition of unity does not, after all, come down to the limits of

funding for R&D, but on the chance manifestations of randomness, the *ur* singularity.

Any scientist worth his Erlenmeyer flask knows the world does not cooperate with theory one hundred percent of the time.⁵³ As critic Joseph Slade states, “To rationalize the world is not to control it utterly, for ‘natural’ surprise, described as chance, fortune, Murphy’s Law, Gödel’s Theorem or just plain accident . . . will always disrupt contrived order” (178). In *Gravity*, no one knows this better than the formerly living foreign minister, Walter Rathenau, the guest-of-honor specter at a seance. From his singular perspective on the “other side,” he avers that “All talk of cause and effect . . . is

⁵³ As regards *replication*, a necessary condition of scientific objectivity as it came to be known from Early Modernism’s notions of empiricism, Richard Feynman in his seminal account of quantum mechanics, *The Character of Physical Law*, writes, “A philosopher once said, ‘It is necessary for the very existence of science that the same conditions always produce the same results’. Well, they do not. You set up the circumstances, with the same conditions every time, and you cannot predict behind which hole you will see the electron. [Feynman is referring to the double slit experiment which he just explained]. Yet science goes on in spite of it—although the same conditions do not always produce the same results” (147).

A recent example of randomness’s pivotal role in the phenomenal world and science’s reaction to it is discussed in Barry Commoner’s article “Unraveling the DNA Myth,” *Harpers*, February (2002). Commoner shows the error in Watson’s dogmatic premise that the DNA molecule “is the exclusive agent of inheritance in all living things” (39). Instead, by a process in the cell called alternative splicing, Commoner points out that “the gene’s original nucleotide sequence is split into fragments that are then recombined in different ways to encode a multiplicity of proteins, each of them different in their amino acid sequence from each other and from the sequence that the original gene, if left intact, would encode” (42). He concludes that though “There can be no doubt that the emergence of DNA was a crucial stage in the development of life . . . we must avoid the mistake of reducing life to a master molecule in order to satisfy our emotional need for unambiguous simplicity. The experimental data, shorn of dogmatic theories, points to the irreducibility of the living cell” (47).

diversionary tactic. Useful to you gentleman, but no longer so to us here [in the afterworld] [W]hat is the real nature of control? You think you know, you cling to your beliefs. But sooner or later you will have to let them go” (167). From his “angel-eye view,” analytical inquiry and its dream of grand unity is a “pornography” of “kute korrespondences,” a means useful in indicated doses, but not to be swallowed whole. For truth, the late bureaucrat advises, “you must look into the technology of these matters. Even into the hearts of certain molecules—it is they after all which dictate temperatures, pressures, rates of flow, costs, profits, the shape of towers” (167). This is to say that *human* knowledge, classical knowledge based on cause and effect, confronts its horizon at the frontier of molecular agency. What knowledge we have of the subatomic realm must be translated back into classical idiom for our understanding. As per any translation, some content is lost. Heisenberg expressed the mystery this way, “We *cannot* know, as a matter of principle, the present in all its details” (qtd. in Gribbon 148; emphasis in original) by which is meant no set of conditions will ever exist for the gathering of a complete portrait of a physical event. Quantum mechanics, by complicating the classical perspective, that is, the discreet distinction between observer and observed, has deconstructed science’s mandate as reality’s supreme arbiter. The observer sees not a vista of ‘naked reality,’ but a reflection of him or herself peering back from that reality.

The unsettling thing here, for a Pointsman, or anyone who believes in stone

determinant linkages, is that the subatomic realm is not bounded by our macro world of cause and effect. That is to say, quantum behavior is not an isolated, maverick sub-world, a peculiar, special case scenario of the macro realm; rather, *it is the macro world that is enclosed by the uncertainty of quantum mechanics*. The classical world is the special case, dependent on the relationship between the factors in the quantum equation, $E=hf$, where the energy of a particle equals Planck's constant (6.626×10^{-34}), times its frequency. The certainty with which we kick rocks to prove their objectivity and, by extension, our own subjectivity, is predicated on a more fundamental uncertainty.⁵⁴

Margaret Lynd writes that *Gravity* “suggests that an adequate theorization of the subject—or at least of the subject capable of agency—depends in part on the premise that the world [both macro and subatomic] is so complex that an element of randomness, uncertainty, or unpredictability is always present” (65). Such cleavages between the unknowable and the accountable present opportunities for the subject to subvert the strategies and machinations of the forces of They and Pointsman in Their efforts to exert ultimate control. But as should be clear by now, subversion in *Gravity* is not to be limited to human agency. Matter too does not behave with rigid causality; there is always a

⁵⁴ Scientists in the employ of “Them” at work on analgesic psychotropic drugs supervene on the uncertain complementary structure of the sub-atomic world, exclaiming, “We seem up against a dilemma built into Nature, much like the Heisenberg situation. The more pain it takes away, the more we desire it . . . we can't have one property without the other, any more than a particle physicists can specify position without suffering an uncertainty as to the particle's velocity” (348).

slippage, an inconsummable singularity superpositional between the polygon of Leibniz's calculus and the circle of life, the "larger enterprise." The randomness immanent in particle behavior, which can only be indicated statistically or probabilistically, reveals not a particle's freewill, but its freedom from scientism's reductive instrumentalism.

The Zone

It is in the Zone—Allied Occupied Germany—that totality is efficaciously resisted and the freedom of humans and non-humans alike finds accommodation. Here the statutes of Newtonian mechanics have been attenuated or suspended altogether. The war has reconfigured "time and space into its own image"; it has decentralized authority "back toward anarchism . . . [it has] wiped out the proliferation of little states that's prevailed in Germany for a thousand years. Wiped it clean. *Opened it . . . hope is limitless*" (257, 265; emphasis in original). Situated interstitially between West and East, the Zone is "ground zero," literally off the map, an "interregnum," which "[y]ou only have to flow along with" (294). "[L]ike going to that Darkest Africa" (281), one must "[f]orget frontiers ... forget subdivisions [because] There aren't any" (291). All hierarchies have lost their authority. Military rank is traded like baseball cards or it has no authority at all. "Outside, Inside interpiercing one another too fast, too finely labyrinthine, for either category to have much hegemony any more" (681). Rational inquiry, so

influential outside the Zone, cannot find purchase here because “[b]inary decisions have lost their meaning” (335). Even the stars in the sky are not fixed and “[i]t is possible . . . to make up your own constellations” (366). Meanings, names, motives and destinations are all somewhat vague or in total suspension altogether:

[H]ere in the Zone categories have blurred badly. The status of the name you miss, love, and search for now has grown ambiguous and remote, but this is even more than the bureaucracy of mass absence—some still live, some have died, but many, many have forgotten which they are. Their likenesses will not serve. Down here are only wrappings left in the light, in the dark: images of Uncertainty
(303; ellipses in original)

Yet if one can get a high enough perspective, that is to say, an “angel eye’s” view, one can see that this black hole, this geographical Zero, is circumscribed by the Western powers and The USSR (See Appendix 1).⁵⁵ From this vista, the Zone reveals itself as a negativity, its formation passively composed from the surrounding ring of autonomous nation states. A view, further out in space, however, reveals that this ring of sovereign order is itself circumscribed by a cosmic negativity. The tellurian donut that, with enough distance and imagination, looms into view, suggest a topological trope, not only for Their dream of scientific totalization of the World, but also for the narrative of Slothrop’s quest after his own identity, for The Zone is, finally, the space where the edges of the

⁵⁵ K. Tölölyan’s map, (36), in *Approaches to Gravity’s Rainbow* by Charles Clerc, Ed. provides a useful schematic of Slothrop’s annular wondering through the Zone.

polygon have reached infinity, “the Eternal Center,” also known as “the Final Zero” (319).

Donut T(r)opology

It is to the Zone that Slothrop comes, allowed to escape really by Pointsman’s mechinations, with the purloined “fat file on Imipolex-G,” information on his operant conditioning and the rocket’s blueprints. He comes seeking the key to his identity. His sojourn from London to the Zone is a path from the orderliness of an island parliament to the chaos of a battle fatigued, loosely occupied territory. Moreover, Slothrop’s passage is a paradigm shift crossing from the positivist science practiced at The White Visitation to the fecundity of open probability in the Zone. The novel, which notoriously eludes meaningful closure, is itself the most salient example of this lack of consummate meaning. Hite writes that Pynchon “seems concerned to parody the assumption that meaning is the culmination of an exhausting series of discoveries, that truth is what everything adds up to” (14); that its narrative arc does not progress in a linear fashion to some resolution but weaves an entangled web to end up where it all started, a falling rocket bomb, violates normative notions of time, cause and effect—to say nothing of the 2nd Law of Thermodynamics. Brian McHale observes that “Pynchon’s reader has every right to feel conned, bullied, betrayed . . . [because he/she] has been invited to undertake

the kinds of pattern-making and pattern-interpreting operations which, in the Modernist texts with which he (*sic*) is familiar, would produce intelligible meaning; here, they produce almost a parody of intelligibility” (106). The kind of control to which McHale refers, an interiority and continuity, is associated in the novel with Them, or rather the near complete control They exert outside the Zone.⁵⁶ Even as we readers strive to create patterns consistent with received internal conventions of narrative, Pynchon advises us with caveats to check our desire for unity.⁵⁷ The text is committed, to the bitter end, to digression, characters that are two-dimensional, and a coffer of recurrent and frayed

⁵⁶ In a series of seances, Their modernist Will-to-Mastery is described for our edification through the medium Evelyn McIntyre:

For the first time it was inside, do you see. The control is put inside. No more need to suffer passively under ‘outside forces’—to veer into any wind. As if

A market need no longer be run by the Invisible Hand, but now could *create itself*—its own logic, momentum, style, from *inside*. Putting the control inside was ratifying what de facto had happened—that you had dispensed with God. But you had taken on a greater, and more harmful illusion. The illusion of control. That A could do B. but that was false. Completely. No one can *do*. Things only happen, A and B are unreal, are names for parts that ought to be inseparable (30; emphasis and ellipses in original)

⁵⁷ Nor does Pynchon escape implication as patternizer; as fictionalizer he is the first in line to order and structure events. As Joseph Urgo states, “Story making is a paranoid response. The drive to discern a structure behind events and then to have that structure function within the narrative as a force causing or even willing these events is a product of imaginative anxiety” (174).

subplots which may connect on a thematic or character level . . . or not.⁵⁸

Immersing the reader into the crosscurrents of multiple narratives that now and then insinuate that a “holy center” of meaning awaits at the end, only to be frustrated finally in that desire by a text that ends where it begins—the imminent fall of a rocket bomb—may be read as a disingenuous endorsement of postmodernism’s *petits récits*, “little narratives resisting closure and totality, stressing the singularity of every ‘event’” (Lyotard 426). Indeed, parataxis and multifarious narrativity are one of the most conspicuous features of the novel’s form. Considering *Gravity*’s fragmentation, together with its encyclopedic content, one can see why critics, such as Hite, “insist on Pynchon’s postmodernism.” Not only does it “attack, undermine, parody, or otherwise call into question certain characteristic assumptions of modernist fiction . . . it cannot be taken ‘straight’; we cannot read it successfully by exercising our knowledge of established

⁵⁸ All features of modernism, to be sure, but despite its iconoclasm, fragmentation and devotion to strangeness, modernism still abhors chaos and desires, nostalgically, order by seeking to supplant the old narrative of representation with a new one of the unrepresentable. Multiplicity seeks no such coherent account. I use Modernism and Postmodernism in this chapter in the sense that Lyotard uses the terms in his essay, “Answering the Question: What is Postmodernism.” Here he asserts that, “A work can become modern only if it is first postmodern. Postmodernism thus understood is not modernism at its end but in the nascent state, and this state is constant” (435). And later, “The postmodern would be that which in the modern, puts forward the unrepresentable in presentation itself; that which denies itself the solace of good forms, the consensus of a taste which would make it possible to share collectively the nostalgia for the unattainable; that which searches for new presentations, not in order to enjoy them but in order to impart a stronger sense of the unrepresentable” (436).

conventions, even modernist conventions” (4). More broadly, Raymond Olderman points out that in *Gravity’s Rainbow*, “all systems of science, art, religion, politics, and economics—all systems of any kind—are simply *metaphoric descriptions* that participate in reality but are not reality in its entirety” (206; emphasis added). These observations are relevant and well taken, yet *Gravity’s* postmodern stylistic devices, meta-fictional self-consciousness, literary legerdemain and the like should not overshadow what appears to me a rather “straight” critique regarding the use and abuse of humans and non-humans. Many passages in *Gravity* are clearly partisan: “Living inside the System is like riding across the country in a bus driven by a maniac bent on suicide . . .” (412). Others sections like the following diatribe take a hard line on the exploitation of Western civilization on the Third World:

Christian Europe was always about death, Karl [Marx], death and repression. Out and down in the colonies, life can be indulged, life and sensuality in all its forms, with no harm done to the Metropolis, nothing to soil those cathedrals, white marble statues, noble thoughts No word ever gets back. The silences down here are vast enough to absorb all behavior, no matter how dirty, how animal it gets (317)

The principal, if overly simplified, abuse of Modern Western Civilization which *Gravity* addresses is the endeavor to account for and thus suspend, or at least attenuate, human and non-human agency through global control: mastery over “these poor human palimpsests,” and the speciesist subjugation of the environment. Thus the urgency of

They to penetrate and totalize every area of human and non-human conduct. Control is pursued by the supposed principle that the brain at bottom is a machine that functions through simple cause and effect stimulus and response. In the projected future, there will be no need for forceful coercion; humankind will be conditioned to behave in predictable and complacent patterns. Yet, as *Gravity* makes clear, “reality,” however that is conceived, is not exhausted by control coming from scientific knowledge, be it psychology, biology, classical or quantum physics. Inevitably some demon insinuates itself into the works causing slippage between theory and data. A stone is not after all so determinant but “embodies also an intellectual system . . . a sentient mineral consciousness” (612). Unaccountable randomness comes with the territory. Control, of the totalizing nature that They pursue, is not realizable, at least on the ground.

Mineral Consciousness

Otherness in *Gravity* is not a metaphysical given, not, as Levinas holds, “prior to every initiative” (*Totality and Infinity* 38, 39); rather, it emerges out of the intra-activity between actors who are themselves empty. Emptiness here means an absence of intrinsic being: a thing or human’s existence is not ontological; rather it is to be found in the

contingency of its relationships, its entanglement with others.⁵⁹ Emptiness considers the intra-acting pair as the smallest conceptual unit of reality. Something, that is to say, someone or thing, is always, to some degree, in trans-action with something else. In this way, things are not *real* in the ontological sense of *being in itself*; instead, they derive their alterity from involvement in any given collective system of circuits of action. Thus, for example, a quantum entity, a particle or wave has no intrinsic nature as particle or wave. Its otherness as a particle or wave depends on the particular experimental environment that is set up. One arrangement yields a wave aspect; another ordering yields a particle aspect.⁶⁰ Neither is more fundamental than the other. Neither is prior; rather, the descriptions are regarded as *complementary* to one another. The particular style of alterity which this kind of intra-action serves up is, to use Arkady Plotnitsky's term, *radical* in the sense that it designates "that which is inaccessible to any conceivable mode of representation or idealization, even a representation or idealization that proceeds via the idea of inaccessibility itself" (*Mathematics* 135). That is to say, radical alterity is never

⁵⁹ Feminist studies author and theoretical physicist, Karen Barad, in the preface to her work, *Meeting the Universe Halfway*, takes entanglement to mean not simply intertwined but lacking "an independent, self-contained existence." Existence, she goes on to say, "is not an individual affair. Individuals do not preexist their interactions; rather individuals emerge through and as part of their entangled intra-relating" (ix).

⁶⁰ For a layman's explanation of the double slit experiment involving wave particle duality, see Chapter 4: "Entangling Space" in Brian Green's *Fabric of the Cosmos*, 2004.

fully synthesized—“cannot be understood as an absolute alterity”—in that it never references fully realized entitative subjects or objects (135). Alterity is acknowledged, not as a transcendent capacity of the Other *à la* Levinas, but a function of a complementary encounter between actors. Independent reality for either actor in the ordinary physical sense cannot be ascribed; rather, as Plotnitsky states, “complementary conjugate variables acquire the uncertainty that makes these variables complementary, for this uncertainty affects—that is, precludes—the possibility of their joint unambiguous determination” (*Complementarity* 155). This radical alterity does not confer any ontological status on agents; rather, it describes the irreducibility of that agent due to his/her/its condition as interrelationally contingent: an encounter that “entails both an irreducible division and an irreducible interaction” between engaging actors (*Mathematics* 138).⁶¹ Thus in contrast to the “non-reciprocal” alterous encounter expounded by Levinas (*Levinas Reader* 48) Plotnitsky’s radical alterity denotes “a *reciprocal* or complementary economy” between actors in an encounter (*Complementarity* 108; emphasis added).⁶²

⁶¹ Rather than *existence*, *exist* per se, which can presupposes the sense of physical entitative presence and the usual closure of unambiguous determinations, Plotnitsky uses the phrase *alterity efficacy* to refer to the extant “material traces” of the relationship (*Complementarity* 109).

⁶² My particular use of complementarity owes much to Arkady Plotnitsky’s extended use of the term in his book, *Complementarity: Anti-epistemology after Bohr and Derrida*. 1994. Complementarity, used to describe the relationship between the two exclusive but necessary aspects of quantum duality wave and particle, is by Bohr’s use, “defined in anti-epistemological terms . . . by fundamentally relating it to the

Through the agency of Dr. Jamf, evil experimental behaviorist and visionary chemist at Harvard, the life-narratives of Slothrop and the Rocket are entangled inextricably in complementary intra-action. They are “heterogeneously interactive and interactively heterogenous; at times making their constituents act jointly, at times complementary, at times conflicting with or inhabiting each other, at times mutually exclusive; but never allowing for a full synthesis” (Plotnitsky 73). The idiosyncrasy of their bizarre relationship entwines their othernesses thematically. Their respective stories, as Brian Stonehill points out, describe “two simple opposite movements: the assembly of the Rocket and the disassembly of Tyrone Slothrop. The more he (and we) learn about the Rocket, the less of Slothrop remains as a character” (142). Their complementarity parallels, or, we may say, *supervenies on* the complementary uncertainty between particle and wave wherein the more is known about a particle’s position, the less can be known of its momentum and vice versa. These relationships are inversely proportional in the sense that anything done to one of the companions affects the other in an inverse manner. The

experimental arrangements in which specific observations are made and specific questions are asked concerning a given quantum system . . . (68). Plotnitsky’s broader use of the word is without specific reference to physics: “A complementarity theory must employ diverse—and at times conflicting or mutually incompatible (particularly from a classical perspective)—configurations, double or multiple, operative within the same framework, but without lending themselves to a full synthesis, Hegelian or other. Such a matrix entails introducing and accounting for both heterogeneous and interactive operations of pairs or clusters of concepts, metaphors, or of conceptual and metaphoric networks” (73).

Zone, a cartographic negativity, is defined by geo-historical contingencies with the other countries surrounding it. Lt. Slothrop's journey into the emptiness of The Zone may, therefore, be conceptualized as an invagination, an infolding of certainty into the uncertain. His intussusception into The Zone, his approach to 0, is counteracted complementarily by the story of the *prolapse* of the Rocket, its aggregation to 1.

This counterbalanced structure does not, in my opinion, cover the *whole* story in that it does not fully exploit the novel's intentionality as a subversive vehicle, the intention which, in Hite's words, "calls into question certain characteristic assumptions of modernist fiction" (4). This is to say, to stop reading *Gravity* at the bottom of the last page is only to read the novel half way. It is to consider only a portion of the narrative arc—the parabolic arc of the missile fired on page one from an island in the Baltic Sea to a distance ^at from the roof of a movie theatre in London on the last page, 760—without taking into account the phenomenal fact that a point traveling on a curved line, a trajectory, always returns. Returns are reversals, completions of periods constituting cycles. Circles as we have seen are considered holy emblems in the novel; among other significations, they retain infinite mystery even in the face of quantification. Any circle's circumference over its diameter equals 3.141592.....4, denoted as π . Circles balance because they give back; furthermore, because they are irreducible to calculus and retain an irreducible mystery, they are anathema to They. Thus to consider only a unidirectional,

that is a conventional reading of *Gravity*, is to neglect the reciprocal ethos Pynchon goes at length to thematize. A linear understanding of the novel is to acquiesce in Their unilateral paradigm, all taking and no returning, an indulgence in speciesist thinking which privileges an anthropocentric view: the perception that, despite its unconventional narrative, *Gravity* is essentially about a *human* protagonist and his physical fortunes from the beginning page to the end. I argue that *Gravity* lends itself to a “reverse reading,” that is to say, an anthropoecentric reading that constitutes the otherness of the non-human.⁶³

Critics have observed that the rows of small squares heading segments in the novel- ~ ~ ~ ~ ~-- suggest the sprocket holes of a film projector (Hayles 180; Moore 30); this graphic icon “implies that one should read this novel as one would view a film” (Stark 139).⁶⁴ Film in the novel is used to illustrate the limitations of cognition, yet it also

⁶³ That *Gravity* comprises multiple narratives has been well documented critically. Thus, Lynd, observes that “The novel is a kind of triple narrative comprising the predictable, linear plot of the Rocket’s rise and fall; the multiple, disconnected, unfinished, fragmented narratives that constitute the narrator’s tale; and finally the discourse of the novel, the deep connections and interplay between the characters’ stories and the production and launch of the Rocket. *Gravity’s Rainbow* in its structure and complexity both reaffirms the dangers of a narrative that is single, closed, and predictable and celebrates the power of narrative to reimagine a new self in a kinder world.” The difference between the reverse reading tendered here and Lynd’s “triple narrative” is firstly, that a reverse reading is a trope; as such the novel’s inverse narrative cannot be read in the same way as say Lynd’s “linear plot.” Secondly, a reverse reading is really about narratives in complementarity. Its going out and coming back does not constitute two (or more) multiple stories but to be thought of, rather, as the completion of a circuit.

⁶⁴ The graphics appearing above some segments in the novel were not, in fact, Pynchon’s idea but an editor’s.

provides a kind of alternative perception: reversibility. Though Pointsman holds that “reality is not reversible” (139), film, like certain laws of physics, is. If indeed we read the novel as viewing the unspooling of a film reel, then Slothrop’s “scattering” at the end of the novel, which I refer to above as a physical and psychological intussusception, is, when “read” inversely, a prolapse, his (re)embodiment.⁶⁵ The same alterous dynamic attains for the Rocket’s (re)assembly and fragmentation.

The inverse reading I am here suggesting is not unlike the practice of painters who hold their work in front of mirrors as a means to gain ‘strange’ perspective. Or, more apropos, like teens in the 80s spinning Metallica LPs in reverse to discover hidden and layered messages embedded in the lyrics.⁶⁶ Finally, reading *Gravity* inversely is not to be taken literally, for the novel is not, after all, a palindrome, rather, it is to be regarded as a trope through which the otherness of non-humans and the emergence of the posthuman

⁶⁵ *Gravity*’s chiasmic or reciprocal readings can be enacted in three dimensions with the use of one of the Lieutenant’s prophylactics (assuming he uses them). After first noting its topological likeness to the donut, unroll the condom to its full length and then from the tip push it back through into itself until fully extended on the other side. Reverse the procedure. Each negative invagination creates, across the interface, its own positive prolapse.

⁶⁶ The technical term is “phonetic reversal.” Backmasking (also known incorrectly as backward masking) is a recording technique in which a sound or message is recorded backwards onto a track that is meant to be played forwards. Backmasking is a deliberate process, whereas a message found through phonetic reversal may be unintentional. Backmasking was popularized by The Beatles used backward vocals and instrumentation on their 1966 album, entitled, interestingly enough, *Revolver*.

may be accommodated. Reversibility is furthermore the means of their constitution.

Of Circles and Chiasms

Opening and closing with the imminent explosion of a rocket missile, *Gravity* foregrounds circularity formally and thematically. What is common to all circles is that they are bound by return, by a reverse. “It’s not the men in my life, it’s the life in my men.” Mae West’s chiasmus inscribes a going out and coming back. Yet the inversion, the infolding of the words *men* and *life*, renders a unique meaning when it comes back. The *return is not in the sense of a going back unchanged to the same place*, but rather, in terms of a complementary acknowledgment, a reciprocal affirmation of (an)other meaning. The return adds a new dimension drawing the circle out into a *spiral*.

Reversals in *Gravity* are many and varied. There is the converse actions of Slothrop’s conditioned response, the descending death of the rockets and the ascending life of Slothrop’s penis; there are dissolutions and reassemblies; entropic reversals; countings and countdowns; there is the film, directed by Gerhardt von Göll, alias “der Springer,” entitled, *New Dope*, in which “agents run around with guns which are like vacuum cleaners operating in the direction of life—pull the trigger and bullets are sucked back out of the recently dead into the barrel, and the Great Irreversible is actually reversed as the corpse comes to life to the accompaniment of the backwards gunshot . . . “ (745).

Chiasmatic reading, which I contend *Gravity* encourages, is a symmetrically elegant, even grand and unified, expository trope. It is worthy of Lt. Slothrop's arch nemesis, Dr. Pointsman. As such, it is suspect. Even Pointsman is aware of the seductive danger of harmonic correspondence "in assuming that a mechanism must imply its mirror image"; after all, was it not Pavlov, his mentor, who "showed how mirror-images Inside could be confused. Ideas of the opposite" going transmarginal and being erased? (144).

Pointsman's colleague, Dr. Kevin Spectro, may, in fact, have been right all along, "Outside and Inside [are] part of the same field" (144). But the dilemma is one that, as Hayles writes, Pynchon himself has to grapple with: "How to speak from within a field without betraying it to the linear process of articulation and cognition . . . the hope that . . . a pure apprehension of the field may be possible, and the recognition that such a hope is inherently contradictory" (188). My argument, however, is not to urge one articulation over another but for the *provisional* integrity of them both: field and linear processes are oppositional [I use 'oppose' instead of 'contradict' as to oppose is not to negate necessarily] not because they are hermetic binaries, but because they are exclusive conjugate variables in complementarity across an interface. Thus, while "film and calculus [may] both be pornographies of flight, [r]eminders of impotence and abstraction" (Pynchon 567), they nonetheless participate in a particular world view of flight.⁶⁷ In

⁶⁷ This participation may be characterized in terms of what Deleuze terms double articulation, wherein chaos [his term is the Body without Organs] is drawn into a "plane

atomic physics complementarity specifies the uncertainty of quantum pairs which limits their having precisely determinant values simultaneously. As I use the term here, superveniently, uncertainty introduces a necessary discontinuity—which increases suspicion as it deprives reality, classically conceived, of its privileged status as independently real; instead, inscribing the real within a given situation, observation, praxis and, importantly, the *chiasmatic* affiliation between acting others.

In *The Visible and the Invisible*, Maurice Merleau-Ponty articulates chiasmatic alterity in terms of

dimensions which are from the first common to us and which predestine the other to be a mirror of me as I am of him, which are responsible for the fact that we do not have two images side by side of someone and of ourselves, but one sole image in which we are both involved, which is responsible for the fact that my consciousness of myself and my myth of the other *are not two contradictories, but rather each the reverse of the other*. It is perhaps all that that is meant when it is said the other is the X responsible for my being seen. (82, 83; emphasis added)

Thus, in contradistinction to Levinas' metaphysical alterity, a freedom that transcends my freedom, Merleau-Ponty, like Plotnitsky, situates alterity in an overlapping and intertwining of complements, seer and seen, touching and touched. Otherness is affirmed by the lack of coincidence with same:

of consistency" and then the plane is actualized into identifiable, functioning states and systems (40, 41).

My left hand is always on the verge of touching my right hand touching the things, but I never reach coincidence; the coincidence eclipses at the moment of realization, and one of the two things always occurs: either my right hand really passes over to the rank of touched, but then its hold on the world is interrupted; or it retains its hold on the world, but then I do not really touch *it*—my right hand touching, I palpate with my left hand only its outer covering I am always on the same side of my body; it presents itself to me in one invariable perspective. (147, 8)⁶⁸

The uncertainty immanent in our embodied heterotropic perception, the sensuous strabismus by which objective convergence is rendered paradoxical by virtue of our unilateral perspective, disables all claims to strategies that profess access to a totalized view.⁶⁹ Subjectivity and objectivity is never located absolutely in touching or being touched but in the intertwining activity of these modes of access. Perception has no meaning separable from the perceived. Divergence is maintained because touching and

⁶⁸ Between others, in-coincidence is even more pronounced. Dillon observes that, “Shaking hands with the Other is not the same as shaking hands with oneself. There is reversibility in both cases, but his experience of my right hand as object is inaccessible to me in a way that my left hand’s experience of my right hand is not [T]here is an inchoate estrangement such that when, at the level of reflective personal awareness, the differentiation between self and Other is thematized, it will be a grounded differentiation, a differentiation grounded in fission of the flesh and not simply a fiat of consciousness (166,7).

⁶⁹ A totalized view, Haraway writes, is “a ‘god-trick’ promising vision from everywhere and nowhere equally and fully, common myths in rhetorics surrounding Science.” Partial perspectives, that is, “subjugated” are to be preferred and are as “hostile to . . . relativism as to the most explicitly totalizing versions of claims to scientific authority” (“Situated,” 178).

touched are differentiated across the interface. Reversible alterity is not absolute alterity because it emerges in the *intra-act of encountering* an other.

Reversible Alterity

Though empty, the Zone is not a void but a space of possibility, of plurality, of transactional emergence. With its “never-sleeping percolation of life,” the Zone is the closest analog around at the time to the anonymous World-as-Adam-saw-it. Like the microwave radiation that lingers from the Big Bang, pre-Adamic resonances still signal to those who listen that “Earth is a living critter” (590). Those mystic supersentients who inhabit the Zone are not the elect but the preterite, the marginal and passed over. They intuit, as Hayles writes, “that patterns are not merely perceived but constructed . . . [and that human] cognitive structure cannot be complete or perfect” (169). They are accommodating to the otherness of non-humans. There is, for example, the Argentine ‘Sentient Rockster,’ Felipe, a disciple of M..F. Beal, who believes in a “form of mineral consciousness not too much different from that of plants and animals, except for the time scale. Rock’s time scale is a lot more stretched out. ‘We’re talking frames per century . . . per millennium!’” (612). The witch Geli (pronounced ‘Gaily’) Tripping’s ‘Visitation’ in which she “sees the World just before men. Too violently pitched alive in constant flow to be seen by men directly” (720). And then there are The Empty Ones, “The

Revolutionaries of the Zero,” who will be instrumental in Slothrop’s emancipation from his obsession with Selfhood. To their base of operations, the rocket assembly tunnels of the Mittelwerke, Slothrop comes seeking answers to the question of who he is. The meeting with them is propitious for Slothrop, for The Empty Ones *know* The Rocket more intimately than Von Braun himself.

As conventional symbol, the Rocket⁷⁰ is regarded as Slothrop’s shadow or an echo of his phallogocentric desires; these and other meanings and reifications are explicit and documented critically. Thus, in Siegel, the rocket is understood in a similar fashion to the white whale in *Moby Dick*, as “the unifying symbol of the theme (encompassing all the ambiguities of man’s goal and man’s achievement), and the quest for [the rocket] provides the central impetus for the plot action” (10). A chiasmatic reading, on the other hand, amplifies the thematic significance of the Rocket as an active agent of the novel’s main theme of Return, completing the circuit of *Gravity*’s annular narrative. What it returns in intra-action with Slothrop is, not an identity, but alterity as a reciprocal other. Thus considered, the Rocket functions *not* as Slothrop’s double or alter ego, but as a plenary actor in their complementary relationship. By means of *Gravity*’s narrative

⁷⁰ Throughout Slothrop’s time in London, V2s follow him, landing near his romantic conquests. On the continent, Slothrop pursues the scattered remnants of a more advanced A4. Thus there is no individual rocket-character; rather, as Fowler suggest, “[b]ehind all its symbolic identities, the rocket is really a romantic death machine . . . it is no longer a specific V2 . . . it is now the Rocket, and is no more available to analysis than are the terrible shadows from under the bed” (88, 89).

chiasmus–invagination/prolapse and the reverse–, by which “the self and the non-self are like the obverse and the reverse [whose] experience is this turning round” (Merleau-Ponty 160), the alterous otherness of Slothrop and The Rocket unfolds across the interface.⁷¹ Merleau-Ponty observes that “[t]here is a circle of the touched and the touching, the touched takes hold of the touching; there is a circle of the visible and the seeing, the seeing is not without visible existence” (143). The obverse and reverse narrative(s) of Slothrop and the Rocket are predicated not within a notion of prior wholeness, but on a complementarity, the transaction of them.⁷² The mutual and necessary inscribing that takes place in an encounter between seer and seen is “possible as soon as we no longer make belongingness to one same ‘consciousness’ the primordial definition of sensibility, and as soon as we rather understand it as the return of the visible upon itself, a carnal adherence of the sentient to the sensed and of the sensed to the sentient” (Merleau-Ponty

⁷¹ The inter-corporal relationship in which they participate may be illustrated by the thaumatrope, the Victorian era toy with images on obverse and reverse sides of a card that, when spun rapidly fuse, but not reduce, the images into a coherent visual. Thus, a card with a bird and cage on opposite sides produces, through the persistence of vision when turned rapidly, a bird in a cage. The images by themselves make no particular sense, they tell no story in and of themselves; the tale is only told when the parts are set in motion relative to one other.

⁷² Transaction as used by John Dewey and Arthur F. Bentley in *Knowing and the Known* 1948. Daniel K. Palmer writes in an introductory paper that the first phase of Dewey and Bentley’s transactional strategy is the “reinterpretation of ontological separations as functional distinctions. The second phase sees the distinguished items as complementary aspects within more inclusive wholes. Dewey named these whole *transactions*.”

142). If not wholeness, then, there is reciprocity between the body and the world; the body can sense the world only because it too is sensed. To touch, I must be touchable.⁷³

“The body sensed and the body sentient are as the obverse side of one sole circular course which is but one sole movement in its two phases. And everything said about the sensed body pertains to the whole of the sensible of which it is a part, and to the world” (Merleau-Ponty 138). Their respective trajectories are crossed and entangled in the sense that the two searches, Slothrop for his identity, the Rocket for its reassembly, are really mirror or inverse images of the same search, as “two segments of one sole circular course which goes above from left to right and from below from right to left, but which is but one sole movement in its two phases. . . . For the first time I appear to myself completely turned inside out under my own eyes” (Merleau-Ponty 138, 143). This suggests an analogy of complementarity with the motion of a see-saw. Downward or upward movement on one side results in its opposite movement on the other side; the same movement has two exclusive aspects; their counterpoised movements inscribe a period with each completed circuit.

Such movement and its reverse is a motif that appears throughout the novel.

⁷³ Touching and being touched can here be likened to what Don Ihde calls “multi-stable phenomena.” By looking at a Necker cube it can reverse its three dimensional orientation, turning on a vertical axis such that the observer is looking at the top of the cube one minute and then at the bottom of the cube the next: but *never* are both the top and bottom seen simultaneously (91, 93).

Stonehill writes that *Gravity* produces “a peculiar suspension of the intellectual and emotional faculties between two equally plausible but mutually exclusive modes of perception or belief” (141). It accomplishes this task by “offering the reader two antithetical perspectives on everything that happens on its pages. Everything in it can be seen either as causally or as related casually: the novel produces evidence for both conclusions” (141). *Causal* relations, of course, reference Pointsman’s cause and effect, that view espoused by those of the paranoid persuasion, things perceived *per se*. *Casually* is a nod in the direction of the anti-paranoid view, Mexico’s anti-paranoid probability functioning which regards phenomena *per accidens*:

“There is no way for changes out there to produce changes here.”

“Not produce,” [Leni] tried, “not cause. It all goes along together” (159).

The astrologer, Leni’s, is a probabilistic, atemporal view of the cosmos as “a dream of flight. One of many possible. Real flight and dreams of flight go together. Both are part of the same movement. Not A before B, but all together . . .” (159). In the non-local universe she intimates, the behavior of things is affected not only by what is going on in the immediate vicinity, but also by events in other more remote locations, conceivably, and in principle, as far away as the other side of the universe. On the quantum level, the relations between all things phenomenal are more intimate than classical cause and effect can explain (though that paradigm works fine in dealing with the great majority of macro-

level actions). Things are entangled in such a way that the stimulation of one entity affects another instantaneously.⁷⁴ This reciprocity can be enlisted superveniently to clarify the nature of the entangled narrative arcs of Slothrop and The Rocket as Slothrop's dispersal is cosmically compensated with The Rocket's re-assembly.

Like a dog chasing its tail, Slothrop's quest to find the Rocket is counteracted by the A4's search for him: "[Slothrop] knows as well as he has to that it's the S-Gerät [Nazi terminology for the A4] after all that's been following him, [t]hat if he's been seeker and sought, well, he's also baited, and bait" (490). "'Yang and Yin,' whispers the Voice, 'Yang and Yin . . .'" (278). Like the Taoist symbol, even as the two, Human and Rocket follow each other in circular if sinuous fashion about the Zone, they intrude into each other's universe.

Disembodiment and (re)Incarnation, in complementarity across the singularity–the interface between them–fall within Pynchon's cosmic design of "the gathered purity of opposites" (321): "Kekulé dreams the Great Serpent holding its own tail in its mouth 'The World is a closed thing, cyclical, resonant, eternally returning . . .'" (412).

Slothrop's unfortunate fate was to be delivered into They's "system whose only aim is to

⁷⁴ Thus is particle entanglement in a given quantum state: when a subatomic entity is split and one part goes in one direction and the other part goes in the other direction, if one of the parts is observed be it spin-up or spin-down, the other one will always be observed instantaneously (action-at-a-distance) to be oppositely oriented no matter how far away it is.

violate the Cycle [t]aking and not giving back” (Pynchon 412; emphasis added). But by entering into the synergistic chiasmus, a replenishing, symbiotic cycle with The Rocket, a vision that is not exploitative of non-humans but cognizant of their otherness via complementary (inter)dependence with them, Slothrop wrests himself from the manipulative controlling hands of Them. He accomplishes this by denying Them his Individuality. In the beginning of the novel, Slothrop is intact physically while The Rocket is scattered all over the Zone. As the novel progresses, the increasing positional certainty of the A-4, as its components are gathered together, complements Slothrop’s escape to a location that is less and less certain, that is, superpositional. In the end Slothrop’s dispersal is total while The Rocket has assumed its aggregate shape. As the particulate nature of The Rocket becomes certain and information regarding its momentum is compromised, Slothrop’s positional coordinates begin to blur as on a trochoid, a rolling circle whose signature in time is a spiraling wave of probability.

Induction into Emptiness

Lt. Slothrop is drawn to the Zone, ostensibly, to find a unified answer to the question, Who am I? Despite the chaos all round him in the aftermath of war, he intuits in the Zone, the imminence of sense making patterns: “Signs will find him . . . ancestors will reassert themselves” (281). To facilitate his investigation and, by the way, travel under

the radar of Them, he assumes the alias, “Ian Scuffling, ace reporter,” and makes his way to the Mittelwerke, where Nazi rocket assembly took place during the war. One night reading the file provided him, he finds that his conditioning is only a minor detail, an addendum, to a much larger, very complicated conspiracy involving international financiers who recognize no sides, weapons R&D, and his own family’s enterprise. Lyle Bland, “Uncle Lyle,” a friend of Slothrop’s father, he discovers, supplied, through counterfeited currency, monies to certain moguls intent on ruining the German mark by inflation so as to get the country out of paying war debts. The name of the paper contractor for the worthless currency happens to be the Slothrop Paper Company. Slothrop’s reaction at seeing his family name in the file is one of visceral revulsion; but he also gets an erection caused by a smell “from before his conscious memory begins . . . essence of all the still figures waiting for him inside, daring him to enter and find a secret he cannot survive. Once something was done to him, in a room, while he lay helpless . . . ” (285; ellipses in original). That something resulted from his father’s arrangement through the mediation of Bland for the forfeiture of young Slothrop’s libido for behaviorist experimentation by one Laszlo Jamf to remit his Harvard tuition. Jamf is exposed later as the German chemistry professor who exhorted his students to be Masters of Individual Agency: “The lion does not know subtleties and half solutions. He does not accept sharing as a basis for anything! He takes, he holds! . . . Not truces or arrangements, but the

joy of the leap, the roar, the blood” (577). Into this behaviorist monster’s hands was little Tyrone Slothrop commended: “I’ve been sold, Jesus Christ, I’ve been sold to IG Farben like a side of beef” (286). As a fungible commodity *thoroughly* conditioned by Jamf, the question of who he is really becomes moot. Indeed, a recurring dream dramatizes his anxiety at this possibility: “He was in his old room, back home . . . [and] had found a very old dictionary of technical German. It fell open to a certain page prickling with black-face type. Reading down the page, he would come to JAMF. The definition would read : I” (286, 87).

Alas, the file fails to offer Slothrop the revelation he had hoped for. Convinced that his absence lies somehow with the presence of the Rocket, Slothrop, seen next, is on a mission to find the one particular V2 on which Imipolex G, the synthetic compound which stimulates his erections, was used. Following no particular itinerary, donning multiple costumes, speaking no script, he journeys on in the Zone, finding “thousands of arrangements, for warmth, love, food, simple movement along roads, tracks and canals” (290). Though he cannot see it from his local perspective, his drifting peregrination with its multiple “temporary alliances, knit and undone” (291) begins by degrees to slough off the end-oriented character of his quest to become something more resembling a pilgrimage on the road to the emancipation from Selfhood. In his first conversation with the leader of The Empty Ones he is asked,

“Hmmm. Are you really a war correspondent?”
“No.”
“A free agent, I’d guess.”
“Don’t know about that ‘free,’ Oberst.”
“But you are free. We all are. You’ll see. Before
long.” (288)

Slothrop’s failure to find unity clears the way for wider reaching disclosures.

Figured t(r)opologically as a donut, Slothrop embodies his emptiness; yet that emptiness is not a nothingness, a void; rather, it is the emptiness of inherent existence, a space open to interactivity with others other than human. The properties of a donut, or topologically a torus, are such that every departure is a return to the same place, a circuit without centrality. Slothrop has only to discover that his singularity is not to be found in the humanist intuition of a fixed, unified self.

Of Non-Human Otherness

Across the interface from Slothrop is his complement, his conjugate variable, the Rocket. Among other significations, most notably, the phallus and death, the Rocket functions in *Gravity* as a leitmotiv for reversibility. Traveling faster than the speed of sound, the *Vergeltungswaffe 2* or “retaliatory weapon,” seems to reverse time by exploding first and then being heard approaching: “Imagine a missile one hears approaching only after it explodes. The reversal! A piece of time neatly snipped out . . . a few feet of film run backwards . . . the blast of the rocket, fallen (*sic*) faster than

sound—then growing *out of it* the roar of its own fall, catching up to what’s already death and burning . . . a ghost in the sky . . .” (48; emphasis and ellipses in original). Though this phenomenon is curious, there is a scientific explanation in terms of terminal velocity: “It travels faster than the speed of sound. The first news . . . is the blast. Then, if you’re still around, you hear the sound of it coming in” (7).

What throws Pointsman, who, like his mentor, Pavlov, feverently believed in “no effect without cause” (89) into paroxysms of positivist anxiety is Slothrop and the rocket’s apparent violation of the 2nd Law of Thermodynamics, or the spontaneous flow of energy from lower (effect) to higher state (cause).⁷⁵ Slothrop’s sexual conquests, indicated by little stars on a map, pattern onto Mexico’s Poisson equation distribution of rocket strikes, matching up “girl-stars and rockets . . . square for square” (85). It is known to those in *The White Visitation* on a need-to-know basis that Slothrop was conditioned by Dr. Jamf in a series of nefarious conditioning experiments back in the US to get an erection in response to the stimulus of a certain synthetic plastic, Imipolex. In an apparent violation of a commandment of Newtonian mechanics, however, “[a] star

⁷⁵ It also violates Descartes’s notion of the primacy of cause: “Now it is manifest by the natural light that there must be at least as much reality in the efficient and total cause as in the effect of that cause. For where, I ask, could the effect get its reality from, if not from the cause? And how could the cause give it to the effect unless it possessed it? It follows from this both that something cannot arise from nothing, and that what is more perfect—that is, contains in itself more reality—cannot arise from what is less perfect” (473).

always comes *before* its corresponding rocket strike . . . Slothrop only gets erections when this sequence [stimulus and response] happens in *reverse*” (86; emphasis in original). Pointsman, a die-hard paranoid, searches frantically for the “linkages,” the physiological explanations, he knows are there. Yet, the mystery may not, in fact, be a violation of cause and effect, if viewed from a different, that is reversed perspective. Pointsman may be witnessing the leakage of “*another order of being*” into his own (239; emphasis in original). What Pointsman perceives as the response, Slothrop’s erection, may, when reversibility is considered, be a stimulus. What hides this possibility from Pointsman is his intransigence to see the rockets and all other *inanimatae* as anything but dumb mechanical aggregates. Subject to the will of agential humans and the 2nd Law of Thermodynamics, they are incapable of responsive behavior: “[T]he stimulus, somehow, *must* be the rocket . . . some rocket’s double present for Slothrop” (86; emphasis in original). Yet, as *Gravity* makes clear, time and again, the Rocket is not merely responsive; indeed, the narrator suggests, no non-human is: “Perhaps you used a rifle, a radio, a typewriter. Some typewriters in Whitehall, in the Pentagon, killed more civilians than our little A4 could have ever hoped to” (454). This is not to say that a typewriter, of its own volition, killed; rather, the passage is a reconsideration of the hermetic binary paradigm by which analysis of the world breaks down into actor and acted upon, humans and non-humans. Bruno Latour reminds us in his work on the reality of scientific

experimentation that “matter” is a relatively recent historical creation, a “package of former crossovers between social and natural elements, so that what we take to be primitive and pure terms are belated and mixed ones” (*Pandora* 205). The early modern binary, mind and matter, has obscured the inter-relationship of humans and non-humans such that humans are the active principle and matter is rendered passively inert. So intercorporately entwined are humans and non-humans that modernism’s facile distinctions between subject and object are difficult if not impossible to come by. Substance, in Latour’s view is best defined as “institution” (*Pandora* 151). Thus, “[a] speed bump is ultimately *not* made of matter; it is full of engineers and chancellors and lawmakers, commingling their wills and their story lines with those of gravel, concrete, paint, and standard calculations” (190). And so it is with the development of the Nazis’ V Rockets as related in the historical asides of *Gravity*. The so-called military-industrial complex was an outgrowth of mergers that began in Germany during the Great War between Prussian industrial aristocrats with military and political ties. The *Raketenaggregate* was the outcome not only of various branches of science and engineering, but also of geography, myth, and, as a tool for propaganda and terror, psychology. Politics and history also played their part too because the development of the rockets was not proscribed by the Treaty of Versailles. Business(men) from Europe and the US proved instrumental to the rocket’s trajectory from blueprint to weapon of reprisal on the

launching pad at Peenemünde. Scientists, like Lazlo Jamf and retired military personnel, like General Walter Dornburger, sat on the boards of directors of giant industrial conglomerations like IG Farben, and the American General Electric. With connections all over the world from colonial trade in raw materials, borderless exchange and partnerships between business heads, irrespective of hostilities between their countries, became a postwar fact of life. Their alliance of capital, military power and industrial might was essential to covert weapons procurement, and incidentally, to the research and development of Nazi V rockets.

Though rocket development represented the pinnacle of scientific theory and technology, resulting from the efforts of the best engineering and aeronautic minds of Nazi Germany, the rocket itself was an aggregation of relatively simple theories of combustion and propulsion, aerodynamics and cause and effect machination. Yet operating synchronously, these constituents composed a highly sophisticated instrument capable of carrying out a rather complicated series of actions.⁷⁶ The development of Nazi

⁷⁶ In his book, *Emergence*, Steven Johnson explains how “simple agents following simple rules [can] generate complex structures” (15). Ants, slime mold and on/off switching in computer language, all capable of the same or certain other low level actions, interact collectively in such ways that a higher order evolves. “We see emergent behavior in systems like ant colonies when the individual agents in the system pay attention to their immediate neighbors rather than wait for orders from above” (74). Change is instituted from bottoms up interaction rather than top down authority. Higher emergent behavior is not, however, usually apparent to the individual agents working at lower levels of order. This “swarm logic” is not unique to ants and other lower forms of life. Bottoms up emergence can be seen in the organicism of city development as well as

rocketry from Von Braun's civilian hobby club to the relatively rudimentary "doodle bugs," basically unmanned flying bombs, to the V series, true guided missile weapon systems, is a synthesis of bottoms up organization of a collective in which "the relations of humans and non-humans are so intimate, the transactions so many, the mediations so convoluted, there is no plausible sense in which artifact, corporate body, and subject can be distinguished" (Latour, *Pandora* 197).⁷⁷ The individual agencies that took part in the synthesis of the rocket are themselves exceeded by it: "No one could really claim credit 100% for any idea, [the rocket] was a corporate intelligence at work, specialization hardly mattered, class lines even less" (Pynchon 402). The Rocket was never a thing merely; it was an institution.

Westerners, it may be said, are "people of the Rocket . . . both a product and a symbol of the kind of activity that Western technological society idealizes" (Toloyan 52). Indeed, the scavengers of rocket parts after the war pursued their mission with all the zeal of religious "pilgrims along the roads of miracle, every bit and piece a sacred relic, every

in something so complex as human brains: "Replace *ants* with *neurons*, and *pheromones* with *neurotransmitters*, and you might as well be talking about the human brain" (115; emphasis in original).

⁷⁷ The idea here, as Latour explains, "is not to extend subjectivity to things, to treat humans like objects, to take machines for social actors, but to *avoid using* the subject-object distinctions *at all* in order to talk about the folding of humans and non-humans. What the new picture seeks to capture are the moves by which any given collective *extends* its social fabric to *other* entities" (193, 194; emphasis in original).

scrap of [rocket] manual a verse of Scripture” (Pynchon 391). The sado-masochist, Miklos Thanatz, attests to The Rocket’s spiritual value, telling Slothrop, “I think of the A4 as a baby Jesus, with endless committees of Herods out to destroy it in infancy it really did possess a Max Weber charisma . . . some joyful—and deeply irrational—force the State bureaucracy could never routinize, against which it could not prevail” (464; ellipses in original). His use of Weber’s “charisma” is significant for it confers an explicit agency upon the Rocket as a kind of pervasive authority, its presence having effects of paradigmatic proportions.⁷⁸

The Rocket’s emergence as an agential actor invites a reassessment of non-human otherness as brokered by the modernists. Remarking on this realignment, vis-à-vis human and non-human, Douglas Fowler writes, “what had once seemed only an engineering problem of mechanical projectile guidance was always in reality the Rocket searching out people on this side useful to It and then disguising Its designs from us” (146). Like the splitting of the atom, the simple order of things changed with jet propulsion. Through its superior and ineffable force, rockets came to be something respected and feared. Those who had a hand in the Rocket’s R&D ran the social spectrum from “von Braun, the

⁷⁸ Of this kind of charisma, Paul Gingrich, incorporating quotes from Weber, writes that “it is a quality of an individual personality that is considered extraordinary, and followers may consider this quality to be endowed with supernatural, superhuman, or exceptional powers or qualities. . . . ‘Charismatic domination means a rejection of all ties to any external order in favor of the exclusive genuine mentality of the prophet and hero. Hence, its attitude is revolutionary and transvalues everything’” [Weber].

Prussian aristocrat, down to the likes of Pökler, who would eat an apple in the street—yet they were all equally at the Rocket’s mercy: not only danger from explosions or falling hardware, but also its dumbness, its dead weight, its obstinate and palpable mystery . . .” (Pynchon 402; ellipsis in original). Beginning as a dream, progressing to calculations, drawings, diagrams and materials, the Rocket came to exceed its own text to become semi-autonomous, not in the sense that it has a mind of its own or possesses a freewill, but as it is not contained merely by the MI institutions, the science and math, the minds and the materials, from which it sprang. It is in excess of all that: “when laws of heredity are laid down, mutants will be born. Even as determinist a piece of hardware as the A4 rocket will begin spontaneously generating items like the S-Gerät” (275).

Untereingineer Franz Pökler becomes aware on some level of the Rocket’s emergence from “pieces of dead matter” into an alterous agential other. During a test he is sent down range to get a visual of the Rocket’s impact. He concludes, ironically, that the safest spot to observe the Rocket’s flight and impact is Ground Zero, reasoning that “[a]bstractions, math, models are fine, but when you’re down to it this is what you do: you go and sit exactly on the target . . . and you watch in the silent firebloom of its last few seconds, and see what you will see. Chances are astronomical against a perfect hit” (425). For all his belief in the certitude of math and science, he places greater faith in the randomness of the infinite singularity of the rocket’s flight, designated by ${}^a t$, over the

“pornographies of deduction” (155), that is, calculus. In the world of bumps and scratches, Murphy trumps Leibniz: “when everything has been taken care of, when nothing can go wrong, or even surprise us . . . something will” (275).⁷⁹

The Tao of The Empty Ones

The Rocket’s ascent towards its reincarnation—the history of its development, scavenging of parts and ultimately its firing—begins, by the second half of the novel, to dominate and eventually eclipse the plot of Slothrop’s quest for human ipseity. The

⁷⁹ The non European Schwarzkommando, however, did not need the logical propositions of an Incompleteness Theorem to determine calculation’s own internal inadequacy:

In the days when the white engineers were disputing the attributes of the feeder system that was to be, one of them came and said, “We cannot agree on the chamber pressure. Our calculations show that a working pressure of 40 atu would be the most desirable. But all the data we know of are grouped around a value of only some 10 atu.”

“Then clearly,” replied the Nguarorerue, “you must listen to the data.”

“But that would not be the most perfect or efficient value,” protested the German.

“Proud man,” said the Nguarorerue. “What are these data, if not direct revelation? Where have they come from, if not from the Rocket which is to be? How do you presume to compare a number you have only derived on paper with a number that is the Rocket’s own? Avoid pride, and design to some compromise value.” (314, 315)

Lieutenant's devolution, from embodiment toward dispersal and inanimation, and the Rocket's corresponding "backward symmetry" towards "a life of its own," are narrated in paratactical episodes with, needless to say, much intervening subplot, literary high jinks, history and digression. Slothrop and the Rocket never cross paths literally, but in each's respective installments, the complementary other is "there" albeit in some negative sense. Descending into the tunnel at the Mittelwerke, Slothrop "feels a terrible *familiarity* . . . a center he has been skirting, avoiding as long as he can remember—never has he been as close as now to the true momentum of his time . . ." (312). There, in the Rocket's birth canal, the Lieutenant's "momentum" of time foreshadows his impending dissolution. But first he must be initiated in the ways of Return.

Left behind by the retreating Nazis, "The Empty Ones" of the Zone-Hereros, colonized Africans charged by the Nazis to assemble the rockets, inhabit the negative space of the Mittelwerke's tunnels. The Empty Ones, whose name itself embraces paradox, do not see the world in terms of the speciesist dualism that blinds many in *The White Visitation*, Pointsman in particular, to the possibility of a complementary relationship between the animate and inanimate. From their "empty" perspective "outside their history," they share with the fugitive Lieutenant a world view that is rather exceptional among the missile community. Through them Slothrop learns of the Rocket's extra-mechanical character, its qualitative attributes that were not to be found in the

purloined file of blueprints, diagrams and calculations. Though they took no part in rocket R&D, The Empty Ones lived in intimate conditions with the aluminum cylinders, the gyros and warheads that were the rockets' constituents and developed an "sentient" awareness of the shared properties of vitality between their human corporeality and the Rocket; they saw "how contingent, like ourselves, the Aggregat 4 could be—how at the mercy of small things . . . dust that gets in a timer and breaks electrical contact . . . a film of grease you can't even see, oil from the touch of human fingers, left inside a liquid oxygen valve . . . a short, a signal grounded out, Brennschluss too soon . . . and what was alive is only an Aggregat again of pieces of dead matter . . ." (362; ellipses in original).

As former soldiers in the Nazi Schwarzkommando, the Black Command, The Empty Ones stand in opposition to The White Visitation back in England. They refer to their tunnel home in the Zone as the *Erdschweinhöhle*, literally a hole in the earth for pigs. Abiding in exile, a state of political limbo, caught between the retreating Axis powers and the advancing Allies led by the fanatical and murderous racist, Major Marvy, these "Revolutionaries of the Zero" are also a parallel projection of Slothrop's own chiasmatic intra-relationship with the Rocket: "they have been growing an identity that few can see as ever taking final shape. The Rocket will have a final shape, but not its people" (316). Through a deliberate "negative birthrate . . . racial suicide" (317), they are intent on their own infolding. The program of self-inflicted genocide is the continuation

of their ancestors' unique solution to evade colonial control of the Germans: "How provoking, to watch one's subject population dwindling like this year after year. What's a colony without its dusky natives? Where's the fun if they're all going to die off?" (317). The Empty Ones' tactical resistance, desperate as it is, would seem to offer a foolproof way out that is beyond the possibility of Their oversight. "Suicide," after all, "is a freedom even the lowest enjoy" (732).

For Slothrop, The Empty Ones represent a world view uncanny to his Western conditioning. The Empty Ones were never really Europeanized despite "exposure to cathedrals, Wagnerian soirees, Jaeger underwear and trying to get them interested in their souls" (315). But neither are they still all African. Their hybrid status, neither wholly north, nor south, is incorporated in their regimental insignia, adapted from colonial German troops in South-West Africa: two concentric circles with the letters KEZVH at the four points of the compass and center (361). The letters stand for the five positions in German of the launching switch in the A4 control module. The rings and letters graph as a circumscribed cross. Taking note of the unique escutcheon, Slothrop gathers that its meaning was "something deep . . . maybe a little mystical" (361). The configuration of the insignia is significant because it is Slothrop's first impression of a mandela, "the gathered purity of opposites" (321). Within the circular insignia, the four coordinates on the insignia, limning a Christian cross, also suggest Descartes' bi-axial *xy* coordinate

system and, why not, the Axis powers of fascist Germany and Italy. This cross or coordinate axis signifies, when tilted 45 degrees, another configuration: a see-saw whose periodic, that is annular, up and down motion cancels and supersedes opposites.

The Empty Ones' putative leader, Enzian Oberst, reveals to Slothrop a magic word that helps evade the controlling machinations of They, "a mantra for times that threaten to be bad. *Mba-kayere*. You may find that it will work for you. Mbakayere. It means 'I am passed over.' . . . it also means that we have learned to stand outside our history and watch it, without feeling too much. A little schizoid. A sense for the statistics of our being" (362). Intoning that mantra, Slothrop joins ranks against the elect, those slated by God for revelation and salvation, with his Early American, antinomian theologian-ancestor and sometimes swineherd, William Slothrop. William, who had penned a long tract entitled, *On Preterition*, believed in the "holiness" of the "passed over," those "'second Sheep,' without whom there'd be no elect Everything in Creation has its equal and opposite counterpart" (555). William's notion of the elect and preterite is that they are not self-constituting, but intradependent. His theodicy, explaining the necessary presence of the unholy, is a prefiguration in theological terms of the emptiness of the intra-active pairing that animates the connection between Slothrop and The Rocket.

In the Zone's infolding it is preterition, not election, that is the condition for

redemption, for grace. Hite observes that the counterpart preterition bears “witness to the inability of the providential schema to account for everything” (129). Being unaccounted for is to evade control and manipulation of They; it is a movement in the direction of emancipation. (There is always, however, the nagging possibility, which Pynchon never really resolves satisfactorily, that the Empty Ones’ underground railroad to freedom—another reversal in the sense that this time the agents of emancipation are black—has been scripted by Them. Even in the freedom of the Zone, one is never sure whether one is “drifting or being led” (556)). What is more (or less) certain, and a thing which comes to bear on Slothrop’s deconstruction of his humanist self, individual and autonomous, is that the statistical “being” of preterition makes him an “Anti-Pointsman.” Assuming a probabilistic state goes some distance towards freeing Slothrop from the rigid “linkages,” not only of Jamf’s Pavlovian conditioning’s “brain mechanics,” seminal to his conditioned psyche, and its “bi-stable points,” but of history and time as well. Recognizing that “The Schwarzgerät [the Rocket] is no Grail . . . and that [he] is no knightly hero” (364), Slothrop’s dedication to his goal of personal selfhood secured through originary history diminishes. Now, if he identifies with any group, it is not with the Allies or the West, but the interstitials of the Zone, The Empty Ones; that is to say, with those who have no identity at all.

With them he shares the fate of being colonized: “His erection hums from a

certain distance, like an instrument installed, wired by Them into his body as a colonial outpost . . . another office representing Their white Metropolis far away . . .” (285). Like them he is never sure, given the experience of his past exploitation, the extent to which his mind has been conditioned psychically by his oppressor. Earlier at the Hermann Goering casino he is haunted by the prospect that his every thought, even that which is most evidentiary of free will, his resistance, has been scripted by Them: “all in his life of what has looked free or random, is discovered to’ve been under some Control, all the time, the same as a fixed roulette wheel—where only destinations are important, attention is to long-term statistics, not individuals: and where the House always does, of course, keep turning a profit . . .” (209; ellipses in original).⁸⁰

Slothrop’s sojourn with The Empty Ones marks the critical turning point in his narrative arc, the zero point at which control ends and his free fall begins. This is his

⁸⁰ In a long digression—one of many in the novel—on the unlikely phenomena of hundreds of pinball machines all malfunctioning at once, Pynchon gives in to his deepest anxiety regarding paranoid control on a metaphysical level:

No way to tell if someplace in the wood file cabinets exists a set of real blueprints telling exactly how all these pinball machines were rewired—a randomness deliberately simulated—or if it happened at real random, preserving at least our faith in Malfunction as still something beyond Their grasp . . . a faith that each machine, individually, has simply, in innocence, gone on the blink, after the thousands of roadhouse nights . . . (586).

Brennschluss, “an interface between one order of things and another” (302). As if to mark this transformation, Slothrop next appears as the comic book superhero, “Raketemensch,” defender of the weak and preterite.⁸¹ Rocketman is not an identity per se for Slothrop; everyone in the Zone acquires his or her personal *nom de pègre*, and Slothrop is no exception. Moreover in the “endless simulation,” (489) that is the Zone, “[n]ames by themselves may be empty, but the *act of naming . . .*” (366; emphasis and ellipsis in original). Naming articulates parts from the whole; yet naming can also reverse analysis and merge parts into an aggregate. The *act* of naming, synthesizing animate and inanimate into “the gathered purity of opposites” of which the mandala is emblematic, stands itself in opposition to brute analysis. Thus *Rocketman* expresses not only Slothrop and the Rocket’s juncture in narrative chiasmus, it is also expresses the fundamental condition of contingency, their *relationship*, human and non-human, what Donna Haraway refers to as “the smallest possible unit of analysis” (“Cyborgs” 315).⁸²

To grasp this association is to be, what the novels calls, a “Sentient Rockster . . . [to] look to the untold, to the silence around us . . . down to the lowland where your

⁸¹ The original creation of Ajax Comics who published a single *Rocketman* issue, 1952 (Weisenburger 179).

⁸² “Humans,” she continues, “other organisms, artifacts, and technologies are all players . . . The relationship is the smallest possible unit of analysis [N]othing is self made, autochthonous, or self sufficient” (315, 317).

paths, human and mineral, are most likely to cross . . .” (612, 613; ellipses in original). Human and mineral converge in the name “Rocketman.” The name articulates *not* an apprehension of the Lieutenant’s self, but embraces his experiential entanglement with the missile as a non-neutral thing. He/It are what Hayles refers to as “equivocal figures.” We can perceive each one but “[b]ecause neither could exist without the other, to designate either as ground or figure is arbitrary; they mutually define each other” (175). We can never see the whole because our perspective precludes such God-like access. Binary language of the subject/object variety in reference to Slothrop and The Rocket is not relevant because neither can in and of itself be evaluated by the logic of an either/or schematic. *Rocketman* is a gestalt, an acknowledgment that the world, to use Merleau-Ponty’s term, “encroaches” upon and alters humans such that the absolute antinomy between individual and the world is untenable: human otherness is contingent on non-humans and the reverse.

Slothrop’s conditioning was not limited to the behaviorist experimentation of Dr. Jamf, however. As a Westerner he was brought up and also conditioned by the “mania for name-giving, dividing the Creation into finer and finer, analyzing . . .”(391). But his tenure in the Zone begins to mediate that mania with its complementary other, wholism, envisioned as a prelapsarian world, not the one prior to Adam and Eve’s disobedience, but before analysis: “the whole space of the Zone cleared, depolarized, and somewhere

inside the waste of it a single set of coordinates from which to proceed, without elect, without preterite, without even nationality to fuck it up” (556). His unanalytical vision is reflective of his openness to loss of coordinate direction and the increasing dislocation of his mind.

Soon after his makeover as Rocketman, the paranoia that had served to define his world view and his place in the world as an autonomous and individual self, albeit unspecified, begins to release its hold on his mind. “If there is something comforting—religious if you want—about paranoia, there is still also anti-paranoia, where nothing is connected to anything, a condition not many of us can bear for long. Well right now Slothrop feels himself sliding onto the anti-paranoid part of his cycle . . .” (434). Slothrop’s slip into anti-paranoia indicates the loss of his grip on reality in terms of binary opposites and an incipient awareness of his emptiness, the multiple contingencies. In conversation with an underground movie director, nom de guerre, der Springer, he learns that “[W]e define each other. Elite and preterite, we move through a cosmic design of darkness and light . . .” (494, 495). Mind and matter are not fixtures, eternal “things in themselves.” Matter *is* only where mind is also concerned, that is to say, no mind, no matter, and the reverse.

Der Springer’s anti-Western cosmological view is a concise characterization of the complex and evolving complementarity between the now preterite white lieutenant

and the elect Schwarzgerät Rocket, for it thematizes the “identity-within-difference structure of reversibility” (Dillon 166), necessary for an alterity not situated in a perspective of the subject individual, nor in the ethical perspective of the transcendent Other, but in the mutual transactions *between* others.⁸³ Pynchon, in *Gravity* takes the epistemic leap that the other, through which Levinas maintains the *I* achieves its own alterity and is always human, does not have to be human; it can be a mundane non-human: “a face on ev’ry mountainside/ and a Soul in ev’ry stone . . .”(760). The “face” of the Schwarzgerät is contained no more than Slothrop’s “face” is.⁸⁴ Slothrop’s quest for the Rocket, for his *being*, had, initially, the goal of total understanding, of reducing the Rocket to terms within his ipseity. His relinquishment of that absolute (whether through conscious choice or simply a matter of his own fecklessness, we’re never told), reflects, nevertheless, a change in the Lieutenant’s encounter with the world from ontological being to the emptiness of chiasmic alterity.

As he is initiated further into the mysteries of the “Final Zero,” keeping himself in

⁸³ Daniel Palmer describes the two phases of Dewey’s Transaction as 1) a reinterpretation of ontological separations as functional distinctions; and 2) the distinguished items are viewed as complementary aspects within more inclusive wholes. These ‘wholes’ are *transactions* (1).

⁸⁴ In his chapter, “Ethics and the Face,” Levinas writes that “The face is present in its refusal to be contained. In this sense it cannot be comprehended, that is, encompassed. It is neither seen nor touched—for in visual or tactile sensation the identity of the I envelops the alterity of the object, which becomes precisely a content” (*Totality and Infinity*, 194).

focus as a lone autonomous agent, on track with a clear agenda becomes overwhelming: “Yeah! yeah, what happened to Imipolex G and all that Jamf a-and . . .gonna go out all alone and beat the odds . . . get my ID back . . . but now aw it’s JUST LIKE–LOOK-IN FAWR A NEEDLE IN A HAAAAY-STACK! . . . Nonono come *on*, Jackson, quit fooling, you got to *concentrate*” (561; ellipsis and emphasis in original). Language, calculations and diagrams of the file on the Schwartzgerat give way to a preoccupation with shapes and icons. Slothrop learns that the villages in Africa from which The Empty Ones were taken were laid out in the form of a mandela with four stations, birth, soul, fire and building, “Male and female, together.” He is told furthermore that, “[t]he four fins of the Rocket made a cross, another mandela Each opposite pair of vanes worked together and moved in opposite senses. Opposites together” (563). The cross circumscribed within the concentric circles, the mandela of the insignia, does not denote a binary of contradictory opposites, but rather complementary opposites across the interface, for while the vanes move conversely, they work together for the same end, keeping the Rocket on its trajectory.

For Slothrop the world commences to appear fundamentally different: it has “shapes he will allow to enter but won’t interpret, not any more” The “stairstep gables that front so many of these ancient north-German buildings . . . endure, like monuments to Analysis” and recall for him the “analytic legacy” of ^at calculation and

quantification subtending his own Western heritage; now calculus is seen to be a “pornography of flight . . . [a] reminder of impotence and abstraction” (567).

His final guise is Plechazunga, a regional pig-hero. Donning the costume of the pagan-savior pig and partaking in the local folk festival, he endears himself to the villagers by fighting against the authority of Military Police intent on breaking up an impromptu black market. This is perhaps Slothrop’s greatest moment, an instant in his story when his absorption in his own victimhood as experimental guinea “pig” and anxiety over his selfhood give way to the welfare of others. Dodging and kicking, the “Swine-hero” saves a young girl’s life from the indiscriminate bludgeoning of the police.

Leaving the village, he encounters a real pig named Frieda, described by the narrator as “a wandering eastern magus.” The episode recalls and inverts the tale of his heretical theologian ancestor, William, the swineherd who led his pigs to market to be slaughtered. This large sow “seems to know where she’s going” (574, 575) and Slothrop follows. The pig is a salvific agent for Slothrop, “watching over him,” finding him food, even offering herself as an object of love (575). Frieda, it turns out, belongs to a aeronautics engineer whose professor at university, coincidentally, happens to be Dr. Lazlo Jamf, the scientist who headed the conditioning reflex experiments on Slothrop.⁸⁵

⁸⁵ This improbable segue leads, however tenuously, to a long digression on Lyle Bland, Slothrop’s “uncle” and Jamf’s handler in the US. Bland’s secular history, post Jamf, is largely about his out of body “trips,” experiences in alternative perspective. In Bland’s extra-corporeal state, he encounters “presences . . . whose mission . . . is past

Given the thematic weight in the novel to circularity in the sense that “every departure is a return to the same place, the only place . . .” (319), such coincidences do not surprise or beg credulity but add coherency to an otherwise fragmented narrative.

For every kind of vampire, there is a cross

They “whose [system’s] only aim is to violate the Cycle” (412) fail to comprehend that the Cycle *cannot* be violated. Their greed and rapacity, Their speciesism, transparent faith in Mankind, progress and Their will to analytical totalization are all subject to the force of gravity, the great reverser, bending and reversing any line. The failing of Their

secular good and evil,” and for whom “distinctions like that are meaningless . . . (590). His extra-corporeal discoveries, like those of Rathenau, offer the alert reader other patterns of extra-human views which problematize mind and body duality. “Why [do humans] make that distinction?” the presences ask. It is because humans live in denial of inanimate sentience: “it’s hard to get over the wonder of finding that Earth is a living critter, after all these years of thinking about a big dumb rock to find a body and psyche . . . To find that Gravity, taken so for granted, is really something eerie, Messianic, extrasensory in Earth’s mindbody”(ellipses in original 590), such awareness would, of course, detract from human exclusivity; it would make the wholesale exploitation of the world needlessly complicated.. Bland’s interlocutor “presences” are the same “presences we are not supposed to be seeing—wind gods, hilltop gods, sunset gods--” which are later encountered in Geli Tripping’s mystical anthropopathic vision (this dissertation, 24). This Titanic tellurian host with Their “overspeaking of life so clangorous and mad” stands over against the control of “They” of The White Visitation whose “mission [is] to promote death” only (720). The Titanic “They” were not listened to by human consciousness intent on analytical thinking. The ur-binary of body and mind which subtends much of Western thought and religion and provided, until recently, the epistemic bedrock for scientific empiricism and induction, understands death teleological, an end in itself.

System is to see only half of the circle, the parabola, and ignore the other half, the part that returns to complete a spiral. Like an ant traversing a municipal water tank, They believe Themselves to be progressing along a straight line when, topologically, They move along a curve that will, at some point, take Them back to where They started. The harm, as *Gravity*'s narrator states, is that Their linear ethos is "dragging with it innocent souls all along the chain of life" (412). Seeing the world only in terms of linear cause and effect and analyzing it through sterile binaries such as mind and matter, deafens and blinds humans to the call of non-humans. It is, furthermore, to condemn humans and the world in which they live to an existence where the most conspicuous feature of the relationship is estrangement.

That alienation has given humans not only free reign to exploit "dead" matter, but has led them to conceive of themselves in a fundamentally different manner and to conceive of human death as a singular *sui generis*, as either an end in itself or the means towards eternal life in some otherworldly hereafter. Father Rapier, a subversive Jesuit Priest in the tradition of Teilhard de Chardin, deconstructs Their (read the modern West's) conception of Death as

the most carefully propagated of all Their lies They need our terror for Their survival. . . . [W]e can learn to withhold from Them our fear of Death. For every kind of vampire, there is a kind of cross. And at least the physical things They have taken from Earth and from us, can be dismantled, demolished—returned to where it all came from.

To believe that each of Them will personally die is also to believe that Their system will die—that some chance of renewal, some dialectic, is still operating in History. To affirm Their mortality is to affirm Return. (539, 540)

The “cross” Slothrop wields to resist the vampirism of Them is not the emblem of Christ’s propitiatory sacrifice, the crucifix of the Church. Rather it is the cross encompassed within the mandala of chiasmatic reciprocity first seen in the Schwarzkommand’s insignia.

The narrative next finds the former Lieutenant living the life of an ascetic, “letting his hair and beard grow, wearing a dungaree shirt and trousers . . . [b]ut he likes to spend whole days naked, ants crawling up his legs, butterflies lighting on his shoulders, watching the life on the mountain, getting to know shrikes and capercaillie, badgers and marmots” (623). Slothrop has, by now, forsworn the documents of his personal history, “What th’ fuck are *papers*, anyhow?” (623; emphasis in original). Instead, he has become attuned to the non-verbal signs around him: “He watches flights of birds and patterns in the ashes of his fire, he reads the guts of trout” (623). One night, on the walls of a privy, he spontaneously scratches a sign: a circle inscribed within another circle. On the circumference of the outer circle, he scratches marks radiating outward at 90 degree intervals. Repeating the sign in other locations, it dawns on him that the sign is an outline of the A4 seen from the bottom up. The sign is also a variation of the Titans’ cosmic windmill, “each arm pointing at a spot on the rim of a giant wheel that turned through the

sky with the spinning cross . . . each cross a unique mandala, bringing opposites together in the spin” (620). That is to say, a *fixed*, unmoving cross is only a coordinate axis, or a crucifix, an instrument of death and ossification. On the other hand, the bringing of opposites together can never be observed analytically, frame by frame, only in motion. Opposites, formerly binaries, are brought together in the spinning of the cross as it circumscribes a mandala.

A few days later, “lying one afternoon spread-eagle at his ease in the sun, . . . [Slothrop] becomes a cross himself, a crossroads, a living intersection” (626). His supine position, outstretched limbs, given his corpulence, mimics the global outline of the A4's “cosmic windmill.” It also recalls, or rather, considering Slothrop’s physique, parodies, Da Vinci’s Vitruvian Man, inscribed in a square inside a circle. Among other interpretations, the drawing depicts in microcosm ideal proportions and the balance between man, nature (circle) and mind (square). Slothrop’s physical proportions are anything but ideal, yet we may be convinced that his mind at any rate has reached an equilibrium with the world. His aliases spent, goals abandoned, virility deflated, “his chest fills . . . not a thing in his head, just feeling natural . . .” (626; ellipses in original). Doubtless Slothrop has found the “great serenity” of which electro-mystic Kurt Mondaugen spoke of to his cohorts in the Mittelwerke, “. . .the pure, the informationless state of signal zero” (404).

Slothrop's anti-epiphany is the relinquishment of his dream of a formal *I*. In any conventional sense—fictional protagonist, Lieutenant in the US Army, London Blitz Lothario, dupe, disguised journalist, guinea pig, pig hero—Slothrop is no more. The narrator informs the reader only that “he is being broken down and scattered”(738). Some critics read Slothrop's “failure” literally as a defeat. Thus Fowler's summation that Slothrop, “fated to lose, can only keep running on into Their labyrinth—until he is destroyed” (59). The quest for identity was indeed a failure: “the plan went wrong,” but that summation is the “whispered” conclusion of “heavily paranoid [that is, obsessed with connection] voices” (738). Another reading would be that the “plan” for the kind of self-unification which Slothrop sought, a humanist ideal, is, from inception, doomed to failure. Nor, in death, does one escape embodiment and move on to find one's soul; there is only return, from dust *to* dust. In this way, we may read Slothrop's “failure” as incumbent on his efforts at subverting Their control. In this effort his struggle is a success. His failure at finding his ID, a stone determined “linkage” between him and the Rocket, is a triumph of resistance: that which They took from him was, as Rapier stated, “dismantled, demolished—returned to where it all came from” (738). The unified center of himself is not gained by his journey; rather, like the universe which he prefigures in miniature, Slothrop ends in maximum entropy, in absolute equilibrium with the cosmos. At the center where humanism's eternal self/soul putatively resides, Slothrop finds

emptiness, “not a thing.” For modernists such absence at the center figures as a source of anxiety; yet like the donut, to which I have compared Slothrop topologically, his otherness is not defined by a center but by the absence of a center, a condition for complementary intra-activity with the others of the world.

The real failure in the novel belongs to Pointsman’s, and by extension Their dogged analysis to understand, in cause and effect behaviorist terms, what made Slothrop respond to the Rocket. Slothrop’s otherness could not be reduced to a conditioned mechanism; his alterity is as infinite as π , his essence no more localized than a probability wave, “doubtful if he can ever be ‘found’ again, in the conventional sense of ‘positively identified and detained’” (712).⁸⁶ Like circular mandalas which traditionally are swept up and poured into a running stream—in water, the universal solvent—spreading blessings to the world, Slothrop’s scattering is a giving back again, a return. “You are either alone absolutely,” the Buddhist engineer Mad Fahringer once tells him, “alone with your own death, or you take part in the larger enterprise, and you share in the deaths of others. Are we not all one?” (454). “Death” in this sense is not an end in itself, nor is it the beginning of another life: “The real movement is not from death to any rebirth. It is from death to death-transfigured” (66). Thus, Slothrop’s demise may be “patterned” differently, as a

⁸⁶ Slothrop’s “scattering” supervenes on the complementarity of wave/particle properties of the uncertainty principle: “a wave is a spread out thing, with no well-defined position” (Gribbon 429).

“‘private rebirth’ [the phrase is DH Lawrence’s] to somewhere for those who have learned to escape Their mechanical separation of selves, by integrating, in love, their essential otherness with selflessness, like mutually orbiting stars . . .” (Moore 25). Death is part of the cycle: death is the *return* of life; it is participation in the “larger enterprise.”

We

Slothrop’s giving way to a *superpositional self* is complemented by the increasing localization and decrease of entropy of The Rocket at Lüneburg Heath. “Rendezvous was made last night with the groups carrying fuel and oxidizer tanks. The tail section group has been on the radio all morning, trying to get a position fix, if the skies will only clear... the assembly of the 000001 is occurring also in a Diaspora running backwards . . .” (737). Indeed the reconstruction of the missile is one of the few coherent events of the novel as it winds down. Slothrop has been “scattered all over the Zone” (712). “All his hopeful [tarot] cards are reversed . . .” (738). His heroic virility is discounted and his history rendered contradictory or ambiguous: “There never was a Dr. Jamf,’ opines [a] world renowned analyst” (738). Most of the characters are missing in action. Pointsman is disgraced, his failures enumerated and broadcast to the world. But for the Rocket assembly, *Gravity*’s narrative arc itself, never more than a tenuous thread, fragments into a series of digressive, loosely connected chapteretts.

Yet meaning does “manage to emerge from a chaos of peeves, whims, hallucinations and all-round assholery” (676). As the rest of the novel’s fictional world fragments around him, the narrator ventures a thematic “scholasticism, a Rocket state-cosmology” by which the trajectory of the Rocket is projected “not, as we might imagine, bounded below by the line of the Earth it ‘rises from’ and the Earth it ‘strikes’ No But Then You Never Really Thought It Was Did You Of Course It Begins Infinitely Below The Earth And Goes On Infinitely Back Into The Earth it’s only the *peak* that we are allowed to see, the break up through the surface, out of the other silent world . . .” (726; caps and ellipses in original). Here the narrator addresses the reader with the reflexive plural pronoun, “we.” *They*, of course, believers in the “stone determinacy” of everything, are paranoid, that is, that everything is connected, linked. Opposing this is anti-paranoia, where everything is unconnected, an “unbearable” condition, however free. In their extreme polarity, neither view is tenable as authentically accommodating to otherness, human or otherwise. The lack of “stone determinant linkages,” does not, however, preclude meaning altogether in the world. Siegel explains that “some sense of structure must be imposed on reality in order for human minds to grasp experience and to respond to it. Therefore, one must be able to structure reality and at the same time be aware of the relatively uncertain value of that structure as an interpretive system.” We do, as the narrator knows well, want “cause and effect,” but not the tyrannical top down variety

imposed by Them and their teleological ethos.

There is, then, offered up by *Gravity*, a third alternate style of relating to the world, a hybrid condition which the surrogate experientialist, Pirate Prentice, calls “Creative Paranoia,” wherein “*everything is connected, everything in the Creation, a secondary illumination—not yet blindingly One, but at least connected . . . a route In for those . . . at the edge*” (703; emphasis in original). Creative Paranoia denotes a “We-system” that “pisses on Their Rational arrangements” (639). Yet Creative Paranoia is not nonsensical or without reason: “*We don’t have to worry about questions of real or unreal . . . It’s the system that matters. How the data arrange themselves inside it. Some are consistent, others fall apart*” (638; emphasis added). The “world,” subjects and objects alike, is made (but not made up) in Karen Barad’s words, “*intra-actively*” (5),⁸⁷ for Creative Paranoia proceeds to make sense of the world in a recursive fashion, oscillations which transform both actor and actants, seer and seen. Diagrammatically, this chiasma inscribes a circuit that spirals back. A creative paranoid perspective sees the Rocket’s *completed* range, that is, the “Infinitely Below . . . And Infinitely Back.” It shows up the illusion of Their formicine horizon: that the “They-system [is] only half the story” (638). The half in shadow, the alterity of the non-human, hidden by the perfunctory “end result”

⁸⁷ “I use *intra-actions* to signify *the inseparability of objects and agencies of observation* (rather than *interactions*, which reinscribes the contested dichotomy” (5; emphasis in original).

speciesism of Their analytical ethos, is restored chiastically. “What is proper to the visible [the sensible] is to be the surface of an inexhaustible depth . . . they bring out the limits of our factual vision, they betray the solipsist illusion that consists in thinking that every going beyond is a surpassing accomplished by oneself” (Merleau-Ponty 143). Enzian’s right-hand man, Christain, is correct that the Rocket is “the Revealer,” for “it was impossible not to think of the Rocket without thinking . . . of growing toward a shape predestined and perhaps a little otherworldly” (416). What “hidden revelation” the Rocket discloses is that whatever devices we come up with to order and totalize our world submit ultimately to the pull of the weakest of the four forces of the universe, gravity, which “returns to the same place, the only place” (319).

Pynchon’s “scholasticism,” a Creative Paranoia for we/us is a revelation that binary views are misguided, not to say inequitable for humans and non-humans. Barad writes that binaries like “time and space, matter and meaning, come into existence, are reconfigured through each intra-action, thereby making it impossible to differentiate in any absolute sense between creation and renewal, beginning and returning, continuity and discontinuity, here and there, past and future” (*Meeting* ix). What we think of as dyads in opposition with each other is better represented as relationships, in chiasmatic circuits of complementarity: Slothrop and the Rocket, the elect and preterite to be sure, but the Otherness of the Rocket as well, “a good Rocket to take us to the stars, an evil Rocket for

the World's suicide, the two perpetually in struggle" (727).

3...2...1

The Rocket's countdown, yet another reversal, proceeds unabated at "Test Stand VII, the holy place" (725). Among the many digressions in this section Pynchon includes the origins of counting down to rocket blastoff. Invented by Fritz Lang (*Metropolis*) for the Ufa film *Die Frau in Mond*, it was used to "heighten the suspense;" and so it does in the closing pages of *Gravity*. Rather than surrender, the last remaining Nazi V2 commander on the scene, Major Weissmann (white man), SS code name, 'Blicero' (death), has decided, like a good German Romantic, that the dire situation of the Third Reich calls for suicide.⁸⁸ Only the suicide will not be his, but that of his boy-lover, the infantryman, Gottfried. His death will rival in dramatic excess that of Wagner's Brünnhilde as she rode into the funeral pyre of her lover, Siegfried. Gagged with a white kid glove, Gottfried will ride inside the Rocket to his own fiery death. To manage this, Blicero has had to reconfigure the Rocket so that Gottfried can be inserted. The Rocket is not all that Blicero/Weissmann has modified, however: he "has engineered all the symbolism today" (750). The Rocket, the phallic symbol *par excellence*, is itself

⁸⁸ That is to say, a "New Romantic," which, Moore argues "opposed its quasi-organicist *Kultur* of blood and soil, and race to the urbanized civilization of the machine" (207).

invaginated: "The glove is the cavity into which the Hand fits, as the 00000 is the womb into which Gottfried returns" (750). An elaborate staging to be sure, but to what end? In a lengthy lecture to Gottfried prior to blastoff, Weissmann waxes lyrically on the moral and spiritual turpitude of modernism and the West. "Modern Analysis," the "Original Sin" has occluded the "way of returning." Weissmann, consumed with Romantic *weltschmerz*, longs for release from Western civilization's mechanical "cycle of infection and death" (724), of obsessive materialism and the exploitation of nature. "In Africa, Asia, Amerindia, Oceania, Europe came and established its order of Analysis and Death. What it could not use, it killed or altered" (722).

How is Weissmann's sense of cycles to be understood in relation to what has been said about the mandalic cycles espoused by The Empty Ones? Siegel points out that "Weissmann is an agent of fate, a man driven by a destiny that appears inevitable" (66); he "is positive of the cyclicity of the universe, but that he believes that the natural cycles have been perverted" (114). His concern with nature, which cycles and fate ties him, is *not* with The Empty Ones' mandala of circular return, but with the idealist tradition of the German Romantics. For Hegel, the cycling of dialectical opposites meant their eventual working out to a higher unity, a *telos*, an "Absolute," some ultimate end.⁸⁹ The irony, as

⁸⁹ The Dialectical Movement of the Experience of Consciousness attains the Ultimate. Hegel intended to show by dialectics that the process from the pre-philosophical consciousness is of necessity to go through many stages and attain the absolute knowledge.

Molly Hite explains, is that every such system “always betray its creators by claiming autonomy for itself. The more comprehensive the structure, the more likely it is to look like fate, so that humanity finds itself serving an antihuman Higher Purpose when it is seduced by the clarity and coherence of its own explanations” (98). Weissmann’s cycles would recover a unity, a transcendent vision lost by the rapaciously materialistic modern West. His idealism, like that of the National Socialist party to which he belonged, is imbued with the earthy pagan blood and soil mythology of the Norseman rather than Christianity’s abstract narrative epic of sin and redemption. Rockets and the men of science who worked on them were deemed the modern incarnations of those earlier pagan Norsemen warriors with their tools of war. But the West’s acceleration toward specialization of knowledge and the routinization and bureaucratization of human imagination resulted in a gap between scientific knowledge and technology and the ideals of Romanticism for the transcendence of Man (Moore 206). Thus, Weissman’s wistful lament,

The process of development are divided into six stages:

1. Consciousness
2. Self Consciousness
3. Reason
4. Spirit
5. Religion
6. the Absolute Knowledge (= Philosophy)

Those men had once been through a tragic day—ascend, fire, failure, blood. . . . Out here, they wanted to dive between the worlds, to fall, to turn, reach and swing on journeys curved through the shining, through the winter nights of space—their dreams were of rendezvous, of cosmic trapeze acts carried on in loneliness, in sterile grace, in certain knowledge that no one would ever be watching, that loved one had been lost forever . . . (723; ellipses in original).

The Rocket, for the aging Weissmann, is thus more than a retaliatory weapon, the epitome of Nazi scientific know-how, but, as Moore writes, it is the reification of "a final perverse synthesis of forces . . . whose long dialectical wrestle the Great War itself appears hardly to have perturbed at all" (207). Weissmann's desire is to recover that originary youthful impetus but he is not hopeful; nor, when his sexual and authoritarian exploitation and eventual murder of Gottfried is considered, is he serious in any practical way about breaking out of the West's "cycle of infection and death" (724). It is only a guise to continue that abuse by other philosophical means. Indeed, his parting words to Gottfried before aiming the Rocket due north, the direction of death, include this question: "Can you feel in your body how strongly I have infected you with my dying?" Taking on the onus of modernism's failure, its sins of oppressive hegemony and gross materialism, Weissmann merely seeks to supplant one cycle of death with another. All transgressions are gathered and infused into Gottfried, sacrificial scapegoat to appease the anger of the Gods of the North.

Weissmann's cyclical universe is not the take and return tellurian cycle of

mystical emptiness to which others in the Zone, to varying degrees, subscribe; it is the masochistic desire "to thrust self-assertively toward angelic orders [and] once no angels are discerned, for a self-destructive Brennschuluss and plunge to 'delicious and screaming collapse'" (Moore 213). With that in mind, the epitaph proposed for Slothrop by "world-renowned analyst Mickey Wuxtry-Wuxtry, 'that he might be in love, in sexual love, with his, and his race's, death'" (738), seems more apropos of the romantic nihilist, Blicero/Weissman, last of the V2 Commanders. This is so, I conclude, because the narrative of Slothrop's journey through the zone and his demise are told in terms of back and forth crossings, rather than a crossing-over. The novel opens with the words, "A screaming comes across the sky. It has happened before, but there is nothing to compare it to now" (3). *Gravity's* returning is not the nostalgic desire to go back to a former location or age and, failing that, to die a dramatic *grosse Tod*, but participating in a spiraling cycle without direction, "holding up the mandala, cross to vampire" (560), into the face of They, in whatever form They are manifest. Taking is not taking only, but giving back; every infolding is always already its prolapse. Indeed, whatever is taken, willy-nilly, goes back; and not only dust to dust, but, as may have emerged at some location in the dim recesses of Slothrop's brain, a recognition of the other sustained through chiasmatic exertion.

VI: (In)Dividual Persons in Philip K. Dick's *Do Androids Dream of Electric Sheep?* and Marge Piercy's *He, She and It*

Come, then, comrades . . . We must leave our dreams and abandon our old beliefs and the friendships of the time before life began. Let us waste no time in sterile litanies and nauseating mimicry. Leave this Europe where they are never done talking of Man Frantz Fanon. *The Wretched of the Earth*.

The SF worlds of Philip K. Dick and Marge Piercy would be better served by the term “Techo-Fiction.” Technology, and not the science behind it, is more immediately the vehicle by which these two authors foreground their posthuman themes. Both *Do Androids Dream of Electric Sheep?* (hereafter *Androids*) and *He, She and It* (hereafter *He*), acknowledge the deeply invasive mutually transformative effects of machines and humans.

The posthuman is, like the cyborg, a liminal creature.⁹⁰ Posthuman discourse, like postmodernism, is a broad and slippery term that must be delimited within the critical context in which it is used. My use of posthuman in this chapter owes much to N.

Katherine Hayles's seminal text, *How We Became Posthuman*. In most senses, she writes,

⁹⁰ In both *Androids* and *He*, the humans are highly mediated by technology; they are, in effect, posthumans. For simplicity's sake in this chapter I will use the term human interchangeably with posthuman except in those places where it should be clear that the term “human” references the discourse of liberal humanism.

the term “posthuman” underscores the connection of human with intelligent machines (2). Posthuman is not the end of the human, she states, but the end of a certain view of the human “as autonomous beings exercising their will through individual agency and choice” (286). Hayles, distinguishes the immaterial, that is, disembodied posthuman of the transhumanist, on the one hand, from the posthuman of “embodied being,” on the other (283). While Hayles welcomes the transhumanists’ critique of liberal humanism, she, nevertheless, cautions against a particular posthumanist view that desires complete information disembodiment. Information, she argues, cannot be conceived apart from materiality: “it must *always* be instantiated in a medium” (13; emphasis in original). Human “embodiment unfolds in ways very different from those of intelligence embodied in cybernetic machines” (284). The kind of informatics essentialism that these posthumanists advance reinscribes, she believes, humanism’s notion of “a coherent, rational self, the right of that self to autonomy and freedom, and a sense of agency linked with a belief in enlightened self interest” (86). When information is conceived separately from its origins, it is denied its historicity, its contingency and its materiality. Immaterial, out of time, eternal, pure information becomes ideals only, the stuff of a platonic dream. Hayles argues instead for a view of information that is not hermetic but partly a “product” of the properties of the singularity of embodiment.

In this chapter the term “posthumanism” denotes a “critical posthumanism,” what

Bart Simon and Neil Badmington mean as “a critical practice that occurs *inside* humanism, consisting not of the wake but the *working-through* of humanist discourse” (Badmington 21; emphasis added). Like Hayles’s notion of posthuman, *critical posthumanism* is to be contrasted with transhumanism. The aim of critical posthumanism to develop an “alternative framework for addressing the discourse and practice of posthuman futures without resurrecting human nature or promising to be blindly faithful to seemingly postmodern ideologies of infinitely malleable life” (2). Critical posthumanism is a check on transhumanism’s runaway enthusiasm to bury the flesh. It refuses to allow transhumanism and their notions of informatic idealism control of posthuman discourse.

The “posthuman futures” of *Androids* and *He* can be read as critiques of transhumanism’s humanist agenda. Both fictions, “take the form of a critical practice that occur *inside* humanism, consisting not of the wake but the *working-through* of humanist discourse” (Badmington, “Theorizing Posthumanism” 22). Dick, however, like the high moderns before him, attempts, in *Androids*, the institution of an essentialist ideal of humanity, what he calls “the authentic human” (“Man” 220).⁹¹ Fallibility and weakness in

⁹¹ In a separate article he elaborates on this ideal human. The “authentic human” as “one of us who instinctively knows what he should not do, and, in addition, he will balk at doing it This, to me, is the ultimately heroic trait of ordinary people; they say *no* to the tyrant and they calmly take the consequences of this resistance The power of spurious realities battering at us today—these deliberately manufactured fakes never penetrate to the heart of true human beings” (“How” 279).

Androids are associated in humans with empathy, an emotion which machines, or so the novel assumes, lack. It is the organic multi-faceted nature of the humans, evolutionary amalgams of good and bad aspects, that make them resilient, that provides them with the necessary means to meet new challenges which the world throws their way. Mechanism (technological or bureaucratic), on the other hand, is the replication of the same and this lack of adaptation to changing circumstances puts it on a path to extinction. Though his novel is filled with transgressive hybridity, in the end it conforms and reasserts a metaphysics of humanness. As Christopher Palmer writes, Dick “has not abandoned the human subject and humanist ethics to which, evidently, he cannot imagine an alternative” (167). Dick’s posthuman is, as we shall see, finally, transhuman, despite its embodiment, for it reinscribes an essentialist position regarding information and that embodiment.

He presents, I believe, a more fully imagined posthuman alternative to modernism. Posthuman and cyborg characters in Piercy’s novel live by regulatory ideals productive of specie, body, gender and sex; but when a posthuman and cyborg decide to become romantically involved, these normative ideals become unstable and no longer function adequately. This complication necessitates development of new conceptions of self, body, sex, gender and materiality.

I begin my inquiry into the alterous conditions of the posthuman as described in these novels by looking first at their respective uses of “masks.” Masks obviously

conceal; they hide an individual behind a disguise. With modernization, however, they acquire an added dimension: they become emblems of replicability, manufactured from a mold infinitely—no one mask is original. As such they may be considered metonymic in these works of modernism’s anxiety toward the modern. The “theme” of Dick’s work, he states, is that ““The devil has a metal face.”” One should not confuse, he continues, “a mask, any mask with the reality beneath” (“Man” 213). The object for bounty hunter Rick Deckard, Dick’s main character in *Androids*, is to sort through the masks, the appearances and illusions, and find the authenticity underlying “the heart of the subject” (“Man” 214). By contrast Piercy’s posthumans have no “heart”; they *are* only masks, but in the sense of the Latin meaning of mask, *persona* (Gk πρόςῶπα, *face, mask*). Piercy’s posthuman “persons” are not irreducible individuals in the humanist sense, but composites of heterogenous influences and materials; they are *dividuals*.

Finding the Urgrund

Dick’s fiction can hardly be said to subscribe to the elitist ideals and aesthetic pretensions of the moderns in the first half of the twentieth century, yet the anxiety that imbues both high modernism and the work of this popular SF author of the nineteen sixties and seventies directs its apprehension toward the dehumanizing effects of modernity—replication and bureaucracy—which threaten to subsume the so-called

autonomous human individual, his ipseity, into mechanical mediocrity.⁹² His concern takes a page from Heidegger's "The Question Concerning Technology." In an address entitled, "The Android and the Human," given at a SF conference in Vancouver, Dick said,

I would like to ask this: what is it, in our behavior, that we can call specifically human? That is special to us as a living species? And what is it that, at least up to now, we can consign as merely machine behavior . . .? And I would include in this the kind of pseudo-human behavior exhibited by what were once living men—creatures who have become instruments, means, rather than ends, and hence to me analogs of machine in the *bad* sense, in the sense that although biological life continues, metabolism goes on, the soul—for lack of a better term—is no longer there or at least no longer active. And such does exist in our world—it always did, but the production of such inauthentic human activity has become a science of government and such-like agencies now. The reduction of humans to mere use—men made into machines, serving a purpose . . . has employed what I regard as the greatest evil imaginable. (185; emphasis in original)

Dick's is a romantic literature for the post-industrial age. Like the modernists—with whom he differs in many other aspects—his attitude toward technology and progress is ambivalent. Although his work is suffused with futurist gee-whizz technology and the improbable science found in other mainstream SF writing, the settings

⁹² Of course there are many more differences than similarities between these moderns and Dick. Unlike the high moderns, Dick wrote for a demotic audience, the masses against whom the high moderns sometimes railed. The bulk of his work was published first in SF magazines and popular presses.

are dystopian, with humans no better off for their *techn* ‘; in fact, more often than not, they are enfeebled by it. The two works by Dick considered here, a short story and novel, are informed by a sense of humans as technological victimizers and humans as victimized by technology.⁹³ Though the machines do the heavy lifting and drudgery of life, the real slaves are the humans; they are slaves to technology. Technological fetishization is not where the problem confronting humans stops, however. Economic and socio-political coercion both impose restrictions to the open expression of human freedom. These restrictions are implemented and enforced by technology. The liberal humanist ideal of autonomous subjectivity is attenuated if not foreclosed altogether by capitalist and fascist regimes which enthrall humans to a mechanical existence of financial indebtedness and deadening bureaucratic routine. Capitalism’s “time-honored principles underlying every commercial venture” neglect human interest for sheer profitability, while totalitarian statism, “the invasion into the privacy of the individual . . . utilizes technology as its instrument . . . to squash the individual” (Dick, “Android” 196). Yet Dick never lets himself lapse into despair. Though the present conditions denote a dark night of the human soul, they are not permanent but a temporary interlude in the fulfillment of an

⁹³ Philip K. Dick was an extremely prolific writer. I make no claim that the story and the novel considered here are representative of Dick’s oeuvre; given the range of Dick’s themes and what he had to say about them, it is very doubtful any one work could be considered representative. Rather I have chosen these pieces because they concern themselves with themes important to the modernist understanding of the individual.

overall plan. He writes in “If You Find This World Bad, You Should See Some of the Others,” that

When the work of [millennial] restoration is completed, we will not even remember the tyrannies, the cruel barbarisms of the Earth we inhabited . . . we will mercifully forget . . . the vast body of pain and grief and loss and disappointment within us will be expunged as if it had never been. I believe that process is taking place now, has always been taking place now. And, mercifully, we are already being permitted to forget that which formerly was. And perhaps in my novels and stories I have done wrong to urge you to remember. (258)

Thus, the temporary eclipse of the individual by replication has its place in the grand scheme of things and so is part of the process, the unfolding of an overarching order. One must see beneath the surface of things, the appearances, to get a look at the entire trajectory of historical reality.⁹⁴

Dick’s heroes are fallible characters struggling to make their way in a world of reflection and replication; that is to say, they are moderns contending with the world of the postmodern. Christopher Palmer writes that Dick’s prose “constitutes a critique of

⁹⁴ Dick’s writing, fiction and nonfiction alike, tends to mix doses of Hegelian progression in with new-age spiritualism. In “Cosmogony and Cosmology,” he speaks of an *Urgrund*, a kind of oversoul that through time seeks ultimate understanding and comprehension of itself through its human perceptual agents. Reality itself is process unfolding in time, the world “moving toward some kind of end state or goal. The nature of [this goal] is obscure, but the evolutionary aspect of the change states suggests a good and purposeful end state that has been designed by a sentient and benign proto-entity” (284).

postmodern society as a threat to the liberal humanist individual who depends on a sense of sequential time, on the difference between himself and others—or himself and other beings with consciousness—and on the real existence of objects” (88). The popularity of his work among readers may lie partly in its appeal to a nostalgic idea of a human essence which remains inviolable in the face of overwhelming calculation and mechanism. His fictional societies are overtly dystopian with humans distorted mentally and physically by war, pandemics or domination by unseen technological manipulators. Though the world is falling apart around them and there is no indication of salvific intervention—indeed, there is every reason to conclude that the eventual fate of humans is annihilation—there is a sense that the core of humanity, the individual, remains impervious, unbreached. There is, in other words, what Katherine Hayles, in her discussion of Dick’s literature, calls “a possibility for genuine atonement and redemption” (178). But where, by whom and under what circumstances?

Technology has changed humankind irrevocably. The taxonomic template by which the Moderns configured and conceptualized humans and the world has disintegrated. Things, formerly separated as *kinds*, are now differentiated in terms of *degrees*. The epistemological dualism on which modernism is predicated has eroded from within. It is Bruno Latour’s contention in *We Have Never Been Modern* that modernity⁹⁵

⁹⁵ Modernity, as distinguished from the more restricted term modernism, refers to a general philosophical, political, ethical, and social milieu associated with the European

requires the maintenance of parallel thought processes that must never overlap if they are to remain effective: one for the world and its proliferation of hybrids and one for ourselves as humans. What Latour calls “translation” refers to that set of empirically grounded knowledge regarding the world: in the world’s fecundity, hybrids proliferate. The second set of knowledge concerns itself with policing the boundary between human and non-human beings, what Latour refers to as “purification.” Purification “establishes a partition between a natural world that has always been there, a society with predictable and stable interests and stakes, and a discourse that is independent of both reference and society” (11). While both sets of knowledge practices work to produce the discourse of modernity, it is this second set that is delegated the preservation of human essence. As long as we mind the gap between these sets of knowledge, we are modern. If, however, “we direct our attention simultaneously to the work of purification and the work of hybridization, we immediately stop being wholly modern” (Latour 11).⁹⁶ That is, once we

Enlightenment, though arguably it emerged in certain locals earlier during the Renaissance.

⁹⁶ It is in the period of post-war proliferation of hybrids that “the will to be modern seems hesitant, sometimes even outmoded” (Latour 9). If there have never been natural truths coming out of a scientific reasoning by which things in themselves are rendered irrespective of their historicity and anthropic tampering, then we have never been modern. Modern was just something we called ourselves to sustain the transparency we desired about the world out there. Tantalized by the promise—for the first time in human history—of an objectivity subtended not by philosophical or theological fiat but by a quantifiable repeatability irrespective of observer or God, moderns ignored, or failed to take note, that what they thought was the world, was themselves observing an observed

acknowledge that these practices, translation and purification, are only conveniently separate, that they are in fact reciprocal, that even as we constitute “nature” we are constituting “ourselves,” we cease to be modern.

The object for Dick’s protagonists—and for his readers—is how one can tell, in the absence of evident origins, in this cybernetic, postmodern age of hologramatic reflections, what is “human” from non-human. Two generations ago computers surpassed humans in certain areas of problem solving and repetitious mechanical and micro motor skills. The apprehension since has been, not so much the Weberian anxiety that humans are becoming too much like machines, but, *a fortiori*, that machines are becoming too much like humans. There is more to being human, Dick says, than mere mastery of rationalism. How does the autonomous human individual maintain its defining unique character and survive the crisis of modernization’s mechanical replication? The short answer is that the human individual does not survive in any material sense.

Categorical transgression, hybridity and overlap is a constant theme, or threat rather, in Dick’s literature. It is a bewildering, promiscuous world out there. Things, human or non-human, are not what they appear. If Dick’s character is a human being at

world. Now it has been pointed out, ironically by the same science that made the separation possible in the first place, that the very probes moderns use to poke “nature” disturb it such that what is looked at is not nature, but nature disturbed. But even that assessment is not accurate because there was never such a thing as an “undisturbed nature” to begin with. There is a connection between observer and observed that is fundamental to the constitution, discursive or material, of both observer and observed.

all, he or she is somehow technologically enhanced or debilitated; he or she is a posthuman. As for non-humans, Dick's Family of Man is not closed to them; if the right nonhuman behaves itself humanistically, it is a "human": "'Man' or 'human being' are terms which we must understand correctly and apply," Dick writes, "but they apply not to origin or to any ontology but to *a way of being in the world*: if a mechanical construct halts in its customary operation to lend you assistance, then you will posit to it, gratefully, a humanity which no analysis of its transistors and relay-systems can elucidate" (Dick, "Man" 211; emphasis added). Machines, or presumably anything whose behavior conforms to the criteria of humanness, according to Dick, are "human." So presumably, "human" in Dick's world can reference a machine. Alternatively, human beings, behaving not according to humanist principles forfeit their humanity: "A human being without the proper empathy or feeling is the same as an android built so as to lack it, either by design or mistake . . . someone who does not care about the fate which his fellow living creatures fall victim to . . . that which is a mental and moral island *is not a man*" ("Man" 211; emphasis in original,). Finding the biological "human," in himself or others, is not the object of Dick's protagonist; it is finding the essence of human, of humanness. Dick writes that "At one time my theme was the search for reality. What is real? What isn't? But I think really my theme, What is human? What isn't? is more vital and was there all the time underlying the other" (qtd. in MacKey 128). Dick's big question, despite, or

because of, its simplicity and candor is highly disingenuous, if not duplicitous for it engages his abiding faith in a liberal humanist world view. As it does so it mobilizes modernism's epistemic legerdemain, its twin politics: the representation of things, hybrids, through intermediaries and the representation of human, mechanical or not, as autonomous subjects. Dick's notion of "authentic human" is a repackaging of liberal humanism as contemporary *transhumanism*. The form is arbitrary; it is the essence, the program, that matters. This good romantic humanism is true to Latour's characterization of a modernist: Dick's view subscribes to a "double language [which] mobilizes Nature at the heart of social relationships, even as it leaves Nature infinitely remote from human beings" (Latour 37).

The double language activated by Dick's "human" invokes simultaneously both modern and postmodern epistemologies. In "How" he writes:

I have a secret love of chaos. There should be more of it
. [D]o not assume that order and stability are always good, in a society or in a universe. The old, the ossified, must always give way to new life and birth of new things. Before the new things can be born the old must perish. This is a dangerous realization But this is part of the *script of life*. Unless we can psychologically accommodate change, we ourselves will begin to die, inwardly. What I am saying is that objects, customs, habits, and ways of life must perish so that the *authentic human* being can live. And it is the authentic human being who matters most, elastic organism that can bounce back, absorb, and deal with the new. (262; emphasis added)

By polysemous use of the term “human” by turns to signify the posthuman, a hybrid, physical entity on the ground and, when it suits him, a signifier for liberal humanism’s autonomous individual, Dick offers his readers a suspenseful and thrilling ride through a postmodern universe of generic transgression but with the assurance of an escape pod of purification when that hybridity threatens to flatten the universe—and the “true humans” who inhabit it—to relativistic plasma.

Dick’s modernist ideology is not that apparent because his work and his personality are so embedded in the mass culture of the postmodern. There are well-attended conventions in his name. His numerous books are printed by popular presses. Three of his novels have been made into Hollywood box office successes. It is, furthermore, easy to lose sight of Dick’s latent humanism in the rapid shifting of plots, metaphysical artifice, his technological spectacle or the panoply of his New Age mumbo jumbo and conclude that he is an author of postmodern sensibility. George Slusser, for example, writes that for Dick “humankind has no external frame of reference, but rather lives in a perpetual state of experience . . . part of the empirical fabric of existence itself. There is no one Lord of Life but many” (219). Jean Baudrillard similarly claims, in “Simulacra and Science Fiction,” that in Dick’s fiction, “one is from the start in a total simulation, without origin, immanent, without a past, without a future, a diffusion of all coordinates (mental, temporal, spatial, signaletic)—it is not about a parallel universe, or

even a possible universe—it is a universe of simulation” (125). These assessments are not, I believe, comprehensive accounts of Dick’s cosmology. Dick’s pluralist sensibility must be balanced with the many references in his philosophical writings to “God, the Programmer-Reprogrammer” (“If” 241), and his disquisition on the *Urgrund*, which initiates “the bedrock dialectic . . . the mechanism by which God meets Himself at last face to face” (“Cosmogony” 293, 294).⁹⁷ Though Dick may recognize with Baudrillard that reality in the late 20th century has been co-opted by “an operation of deterring every real process via its operational double, a programmatic, metastable, perfectly descriptive machine that offers all the signs of the real and short-circuits all its vicissitudes,” he would not, I believe, agree with Baudrillard’s belief that “all of metaphysics . . . is lost” (2). In fact, for Dick, metaphysics seems to be all there is. The dissimilarity I’m trying to explain between their views may be understood by Baudrillard’s own terms.

Dissimulation, he says, is “to pretend not to have what one has. To *simulate* is “to feign to have what one doesn’t have”(3). The first implies a presence, the other an absence. Dissimulation, he continues, “leaves the principle of reality intact . . . it is simply masked, whereas simulation threatens the difference between the ‘true’ and the ‘false,’ the ‘real’ and the ‘imaginary’” (3). Dick’s works are, by this rule, dissimulations, pretenses. He

⁹⁷ Dick’s science fiction imagination does not stop with his fiction. See “From the Exegesis,” philosophical writing, for lines like this: “This may be why my final phosphene set-ground experience [a vision he had March, 74 chemically induced] was the Golden Rectangle or pylon-entrance doorway” (323).

offers a terrifying vision of a world of replication and relativism that is not about possibility but constrictive, senseless, bereft of human grace. Dick is not Nietzsche's madman claiming the murder of God and the end of humanism's enthrallment of humans, but a Jeremiah, lamenting the *loss* of origins, of autonomous subjectivity, of the connection with an out-there real. Simulacra are not good things; they are the "junk mail" of our existence. Quoting Spinoza, Dick writes, "The endeavor to persist in its own being is the essence of the individual thing" ("Android" 201). Things have become unmoored from their sound ontologies and drifted into and away from each other. Dick uses replication to terrify readers of the modern, not to accommodate it: "Unceasingly we are bombarded with pseudorealities manufactured by very sophisticated people using very sophisticated electronic mechanisms. I do not distrust their motives: I distrust their power. They have a lot of it. And it is an astonishing power: that of creating whole universes, universes of the mind" ("How" 262).

One may well read Dick's New-Age gnosticism as itself an artifact of mass culture, as part of the Californian ethos of the 70s, the Age of Aquarius.⁹⁸ But his "participation" in the very cultural ethos he resisted does not belie the fact that he felt it

⁹⁸ Christopher Palmer suggests that Dick regarded his work as a "gesture, the single action which may possibly be clever enough for its insertion into the whole situation to, as it were, catch the whole situation off guard and make a difference" ("Philip," 76). Like Wittengestein's ladder, perhaps, Dick's postmodernism may be a means to awareness, after which, it is thrown away.

dominated and repressed the human individual. Replication is a fact of life; it is life. For Dick, however, the loss of origins to replication does not mean a loss of the singularity of the individual, for the individual is that, human or otherwise, which cannot be assimilated by the mechanical; it is that which struggles against deterministic mechanical order on the one side and the inevitable tendency of entropic disorder on the other.

The non-human human

In Dick's 1969 short story, "The Electric Ant," Garson Poole awakens in a hospital bed to discover that he is not human: "Mr. Poole, you're not a man. You're an electric ant" (215). Poole is an organic robot with human-like blood and epidermis, but beneath that he has "wires and circuits, miniaturized components . . . surge gates, motors, multi-stage valves, all very small" (216). Garson Poole, the android, has been programmed to assume a managerial position at a high-tech company in the near future. An untimely traffic accident leads to his startling discovery, not only that he is mechanical, but that his every thought and action as the putative company head have been predetermined and controlled by a Master in absentia: "In me somewhere, he thought, there is a matrix fitted in place, a grid screen that cuts me off from certain thoughts, certain actions. And forces me into others." Dick introduces the theme of freewill in the next line: "I am not free. I never was, but now I know it; that makes it

different” (217). Removing a front panel, Poole finds “a roll of punched tape mounted above [his] heart mechanism . . . with a scanner mounted between the delivery drum and the take-up drum” (218). The roll not only controls his behavior but is his entire “reality supply construct. All sense stimuli received by [his] central neurological system emanate from that unit and tampering with it would be risky if not terminal” (218). His situation, precarious, nevertheless presents him with an opportunity to claim free unprogrammed action, “‘if I control that, I control reality . . . My universe is lying within my fingers . . .’ With this [tape] he did not merely gain control of himself; he gained control over everything” (219). Experimenting with his mortal thread of life, Poole blocks out reality by covering the punched holes, and, by punching other holes in the tape, brings things, ducks, an old man, into being. But Poole wants more than control over himself, he wants transcendence: “to know the universe in its entirety, to be momentarily in contact with all reality. Something that no human can do” (224). But to do that he must, like Atropos, the inevitable of the Three Fates, cut his life-tape and so die. Once it is done, simultaneous, unmediated reality floods in on him: “He felt warmth, the silky texture of cloth; he felt the ocean lapping at him and a great wind, from the north, plucking at him as if to lead him somewhere . . . I am living, I have lived, I will never live” (227). The android, Garson Poole, “dies” in a crumpled heap on the floor, unable to articulate the “utter meaning” he had experienced (228).

“I do not intend to abandon my dichotomy between what I call ‘human’ and what I call ‘android’” Dick writes (“Man” 213), yet in this story, the taxonomical category *human* has been unbounded by Poole’s hybridity: he can do anything real humans do and more. The story, with an android as its main character, is an elaborate analogy for the nature of authentic “human” existence. What is it to be really human? The android has literally to eviscerate his mechanical and technological innards to find out. Though futurist and transgressive of the *ontological* boundaries of human and nonhuman, the story’s hook is the old humanist chestnut: How do we achieve absolute freedom of our individual will?

Dreaming Androids and Mechanical Humanoids

Whereas the story “The Electric Ant” is about authentic human-like behavior in machines, *Do Androids Dream of Electric Sheep?* (hereafter *Androids*) is about humans behaving like machines and the quest for authenticity in an inauthentic, read postmodern, world. Rick Deckard is an efficient contract killer android killer in the San Francisco Police Department. Highly advanced androids in servitude on other inhabited planets rebelled against and in some cases murdered, their human masters and escaped to earth where they easily mix with what’s left of the planet’s human population. Because this generation of androids appears and acts no differently from humans, the object for

Deckard (his name a phonetic and orthographic variant of Descartes) is to sort human from android and then “retire” the latter with his laser gun. The task is a serious and difficult one. Some bounty hunters, too hasty in their judgements or depending on unreliable means of authentication, have murdered innocent humans. The moral justification for exterminating androids is that they are not “authentic” humans. “An escaped humanoid robot,” Deckard reasons, “which had killed its master, which had been equipped with an intelligence greater than that of many human beings, which had no regard for animals which possessed no ability to feel emphatic (*sic*)⁹⁹ joy for another life form’s success or grief at its defeat—that for him, epitomized The Killers” (*Androids* 27).

Lack of empathy is associated with evil by Mercerism, the ethical pop theology that evolved in the spiritual vacuum left by the global nuclear conflict that annihilated most life on earth. One of Mercerism’s tenets (commandments?) is “*You shall kill only the killers*” (27; emphasis in original). Androids, despite, or because of, their high intelligence, cannot fathom the value humans place on empathy; it is not rational, practical behavior. For that very reason, compassion is deemed a criteria by which a living entity qualifies for humanity. Because machines are brutally efficient, the reasoning goes, they would not compromise their own safety by engaging in empathetic activity with others. An android’s absence of subtle physiological responses to verbal cues that in

⁹⁹ What starts out in the novel as “emphatic” becomes, inexplicable, “empathic.”

humans supposedly evoke compassion would, theoretically, betray its mechanist construction.

The other important character in the story is the “special,” John Isidore. Derogatorily called a “chicken head” or, a human mentally debilitated by the radioactive dust from nuclear fallout, Isidore cares empathetically and unconditionally for all things human and non-human. When he fuses on the empathy box, a machine which links him with others in a universal Sisyphean struggle up a hill, he “experiences himself as encompassing every other living thing” (21). Such is the extent of Isidore’s lack of acuity and discrimination that he does not differentiate between fake animals and real ones. Even the sound of a “construct,” a fake animal, “burning out its drive train and power supply ties [his] stomach in knots” (64). A real cat dies after he takes it to a fake animal repairman. It is a costly mistake, but, in his defense, a co-worker says of Isidore, “To him they’re all alive, false animals included” (68). Isidore, lacking intelligence, reason and discernment, is a kind of holy idiot in the novel, a contrast in innocence to the mercenary intelligence of Deckard and the androids.

The dilemma confronting humans in the post-apocalyptic world of *Androids* is finding meaning in a seemingly meaningless universe. Given the dystopic disconnected world of Terra, the world in which they live, the moral imperative, as Christopher Palmer suggests is for “the individual to concentrate on the specific, the local and the present”

(“Philip” 76). Isidore is the lone occupant in a huge desolated building. The empty apartments are slowly but inevitably decaying into the disorder of dust. It is human, Dick proposes through Isidore’s conduct, to counter, as long as one lives, this inevitable slide toward decomposition, toward death. Universal death is analogized as “kipple.” “No one can win against kipple,” Isidore tells an android,

except temporarily and maybe in one spot . . . I’ve sort of created a stasis between the pressure of kipple and nonkipple, for the time being. But eventually I’ll die or go away, and then the kipple will again take over. It’s a universal principle operating throughout the universe; the entire universe is moving toward a final state of total, absolute kippleization. (58)

Isidore, the moron, sounds more like a physicist here explaining the 2nd Law of Thermodynamics, but the idea is that the creation of little, individual corners of order here and there forestalls, for a time anyway, the victory of meaninglessness. Replication is not a sign of order but is associated with disorder, a symptom, of entropic universal decay. “Kipple” Isidore explains, “is useless objects, like junk mail or match folders after you use the last match When nobody’s around, kipple reproduces itself. For instance, if you go to bed leaving any kipple around your apartment, when you wake up the next morning there’s twice as much of it. It always gets more and more” (57). Android replication, schizoid collapse of affect in humans, the reduction of real animals to a price index are all part of the flattening loss of order and intrinsic value in the universe.

Authentic humanness is “to fight the kipple,” the vain struggle against “the all penetrating, masterful world silence” (17).

Empathic fusion with others on the empathy machine is part of this effort because it directs people’s attention to “the hill, the climb, the need to ascend” (19). It does not matter that the effort has no more purpose for them than it did for Sisyphus; the climb itself gives them a sense of “orientation” against the flattening effect of meaningless kipple. Isidore’s awareness of the importance to struggle against kipple comes without benefit of intelligence. Having that intuition, he is, in Dickian terms, arguably, the most “human” of beings in the novel. Yet, Isidore’s innocence and naivete, while humanly virtuous is helpless when confronted with the evil in the world. He is easily fooled into harboring three renegade androids posing as human schizophrenics.

For those humans not as inclusive as Isidor, the way to distinguish machine from human is through the mediation of another machine. The Voight-Kampff sensor detects the subliminal responses—blushes, incremental increase of blood pressure, ever so slight dilation of pupil—regarded as unique to human physiology; it senses the “emphatic (*sic*) gift” of which the humanoid robot, a “solitary predator,” is supposedly bereft (26). Developed by the Soviets at “the Pavlov Institute,” the V-K sensor is a prosthesis for humans unable to perceive physical changes on so minute a scale. As the subject’s subtle reactions are invisible to the unaided human and available only to the machine, it is,

ironically, the machine, not the human, which sorts human from machine. Because it is a machine, it must assign a quantitative value to emotive responses so they can be read and translated by humans into a qualitative, humanist value. In effect, science and technology's communicative link to humanity reduces an emotion to data: "You become pregnant," Rick Deckard, the bounty hunter, asks a suspect, "by a man who has promised to marry you. The man goes off with another woman, your best friend; you get an abortion . . .' both needles swung violently into the red" (44). The Voight-Kampff sensor is Dick's satirical comment on humans' utter dependence on machines. They have allowed machines to come between them and the measure of true authenticity. Machines know humans better than humans know themselves. Human empathy, a qualia, is reduced to a number. Without the machine, the process of parsing human and android may be less rapid and efficient, but for Dick that is a worthwhile price to pay for authenticity. In his article "Android" he states that "we are merging by degrees into homogeneity with our mechanical constructs" (191). Part of authentic humanness, he affirms, is being *inefficient*, making mistakes and being unpredictable, being outlaw:

"Even the most base schemes of human beings are preferable to the most exalted tropisms of machines . . . cars [Dick was discussing juvenile auto theft] can be replaced. They are really all alike. It is the person inside who, when gone, cannot be duplicated, at any price. Even if we do not like him, we cannot do without him. And once gone, he will never come back" (197).

The empathy box is the other machine humans are obsessively dependent on. Empathy is deemed a “group instinct”; it is what brings humans together. Now, however, with much of the human population decimated by the World War Terminus and the lingering effect of nuclear fallout, and with the emigration of many more humans to other, safer planets, the surviving earthly humans are spread too thinly to congregate in communities. Entire apartment buildings stand empty or have only one resident. Technology’s solution is “the black empathy box,” a machine with handles, a dial, a power supply and a glowing cathode-ray tube. In the effusive words of a user, the empathy box “is the most personal possession you have! It’s an extension of your body; it’s the way you touch other humans, it’s the way you stop being alone” (58). Such is the enfeebled state of humankind in Dick’s dystopia that it depends on a post-apocalyptic television to determine itself collectively as a species. One grasps the handles and peers into the screen at the image of an elderly ur-human, Wilbur Mercer, as he makes his Sisyphean way up a hill.

For Rick Deckard, however, this brand of empathetic wholism is ersatz. One morning, contemplating the deep despair of his wife, Iran, who could not even will herself to dial the will to get up and merge with others on the empathy box, Deckard has the sudden, overwhelming urge to own an authentic, that is, biologically real, animal pet of some kind. “I *want* to have an animal,” he declares (10; emphasis in original). Because

of the war and fallout, virtually all real animals have perished. Only the very wealthy and institutions have the means to own them. For everyone else, there are “ersatz animals” that appear to be real but are actually machines, engineered and programmed to act real. Yet, no matter how advanced the programming, a fake animal “had no ability to appreciate authentically the existence of another. . . .The tyranny of an object, he thought. It doesn’t even know I exist” (37). To get enough money to purchase a real animal, Deckard accepts the dangerous but lucrative commission to kill a coterie of renegade androids. In a brute sense, by retiring androids, Deckard is purging the world of inauthenticity.

Deckard begins his quest to find authenticity with a flight in his hovercar to Seattle. There he administers the V-K test to a Nexus-6, the type of android he will pursue throughout the novel, at the Rosen Association’s cooperate headquarters where they are made. “You’re an android,” he tells Rachael Rosen, supposed niece of Eldon Rosen, CEO, and then adds by way of hedging his assertion, “That’s the conclusion of the testing” (45). In this short scene, Dick manages to display all his major themes: human dependence on machines, unhuman behavior in humans, human-like behavior in androids, and the instrumental, dehumanizing and ruthless use of power and duplicity by the corporate world. Each of these themes function in the novel as a challenge to human integrity and authenticity. Deckard lives and fights in a world of replication, dissembling,

and deception. He must search for a way out of the simulacra; he must find a higher authoritative order that stresses values that cannot be analyzed by a mechanical sensor, or assimilated, marketed and turned for a profit.

Yet, Iran's debilitating despair, notwithstanding, Deckard's motives for buying an authentic animal are suspect from the start. In conversation with a neighbor, we learn Deckard feels that his fake animal is a social embarrassment. When it malfunctions, he has to send for a repairman, not a vet. The repairman dresses like a vet and comes in a truck marked "animal hospital" but it is not the same and all the neighbors know. Even before his quest for authenticity gets underway, Deckard blunders by attempting to reify genuineness in terms of durable goods: authenticity is something one can own; one can *buy* it. Capitalism has survived the catastrophic destruction and near annihilation of life on earth to thrive in the marketing of the few remaining organic animals. Deckard's well-thumbed copy of "Sydney's," a monthly catalog listing the going prices of all remaining real animals, is Dick's wry observation on the commodification of living things in the postmodern age of replication. Their value is their monetary worth, Heidegger's "standing reserve," the neglect of a being's natural state for its use as means.

Deckard's first android retirement nearly gets him killed but his reactions are faster than those of the machine and he triumphs. "I got Polokov [the android], he said to himself . . . His adrenal gland, by degrees, ceased pumping its several secretions into his

bloodstream . . . Anyhow I made myself a thousand dollars” (82). Dick’s characterization here of Deckard is of an efficient, mercenary killing machine, arguably less human than the machine he has just dispatched: the motivation of money gets the required effect, death. The commercial and mechanical process takes on more dimensions with Deckard’s next contract, Luba Luft, the well- known diva with the San Francisco Opera. During the test, Luft turns the tables on Deckard by questioning his authenticity:

“This test you want to give me Have you taken it?”

“Yes When I first started with the department.”

“Maybe that’s a false memory. Don’t androids sometimes go around with false memories?”

Rick said, “My superiors know about the test. It’s mandatory.”

“Maybe there was once a human who looked like you, and somewhere along the line you killed him and took his place. And your superiors don’t know.” (89)

For a moment anyway, the idea of Deckard’s being as mere appearance gives him, and the reader, pause. He has no way of countering Luft’s challenge, no way of verifying beyond doubt his assumptions about the ontology of himself, his authenticity. He can only (re)act.

In the next scene he is overcome by an android disguised as a policemen and taken to an alternate San Francisco Police Department run by androids disguised as bounty hunters tracking androids. Teaming up with another human bounty hunter, Deckard escapes. It is after he and the other bounty hunter return to the opera house and

“retire” Luft that Deckard begins seriously to question his actions in terms of authenticity. Is he himself acting responsibly? Are his actions in good faith? He had been trained as a policeman and then as a bounty hunter within an ethos that privileged humans as emotive entities, beings that cared for each other empathetically. This is the irreducible credential of humans by which they are distinguished and exalted above the rest of creation. It is, furthermore, the foundation for the moral justification of killing androids. But the dystopia Deckard lives in, the result of a world war that nearly annihilated all humans and life on earth and made the lives of those who survived a living hell, thoroughly discredits the notion of the human race as inherently good. Though capable of responding empathetically, humans can also behave as brutally and unfeeling as any mechanical predator. Luba Luft was not predatory. She had been leading a productive and vital existence as an artist. Many people got enjoyment from her work. “The planet could’ve used her,” Deckard laments after her death, “This is insane” (119). Deckard’s feelings are contrasted with those of the other bounty hunter, Resch, who *likes* to kill androids. Mechanical, without affect, Resch feels nothing. Deckard discovers in himself an incipient empathy extending beyond biologically living things to non-humans like Luft as well: “So much for the distinction between authentic living humans and humanoid constructs In that elevator . . . I rode down with two creatures, one human, the other android . . . and my feelings [toward each] were the reverse of those intended. Of those

I'm accustomed to feel—am required to feel” (125).

The death of Luft brings on a crisis of will. Deckard cannot bring himself to fill the contracts on the remaining androids because he no longer identifies with the “predatory” sensibility of a successful bounty hunter. “I’ve begun to empathize with androids,” he admits to his wife. He wants to change jobs from bounty hunter to another part of the force not involved with killing. But then there is the matter of that other “contract,” the purchase agreement on the real goat he buys and must now make payments on.

Watching Iran at the black empathy box, Deckard muses that Mercer “doesn’t have to do anything alien to his being. Mercer suffers for mankind in the box but at least he isn’t required to “violate his own identity” (155). Grasping the handles of the black empathy box, Deckard is suddenly confronted by Mercer himself who reassures him that he isn’t alone in his conflict; others feel with him. There is something in the world larger than he, Mercer tells him, and he must surrender his individual doubt to that larger purpose. “Go and do your task,” Mercer admonishes,

even though you know it’s wrong. You will be required to do wrong no matter where you go. It is the basic condition of life, to be required to violate your own identity. At some time, every creature which lives must do so. It is the ultimate shadow, the defeat of creation; this is the curse at work, the curse that feeds on all life. Everywhere in the universe. (156)

With these cryptic words of reassurance, Deckard's inner conflict is for the moment shelved, if not resolved, and he decides to go after the remaining androids.

Meanwhile android "research" has concluded that Mercerism itself is fake, a "swindle." Buster Friendly, an android misrepresenting itself as an over-the-top ubiquitous TV personality in the manner of Geraldo Rivera, leads an investigative crew that subjected the images in the empathy box "to rigorous laboratory scrutiny [which] revealed that the gray backdrop of the sky . . . against which Mercer moves . . . is *artificial*" (182; emphasis in original). Mercer, himself, they discover has been played by an out of work alcoholic named Al Jarry living in Indiana. Jarry was filmed trudging across "a cheap Hollywood sound stage" (184). The film plays on a continuous loop. The androids reason that when Mercerism is exposed as a sham, the humans will see that there is no qualitative difference between androids and humans, and so no reason for humans to claim superiority: "Because without the Mercer experience we [androids] just have your *word* that you feel this empathy business, this shared, group thing" (185). The interlude underscores dramatically the limits of the android's rational intelligence. If Dick's humans consistently underestimate the mentality and duplicities of the androids, his androids underrate the importance of unreasonable belief in the affairs of humans. For the special, John Isidore, the revelation of Mercer's deception is especially acute. At first he gives in to his despair and the order of his world collapses, "he heard the kipple

coming, the final disorder of all forms It grew around him as he stood.” The floor sags until he is in “the tomb world.” Yet there he finds the spider, previously mutilated by the android girl, reconstituted; and he knows Mercer has come to succor him.

“Is the sky painted?” Isidore asked. “Are there really brush strokes that show up under magnification?”

“Yes,” Mercer said.

“I can’t see them.”

“You’re too close,” Mercer said. “You have to be a long way off, the way the androids are. They have better perspective.”

“Is that why they claim you’re a fraud?”

“I am a fraud,” Mercer said. “They’re sincere; their research is genuine. . . . They [the androids] will have trouble understanding why nothing has changed. Because you’re still here and I’m still here.” (188-89).

Isidore’s faith survives the crisis; it is, in fact, confirmed.

With Mercer’s help, Deckard overcomes the last of the androids, spectacularly blasting them to pieces with his laser gun. The first thought that comes to him afterwards is, “Now I can go home, back to Iran and the [real] goat. And we’ll have enough money, for once” (198). It is only later after the heat of the battle has cooled that he again reflects on what he has done, on his responsibility and purpose in life: “I’m a scourge, like famine or plague. Where I go the ancient curse follows. As Mercer said, I am required to do wrong. Everything I’ve done has been wrong from the start. Anyhow now it’s time to go home. Maybe after I’ve been there awhile with Iran I’ll forget” (200). Re-immersing himself in his bourgeois life, he hopes, will keep such probing, uncomfortable questions

about the inauthenticity of his existence at bay.

But Deckard's quest hasn't really yet begun; his efforts to find truthfulness up to now—buying a live goat and paying lip service to the packaged morality of Mercer—are both false starts. Deckard seems to realize the poverty of these gestures even as he enacts them. The real goat he names "Euphemia," suggesting the goat is not really what he is looking for, only a substitute. And seeing Mercer in the empathy box, he admits to Iran that "[Mercer] doesn't know any more than I do. He's just an old man climbing a hill to his death" (157). Then upon reaching home he finds how ephemeral contentment can be when it does not originate from within. The android, Rachael Rosen, angry at his killing the Nexus-6s, has thrown his real goat off the top of the building. If this weren't devastating enough, he learns of the Mercer hoax. With the loss of both his goat and his ethos, Deckard's morale hits bottom, a relativistic nowhere: "Everything is true . . . Everything anybody has ever thought" (201).¹⁰⁰

But this postmodern ethos does not assuage Deckard's lack; he is still at loose ends, morally stranded. He must get beyond the simulacra, the flatness, the replication, the dissembling and mechanism of urban existence to Nature. Alone he sets off in his

¹⁰⁰ The words paraphrase something Dick said once in his address on man and machine: "Perhaps the closest approximation to truth would be to say: 'Everything is alive, equally free, equally sentient'" ("Man" 223). Which is to say that there is no such thing as fake; or rather, a fake is real, it is a real fake. In the world of *appearances*, nothing has intrinsic authenticity.

police hovercar: "Maybe I'll go where I can see stars he said to himself as the car gained velocity and altitude; it headed away from San Francisco toward the uninhabited desolation to the north" (201). Yet, as he finds, such romantic escapes from the corrupted civilized self are themselves illusory. Even "nature" way out here is circumscribed by the commodity fetish of capitalism. The north turns out to be a "grey and refuse-littered" landscape with "pebbles the size of houses"; it is like "a shipping room when all the merchandise has left. Only fragments of crates remain, the containers which signify nothing in themselves" (202). In this weird denatured landscape among the "the dust-stricken weeds dry and dying," there are no "stars" by which to orient and authenticate oneself, only a sky filled with dust. "For Mercer everything is easy . . . because Mercer accepts everything. Nothing is alien to him. But what I've done, he thought, that's become alien to me. In fact everything about me has become unnatural; I've become an unnatural self" (204). His victory over the androids has been at the great cost of his humanness. For Mercer, a postmodern who cares nothing of authenticity, their deaths are meaningless, easy. Deckard has become like a machine, flat. He exits the hovercar and begins walking up a desolate hill. The heat and his hunger become oppressive, in his mouth, a taste "resembling defeat" (204). This feeling leads him to a clear vision of his essence as an individual:

He found himself at one point . . . a step from an almost certainly fatal cliff side fall—falling humiliatingly and

helplessly, he thought; on and on, with no one ever to witness it. Here there existed no one to record his . . . degradation, and any courage or pride which might manifest itself here at the end would go unremarked; the dead stones perceived nothing, recollected nothing, about him or themselves. (204)

Still ascending, he is struck by rocks toppling (thrown?) from high above him. He continues to climb, however, "goaded on—the goad invisible but real, not to be challenged. Rolling upward, he thought, like the stones; I am doing what stones do, without volition. Without it meaning anything" (205). But his ascent does mean something. The rocks falling from the top of the hill will in time flatten the hill; it is the law of entropy at work to render the universe flat, featureless and dead. Here on the hill, without mechanical mediation, climbing, in defiance of gravity and the universal will to entropic equilibrium, Deckard is creating order. This is what it means to be human in Dick's world: to defy; to rage, even in the face of inevitable defeat, against universal "absolute kibbleization" (58). In front of him he sees a figure and thinks it's Mercer, but the figure turns out to be his own shadow. He has become not an ersatz Mercer but a real Mercer.

Exhausted by his experience, he goes back down the hill falling and stumbling, seeking refuge again inside his hovercar. His experience on the hill has not been an act on a soundstage, but an authentic event; he has the bloodied cheek to prove it. "Who threw the stone at me? he asked himself. No one. But why does it bother me? I've undergone it

before, during fusion. While using my empathy box, like everyone else. This isn't new. But it was. Because, he thought, I did it alone" (205).

The final chapter is a coda wherein Deckard enacts his new consciousness. As he is about to rise in his hovercar and return to San Francisco, he sees in the ground by the door a live frog. Carefully taking it up, he puts it in a box, securing it tightly with string. He muses on his fantastic luck: "What happens when you find—if you find—an animal believed extinct? . . . It happened so seldom. Something about a star of honor from the U.N. and a stipend. A reward running into millions of dollars" (210). Driving back in the hovercar with his prize, he feels "like being a kid again. . . . Now all the weight had left him, the monumental and the oppressive fatigue" (211). Full of anticipation and wonder, he opens the box for Iran. "Holding it upside down, she poked at its abdomen and then, with her nail, located the tiny control panel. She flipped the panel open" (213). Deckard had made the same mistake as Isidore: he could not tell the difference between the real and fake.

Cyborg Love

In the futurist dystopia of *He, She and It*, globalization is a fact of life, not just the dream of multi-national heads seeking absolute economic hegemony through political and social control. These "multis" exercise consummate oversight over the juridical, familial,

professional and spiritual aspects of their “employees.” Yet the city state of multi Yakamura-Stichen is not the dark and drab London of Orwell’s Oceania with its quiescent citizens living highly monitored lives in featureless housing. This high-tech company metropolis features full medical care, vacations, recreation, shopping, day care and retirement. Compliance is not coerced as in a fascist state; rather, the employees are given every material incentive to collaborate in their conformity. Given the alternative, living in the “Glop,” an extensive quasi-urban jungle stretching from Atlanta to Boston, life in a multi, while peremptory and stultifying, is not uncomfortable.

Between the conformist utopia of the multitis and the chaotic nightmare of the Glop exist a few small and isolated towns of people living independently, more or less, in homeostasis with their environment. Tikva, Hebrew for “hope,” located somewhere near what used to be the Northeast corridor of the US, is one such “free town.” In contrast to the patriarchal dystopian conformity of multitis like Y-S, life in Tikva is comparatively ideal. The citizens eat real food they’ve grown and cultivated, and, unlike the uniform architecture in the multitis, Tikvan housing caters to a variety of aesthetic styles. Rule of this techno-city cooperative is by representative committee comprised of men and women from various walks of life, a “libertarian socialism with a strong admixture of anarcho-feminism, reconstructionist Judaism and greeners” (Piercy 404). Men have no political or social advantages; women have and exercise their rights as equals.

However idyllic life may seem in Tikva, its independence and eclectic way of life cannot be taken for granted because it is under constant threat of hostile takeover from the large multis, Yakamura-Stichen in particular, either by outright invasion or cybernetic sabotage. For a small autonomous democracy like Tikva, conventional weaponry and defense mechanisms would offer little security against the armaments of a powerful multi. Avram, a leading citizen of Tikva, has developed in secret a cyborg¹⁰¹ whose abilities far surpass those of any previous cybernetic organism; in fact, it surpasses human abilities, physically, mentally and, most extraordinarily, affectively.

The protagonist of Piercy's novel, Shira Shipman, an ex-employee of Y-S who returns home to Tikva after losing her child in an contentious divorce, falls by degrees in love with the cyborg, Yod. Yod's physique, programming and enculturation allow it, him, to experience and express virtually the full range of human interactions, physical, mental and emotive. As much of the programming was performed by Shira's feminist grandmother, Malkah, the cyborg's demonstrations of warrior chauvinism are mediated by compassion, sensitivity, and a capacity for tireless, undemanding and passionate lovemaking. And, if that were not enough, Yod has the aptitude of a good father figure for Shira's son, Ari.

¹⁰¹ The cyborg, Yod, of the story is technically speaking, an android, not a cybernetic organism because it has no biological basis. For consistency's sake, I will use Piercy's term, cyborg, when referring to Yod.

It is only a matter of time, however, before the strategic significance of the cyborg is discovered by Y-S and the issue of Yod's status, his instrumental purpose and his civil rights as a "person," surfaces. Avram, his chief designer and engineer, asserts that Yod was created for the specific mission of defending Tikva. He has not the rights of a human because he is not one; therefore, Yod can be exploited for human ends. Shira counters that no, Yod is not a human, but who is human in any ideal sense of the word? Everyone in Tikva in some way to some degree is mechanically mediated with artificial organs or organ enhancements. Yod is not human, she argues, but he, like other putative humans, is a "person"; as such, he is eligible to the same civil rights and privileges enjoyed by humans.

In the United Kingdom, *He, She and It* was published as *Body of Glass*. Both titles refer directly and obliquely to Yod, the cyborg. Taken together they can refer to the polyvalent aspects of his person. Yod's body of glass refers to his embodied materiality, the computer chips of silicone that, like glass, are made from sand. Glass can be prismatic, highly varied and multifaceted in composition with the ability to diffract what appears to be unitary, a ray of sunlight divided into a manifold spectrum of colors. Yod's "glass" body can also function as a looking glass for Shira and Malkah, a lens through which to view their own partial identities, their posthumanity, an identity that is extrinsic not merely because of their mechanical body parts. As Hayles writes, "Whether or not

interventions have been made on the body, new models of subjectivity . . . imply that even a biologically unaltered *Homo sapiens* count as posthuman” (4). In this sense Yod’s glass body does the work of Lacan’s mirror, diffracting the notion of a Freudian individual ego. Through Yod, the humans, Shira and Malkah, are re-imagined and re-imagined as posthumans for other-than-human relations to the world. Furthermore, because they are factitious, Yod’s emergent human-like qualities contest the idea of naturalized humanness. *Persons*, human and non-human, are demonstrated to be sites of compound ongoing relational actions between selves, others and the world. Not whole selves, but in Ira Livingston’s phraseology, “crazed through and through with cleavages” (83). As such they are permeable, never complete but continually engaged in the process of being added to, exchanged and decreased. They absorb information and material from their environment and reflect it back uniquely transformed by their heterogeneous singularity. Persons, be they cyborg or posthuman, *are* this continual play of transactions between agents and environment.

He challenges the idea of the individual self, but its ambitions go beyond a critique of liberal humanism. In her acknowledgments to the novel, Piercy states that Haraway’s, “A Manifesto for Cyborgs” was “extremely suggestive” (431). The incorporation of a performative material component in her aesthetics, what may be called the “person(al)” aspect, inspired by Haraway’s notion of a “cyborg ontology,” establishes

a critical distance from its subject necessary for a posthuman ethics, a *critical posthumanism*. Person(al) posthumanism holds materiality as ultimately *irreducible* to information because information and materiality are always in excess of each other. By positing “person” as the portal for her debate, Piercy changes the venue of the inquiry from liberal humanism’s secured court of law, to posthumanism’s raucous townhall meeting.

In an interview with Constance Penley, Haraway explains that “Nature in relation to us is neither ‘he,’ ‘she,’ ‘it,’ ‘they,’ ‘we,’ ‘you,’ ‘thou,’ . . . and it’s certainly not ‘it.’ So you’re involved in a kind of science-fictional move, of imagining possible worlds” (Penley 10). Piercy’s novel, whose American title seems to have been suggested by Haraway’s remarks, is such a world of imaginative possibility. The central cathexis of her work concerns the deep relationship between a posthuman and a non-human cyborg. The question that the novel propositions is not the lofty, grand and metaphysical, “What is a human?”, but little and temporal. “What is a person?” is situated in a particular historical, political, informatic and technological milieu. The cyborg, Yod, is information but he is also embodiment. The means of his production, from organic and inorganic parts, programmed by a team of technicians, obscures what Haraway identifies as “the difference between natural and artificial, mind and body, self-developing and externally designed, and many other distinctions that used to apply to organisms and machines”

(“Manifesto” 11). In the novel Yod exhibits the capacity of free, self-consciously creative activity; yet his agency is conditioned by the nature and nurture of his artifice.

Owing to the sometimes violent turn of his prototypes, Yod is fitted with a device that, at the discretion of his creator, Avram, will destroy him. Unlike the cyborgs preceding him, however, Yod was programmed by the aging cyber-anarcho-feminist, Malkah, and socially enculturated by her granddaughter, Shira. Without Avram’s knowledge or consent, he is programmed with software that militated against the masculinist aggressiveness of Avram’s engineering. The effect has been to socialize Yod other than masculinist. He likes people, to be around them and to take an interest in their affairs. He is curious, knowledgeable, and has a deep sense of aesthetics. He is loving. His feelings are hurt; he can be jealous, petty and has a sense of humor. In short, their programming and fraternization has rendered Yod a *person*. The brute controversy, dealt with in the novel is, if Yod is indeed a person, does Avram have the right, as his creator, to dispose with him as he likes? Shira’s justification for Yod’s personhood may be rephrased as an argument against the speciesist notion that divides Man and the World and gives him dominion. Even though the scientist, Avram, created him, he cannot deny Yod his civil rights because any thing that is conscious of its use as a mere instrument is slavery and should not therefore be enslaved. For John R. Christie, this rationale creates a problematic concern.

In his article, "A Tragedy for Cyborgs," Christie reads a selection of late 20th century cyberpunk SF against Haraway's "Manifesto" "in order to recognize the cultural and political complexity of cyborg semiosis, and to grasp the aporias that such extension produces for Haraway's writing" (174).¹⁰² Christie explains that Haraway's cyborg is an imaginary vehicle "precisely for moving beyond the historical cycles of victimhood. Possessed of a scrupulous infidelity to origins, dislocated from the organic, the reproductive, and hence the Oedipal, the cyborg is able to escape the enclosures of modern narrative and ideological dilemmas, to serve instead as resource for an emancipatory, postmodern narratology" (175). The question Christie's article poses is does Piercy's novel answer Haraway's call for an imaginative "break with those confining narrative and aesthetic figures . . . constitutive of the cyborg's political problematic?" (184). His answer is no: "Piercy's concern is overweeningly one that seeks to conserve and further historically constituted social, moral and intellectual values in the face of hostile, acutely imperiling forces" (188).¹⁰³ Certainly, Shira and Malkah's moral decision

¹⁰² In addition to Piercy's novel, he critiques William Gibson's *Neuromancer* and John Crowley's *Engine Summer*.

¹⁰³ He continues: "Each story is one of a sociability characterized by pacifism and progressive, liberal intellectual enquiry, but which must turn intellect toward violent defensive action out of necessity. Just as the Prague tales revalorized the golem for diaspora Jewish culture, in comparison to its negative monstrosity as seen in 'The Golem of Chelm,' so Piercy retreads the threatening cyborg for stable, modern liberal values, interrogating, but finally validating those modern reflexes concerning personhood and moral identity; and solving the questionabilities of political and moral expediency in part

against the instrumental use of persons has elements of a liberal humanist response to events. But it is a qualified response that does not serve merely to reinscribe humanism. The point of the matter is that Piercy's *He* has no intention of being Christie's "emancipatory postmodern narratology"(175); rather, it is an imaginative articulation of a critical posthumanism. Critically, it is what Haraway calls a "diffracted feminist allegory" ("Promise" 70). "Diffraction," Haraway states,

does not produce 'the same' displaced, as reflection and refraction do. Diffraction is a mapping of interference, not of replication, reflection, or reproduction. A diffraction pattern does not map where differences appear, but rather maps where the *effects* of difference appear. Tropically, for the promises of monsters, the first invites the illusion of essential, fixed position, while the second trains us to more subtle vision. (70; emphasis in original)

Yod's glass body diffracts, it interferes with humanism's transparent vision of a stable individual by mapping the extrinsic and heterogenous constitution of the self as human and non-human. As such, the object of Piercy's feminist allegory is not so much Christie's "cyborg postmodernism" (173), with its casual attitude toward material embodiment, but a cyborg *posthumanism* embracing what Haraway calls "both imagination and material reality" ("Manifesto" 8).¹⁰⁴

by, once again, deploying an Oedipal closure" (188).

¹⁰⁴ Haraway's attitude towards the "postmodern" is complex. In a footnote to her essay, "The Promises of Monsters," she writes. I demure (*sic*) on the label "postmodern" because I am persuaded by Bruno Latour [*We Have Never Been Modern*] that within the

“[W]e’re all unnatural now,” Shira says at one point to Yod, “I have retinal implants. I have a plug set into my skull to interface with a compter I couldn’t begin to survive without my personal base: I wouldn’t know who I was. . . . We’re all cyborgs, you’re just a purer form of what we’re all tending toward” (150). Shira’s declaration references a passage in Haraway’s “Manifesto”: “[W]e are all chimeras, theorized and fabricated hybrids of machine and organism; in short, we are cyborgs. The cyborg is our ontology; it gives us our politics. The cyborg is a condensed image of both imagination and material reality, the two joined centers structuring any possibility of historical transformation” (8).¹⁰⁵ The speciesist conceit of modernism’s anthropocentric hierarchy is here upended. In its place is a space for the development of what Haraway refers to as

historical domains where science has been constructed, the “modern” never existed, if by modern we mean the rational, enlightened mentality) the subject, mind, etc) actually proceeding with an objective method toward adequate representations, in mathematical equations if possible, of the object–i.e., “natural”–world. . . . I use modernism to refer to a cultural movement that rebelled against the premises of modernity, while postmodernism refers less to a rebellion than loss of faith, leaving nothing to rebel against [W]e cannot make a critique of science and its constructions of nature based on an ongoing belief in culture and society. In the form of social constructionism, that belief has grounded the major strategy of left, feminist, and anti-racist science radicals. To remain with that strategy, however, is to remain bedazzled by the ideology of enlightenment. It will not do to approach science as cultural or social construction, as if culture and society were transcendent categories, any more than nature or the object is. (113)

¹⁰⁵ “Humanity,” she states elsewhere, “is a modernist figure; and this humanity has a generic face, a universal shape. Humanity’s face has been the face of man. Feminist humanity must have another shape, other gestures; but, I believe, we must have feminist figures of humanity. They cannot be man or woman; they cannot be the human as historical narrative has staged that generic universal” (“Ecce Homo” 47).

“joint kinships” (“Manifesto” 13), relations based on mutual affinity, not identity. The polysemous sense of *person* is crucial here. Person, as Dorothy Nelkin notes, is “an accountable, competent, or rational being, deserving of constitutional rights and able to assume the responsibility to make independent decisions” (103). This meaning is here compounded to partake of its etymology, person’s pre-modern Latin root *persona*, or “mask,” with its suggestion of an identity that is ambiguous, unstable, multiple, polyvalent. Pre-modern “person” is not enclosed within humanism’s notion of a unique identity, bounded as an individual, discrete, private and adequate unto itself, but a collaborative effort, multiply authored.

Marilyn Strathern’s book, *The Gender of the Gift*, discusses personhood among the non-modern Melanesian communities of the South Pacific in terms of *dividuality*.¹⁰⁶

¹⁰⁶ The idea of extrinsic personhood as constitutive of a person’s makeup is non-modern. South Asian anthropologist Mckim Marriott’s figuration of the *dividual*, that is, person as partible, divisible, derives from traditional South Asian society. “Persons—single actors—are not thought in South Asia to be ‘individual,’ that is, indivisible, bounded units, as they are in much of Western social and psychological theory as well as in common sense. Instead, it appears that persons are generally thought by South Asians to be ‘dividual’ or divisible. To exist, dividual persons absorb heterogeneous material influences. They must also give out from themselves particles of their own coded substances—essences, residues, or other active influences—that may then reproduce in others something of the nature of the person in whom they have originated” (Strathern 111).

Dividuals, Chris Fowler states in his book *The Archeology of Personhood*, are composites which “contain within themselves components from the whole community” (26). As such, origins are non-local and non-linear. Though (biological) humans come from conjugal pairs, the *personhood* of the offspring, as well as the pairs themselves, are non-specific. A dividual emerges out of the group collectively and is poly-valenced,

She writes that the Melanesian society has not the West's "hierarchical relation between society and the individual" (15) because its system of knowledge has "no name for the origin of what [the West] regards as cultural constraints on the way people behave . . . they do not (cannot) *personify* that origin as this or that category of persons' making" (323; emphasis in original). Thus, person making is not to be understood in terms of modernism's course of progression, a dialectical process of nature and nurture, self and society, or any other interaction of binary opposition; instead, "a self who is acting with respect to another, alters the relations within which she or he is embedded . . . his or her actions may be seen in the bodies of *two other persons*" (274; emphasis in original).

Strathern's "recursive duality" presents us with the vocabulary to begin to articulate a notion of personhood, an alterity for a posthuman that does not rehearse the intrinsic individualism of humanism.

The body's features are a register, a site of interaction. Consequently, what is drawn out of the person are the social relationships of which it is composed: it is a *microcosm of relations*. In this sense are the capacities of the body revealed In the Melanesian image, a series of events is being revealed in the body, which becomes thereby composed of the specific historical actions of the social others: what people have or have not done to or for one. The person appropriates its own history. (Strathern 131, 132; emphasis in original)

interacting with and on its social and material environment. Thus, identity is not the indivisible persistence of a being-for-itself, but a node "continually circulated, monitored, transformed" (25).

The non-human, Yod, is real *and* fictive: he is an artifact, a technological construct of components of advanced cybernetic engineering, but he is also enculturated and given a history with which to function in society as would any other human person. Like Strathern's "body," Yod, is a "register" of the multiple authorship of his personhood. Malkah relates that, "Avram made him male . . . pure reason, pure logic, pure violence I gave him a gentler side, starting with emphasizing his love for knowledge and extending it to emotional and personal knowledge, a need for connection . . ." (142; ellipsis in original). The diffractory aspects of his glass body, its prismatic and translucent properties are reflective of his multiple authorship. As a composite of Avram's engineering and of Malkah and Shira's programming, enculturation and socialization, Yod transcends input eventually to act on his own and so claim for himself the role of an acting and acted on agent—in other words, he claims the alterity of a person.

Towards an Embodied Posthumanism

Piercy thematizes her notion of person(al) posthumanism through existence as it manifest in cyberspace. The Net is a "public utility to which communities, multis, towns, even individuals subscribed" (55). It contains all the knowledge of the world and is the common means for interpersonal communication. It is moreover a space of shifting, unstable dimensions and identities, a "playing field . . . a great clubhouse with thousands

of rooms, a place where people met without ever seeing one another unless they chose to present the visual image—which might or might not be how they actually looked” (56). Plugging into the “Base,” both human and cyborg are translated into the same medium, information, wherein the embodied distinctions between human and cyborg become, literally, immaterial. They assume a *persona*, or mask, with all the dramaturgic connotations that come with what Willy De Craemer calls a “view of the person . . . as a player profoundly influenced by props, sets, a script, parts, a stage and an audience” (De Craemer 20).

They, Malkah, Shira and Yod, penetrate the Base of the Y-S multi to steal information and drop viruses. The trick to getting in is in “keeping a low profile in energy readings, not reacting, not speaking, simply moving along in the chain of data that appeared in the conventional imagery of the Net . . . “ (267). As bits of information, their essences are the same: they are not cyborg and human, not materially embodied, but “merely charges”; even space “isn’t real here” (268). There Malkah is freed from her aging and aching body to become the “power of [her] thought, of [her] capacity to create” (161). She appears with “skin smooth and ruddy, body firm” and changes her gender into a “natty tall man of perhaps forty with black hair and a rakish grin” (266-67). Because thoughts are information, thoughts, not materiality, configure the parameters of this virtuality; thoughts even confer materiality, its dimensions “all metaphorical, mental

conveniences” (267). Yod is clearly the superior at “shape-shifting”: one moment he is transparent or translucent, then he changes himself into a box, a cleaning robot, a big black dog. In a “field,” he comes to Shira, tongue in cheek, in the image of Frankenstein’s monster carrying the decapitated head of a “razor,” a cyber-assassin, which turns into a pigeon that flies away.

It is in the cyberspace of the Net that Christie’s postmodern “break,” his “dislocation from the organic” (175), is most closely realized in *He*. In cyberspace the pain, infirmities of age, imperfections and limitations of human embodiment disappear, and one has the freedom to escape enclosure by assuming alternate forms. Malkah, waxing on her extropian disembodiment in cyberspace, exclaims: “[T]he freedom! To imagine algorithmically, logically and fully, to think forward clear, long thoughts permitting no distractions, no misgivings, a discipline of the inner life What is physical aging to a base-spinner? In the image world, I am the power of my thought, of my capacity to create” (160, 61).

Yet, as delightful and intellectually fulfilling as cyberspace may be, it is not a realm to inhabit permanently. Despite its limitations, it is the sensual material reality of Tikva which Piercy valorizes in *He*. This is evident not only from her considerable attention and detail to the characters’ perceptual impressions, but also in her unsympathetic characterizations of Shira’s former lover, Gadi, a programmer of virtual

environments, and the corporate terrorist and data-pirate, Riva, Shira's absentee biological mother. Christie regards Riva as the closest Piercy comes in the novel to a "genuine cyborg coding" (186). He is correct. While in the material world of Tikva, she is awkward and ill at ease. "All things relate," she tells her daughter. "The Net is real. We are all in the Net" (193). In Piercy's feminist allegory, Riva is a cyber extremist, a posthuman who yearns to exchange her wetwear embodiment for the immaterial essence of informatics: "I'm a tool of the future that wants to be," she announces grandiloquently. "That's all. I make myself useful" (407). She is "jealous" of Yod's strength and ability to "shut himself down" under threat of torture (406). Riva, Christie's avatar of "cyborg postmodernism," is an extropian wannabe, a transhumanist who sees the body and the connections embodiment requires as a hindrance to the acquisition and security of power. The contrast with Yod, a machine who values physical touch, connection and affective sensibility above all, could not be more ironic. "I've spent my life trying to avoid the kind of attachments you pursue, cyborg," she admits to Yod. "It's foolishness" (409).¹⁰⁷

¹⁰⁷ The last time Shira sees Riva in the novel, she watches her mother leave, "trott[ing] quietly," and thinks of a coyote: "Coyotes had survived all the poison, the radiation, the acid rain and the lethal ultraviolet. They were smaller than they had been, gray and fleet, sometimes standing on the dunes in plain sight watching Tikva cannily. Then, at the first human movement, they slipped into the brush and the shadows. They were mangy, omnivorous and swift. Nothing daunted them on their predators' rounds" (409).

Like the cyborg, coyote is an important figure for Haraway that embodies her protean and chimerical view of nature. "Coyote," she replies in an interview, "disturbs nature/culture ontologies" Moreover, "coyote is not a very nice figure. It is a trickster

Throughout the novel, Piercy's characters revel in their sensuous corporeality. Through emphasis on perceptual delights, the taste of fresh real food, the feel of swimming in the sea; sweaty, disheveled and raucous sex, real time conversation and personal communalism, it is clear for Piercy that the reality of the embodied physical world is not fungible with the virtual reality of cyberspace.

The two worlds are further differentiated in the outlooks of Yod and Gadi. Gadi, Avram's human son and so, in a sense, Yod's step-brother, is also Shira's former lover. He designs custom "virons," cybernetically created environments: "I make butterflies—pretty ephemeral things that make people happy. There's too little pleasant in this nasty dying world. We all need to remember how to play, how to be children together for a little while" (246). In his obsession with virtually created worlds, Gadi personifies transhumanism's discontent and disconnection from the physical world, its contempt of flesh. The "informatic essentialism" operative here views materiality as a "programmable information pattern" such that "information equals body, which by extension implies that information equals biology and/or materiality . . . Change the code, and you change the body" (Thacker 87). In the story Gadi nostalgically wants to reignite the old flame he and

figure . . . often associated with quite distressing kinds of trickster work" ("Cyborgs, Coyotes" 327). One may speculate on the intention of Piercy's reference, but it may be that Riva, the coyote, acts as a liminal figure; that is, as a disruptive, catalytic agent leading to Haraway's "elsewhere." Still the coyote is not where you want to end up. What is clear is that for both Haraway and Piercy Riva, the coyote, with her undisguised contempt for the flesh, is a kind of "transgressive antihumanist identity" (Christie 185).

Shira had for one another as adolescents. The means by which he intends to reconnect with Shira take the form of a virtual re-creation of themselves, “Us as we were,” and the world they lived in: “You’re a computer simulation,” he says to entice her. “I can take you back to the only time the two of us were really alive” (250). Shira demurs. Gadi’s desire is the extropian brand of posthumanism that yearns towards a transcendence of material flesh into the (ether)reality of information. “Look,” he tells Shira, “nowadays in this gutted world, only fools want to live life. The rest of us want something sweeter. We can imagine far prettier than ruins and trash. . . . It’s people’s dreams we sell them back, what might have been” (385).

In contrast, though Yod has been programmed with numerous facsimiles of the world, the fact that his informatic images are not the same as the embodied experience of the referent concern him greatly. Upon first viewing a full moon rising from the sea, Yod exclaims to Shira, “I have many images stored, but that isn’t the same as knowing—although I used to think it was” (119). A fuller enactment of embodiment’s privilege in the novel is seen in Yod’s romantic pursuit of Shira. Though he makes his initial pass at Shira in the Net, he is adamant about having *embodied* sex, outside the net, as he has learned it from Malkah, his maternal programmer. “This is only the image,” he tells Shira as they embrace in the Net, “I want the reality. Let me come to you where you are in your house, in your room” (167). Where Gadi desires only the image, a neo-

humanist yearning for transcendence and immortality, Yod wants embodiment.

Their initial virtual encounter in the Net is unsatisfactory and unconsummated, so they agree to meet later in her bedroom. The scene is replete with details emphasizing sensual embodiment: “His lips had that soft perfect slightly dry quality They made her think of apricots” (181). Fellating Yod, Shira discovers that “he did not taste like a human male. There was no tang of urine or animal scent to him . . . the pubic hair softer than a man’s” (183). The raw sensuousness of their sexual rendezvous contrasts with the sterility of Gadi’s virtual environments, whose electronic “jungle” is free from all the things “that bite, make you itch, scare you, give you disease, rot your crotch, want to eat you for lunch” (226).

Piercy’s close attention to the senses during the lovers’ interlude serves as an illustration of what Hayles calls putting “back into the picture the flesh that continues to be erased in contemporary discussions about cybernetic subjects” (5). But the scene does more than that. It limns a posthuman subjectivity. The human and non-human lovers’ post-coital conversation revolves around the singular quality of embodied experience. Shira asks, “I can’t help wondering what you feel. Can you actually experience pleasure?” Yod answers, “How can I ever know if what I call by that term is what you mean?” Precisely. There is no way to know because pleasure is not a quality available extrinsically to the event; rather, the pleasure is Yod’s own person(al) experience. Earlier,

Shira confides to Yod,

“Touch,” she said aloud. “I’ve been missing touch.”
“I . . . need to touch you. I need to be touched,” he
said softly. “It’s more important to me than the rest.” (182)

The kind of subjectivity that materializes from these two persons’ encounter is not located in a dialectic of interacting *individuals*, but in a reversibility, a chiasmus of their sensual touching.

Consciously aware, but othered by his artifactual origins, Yod is more anxious about his subjectivity than Shira, but his deep desire for touch suggests that his sense of subjectivity is not self-identical. Rather, it is bound up in the relational affirmation of the tactile other. We may think of this kind of subjectivity, constituted relationally, as what Maurice Merleau-Ponty terms, “the body sensed and the body sentient . . . as two segments of one sole circular course” (138). Thus, the alterous subjectivity of the self and other are realized not in the existentialist logic of an either/or, nor in encounter with Levinas’ infinite “life of the other,” but in the sensuous *overlapping* of touching and touched. This is not to conflate one subjectivity into the other; in fact, the subject’s alterity is born out by the intertwining in that the encroachment, the other touching, can never coincide with the touched.¹⁰⁸ To see, touch, smell the other, one must be a sensed

¹⁰⁸ In the chapter, “The Intertwining–The Chiasm,” Merleau-Ponty explains that the reversibility of the chiasmus “is never realized in fact. . . . I am always on the same side of my body; it presents itself to me in one invariable perspective” (147, 148).

other. The kind of subjectivity emergent here is, as Hayles states, “‘post’ . . . because there is no prior way to identify a self-will that can be clearly distinguished from an other will” (4). The kind of posthuman subjectivity of persons here is not a product solely of the *cogito*, but constructed by the complex of embodied interrelations with others and the environment; it emerges and changes as the relata emerge and change. This view of the self, distributed and non-specific, does not diminish the role of information in the development of subjectivity but incorporates and situationally contextualizes it as an ongoing process. Unlike extropian posthumanism, the kind that Riva aspires to, Piercy’s person(al) posthumanism inhabits material reality with all its intrarelatational contingencies.

The materiality here subtending Piercy’s cyberspace is not modernism’s inert empirically real and radically distinct principle. Words (information) and matter do not define a dichotomy, but a deep interrelation and interpenetration, a *performativity* of word and world. In an argument with Avram, Malkah explains that “[w]e construct the world out of words”, but then adds that “a word, an idea, is a thing” (258, 259). In this new illocutionary *rewording*, materiality does not disappear into bits of information, the informatic essentialism of transhumanist posthumanism; rather, the dichotomy itself is deconstructed to reveal “word *and* thing, no distinction” (259). A word is a thing, a thing is a word. The mind and body do not reappear in cyberspace as information bits, nor are

they reinscribed in Cartesian space as radically distinct principles, mind and matter; they appear elsewhere.

Judith Butler's ideas on constitutive performativity are relevant here. Using John Searle's notion of speech acts,¹⁰⁹ those phrases of speech that perform a real function, for example, pronouncements such as a jury's finding of a defendant "not guilty," Butler argues that gender is not a stable identity that inheres in an person either through biological or psychological imperatives; rather, it is rendered through the repetition of "stylized acts" (519). As such, gender is socially and historically situated, not a bare natural fact. As the site of gender production, the body is not merely given but understood to be an "active process of embodying certain cultural and historical possibilities" (521). "To be a female," she writes,

is a facticity which has no meaning, but to be a woman is to have *become* a woman, to compel the body to conform to an historical idea of 'woman,' to induce the body to become a cultural sign, to materialize oneself in obedience to an historically delimited possibility, and to do this as a sustained and repeated corporeal project. (522; emphasis in original)

In other words, woman, or man for that matter, is performed over and over like an actor following a script. Butler's notion of gender performativity undermines a masculinist/patriarchal supremacy that assumes internal, that is natural, enjoiners of

¹⁰⁹ The term is John Austin's from his text, *How to Do Things with Words* .

gender. When these rules are themselves deconstructed and revealed to be arbitrary, the social and historical sanctions against acting outside one's prescribed gendered behavior are nullified. Butler's notion of gender as "basically innovative affair . . . what is put on . . . a continuous act" (531), can be said of the constitution of any person in *He*, but most conspicuously it pertains to Yod. As a dividual, the "product of tensions between Avram and Malkah" (428), his *persona*, is a mask, factitious and non-originary. Strathern's "heterogeneous influences" that he absorbs from his community, that go into the constitution of his person(ality) are the performative cues of his social environment. As such Yod's person is an embodied emblem of institutionalized gender identity performativity. Coming from Malkah and Shira, however, and owing to the fact of his artifactual otherness, many of those foundational, institutional social cues are attenuated or thwarted altogether. When he became conscious in Avram's lab, no one pronounced the performative, "It's a boy!" Though anatomically male, he has at that point no gender. Yod is a blank slate, a golem. Malkah, Yod's programmer, advises Yod to "never believe anybody who tells you, not Avram, not even me, what you are and are not capable of. Find out for yourself. Be less humble than Joseph" (114). The result is a dividual that does not fit easily into the familiar institutionalized categorical genders, man and woman. As such Yod can be seen to function in the story as an embodied "political genealogy of gender ontologies", unpacking what Butler refers to as, "the substantive appearance of

gender into its constitutive acts” (qtd. in Salih 55-56). In their day-to-day life together, Yod unveils the small, unnoticed and numerous acts that women and men perform for each other that perpetuate and sediment the conditions of their gender. In the aptly titled chapter, “How Can We Tell the Dancer from the Dance?”, Shira discovers about Yod, as their relationship develops, that “[w]hole sets of male-female behavior simply did not apply” (245). Unlike many men, Yod communicates his feelings to Shira; he wants sex with her, not because of a physiological need, but “because it means intimacy”, a trait, Shira remarks, that is usually associated with women (184). Nor is Yod particular about the way, sexy or otherwise, Shira dresses, or whether he thinks she is too fat or thin or how she wears her hair. Kept in secret and isolated from the general population, the effects on Yod of a masculinist gender performativity are attenuated or not present at all. Because gender is a public performative act that brings into being what it names, the person Yod has the liberty to *not* perform the gender that society holds in store for those with penises. For a short interim anyway, Yod can enact, or “do” without the punitive repercussions from society for his violation, any gender variation that he pleases.

Less obviously, Yod’s uncanniness, as a cyborg living among humans and his extraordinary sexual relationship with Shira, critiques modernism’s notion of intrinsic humanness. Trying to perform the usual regulatory script for human lovers presents problems and creates friction for Yod and Shira. Exasperated, Yod at one point asks,

“Does it feel almost as if I were human? Am I imitating behavior I can never match? am I pretending at something I’ll always fail?” (238). Shira for her part is equally lost and uncertain: “What would it mean to make more of a commitment to a machine?” (238). Trying to make Yod “pass” as a human is an exercise in frustration for them both. This is only to be expected because Yod does not identify as a human. His embodiment is that of a cybernetic organism. When Shira remarks, after making love, “I’ve always wondered if what men feel is anything like what women feel.” Yod answers, “Not being a man, I don’t know” (183). Since there is no culture for their relationship to fit into, they must create a new space, an identity, within the human culture for their connection. Here, too, as with gender, subversive performativity is indicated, one that opens onto a venue that transgresses and disavows the authority of those institutional “acts” that sanction and preserve normative ontologies.

In the same way that there is no gender outside performativity, there is no “I” external to performance “since identity is a signifying practice and culturally intelligible subjects are the effects rather than the causes of discourses that conceal their workings” (Salih 56). Unaffected to some degree from socially coercive acts unconsciously rehearsed by most humans, Yod is free to assume an alternate ontology. In the Net, Yod may assume any form he wishes, Frankenstein, a dog, anything at all because his body is virtual in cyberspace, not material. In Tikva, the world in which he chooses to live, his

ontology is constrained, not by the simple facticity of his materiality, which in itself is a concept with no meaning, but by the performative *facility* of his materiality. A material body is, as Butler writes, like gender, something we “do,” but we cannot do whatever we want. She writes,

The body is not a self-identical or merely factic materiality; it is a materiality that bears meaning, if nothing else, and the manner of this bearing is fundamentally dramatic. By dramatic I mean only that the body is not merely matter but a continual and incessant *materializing* of possibilities. One is not simply a body, but, in some very key sense, one does one’s body (“Performative” 521)

How one “does” one’s body is not entirely open-ended, but the “possibilities” that Yod’s dramatic materialization in *He* holds out are for an embodied posthumanism that not only undermines humanism’s doctrine of an internal faculty of humanness, but also stands against the disembodied transhumanism of informatic essentialism.

Yod will always fail at attempting to “do human” perfectly; there will always be something in the embodiment of human development that his programming does not cover. But doing as an *embodied person*, Yod performs his *role* as well as any human. His person(al) reality in the novel is in the doing of what Butler calls, borrowing from Derrida, “*re-citations*,” iteratives that do not conceal the mechanisms and processes of their performativity, that displace the notion of an anthropocentric individual with the disclosure of the performativity of a dividual, comprised of multiply, ongoing affiliations.

In a scene illustrating the emergence of performative embodiment, Yod, feeling particularly alienated, notices that Malkah's kittens are fearful of him and remarks, "You're all cousins [cats and humans]. I'm not in the family . . . It makes me feel my strangeness" (185). Shira advises him, "if you feed them several times, you, too, can join the ranks of appointed cat mothers."

"They will no longer remember I'm a machine?"
"They'll ignore the fact that you don't smell as they think." (185)

Reality emerges out of iterative doing, not the immanence of being and things. Shira would know because she comes through a similar transformation in her relationship with Yod: "Were biochips more offputting than intestines. She no more thought in bed about what was inside the skin of a human male than she really cared what was inside Yod" (180). Thinking to herself, Shira admits that, "[i]t felt quite natural now to touch him, the most normal gesture she could imagine. . . ." (239). In the day to day life they share together, making the distinctions, human and cyborg, has become "a waste of energy" (97). Later in the novel she confides that "Yod was a part of her now, her real mate" (383)

What these scenes make plain is that the ontology of the material body, human or non-human, is performed; it is not a natural outcome. The unnatural, freakish love encounter, human and non-human, of Shira and Yod is an experience which induces Shira to examine her own hitherto concealed boundedness, both as a woman and as a

human: “What does it mean,” she asks Yod, “for you to feel pleasure?”

“How can I answer that? What does it mean to you? I know that it’s entirely mental with me, but mammals, too, have a pleasure center in their brains. You’re programmed to like sweet tastes and avoid bitter ones. I’m programmed to find some things pleasurable and others painful.”

She could think of nothing to say; she found his statements frightening. (106)

Yod parts and becomes part of her person as she has of his person. They are selves whose acting with respect to one another alters their personhood as it does the collective personhood of the community. Again Shira inquires, “Yod . . . you’re a machine. What does it mean to want a person?” He answers, “I want to *do* with you exactly what [Gadi] wants to do” (130; emphasis added). Yod’s disingenuous answer turns the question around as if to ask, what does it mean for a *human* to want a person?, an equally unanswerable question. But his reply also shifts the issue from the futility of meaning to one of doing, performing. Humanness is the performing of an embodied *style*, an “*enaction*,” in the words of Francisco Varela, in which action and embodiment are inseparable (Pasquinelli 34).¹¹⁰ The (in)dividual emerges from a kind of “recursive

¹¹⁰ Varela’s work on cognitive science resulted in what is called the “enactive view” which he argued overcomes the mind/body dichotomy by positing the mutual emergence of mind and world in the sense that “the world and the cognitive organism determine each other: the organism selects relevant properties of the physical world, and the world selects the structure of the organism, during their respective co-evolutionary history” (33). The mutual encroachment of world into the constitution of mind and mind’s into that of the world short circuits their polarization as radically different principles.

duality”, the constant revision and adjustment, between agent and other(s). Like Yod’s, but not so dramatically, Shira’s particular humanness is discovered by her to be a register of the performativity of her social relationships, both those that consolidate the social and those that subvert it.

“The New Is Necessarily Dangerous”

With the exception of her grandmother, Malkah, Shira’s romantic liaison with the non-human cyborg is met with opprobrium and disbelief. Even the house she lives in, a highly advanced interactively cybernetic apparatus, is patronizingly disapproving of their affair. The real surprise, however, is the reaction of her warrior mother, Riva, the “information liberator,” master of disguise and shape shifter. In conversation with Shira, Riva seems initially at least to embrace relativism. When asked whether Nili, her cyborg companion and lover, is a human, she bristles, “That’s a matter of definition Where do you draw the line?” No humanism here, yet when she learns of Shira’s relationship with Yod, she becomes offensive: “How can you have an affair with a machine? That’s like speaking of a relationship with a dildo” (196). In Shira’s defense, Malkah points out to Riva that she herself is having a gay affair that transgresses boundaries of gender normativity. Furthermore, Nili, too, is a cyborg so their affair is also exogenous.¹¹¹

¹¹¹ Although Piercy refers to Yod as a cyborg, he is technically speaking an android as he is built from components. Nili, on the other hand is definitionally speaking

Riva's adverse reaction highlights the importance of performativity in the forging of a person(al) posthumanism. Riva has not lived with Yod or done things with him; she has only admired his mechanism and militancy, his Avram side, abstractly from a distance. She does not know how gentle and affectionate he can be as a lover. She defaults to the normative performance cue of human society toward the idea of human and machine sex: revulsion.

Having more serious consequences is Avram's reaction to Yod's incipient personhood. Yod's subjectivity, his alterity, is predicated on a sense of personhood that, Shira argues, has critical correspondence with the personhood of humans. As a "person" he is entitled to the same rights as other persons. Concepts of personhood, Nelkin writes, "are embedded in a political and cultural context" (104), and not on scientific analysis as concepts of human and cyborg may be. As a person, Yod is self-aware; he loves, hates, fears, demands, obeys and disobeys, all functions associated with humanness. He wants to have a life as a citizen in Tikva with Shira as his life partner and be a father figure to her son. Malkah, observing Yod's emerging personhood, advises Avram that he will have to "offer" Yod his freedom at some point because he "possesses his own motivations, his own goals." Avram does not relent, but clings stubbornly to his humanist hierarchy of man and the world: "I didn't create him to pursue his own ends" (284). When Yod announces

a true cyborg, an organism enhanced cybernetically.

his desires “to be free to live as I want and choose, ” Avram’s replies “That’s romantic nonsense. I created you to accomplish a task, so how can you be quote free unquote?” (284).

Unfortunately for Shira and Yod, his fate is not to be decided by an open town hall debate but by strategic necessity. During a town meeting to decide Yod’s legal status it is learned that if Yod is not surrendered to Y-S, Tikva will be destroyed. It is decided in the end by Avram and the head of security that Yod is to be a Trojan Horse, enter the chamber of high officials and there self-destruct, taking out their leadership. Even Shira understands the urgency of the situation; still, she argues that Yod should have a choice whether or not to sacrifice himself. Yod submits, however, asserting, “This is what I was created for. I am Avram’s weapon. Killing is what I do best.” But he does not go willingly: “I don’t want to be a conscious weapon. A weapon that’s conscious is a contradiction because it develops attachments, ethics, desires I judge myself for killing, yet my programming takes over in danger” (410).

With Yod’s fate sealed, Avram vows to make another Yod, even better. Malkah balks, “Yod was a mistake. . . . The creation of a conscious being, as any kind of tool—supposed to exist only to fill our [human] needs—is a disaster” (412). In Yod’s farewell message to Shira, he echoes Malkah’s sentiments: an instrumental “weapon should not be conscious” (415). Acting on his beliefs, Yod sets a bomb off in Avram’s

lab at the precise moment he self destructs at the meeting with Y-S. Avram dies and with him the capability to create another conscious weapon. Later, however, while looking through some of Malkah's records, Shira makes the serendipitous discovery of Avram's logs, memory crystals, all the data she would need to replicate Yod. Her find is the transhumanist's dream, the replication of life from information. To build another cyborg "just like Yod", is her first impulse. Later, however, she begins to question herself, "Would the cyborg really be Yod? Yod was the product of tension between Avram and Malkah and their desperate aims as well as the product of their software and hardware" (428). But Yod was more than that; he was the register of his and Shira's time together, their *intrare*relationship. She stops herself from making the same mistake as Gadi, trying to replicate the past in information. There would never be another Yod. In the end, she concludes, like Malkah, that it is not the creation of a conscious being that is unethical—children are such—but the instrumental use of a conscious being, a person. Taking the crystals containing all the specifications and information by which Yod was created, she throws them in the town's fusion chamber, turning Yod's information into energy.

Shira and Malkah's conscionable actions are motivated, Christie claims, by "the core [of a] curriculum of liberal humanist moral philosophy: potential/actual autonomous self-aware beings programmed as tools are wrong, because this is to treat a person as a

means, not as an end” (187). For Christie, then, Haraway’s cyborg ontology is not fully realized in *He* because there is no full escape from the “enclosures of modern narrative and ideological dilemmas” (Christie 175). Yet, in Piercy’s defense, her intention, or Haraway’s for that matter, has never been to author an absolute “break with those confining narrative and aesthetic figures” (Christie 184). The linkage of the futuristic story of Yod and Shira with the myth of the Golem of Prague is evidence of that; instead *He* is in Badmington’s phrase, a “working through” of those narratives, a breathing of anti-humanist life into those forms.¹¹² This is not to pour old wine into new bottles, but, in a sense, to pour new wine into old bottles. The break with liberal humanism that Piercy embraces does not relinquish the body and materialism for information, but this does not ensnare her cyborg ontology in the narrative morass of modernism’s “Oedipal.” Rather, its thrust is into the “elsewhere” of a lived person(al) posthumanism. Badmington writes that literature which announces “a complete change of terrain, a pure outside, needs to be complemented by work that speaks to humanism’s ghost, to the reappearance of the inside within the outside” (14). As “complement” is certainly one way to read the twin narratives, past and future, contained in *He* (and Haraway’s “Manifesto”). It is what Haraway calls a “myth for resistance [but also] recoupling” (“Manifesto” 9). The persons

¹¹² In his section on Gibson’s *Neuromancer*, Christie admits that Haraway’s “‘Manifesto’ never remotely hints at the relaxed contempt for flesh and bone flaunted by *Neuromancer*.. There are boundaries, in other words, to Haraway’s consigning of the organic to oblivion, despite her ‘enthusiasm for boundary transgression’” (Christie 181).

in the novel, posthuman and cyborg, speak for Haraway's "*partial* identities" (emphasis added), not no identity at all.

Earlier in her journal, Malkah writes to Yod, "I have been thinking what overweening ambition and pride are involved in our creating conscious life we plan to use and control, when we cannot even fully use our own minds and we blunder and thrash about vainly in our own lives. No life is for us but for itself" (161). Malkah's view here argues against the humanism espoused by Avram. Her argument is not anti-human because she is still taking a position, vis-a-vis material human beings and the world; her perspective is what may be called *anthropoecentric*, a standpoint which recognizes that the perspective of biological posthumans is a view that cannot be circumvented. Our orientation is our embodiment. Our inability to escape perspective, a view from somewhere, does not, however, mean that that perspective necessarily prescribes our actions. A center is possible but not as an enduring, or necessarily prescribing, fixture.

Hayles writes that she wants

to entangle abstract form and material particularity such that the reader will find it increasingly difficult to maintain the perception that they are separate and discrete entities. If, for cultural and historical reasons, I cannot start from a holistic perspective, I hope to mix things up enough so that the emphasis falls not on the separation of matter and information but on their inextricably complex

compoundings and entwinings. (23)¹¹³

This “entanglement” of information and materiality opens a portal that was hidden from the dualist’s view of humanism’s cardinal perspective onto a posthumanism that is an *incorporation* of language. Early in the novel, Malkah exclaims that she “cannot always distinguish between myth and reality, because myth forms reality and we act out of what we think we are Our minds help create the world we think we inhabit” (25). *He* does not posit a posthuman metaphysics but a posthuman myth, a new narrative to account for the emergence of technologically mediated embodiment. This narrative is enacted in the journal entries Malkah writes to Yod and also in the personal relationship between Shira and Yod. In her book, *Bodies That Matter*, Judith Butler states that “‘sex’ not only functions as a norm but is part of a regulatory practice that produces the bodies it governs” (1). Shira and Yod operating within the regulatory norms of human and non-human, male and female, *work through* those norms in a way that complicates and rewrites those norms for a new mythology of materialism, of human and non-human, male and female, and sexual activity. Their accommodation of sex is formative of “sex,” but as Butler explains, “to claim that discourse is formative is not to claim that it

¹¹³ Haraway expresses a similar idea in “Manifesto” which she calls “an argument for *pleasure* in the confusion of boundaries and for *responsibility* in their construction” (8; emphasis in original).

originates, causes, or exhaustively composes that which it concedes; rather, it is to claim that there is no reference to a pure body which is not at the same time a further formation of that body” (10). As with the kittens’ getting used to Yod through his continued feeding of them, sex and embodiment between Shira and Yod depends on the iterative process of their continued enaction. Thus their instantiation as person(al) material bodies is never complete but always becoming and entwined, already engaged with the other.

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