Becoming (Post)Human: How H.G. Wells, Upton Sinclair, and D.H. Lawrence Tried to Alter the Course of Human Evolution

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BECOMING (POST)HUMAN: HOW H.G. WELLS, UPTON SINCLAIR, AND D.H. LAWRENCE TRIED TO ALTER THE COURSE OF HUMAN EVOLUTION

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ABSTRACT

This dissertation examines the dual impacts of evolutionary theory and the industrial revolution on late 19th and early 20th century transatlantic fiction, particularly in articulating the concepts of perfectibility and degeneration. Darwinian evolutionary theory made real the possibility failing to successfully evolve and adapt as a species could cause humans to go extinct or, maybe worse, devolve into monstrosities. The industrial revolution, on the other hand, enabled humans to conquer nature to a degree that suggested a power to become engineers of our own future world and selves. At the same time, this ability to understand and alter ourselves dissolved the distinction between humans and machines, and the realities of industrial technology under a capitalist system revealed that humans could also be reduced to machine-minding cogs. The two (sometimes conflated) categories of animal and machine, which we have long used to distinguish ourselves as humans, were breaking down and threatening to undo our understanding of ourselves and our place in the world.

The authors whose works I discuss in this dissertation recognized that *human* could no longer be considered a stable category or entity, and they worked from within the received conceptual language of animals and machines to challenge our ideas about what being human means. They believed that by using imagery and narrative to re-

articulate human identity and purpose, they could change behavior, morality, politics, economics, culture, and the future evolution of the species.

In this dissertation, I examine the different approaches that H.G. Wells, Upton Sinclair, and D.H. Lawrence used to engage this dangerous and exciting problem of reimagining human meaning and human potential through narrative. By situating these authors in conversation with each other, I am able to highlight different facets, concerns, and shortcomings of each approach. This study also reveals that these authors were already engaging in a dynamic discussion currently gaining prominence and urgency in our own time as we explore through science, technology, philosophy, and narrative what we are and what we want to be.

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Introduction: (R)Evolutionary Narratives

> *Man may be excused for feeling some pride at having risen, though not through his own exertions, to the very summit of the organic scale; and the fact of having thus risen, instead of having been aboriginally placed there, may give him hope for a still higher destiny in the distant future.*
>
> Charles Darwin *The Descent of Man* (1871)

In his 1906 essay "Future in America," H.G. Wells confesses that he has always possessed a "mental idiosyncrasy" of looking at life not for what is, but for what it is in the process of becoming.[1] This "anticipatory habit" he shared with many writers and thinkers of his day, including Upton Sinclair and D.H. Lawrence. Two compelling and, I will argue, interrelated factors that made the turn of the century in Europe and America a period preoccupied with change were the increasing influence of the evolutionary theories put forth by Charles Darwin and Jean Baptiste Lamarck[2] and the dramatic and pervasive impact of the Industrial Revolution.[3] The first half of the twentieth century was a time of destabilization in almost every imaginable way, including social, economic, political, environmental, and ontological. It was also, therefore, a time of both great anxiety and great hope. Earlier fears about social decay became imbricated with fears about species degeneration, and for the first time in history, it became possible to believe that humanity could and should intentionally evolve into something else.

The authors whose works I explore in this dissertation were attempting to shape the human species through their writing. They were convinced that at their moment in history, humanity had reached a crossroads in its evolutionary journey and was veering toward self-destruction. Their literary mission, at times stated overtly, was to awaken their readers to the perils of the present course and to galvanize them to actively reclaim

and reshape the destiny of the human race. As part of that process, Wells, Sinclair, and Lawrence sought to redefine what being human means. They attempted to establish new ethical imperatives and to deconstruct what they considered to be the false belief in a stable reality, the dangers of capitalist ideology, and the misguided moral values of their day, aiming their critique at the level of the individual organism and of the social/political system. While Wells and Sinclair predicted that engineers, doctors, and other middle-class professionals versed in the sciences of technology and biology would undertake the management of human evolution, they also clearly believed, as Lawrence did, that novelists were the best equipped to understand the idiosyncrasies of human nature but also that they alone had the ability to alter minds and hearts by stimulating imagination and evoking feelings through narrative engagement. In this respect, they were all inheritors, to some degree, of the realist tradition of George Eliot, Charles Dickens, and Thomas Hardy. They made the thoughts, feelings, and bodily sensations of their characters available as "knowable communities," in the words of Raymond Williams,[4] for instructive as well as entertainment purposes. They created narrative experiments in human evolution and they established their challenge to the status quo through a complex linguistic interplay of animals, nature, and machines—a discourse we now call posthumanism.

The three authors had broadly the same ambitions and made use of similar concepts and language, but there are interesting and revealing differences among their approaches and visions that can be productive in thinking about the stakes involved in constructing human meaning through and against animals and machines. There has been a recent interest in unpacking the power structures and assumptions embedded in the

philosophical history of this very discourse, as Arthur Bradley and Louis Armand's *Technicity* (2006), Carrie Rohman's *Stalking the Subject: Modernism and the Animal* (2009), Timothy Campbell's *Improper Life: Technology and Biopolitics* (2011), and Cary Wolfe's *Zoonologies* (2003), *Before the Law* (2013), and others show. In their introduction, Bradley and Armand look back to Aristotle's *Metaphysics* and *Nicomachean Ethics* to find what they believe to be the first "*ontology* of the technical object" that casts technē as "an essentially inert, neutral tool whose status is entirely determined by the use to which it is put by human beings" (2, emphasis in the original).[5] Wells and Sinclair followed in this traditional belief in technology's basic neutrality, but they also identify a more essential and formative role of technology in the evolution of human beings, a realization that Bradley and Armand say we are reaching in the present day with biotechnology: "the defining properties of human being—mind, agency, affect, consciousness, the very operation of thought itself—are revealed to be inextricably bound up with complex, quasi-mechanical and technically replicable processes," and knowledge of this inextricability has "radically transformed our understanding of what it is 'to be human'" (3). The complex interplay of life and mechanism can be both limiting, as in the gender normativity that associates the masculine with machine power, but it also resists logo-centrism by enabling us to rethink the relationship between mind and body and reassess the ways that we articulate personhood. However, Lawrence suspected, as did Heidegger and Derrida, that technology is inherently linked to perceiving the world "in a mode of instrumentality." This technological enframing, to use Heidegger's term, is "anything but a neutral concept," and is in fact dangerously complicit in what Michel Foucault names *bio-politics* (*Before the Law* 3, 4).

Foucault explains in *The History of Sexuality* (1976) that the body-as-machine concept has served as the justification for regulating, optimizing, and standardizing human bodies—in other words "disciplining" them to fit tranquilly and efficiently into a social and economic body (139). When the same mechanistic approach is applied to studying the dynamics of human populations and the entire species, the result has been instituting regulatory mechanisms meant to safeguard and control life's processes which, Foucault argues, change man from "a living animal with the additional capacity for a political existence" into "an animal whose politics places his existence *as a living being* in question" (143, emphasis added). He therefore agrees with Martin Heidegger's argument in "The Question Concerning Technology" (1954) that the conceptual framework of utility threatens to construe humanity itself as "standing-reserve" or as a utilitarian resource.[6] Foucault also notes that this regulatory bio-power is a component specifically necessary to capitalism, which "would not have been possible without the controlled insertion of bodies into the machinery of production and the adjustment of the phenomena of population to economic processes" (141). The danger of the capitalist iteration of bio-politics to species evolution and individual self-realization was apparent to all three authors in this dissertation, and they all denounced the capitalist machine as dehumanizing in their works. They concurred that consumer capitalism was a root cause of human degeneration and they illustrated in their writing how the machine-minding automaton of the lower class and the pleasure-seeking, power-hungry elite were two sides of the same destructive coin, both types growing less and less human over time. The authors varied in their attitudes towards policing bodies and populations (bio-power) within alternative political structures, however, as I will explore in each chapter. Yet even

Lawrence, who generally opposed external controls on human individuals, indicated some degree of necessity in regulating reproduction and specifically in mediating women's power to shape future generations.

In her 1998 book *The Animal Within: Masculinity and the Gothic*, Cyndy Hendershot provides an illuminating study of Victorian attitudes toward sexuality and gender that seems to be in direct conversation with the views expressed by Wells, Sinclair, and Lawrence. She explains that sexuality was the primary area in which Victorians were reminded of their "base origin" and that sexual desire was frequently "troped as the animal within" even before Darwin added a scientific basis for that animal origin (103). She also finds that Darwin's theory of evolution was more threatening to masculine identity than it was to the feminine. By replacing God with Nature as the shaper of the human species, Hendershot argues that nineteenth century masculinity, epitomized by the "Baconian" male scientist, fell victim to a power reversal: suddenly man, who "culturally should embody dominance, rationality, and power," discovered that he has been formed "by a nature still personified as feminine but one that the rational scientist no longer could control" (97-8).[7] The principle of *female* sexual selection that Charles Darwin identified within animal species contributed an additional disturbance to patriarchal establishments, as Gowan Dawson tracks in *Darwin, Literature and Victorian Respectability* (2007). Dawson locates a post-Darwinian horror of and fascination with visions of trans-species sexual encounters and argues that Darwin's theory of sexual selection made available the "invidious prospect of powerful and sexually excitable women" even if Darwin tried to downplay this potential (33). Wells, Sinclair, and Lawrence were each proponents of female empowerment in some respects, but they were

also collectively worried about the cultural and biological power women had over husbands and children to domesticate, emasculate, and otherwise jeopardize man's future. Wells and Sinclair advocated methods of regulating and institutionalizing reproduction through laws and databases of bloodlines and family histories—a bio-political movement known as eugenics. This system removes the risk of irrational female choices and allows humanity to direct evolution strategically.[8] Lawrence vociferously opposed external systems that infringe upon human freedom, whether political, social, or scientific, but he too expressed distrust of women's desires, both sexual and parental, and argued for male dominance (by mutual consent) over women for the health of heterosexual relationships and of future generations. For Lawrence, control is associated with machines and repetition whereas sexual domination and willing submission are dynamics modeled in nature.

Interestingly, the qualities that these three male authors believed make the best sort of humans turn out to be predominantly the same as those that make the best sort of men. In fact reclaiming masculinity, in addition to working out a productive (and reproductive) model for sexual relations and gender roles, was of paramount importance to the evolutionary goals of all three writers. Their conceptions of masculinity are fairly similar and relatively true to Victorian ideals up to a point. Intelligent, powerful, rational, and self-controlled, ideal men are in many ways aligned with the symbolic imagery of machines. The association of male bodies and minds with machines was occurring in a larger historical setting and was both appealing and unsettling to those who made the connection.[9] David Porush argues that advances in nineteenth-century science and technology both empowered man to re-subjugate nature and threatened to reduce him to a

mere mechanism: "the growth of our technology […] and the growth of a science which sought to bring the entire natural cosmos under the dominion of logical algorithms made it clear that more than our brute qualities could be duplicated by devices of our own invention" (3). So while increasing knowledge of the mechanical laws of nature brought those laws potentially under our control, the "dominion of logical algorithms" also meant that humans could be understood as machines, governed by laws that explain away what has made us feel unique and special.

According to Cartesian tradition, animals *are* machines and human bodies are machines with the addition of a mind/soul, but these definitions were not as simple in the post-Darwinian days (nor were they this simple in those of Descartes, as de La Mettrie's *Man a Machine* and *Man a Plant* show).[10] Wells, Sinclair, and Lawrence make use of a complex of sometimes oppositional and sometimes coterminous characteristics and qualities that have come to be associated with each group in order to reconstruct a human hybrid possessing the best mixture of features. Generally speaking, machines carry the association of rationality, order, and control while animals are irrational, impulsive, and instinctual. Despite the alignment of machine qualities with those of the high Victorian masculinity, these authors (especially Lawrence) were wary of unbridled machines. They felt that the impersonal rationality of machinery tended toward cruelty and hollowness. They were not concerned, as many in their day were, with morality *per se* (they all agreed that morality was socially constructed and that in its Western contemporary form, it served consumer capitalism and species decline), but they saw a need for a counterweight to keep humanity *humane*. This element took on different forms and effects for each author, but for all it was related to embodied feelings. For Wells and Sinclair, the answer

was ostensibly sympathy, which was in their time often synonymous with empathy; for Lawrence, it was a bodily registering of truth and falsehood and a surrender to erotic and instinctual sensations.[11] In other words, the necessary element was animal/creaturely.

In the proper balance, "good" animal and machine qualities keep humans creatively striving for new and better ways to stay true to nature's laws without stagnating in repetition or mutating in damaging and artificial directions, but there is always a looming threat of degeneration. If either the animal or the machine comes to dominate the mixture, or if humans retain or develop certain undesirable characteristics of either animals or machines, the species again veers toward disaster. Two of the most detrimental associations for humanity in Wells', Sinclair's, and Lawrence's works are the timid, domesticated animal and the mechanical automaton, both of which are incapable of directing their own destiny. It is this passivity above all, I argue, that threatens humanity with decline in the eyes of these writers. I hope to demonstrate in this dissertation that Wells, Sinclair, and Lawrence deploy the concepts of machines and living organisms to arouse humanity into an *active*, *intentional intervention* into human evolution both to re-establish masculine vitality and to cultivate a superior species.

The issues I look at in this dissertation were of interest to many British and American thinkers at the turn of the century, particularly among those committed to breaking out of old cycles and ways of seeing. Some other contemporary literary figures that also contemplate animals, technology, and/or nature in their explorations of human meaning include Jack London, Frank Norris, Charlotte Perkins Gilman, Willa Cather, John Steinbeck, Gertrude Stein, Edgar Rice Burroughs, John Dos Pasos, Aldous Huxley, George Orwell, George Bernard Shaw, Joseph Conrad, Djuna Barnes, and Virginia

Woolf. I have chosen to work with H.G. Wells, Upton Sinclair, and D.H. Lawrence first and foremost because all three incorporate a matrix of animals, nature, and machines in their revisions of human identity and development but also because they reveal the transatlantic nature of this topic in the first half of the twentieth century.[12] Literature, along with evolutionary theories, technological advances, and political ideas, was actively flowing across the Atlantic during this period, and all three authors drew from transnational literary, scientific, and political discourses to formulate their posthumanist approaches to both biological and social evolution. They were all versed in scientific theories of evolution and both British and American literature (all three discuss Charles Dickens, Thomas Hardy, and Walt Whitman, for instance), and all were influenced—to varying degrees and for different durations—by Marxist ideas about social evolution and by the recent and contemporaneous international rumblings of revolution and war. Many of Sinclair's and Wells' formulations of animals and machines can be found in Marx and Engel's *Communist Manifesto* (1848) and Lawrence subscribed briefly to the socialist paper *The New Age* which Jeff Wallace claims influenced his thinking (42), and Keith Sagar argues that Lawrence was a socialist at heart, claiming that his proposed community of Rananim was "a socialist utopia" (209). According to Amanda Claybaugh, reform ideas in particular actively crossed back and forth between the United States and Great Britain beginning in the nineteenth century,[13] and Wells, Sinclair, and Lawrence illustrate this shared interest in improving the human condition beyond any national interests or nationalist identities.

Wells and Lawrence both looked to America with hope for the future, seeing it as a place with an opportunity for more or less of a new start. Lawrence was critical of and

disappointed with modern Americans for misusing their opportunity, but he nevertheless saw the potential for positive new growth in American literary history. In his *Classics in American Literature*, Lawrence praises authors of the American renaissance like Nathaniel Hawthorne, Herman Melville, Edgar Allan Poe, and Walt Whitman for bravely seeking truth and creating something original (13). Wells was even more optimistic about the potential for something new in America, as he expresses in his *Future in America*. He was also an enthusiastic reader of *contemporary* American literature—including the works of Upton Sinclair. Sinclair's novels were arguably more popular in Europe than in the United States, and H.G. Wells was an avid admirer. His admiration led him to seek out and befriend Sinclair on one of his visits to America and he hosted Sinclair on a visit to England. In his autobiography, *American Outpost* (1932), Sinclair recalls meeting H.G. Wells in 1906 and, when he admitted to Wells that he "had never heard of him," Wells sent him *A Modern Utopia* inscribed, "To the most hopeful of Socialists, from the next most hopeful." Sinclair writes that he "found it a peerless book" (203), and he later dedicated his 1907 *The Industrial Republic* to Wells ("To H.G. Wells, 'the second most hopeful'"). Lawrence was known to both Wells and Sinclair, but the two hopeful socialists were not inclined to approve of Lawrence's approach to their shared posthumanist project, and with good reason, as I will elaborate on in my final chapter. Wells and Lawrence shared the same agent (J.B. Pinker) and moved in the same literary social circles in London. Paul Delaney notes that despite their similar backgrounds, Wells and Lawrence were not friends. Regardless of Pinker's urging, Wells did not offer public support for Lawrence when *The Rainbow* was banned in 1915 (166), and in a letter to Pinker that same year, Lawrence speculates that Wells was actually jealous of what he

had achieved in *The Rainbow*: "He knows he is making a failure of himself, going to pieces, so he will see a serious piece of work with a yellow eye. He admires me really, at bottom—too much perhaps."[14] Delaney is uncertain whether envy was the cause of Wells' lack of support, but Wells' own comments in his *Experiments in Autobiography* may hint at a secret admiration of Lawrence's boldness is addressing sexuality at least.[15] There was also a brief connection between Lawrence and Sinclair. Sinclair claims to have been encouraged to read Lawrence's work by his good friend Jack London, and Sinclair made contact with Lawrence at least once to send him a copy of *Oil!* Sinclair preserved Lawrence's reply. In this letter, addressed from Florence in 1927, Lawrence thanks Sinclair for the book, calling it a "splendid novel of fact […] a splendid big picture of actual life" and wishing Sinclair success. Sinclair's editorial appended to the end of the letter is less approving of Lawrence, however. Drawing attention (as does Wells) to Lawrence's "controversial" reputation, he states that while he had read *Sons and Lovers* and *Lady Chatterley's Lover*, they "were equally uninteresting" (*My Lifetime in Letters* 333). Although Sinclair was not as cosmopolitan as either of the English authors, his imagination was not bound by national boundaries either and, like Wells, he anticipated a future when humanity would form a dynamic global community united under a single governing structure.

Much like Lawrence does in *Studies in Classic American Literature,* Sinclair takes upon himself the task of evaluating classic English literature as a source of power—for good or for ill—in *Mammonart*. His aim is to establish a rebuttal to the "art for art's sakers" argument that propaganda is not art and that the best art is apolitical/ahistorical.[16] His claim is that all art participates in creating, altering, and reinforcing power structures,

and we must therefore be extremely cautious about unwittingly imbibing ideology from what we read. In the course of his argument, he provides a list of authors to read and those to avoid for their latent ideology. Sinclair believes that art always instructs, whether it be by naturalizing power structures (of which he finds Shakespeare the most dangerous perpetrator), exposing destructive power structures (he praises John Milton and gives a lukewarm nod to Dickens), actively working and writing to effect change (he extols Shelley and his influence on Byron and claims that Keats' focus on beauty conveys emotion that can change how people see and act). His appreciation for Keats contains an important caveat, however: Keats' claim that beauty is stable—"A thing of beauty is a joy forever"— is propaganda, as Sinclair defines it, but it is *false* propaganda (176-188). Wells, Sinclair, and Lawrence had ambitions to create something beautiful as well, but their idea of beauty was a living and continually-developing human species, brought into being through imaginative dialogue with and in emotional response to their narratives.

Lawrence argues in "Why the Novel Matters" that novels are uniquely able to access a wholeness of experience and arouse readers to a realization of their own vitality. As an embodiment and purveyor of this vital authenticity, the novelist is, in Lawrence's words, "superior to the saint, the scientist, the philosopher and the poet" (195).[17] Wells and Sinclair make similar claims for the power of fiction and for their own weighty responsibility and importance as novelists. Not only did all three authors believe that literature has an ability to shape perceptions, they felt novels were humanity's best hope for evolving out of its decline. This evolutionary function of literature has recently been considered in a number of critical texts, both to explain why art matters and to explore how it functions.[18] In his essay "Imagination and Survival: The Case of Fantastic

Literature" (1999), Eric S. Rabkin suggests, like Sinclair in *Mammonart*,[19] that an important function of the storyteller is "to provide a field for imaginative play" in order to hone survival skills (308). The urge to create literature may also be an evolutionary adaptation, a survival mechanism, subject to the same evolutionary laws of selection and adaptation. If we encounter a situation from the relative safety of a novel, we can test out possible responses and consequences and be more prepared to face situations in real life. Rabkin places an emphasis on the value of imagination in itself, as does Lawrence, as an adaptation essential to human survival.

Interestingly, Rabkin explains the value of imagination through a simile with technology: "Imagination [is] like a knife, offering itself to us as a weapon, as a tool, or as the basic equipment for a game […] in which we invent new challenges, hone our skills, stretch our limits" (*Biopoetics* 308-9). Language has been described as a technology and also as a means of resisting the totalizing power of mechanization. In *The Soft Machine: Cybernetic Fiction* (1985) David Porush claims that metaphors or "icons" are machines in that they are an "incarnation or illustration of a systematic set of rules." The machine metaphor is therefore "capable of crystallizing, reflecting and embodying […] a complex system of meanings (determinism, logic, order, system)" (16)**.** E.O. Wilson claims in *Consilience: The Unity of Knowledge* (1998) that artistic production performs this ordering and systematizing function on a large scale and in so doing has saved our species from extinction. He states that while our intellect has evolved beyond instinctual response, it has not evolved enough to sift through vast amount of information efficiently, like a mental computer processor: "Algorithms could be built, but they weren't numerous and precise enough to respond automatically and optimally to every

possible event." The arts are a survival mechanism that "filled the gap" by shaping otherwise chaotic social and environmental forces into recognizable systems of meaning. Wilson argues that the elements we tend to admire most in art are "the most evocative words, images, and rhythms, conforming to the emotional guides of the epigenetic rules" or "algorithms […] of mental development" (246). In other words, we find pleasure in the ordered human nature that art reveals, and that order shapes us and allows us to function in the world without being overwhelmed by stimuli and possible responses.[20]

Art by this account performs at least two major functions toward species survival: it organizes information and behavior and it challenges us to adapt to new ideas and possibilities. The second function, several theorists argue, became more pronounced in response to evolutionary theory and technological advances.[21] In *Darwin and the Novelists: Patterns of Science in Victorian Fiction* (1988), George Levine explains that "Darwin's vision, his great myth of origins, was both shaping the limits of the Victorian imagination of the real and being tested in the laboratories of fiction." He goes on to underscore the active participation of narrative in shaping meaning: **"**how the culture tells stories, that is, imagines its life, subtly informs the way science asks questions, arrives at the theories that reshape the culture that formed them" (4). It is in fact this shaping power of art that Heidegger hopes may be humanity's salvation from technological enframing in *The Question Concerning Technology*. He explains that art, like technology, is primarily a way of revealing what is and what may come to be, both "akin [in their] essence" and also "fundamentally different" insofar as art provokes reflection and questioning (340). Cary Wolfe accuses Heidegger for adhering to "humanism's familiar opposition of art and philosophy, on the one hand, to calculation and utility, on the other" here (*Before the*

Law 4), but Heidegger's division between the two is not quite so complete nor as oppositional as Wolfe imagines. Both art and technology are *technē*, and as such are related to *poiēsis* and ways of knowing and revealing truth (318-9). The "supreme danger" that Heidegger associates with technology and hopes that art will avert is its ability to create a falsely stable reality where all meaning is "revealed" as standing-reserve. In fact, both art and technology could be understood as narratives, where one leaves openings for multiple interpretations and the other allows for only one.

The great debate about what science, technology, and literature do and how they interact for the betterment or degradation of the human species is far more complex than I can do justice to here, but for the purposes of this study, I hold that they are all ways of interpreting, expressing, and experiencing reality. Heidegger says that questioning is our most powerful means of preserving ourselves and nature from "a precipitous fall" (332), and Wells, Sinclair, and Lawrence agree (although sometimes they do the questioning for us and give us the answer). E.O. Wilson claims that together, the arts and the sciences are "the muses" that entice us to question, "whisper[ing]: *Follow us, explore, find out*" (254, emphasis in the original). But can technology question? And from within Heidegger's technological enframing, is it possible for either science or the arts to ask the kinds of questions that would disrupt the totality of that enframing? Heidegger's assessment of science's abilities to break free is gloomy, and as we recall, George Levine credits art (specifically stories) with having the same power that Heidegger gives to technology of "inform[ing] the way science asks questions" (4). In fact, as Sinclair and Lawrence both indicate in their works, literature can reinforce bio-power as well as disrupt it. Heidegger was unable to determine which came first—the utilitarian ordering framework or the

Industrial Revolution. To me, that is the great question in his essay and one that my authors also attempt to answer. Is there a safe way to live with machinery, or must we renounce it to save ourselves?

One way of at least mitigating the ontological impact of machines is first to be aware of it and then to challenge its totalizing power. All three authors in this dissertation use language to raise this awareness. Cary Wolfe explains that Heidegger's distinction between proper and improper relations to technology leads to an understanding of human as those beings capable of using language phenomenologically, that is, "give[ing] access to things 'as such,' as opposed to language understood as 'communication,' 'information,' and the like." In other words, the difference is one of active and passive participation in language. He argues that Heidegger's relation to technology is "fundamentally of the human to itself," where the saving power belongs to those capable of language and not to those who are "mere subjects of communication" (5). Wolfe finds that Heidegger's theory thus elevates the human above the animal and in fact creates an opposition between the two that reinscribes the hierarchical categories he set out to undermine. The issue of whether all theorization about animals and machines is similarly anthropocentric is a current concern amongst a number of philosophers (Cary Wolfe, Arthur Bradley, and Timothy Campbell to name a few) who find latent anthropocentrism—the foregrounding of human interests and framing of nature within human values--even among philosophers who attempt to subvert and challenge human essentialism. Wells, Lawrence, and Sinclair may also be accused of anthropocentrism of this sort. Lawrence has more ecocentric tendencies than the other two, as he attributes agency and unknowability to the natural world, but ultimately his writing is for the

betterment of humanity, and while Sinclair imagines the thoughts and emotions of hogs in *The Jungle,* this move finally serves as a metaphor for human suffering rather than as a call to end animal cruelty. He does imply that animals will be better off when humans are, but they will remain commodified, purchasable as meat for those willing to pay a premium for the product. My project does not encompass these authors' explorations of animal subjectivity or animal rights. Although one could perform a fruitful analysis of the ways in which all three provide an opening for a nuanced reading of the animal, in this dissertation I work from the position that Wells, Sinclair, and Lawrence were primarily interested in animals as a means through which to challenge assumptions about the human and not the other way around. It is what being *human* means to them that I focus on in my work.

Progressive and degenerative evolution occurs on the level of the individual being, but it also manifests in the social/political register. In fact, the physical body and the social body/body politic are mutually constitutive to some degree, and the nature of their relation is one major point of difference among the ideas of two socialists (Wells and Sinclair) and the semi-anarchist libertarian (Lawrence). Wells and Sinclair believed in the power and effectiveness of institutions, like education and breeding, to shape individual lives, although they also believed that a few great men were needed to design the structure of those institutions. Lawrence claimed not to believe in institutions at all and gave all the importance to the individual, but he also generalized about the human condition and gender dynamics, encouraging people to join together or act in unison upon the same set of seemingly universal principles. While Wells and Sinclair hoped that their new world orders would rise by common consent, they were willing to install it by force

if need be. Lawrence, on the other hand, left the choice to individuals whether to follow his advice and example or give themselves over to degeneration and extinction. All three authors, however, imagined that violence—or at least struggle—will be an ongoing component of their (r)evolution and the future human condition.

Struggle is an essential feature of Darwinian evolutionary theory, one that encourages adaptation and enables the "fit" to rise above their competitors. Wells, Sinclair, and Lawrence agree that without obstacles to overcome, humanity would have no more need of ingenuity or energy and intelligence, and these features would even become a liability to a peaceful society. Therefore, the absence of struggle would lead to the degeneration of the qualities they find most valuable in humanity. They may have been influenced in this idea by Ray Lankester's *Degeneration: a Chapter in Darwinism* (1875), which suggests that a life of ease and comfort can result, and has resulted in the cases of several species of parasites, in evolutionary regression, or diminishment, of the organism. Technology was a major factor in making life too easy for many and desperately monotonous and dreary for others, and all three authors address the dangers technology poses to evolution. But must humanity's struggle involve violence, as it does in nature? Writing before, during, and after World War I, these authors experienced violence as a real presence in their lives and, to variable degrees, expressed it in their writing. Violent destruction of the old so that the new could come into being was an idea that they all contemplated, but their violence took different forms. Wells opposed war in a general sense, but he described the coming Great War as a probable inevitability and, in *Anticipations of the Reaction of Mechanical and Scientific Progress upon Human Life and Thought* (1901), as an opportunity. He predicted that the new technologies of war

would unleash unparalleled devastation upon human armies, and he hoped that if war did come, the senseless waste would motivate the technicians of war—the efficiency-minded engineering class—to cease serving the will of the military and use the power of the technology at their disposal to strip the proprietor class of their monopolies and wealth, establishing a new Socialist world order in the process. Sinclair was more hopeful than Wells that this same change could be effected without bloodshed. His revolution would begin with the unification of victims of violent oppression, the masses of workers, directed by the educated and sympathetic wealthy who were no longer willing to live off of the suffering of others. The violence of his revolution would be mostly internal—the painful awakening of a selfless self-awareness in those with the strength to stand together for a cause greater than their own selfish interests. Similarly, Lawrence's violent revolution would also be internal, taking the form of the individual wrestling with and tearing down his own false realities. But unlike Sinclair, Lawrence's revolution would not be motivated by a selfless "greater good." Acting upon self-interest, his revolutionaries would withdraw themselves from society in non-violent protest against social and economic structures that require them to sacrifice their internal strivings toward individual honesty and balance. For all three writers, evolution begins with an altered perception of the forces at work within and without the individual that then translates into action, albeit different kinds of action. The desired effect of each method of revolution is basically the same: a future humanity unhindered in its constant pursuit of meaning and truth and wise enough to know that meaning and truth are always contingent and always changing. Even when the cultural and economic structures that are causing

humanity to stagnate and decline are swept away, by one means or another, the struggle for becoming (post)human goes on.

"Are we not men?" H.G. Wells and the Coevolution of Humans and Technology

H.G. Wells began his writing career by publishing scientific articles for a general, non-specialized readership. Steven McLean suggests in *The Early Fiction of H.G. Wells: Fantasies of Science* (2009) that Wells was tapping into a new market for science-writing aimed at a public that had recently become nearly universally literate thanks to the 1870 Educational Act.[1] McLean notes that the these journals in which Wells' early works were published often contained fiction and nonfiction together, and that Wells drew inspiration from them (3). Like Sinclair and Lawrence, Wells wrote both fiction and nonfiction throughout his life, and John Hammond argues that the very diversity of Wells' literary production has undermined his status as a great writer (8).

A lasting impression of H.G. Wells has been that he wrote without giving much thought to artistry. As John Hammond, Richard Hauer Costa, Robert Bloom, and others point out, Wells contributed to this impression of his work by claiming to have written in haste and without care. Some, like Robert Bloom, believe that the idea of Wells' "subordination of art" is more a misunderstanding of Wells' attitude than a reality of his work (9). At least some of his work was carefully crafted, as Hammond convincingly argues in *Wells and the Modern Novel* (1988). Hammond draws from Wells' correspondence and notebooks to prove that Wells rigorously reworked many of his pieces, sometimes over years, and wrote privately of his great belief in them. The claims he makes for his writing are a mixture of self-effacement, humor, sarcasm, and lofty ambition, so a critical appreciation of Wells' artistry based on his own account of himself is confusing at best. Writing when he did at a moment of transition from Victorian to

Modern, a moment when artists, literary and otherwise, were claiming for themselves and their craft a new paradigm, Wells' fell into disfavor. W. Warren Wagar explains in *H.G. Wells*: *Traversing Time* (2004) that "literary tastes underwent a vast transformation in the 1920s to which Wells could not adjust. Younger writers explored inner worlds. They were psychologists. Wells's macrocosmic imagination, however venturesome and unique in its own way, grew passé" (16). Wells' preference for rambling and didactic rather than unified and experiential form has led critics from his own time onward to perceive him as outdated and misguided. Wells' popularity and reputation suffered in the later years of his career and his work came under progressively more severe criticism. It is likely for this reason that much of the recent scholarship is overtly engaged in recuperating and celebrating Wells.

The resurgence of interest in Wells, beginning in the 1970s and continuing today, tends to justify his worthiness of serious scholarly interest based on the arguments that his work is experimental, complex, carefully crafted, and engaged in representing and responding to his changing times. For the most part, Wells scholars identify a career-long preoccupation with change, and many link this interest with his education in scientific method and an evolutionary worldview. His clashes with his contemporaries over defining what constitutes a novel and a novel's purpose have inspired a rich critical response as well. Classifying Wells' writing by period and genre is the focus of much recent Wellsian scholarship. Is he Victorian? Is he Modern? Is he a prescient postmodernist or posthumanist? For instance, John Hammond sees him as a transitional figure between Victorian and Modern, arguing that while Wells' works are generally thought to be in a "totally different category to those of Lawrence, Conrad, and Joyce,"

this distinction is based upon a "a superficial reading of his work" and that the "consciously experimental" Wells actually "has more affinity with the modernists than the realists" (4, 5, 7). William J. Scheick claims in *The Splintering Frame: the later fiction of H.G. Wells* (1984) to see more similarity with Woolf and Conrad than difference (16), and W. Warren Wagar agrees with Sylvia Hardy that Wells is a "forerunner of postmodernist fiction […] by his choice of narrative strategies, by his self-referential intrusions into his own storytelling, by his insistence that all fiction must be plastic and experimental, and by his implicit questioning of the final truth of all 'metanarratives'" (225). These efforts to identify Wells' literary techniques and to position them within the larger matrices of his literary and cultural milieu can provide useful insights, particularly about the interrelationship among literature, technology, science, and culture. My approach to Wells in this chapter is to unite the critical interests in his artistic production, evolutionary beliefs, and attitudes toward technology to show how they all intersect and reveal a complex and ambivalent exploration of human essence and potential.

Born in 1866, Herbert George Wells experienced first hand the dramatic and pervasive impacts of technology, scientific discovery, and the social upheaval they effected. As George Levine says, "Science, particularly through technology, was visibly reshaping Victorian life" (3), and in *An Experiment in Autobiography* (1934) Wells details how these changes transformed his worldview from one that was hierarchical and static to one that was fluid and changeable. He began, under his mother's religious teachings, with the belief that the world would soon end with Armageddon. "To talk about the Man of the Year Million," he writes, "was of course in the face of this great

conviction a whimsical play of fancy. The Year Million was just as impossible, just as gaily nonsensical as fairly-land" (6).[2] His educational foundation in science, particularly the evolutionary biology that he learned under T.H. Huxley, altered that vision to one of an "endless vista of years ahead, that was tremendous—that terrified" and gave him a backward perspective that was equally disturbing:

> All this scheme of things, life, force, destiny […] has developed out of such strange weird shapes and incredible first intentions, out of gaseous nebulæ, carboniferous swamps, saurian giantry and arboreal apes (7).

In either direction of history he saw an arbitrary and violent shaping of species, but as John Robert Reed notes, evolution for Wells held not only "grim implications for man" but also "the only real hope for mankind" (3). Evolution might take gruesome and grotesque turns, but far worse, in Wells' mind and also in D.H. Lawrence's, would be a never-changing state of stagnation and sameness. He believed in a mutual influence between external environments and human creativity, each altering the other in ways that are both terrifying and thrilling. Wells' writing engages this relationship head on with considerably more contemplation of the dangers that beset human evolution than either of the other authors do, particularly in terms of the potential effects of both passivity and hubris in humanity's relationship with its environment and its own evolution. He warns his readers that if we do not take the time to carefully study the mechanisms of human social and physical evolution, if we do not then make a conscious decision about what we are and want to be, and if we act impulsively or upon false principles, the consequences will be monstrous and deadly.

Wells' objection to conformity was supported by his belief that a new age was beginning and that established structures were tumbling down—and rightfully so—under the press of modernizing forces. Richard Hauer Costa notes that Wells' "revolution against debilitating social and political structures" of "Victorian obsolescence" paralleled if not informed his attitude toward literary craft (82), and Lovat Dickson suggests that Wells' working-class background may be seen as a major factor in his clash with Henry James over the shape and purpose of literary art (241).[3] But his class feelings, like those of D.H. Lawrence, were only one manifestation of the larger evolutionary principle in his writing and his attitude toward literary institutions. As he explains in a letter to Henry James in 1912, Wells' refusal to join the Academic Committee of the Royal Society of Literature (comprised at the time of such members as Thomas Hardy, John Galsworthy, George Bernard Shaw, Henry James, and Joseph Conrad) was prompted by "an insurmountable objection to Literary or Artistic Academies as such, to any hierarchies, any suggestion of controls or fixed standards in these things" and that artistic production, which he calls a "world of creative and representative work," should be left "anarchic" (qtd. in Hammond, *H.G. Wells and the Modern Novel* 31). While this call for anarchy is largely hyperbolic, art for Wells must be responsive to evolutionary forces and in conversation with conditions on the ground at the time of writing. Like Lawrence and Sinclair, he believed that literature could change the world by imagining and inspiring a better way of being human and of evolving beyond being human.

Many scholars note an overall progression in Wells' literary thought from ambivalence to certainty and didacticism. This trend does generally hold true, at least on the surface. In his early speculative fiction, such as *The Time* Machine (1895) and *The*

Island of Doctor Moreau (1896), Wells tends to engage in open exploration with inconclusive results whereas by the time he published *A Modern Utopia* in 1905, he was professing the belief that he had found the "key" to establishing a great human destiny. As this chapter will show, however, Wells remained ambivalent throughout his writing career just as his underlying ambitions and purpose remained consistent: to expand our perception of space and time, destabilize "reality," and encourage creative, dynamic thinking.[4] These criteria, by their volatile nature, must leave open the possibility for both progress and degeneration.

The function of literature should be, according to Wells, to anticipate and interrogate the moral and social impacts of current conditions and, in his post-Darwinian industrial era, to present and enact a new kind of instability. In *A Modern Utopia*, Wells' narrator explicitly implicates Darwin in the shift from "static" to "kinetic" worldviews and argues that literature, specifically Utopian literature, should (or already does) reflect this change:

> Utopias men planned before Darwin […] were all perfect and static States, a balance of happiness won for ever against the forces of unrest and disorder that inhere in things [….] But the Modern Utopia must be not static but kinetic, must shape not as a permanent state but as a hopeful stage, leading to a long ascent of stages (16).

This need to be kinetic also extends to his vision of literature more generally. Even his earliest fiction explores the possibilities of a "long ascent of stages," albeit in ambiguous and even dystopian directions. Wells' speculations about the future of science and technology frequently warn and coax humanity away from class divisions and capitalist

greed by imagining the long-term consequences of these social features on the future of our evolving species.

Much like Lawrence, Wells crafted his fiction to engage the reader in the cognitive exercises he believed necessary for the success of humanity as a species. Both authors' writing invites the reader into their own struggles and failures to organize human destiny and pin meaning down, forcing the reader to think independently, whereas Sinclair tends to guide the reader to a forgone conclusion. Wells subverts the novel's tendency to establish order by blurring the boundaries between the human and the animal and between the human and technology, requiring the reader to continually adapt or at least to confront the inadequacy of received definitions of the human. Even in his nonfiction and autobiography, Wells defies limits and easy definitions, always treading an unstable path between order and chaos.[5] His experimental approach has led critics, and (Wells presumes) some readers, to struggle and ultimately fail to determine the author's attitude and the story's moral.[6] In frustrating his reader, Wells is teaching flexibility and adaptability. The precarious dancing between movement and balance prevents stagnation and promotes creative thinking, preparing his readers to confront life more actively and dynamically beyond the pages of his books.

The unsettled narratives not only encourage active reading and the rethinking of what makes us human, but they ask readers to apply this dynamic thinking to imagining the future, to thinking about cause and effect within evolutionary time frames. Patrick Parrinder writes in *Shadows of the Future: H.G. Wells, Science Fiction, and Prophesy* (1995) that Wells was less interested in "Work, Art, Culture, Socialism, Sex, Self-Liberation, or even Science" than he was with "the literal revelation of future events,"

and this statement seems true to an extent, as Wells' comment that he is "curiously not interested in things, and curiously interested in the consequences of things" shows ("Future in America" 3). But Wells also claimed that unlike Jules Verne, his scientific romances are not predictive but speculative.[7] He is very much interested in the shaping power of "Work, Art, Culture, Socialism, Sex, Self-Liberation, or even Science" and the different directions they might take us if left alone or if designed with a particular outcome in mind. Wells explains in *A Modern Utopia* that his goal was to maintain a realistic understanding of human nature and possibility but to have an expanded, imaginative scope of conditions within which future humanity could either progress or degenerate. He called his fiction "scientific romances" and "fantastic narratives" to account for this creative license.[8] Wells battled his critics over the necessity of realism in his scientific romances. At times, he freely owned the impossibility of some of his creations, and at other times he invoked documented scientific cases to defend them.[9] Whether or not Wells' visions are possible, John Huntington argues that the power of science fiction is that it "exercises the reader's imagination by breaking down old assumptions and habits of seeing and by offering new possibilities [and] opens the way for true innovation and change" (x). Wells' works teach modes of thinking rather than facts, as William J. Scheick suggests, and in this way, too, he is similar to Lawrence.[10] In fact, Wells, Lawrence, and Sinclair all used their narratives to enact a thought process. In Sinclair's case, the process is generally linear and shaped by observable or explainable cause and effect.[11] The narratives of Wells and Lawrence provide a less reliable trajectory and often more questions and problems than answers and solutions. However they do provide, or hope they provide, the necessary methodology for grappling productively

with these questions and problems. For Wells, true dynamic learning is trained through interacting with good literature, as it is for Lawrence, but also through interacting with technology.

In *Anticipations of the Reaction of Mechanical and Scientific Progress Upon Human Life and Thought* (1902) and later in *A Modern Utopia* (1905), Wells claims that science and technology impact the shape of fiction, and he identifies a "correlation" between the rise of modern technology and a new literary form (*Anticipations* 70). Beatrice Monaco points out in *Machinic Modernism* (2008) that writers in the modern period were becoming aware of technique as a set of "mechanic" tools that could be used experimentally to create new forms and effects. Monaco's study focuses on Woolf, Joyce, and Lawrence, but in some ways Wells would not be out of place in such innovative and experimental company. As Wagar observes, Wells "borrowed some […] techniques and invented some of his own to represent and transcend and revolutionize the world as he saw it" (225). In the "Note to the Reader" at the start of *A Modern Utopia*, Wells gives the reader a look behind the curtain at some of his literary tools and their functions as he narrates his search for the perfect genre of writing to meet his pedagogical requirements. The essay form is too bound to factual, linear logic while the fictional narrative sacrifices seriousness by "pandering" to readers' "vulgar appetite for stark stories," Wells explains (4-5). Scheick explains that Wells was wary of ideology embedded within fictional conventions and "the degree to which they reflect and perpetuate delimiting social illusions" (16), which is a concern Wells shared with both Sinclair and Lawrence. For Wells' dynamic, post-Darwinian utopia, he settled on a "hybrid" form of narrative and lecture, which is similar to the form Sinclair and

Lawrence most often settled on as well (although Lawrence often masks his lectures in the form of characters' dialogues or internal monologues). The narrative form can make instruction more palatable to readers by engaging their feelings as well as their intellect. Indeed, Wells, Sinclair, and Lawrence believed that imaginative and emotional engagement in a story is itself instructional.

The role that characters play in furthering these narrative goals depends upon larger evolutionary aims and conceptions. Sinclair and Wells privileged species over individual, and their characters tend to be representative of and secondary to evolutionary processes at work in the narratives. Lawrence believed the individual *was* the greatest evolutionary concern, and his attention to the inner life of characters greatly exceeded that of the other two authors. Wells did acknowledge that some character development was necessary since the vagaries of human temperament form significant variables in any realistic imagining of possible futures for humanity, as he suggests in both *Anticipations* and *A Modern Utopia*, but too much focus on individual lives threatens the true purpose of his novels. He presents this problem humorously in *A Modern Utopia* by having his narrator observe at a critical moment, "It is a curiously human thing, and, upon my honour, not one I had designed, that […] when my whole being should be taken up with speculative wonder, this man [the botanist] should be standing by my side, and lugging my attention persistently towards himself, towards his limited futile self" (62). This critique seems to be aimed at Lawrence and his contemporaries, showing how an emphasis on individuals and psychology can diminish the potentiality of fiction's power to ignite the imagination in socially useful ways. Lawrence accuses Wells of having no "life" in his work, probably because of their different ideas about the purpose of character

development.[12] But in their various ways, Wells, Sinclair, and Lawrence all used characters to problematize our definitions of human by using what Ralph R. Acampora calls "symphsis," which is a bodily recognition of commonality or truth, otherwise called empathetic response. Thinking and acting as a unified species is a necessary and troublesome idea for all three authors, and they all attempt to forge a bond first through this shared bodily experience and then through logic and reason, with varying degrees of conviction and success. Lawrence is perhaps the most upfront about his difficulties embracing humanity en mass and Sinclair the least. In my project, I often position Wells between Sinclair and Lawrence, as he has much in common with the politics and ideals of Sinclair and more of the cynicism and experimentalism of Lawrence, but I have found that all three authors defy easy categorization and raise similar questions in different ways.

This chapter is divided into three main sections. The first section discusses the human animal and the importance of evolving and degenerating minds and bodies in Wells' work. I engage Wells' preoccupation with ideas of atavism, embodied empathy, predation, sex, and natural selection in his speculations about the future impact of social trends and political systems. The second section on technology argues that Wells believed that technology participates in human evolution, and the chapter looks at some of his evidence for co-evolution, his recurring speculations about how technology may affect humanity in the future, and his suggestions about how we should harness the potential of technology to advance the human species. In the final section, I explore Wells' ideas about war and revolution and his hopes and fears about the outcomes of his evolutionary project.

The Human Animal

Wells tests and blurs the boundary between animals and humans in many of his works but most directly and obviously in *The Island of Doctor Moreau* (1896). Throughout the novel, he slowly destabilizes the categories of human and animal to the point where the two cease to have any clear meaning and instead illustrate the fluidity of species evolution and degeneration. *The Island of Doctor Moreau* also establishes the importance of predators and prey as distinct and signifying roles within the matrix of evolution, raising questions that all three authors contemplate about the function of blood lust, cruelty, and violence in the making of men.

Wells frequently plays upon cultural anxieties about species fluidity, producing an overall more threatening idea of the "animal within" than either of the other authors. And yet resistance to or denial of the inner beast he also presents as destructive, as the character of Edward Prendick shows. From the moment that Prendick comes into contact with Doctor Moreau's creatures, he begins his desperate struggle to articulate a difference between "man" and "beast." These struggles are fraught with anxiety and urgency in part because of the violence of Doctor Moreau's experiments but more, I argue, because the collapsing distinction reveals to him the precariousness of human subjectivity. Prendick's terror of degeneration is also a fear of language's inability to fully categorize and stabilize meaning.

Initially Prendick senses something disturbing about the dark being on the boat with eyes that reflect fire, and something not-quite-right about the other folk he sees on the island, but he is unable to define the source of this oddness. He feels "two inconsistent and conflicting impressions of utter strangeness and yet of the strangest familiarity" as he looks upon these beings that are "human in shape, and yet human beings with the strangest air about them of some familiar animal." Wells repetition of the word "familiar" interestingly aligns itself with the animal rather than the human quality, just as Prendick is able to identify "the unmistakable mark of the beast" while he seems unable to locate any unmistakable mark of humanity (100). His inability to define what is inhuman about these creatures turns out also to be an inability to articulate what makes humans human. The "human form" and "rag of clothing" are all he offers the reader by way of identifying the human qualities in the creatures. In the subsequent scene where the Thing (which we later know as the Leopard-Man) is hunting him, Prendick speculates, "It was no animal, for it stood erect" (103). But not only does the Thing then give chase upon all fours, several pages later Wells again undermines that definition by having human-representative Prendick fall out of his hammock and land "upon all-fours." He lands in an animal stance, and he is also motivated into that stance by animal urges: he is drawn from the hammock by hunger ("I perceived that I was hungry") and falls in his eagerness to reach the food that, when consumed, "contributed to the sense of *animal* comfort which I experienced" (106, emphasis added).

The confusion over animal and beast continues as Prendick, upon hearing the puma's screams turn human, convinces himself that Moreau has vivisected people to create the Beast Folk and that he himself might be next: "I had been trying to link in my

mind some way the grotesque animalism of the islanders with his abominations; and now I thought I saw it all. These creatures I had seen were the victims of some hideous experiment" and this line of reasoning leads him to assume that Moreau and Montgomery would soon "fall upon me with a fate more horrible than death—with torture; and after torture the most hideous degradation it was possible to conceive—to send me off a lost soul, a beast, to the rest of their Comus rout" (108).[13] Moreau successfully convinces Prendick that the puma and the rest of the Beast People were originally animals, not humans, and that Prendick need not fear for himself, but this solace is both short-lived and inadequate. When the only defensive boundary between civilization and the jungle burns to the ground and the two other humans on the island die, the helpless Prendick must join the gradually reverting creatures in their caves, sharing their food and living by their Law as they slowly lose their ability to speak or follow those laws. When at last a boat washes ashore to carry him back to civilization, Prendick discovers that "civilization" is no longer a reality, much less a comfort. When Prendick returns to civilization, he becomes a recluse and remains alienated and isolated from the rest of humanity. Wells is known to have been influenced by Swift, and here he offers us a variation on the end of *Gulliver's Travels*. Gulliver returns home from his time with the Houyhnhnms to find that, by comparison, humans are foul and closer to the filthy Yahoos than the perfect Houyhnhnms. Like Prendick, he is repulsed by people's proximity to lower life forms. The significant difference is that Gulliver's alienation is due entirely to a change in perspective. He has seen what he perceives as higher beings and so from his new vantage point he recognizes the shortcomings in humans. The Houyhnhnms and humans remain separate entities, one higher and one lower. For Prendick, on the other

hand, the difference between species has destabilized in a more fundamental way. As Michael Parish Lee argues, "The Beast Folk do not so much occupy a liminal space between human and animal as embody the ambiguity and slippage that precludes a clear distinction between 'human' and 'animal' categories in the first place" (261). And Prendick's anxiety is founded not only on the ambiguity between animals and humans but on the "plasticity," as Moreau would say, of both. Prendick has watched the Beast Folk gradually return to a state of animality, and he now sees that same potential in human beings. Prendick reflects that

> unnatural as it seems, with my return to mankind came, instead of that confidence and sympathy I had expected, a strange enhancement of the uncertainty and dread I had experienced during my stay upon the island [...]. I could not persuade myself that the men and women I met were not also another Beast People, animals half wrought into the outward image of human souls, and that they would presently begin to revert, to show first this bestial mark and then that (72).

The categorical difference between animal and human is forever undone for Prendick because, in his post-Darwinian reality, humans *are* animals and his experience has taught him to see atavism as an ever-present possibility, perhaps an inevitability, without Moreau's guiding knife. Nevertheless, he resists his own insight and insists that he

> know[s] this [animality] is an illusion; that these seeming men and women about me are indeed men and women, men and women for ever, perfectly reasonable creatures, full of human desires and tender solicitude, emancipated from instinct and the slaves of no fantastic Law—beings altogether different from the Beast Folk (173).

This emphatic statement of fundamental distinction is, of course, founded upon an illusion. Every "human" quality Prendick identifies in this passage has been systematically undermined throughout the narrative. We have seen humans behave irrationally (particularly Prendick himself), cruelly (Moreau, the captain of the *Ipecacuanha,* and Montgomery), and instinctively (Prendick again). Of all the characters introduced in the story, only the Dog-man shows "tender solicitude." The Law's obvious play upon the Old Testament's Ten Commandments also undercuts Prendick's assertion that humanity worships no Law. In a parallel scene earlier in the story, Prendick surveys a gathering of Beast People and feels a "strange persuasion [...] that, save for the grossness of the line, the grotesqueness of the forms, I had here before me the whole balance of human life in miniature, the whole interplay of instinct, reason, and fate in its simplest form" (145). And in the end, struggling against his "delusion" of kinship, Prendick recognizes with horror the similarity between the Ape-man's "big thinks" and human preachers' "gibbered" sermons. He describes the predatory prostitutes as "prowling" and "mewing" and the "pale workers [...] like wounded deer" (173). These figures, particularly the pale workers, populate the novels of Sinclair and Lawrence as well, but while sad and sometimes revolting or despicable to the characters in their works, the animal-man does not cause terror or threaten to overthrow reason. Sinclair attempts to cast both predatory and predated humanity as victims of a monstrous system and Lawrence often embraces the inner animal for its natural honesty and undistorted urges. Wells' terror of atavism serves a dramatic purpose, of course, but exactly what about human animality threatens Prendick is not clear. I will further address this problem later on, but it may help first to turn to a brief moment in the middle of the novel when

the distinction between man and beast breaks down in a positive "empathetic association"[14] between Prendick and the Leopard-man.

At the beginning and the end of *The Island of Doctor Moreau*, Prendick recoils from the Beast People and their challenge to his definition of human, but at a pivotal juncture in the story he acknowledges the Leopard-man's kinship. Doctor Moreau, having found the Leopard-man guilty of eating flesh, condemns the creature to further pain and vivisection and sends the whole of the human and quasi-human population out to capture him. Prendick is now hunting the Leopard-man, reversing their earlier predator-prey dynamic, and in the moment of successful capture he identifies with the "Thing" in its terror: "It may seem a strange contradiction in me—I cannot explain the fact—but now, seeing the creature there in a perfectly animal attitude, with the light gleaming it is eyes and its imperfectly human face distorted with terror, I realised again the fact of its humanity" (144). Philosopher Jeremy Bentham famously argued that we should base the rights of animals not on whether they can talk or reason but whether they can suffer, and the shared ability to suffer fear and pain is here what causes Prendick to identify with the Leopard-man and act out of (what he at least thinks is) kindness to the other being. Prendick empathizes with the Leopard-man's terror because Prendick has recently experienced the same bodily threat both from the Leopard-man's hunt and from Moreau's vivisecting. Prendick calls this identification "human," but the fear of pain is a sensation that Moreau has declared to be fully animal. As he earlier proclaimed to Prendick, "So long as visible or audible pain turns you sick; so long as your own pains drive you; so long as pain underlies your propositions about sin—so long, I tell you, you are an animal, thinking a little less obscurely what an animal feels" (126). Moreau

considers pain, and indeed all feeling and emotion, to be vestigial "goads" necessary to correct behavior in the absence of intelligence. As humans evolve greater intelligence, such stimuli will become unnecessary (127). Reason distinguishes the human while physical sensations define the animal. Prendick, on the other hand, identifies the Leopard-man's pain as a defining feature of the creature's humanity. Wells puts these two opposing attitudes toward pain in conversation to explore the function of bodies and embodiment in making humans.

Like Lawrence's Clifford Chatterley, Doctor Moreau argues that the mind or intellect is what makes humanity superior to other life forms and that further evolution will increase the importance of mind and decrease the importance of the body. And like Connie Chatterley, Prendick *feels* that this attitude is wrong and harmful. In his moment of compassion for the Leopard-man, Prendick recognizes that animal and human are both embodied beings and necessarily so. This realization occurs in the writings of all three authors in this dissertation, and it is a profoundly important element of their revolutionary designs upon human evolution and their resistance to traditional humanist ideas. Sinclair claims in *The Book of Life* that bodily discomfort drives human innovation and adaptation and suggests, as Wells does in *The Time Machine,* that perfect bodily comfort may initiate mental as well as physical degeneration. Lawrence claims particularly vividly in *Lady Chatterley's Lover* that bodily sensations access truths about the world that the mind cannot perceive. Wells comes closest to Lawrence's understanding of bodily intelligence here in *The Island of Doctor Moreau*. Prendick's connection to the Leopard-man is what Ralph R. Acampora in *Corporal Compassion: Animal Ethics and Philosophy of Body* (2006) calls "symphysical," an empathetic response based not on logical

reasoning but upon a shared "sensorial type of ethical experience." Acampora explains that wincing at the sight of a suffering animal is a spontaneous reaction that originates in the body with no preliminary "cogitation." Imaginatively relating to another by projecting one's feelings onto it perpetuates a subject-object relation that denies or at least fails to prove that the object experiences the same sensation. Symphysis, on the other hand, is a "bioethics of bodiment" in which "somatologies of 'genus-being' (fellow-feeling with other species) can phenomenologically articulate its actual experience" (76). Acampora faults Western humanist philosophy for the idea that humans are in an "abstract, retro-Cartesian position of species solipsism where our minds seem to just float in a rarified space of pure spectatorship apart from all ecological enmeshment and social connection with other organisms and persons, wondering, as it were, if 'there's anybody out there.'" He condemns this "portrait" as a "psychological malady or hyperintellectual pretense (or both)" (4-5). The "I" of humanism isolates itself from other beings and creates a subject-object relationship in which sympathy is a projection of one's feelings onto a passive other. Instead, Acampora offers an ethical relationship that rejects the idea of an isolated self for one that is "always already caught up in the experience of being a live body thoroughly involved in a plethora of ecological and social interrelationships with other living bodies and people" (5). This "bodiment ethos of interanimality" is achieved by "becoming sensitive to an already constituted 'inter-zone' of somaesthetic conviviality" (84). In other words, human and animal bodies have a fundamentally shared experience of living and our bodies respond spontaneously with ethical sympathy, as Prendick's does with the Leopard-man. Whether this relationship can be reversed or whether it extends to all life forms or just those with similar nervous systems and pain receptors is unclear. But

the challenge that Acampora's theory of symphysis offers to humanist individualism resonates with Wells' belief in evolutionary mutability as well as with Prendick's empathy for the Leopard-man. The cruelty that Acampora addresses and the somatic morality as a check to it are of particular important to Wells, too, especially when addressing the dangers associated with technology. Wells returns to this problem in *War of the Worlds* (1898), and I will address the machine aspect of it in relation to this text in the next section.

Wells is a master of suspense, particularly in the moments when his characters are running from hungry predators. The edible man or man-as-prey is a figure that Wells contemplates in *The Time Machine*, *The Island of Doctor Moreau*, and *The War of the Worlds*. The human's fear of being eaten is a fear not only of being killed but also of being dehumanized in the sense of losing one's subjectivity, one's position as *Dasein*. In this way, the terror of being hunted is the same as the fear of humanity's atavistic degeneration as a species. In both cases, a meaningful life of volition, order, and control is fundamentally threatened by the symbolic power of meat. Peter Kemp observes, "In both *The Time Machine* (1895) and *The Island of Doctor Moreau* (1896), there is a particularly creepy moment when a character, hunted by carnivores, hears the blood-vessels throbbing in his ears, and so catches, as it were, the sound of his own substance, what the predators are closing in to eat" (4). The predator threatens to turn the human into meat, or more frightening still, threatens to *reveal* the human to be reducible to meat. Eating is therefore inescapably a matter of power over another being, the power to redefine and consume that being and convert its energy into your own. It is no wonder, then, that Wells, Sinclair, and, although less frequently, Lawrence were drawn to the

language of predators, prey, and eating in their revolutionary political writing and also in their efforts to reimagine the human species in relation to animals and machines. While the body is essential to the preservation of human values and evolutionary adaptability, it is also a liability when it comes time to eat.

In *The Island of Doctor Moreau*, the "taste of blood" is the trigger for the Beast People's regression into savagery (138). Of all the articles of the Law, "Not to eat Flesh or Fish; *that* is the Law" seems the most important (114). It is the violation of this law that precipitates the Leopard-man's demise and the ensuing general breakdown of order. Meat-eating brings out the predatory nature in the Beast People and makes them a danger to themselves and to the few humans who preside over them. Predation destroys the bonds of fellowship and results in the collapse of civil society and the regression from humanoid beings to animals once more. The result of their blood lust is the loss of language and of control over their instincts and impulses. By returning to the system by which living beings may be consumed as meat, the Beast folk have effectively re-inscribed the subject-object dichotomy that returns them to objectified animal "its." But it is not only the Beast People whose humanity is threatened by the signifying power of meat. Indeed, the novel opens with an account of a shipwreck and the oblique but obvious discussion of cannibalism amongst the three survivors. The status of human subject is shown to be entirely dependent upon circumstance in this framing story as well as in the degeneration of Moreau's creatures. I believe that it is this ability to move from subject to object that has fundamentally disturbed Prendick and alienated him from humanity. He clings to the illusion of distinction so as to maintain the idea of an unassailable subject position both in his refusal to draw straws in the boat and in his

adamant claim that humans are humans forever. Even in his moment with the Leopard-man, Prendick must call their shared bodily sensations and expressions *human* rather than animal because *animal* is not defined as a sentient being in Western culture. Prendick himself has frequently referred to the Leopard-man as "it." *Human* is the only word that Prendick has for *subject*, Heidegger's *Dasein*, and that is why it is vitally important for Prendick to retain it as a category. Without the idea of human, there can be no ethics, no reason, no community, no meaningful life.

In "Reading Meat in H.G. Wells" (2010), Michael Parrish Lee offers an insightful look at the significance of eating in Wells' works with a particular emphasis on meat eating. Lee notes that in the late nineteenth century, "[t]here was a new shift and meaning to choosing a vegetarian lifestyle" which Lee believes "marks a growing concern about the cannibalistic implications of meat eating after the popularization of evolutionary theory" (251). He cites Abel Andrews's *Vegetarianism and Evolution* (1887) in which Andrews "describes meat-eating as a remainder from an earlier, cannibalistic stage of evolution 'when mankind were all savages'" and argues that" '[e]volutuion and education have done much to subdue the animal and develop the human. Vegetarianism shall complete the process' (qtd. in Lee 262). Moreau seems to adhere to this view of meat-eating. He helps Montgomery release rabbits onto the island, but he implies that they are for Montgomery's consumption alone with the later statement, "'I wish, Montgomery, you had kept your taste for meat in hand, and gone without these exciting novelties.'" And Montgomery replies, "But the thing's done now; and you said I might have them, you know" (139). Moreau may not literally eat meat, but his pursuit of knowledge through flesh is another form of consumption. Jacques Derrida suggests such a possibility

with his intriguing questions, "In what respect is the question, if you will, carnivorous?" ("Eating Well" 115). Lee convincingly argues that Wells contemplated this "carnivorous" aspect of curiosity in both *The Island of Doctor Moreau* and in *The Time Machine*. He suggests that Moreau's "'hunger' for knowledge" and for self-discovery through vivisection is a "quasi-sublimated version of...cannibalistic hunger" and another way of turning the animals into meat (Lee notes the similarities between the mangled rabbit attacked by the Leopard-man and Moreau's bleeding and lacerated puma) (263). And in *The Time Machine,* Lee explains that the "horror of the Traveller's vulnerability consists of his being at once knowable and edible […] the separation between these two terms (studying and eating) breaks down" (256). Lee sees Wells associating both scientific and colonial curiosity with hunger and assimilation.

Situating both *The Time Machine* and *The Island of Doctor Moreau* within a Darwinian context, Lee argues that meat-eating becomes cannibalistic when we understand animals and humans as belonging to the same evolutionary family. Wells brings cannibalism directly into *The Time Machine* (one of the two branches of humanity eats the other) and in *Moreau* (the three starving shipwrecked men), and he gives the suggestion of cannibalism in *War of the Worlds* (the Martians eat humans; humans will possibly evolve to be like the Martians). But Wells also positions meat-eating as way of recovering vitality, humanity, and "manhood." Prendick says that "[h]unger and a lack of blood-corpuscles take all the manhood from a man" (*The Island of Doctor Moreau* 86). The return of strength, health, and mental control—the Wellsian markers of manhood—appear to be best achieved by eating meat. Prendick also drinks something that seems like—and may be—blood, which makes him "feel stronger" (76). Lee observes that both

Prendick and the Time Traveler recover from their respective close-calls with being eaten by in turn eating mutton, but Lee fails to recognize the importance of specifically *manly* vitality that eating meat entails in Wells. The connection between masculinity and eating meat is in fact a cultural phenomenon that Jacques Derrida calls "carno-phallogocentrism." Carol J. Adams similarly argues, "People with power have always eaten meat. […]. Dietary habits proclaim class distinctions, but they proclaim patriarchal distinctions as well. Women, second-class citizens, are more likely to eat what are considered to be second-class foods in a patriarchal culture: vegetables, fruits, and grains rather than meat. The sexism in meat eating recapitulates the class distinctions with an added twist: a mythology permeates all classes that meat is a masculine food and meat eating a male activity" (26). Adams postulates that meat as "a symbol and celebration of male dominance" may have originated with hunter-gatherer tribal cultures where men did most of the hunting. "Meat was a valuable economic commodity," she explains, and "those who controlled this commodity achieved power. If men were the hunters, then the control of this economic resource was in their hands" (34). But eating meat creates a power hierarchy more fundamental in that it enables the consumer to turn another living being into an "absent referent," as Adams argues or "standing reserve" in Heidegger's terminology. Eating meat inscribes the symbolic break between human and animal (except in the case of cannibalism, perhaps) that Derrida, Adams, and others argue leads directly to patriarchal oppression and many forms of denigrating violence. Seen in this way Wells' carnivorous masculinity, whether overtly predatory or not, contributes to his characters' willingness to put the weak and silly "mercifully" to death and to his own willingness to have devastating war trigger the new world order, to leave women as

second-class citizens, and to enforce controlled reproduction of the human species, which are topics I will return to at the end of the chapter.

When the curate cowers before him, the narrator of *War of the Worlds* reprimands him with the words, "Be a man!" And the chorus of the Beast people's chant is, "Are we not men?" in *The Island of Doctor Moreau*. Manliness, and the loss of it, was a central preoccupation of Max Nordau's influential *Degeneration* (1895, English translation) and deteriorating manliness was a widespread concern for British (and American) culture at the turn of the century. Brian Baker suggests that the theme of masculine degeneration was tied to the decline of England's imperial power: "the country was no longer breeding 'sons fit for the Empire'[...] a series of reports on the dwellers of Britain's urban centers seemed to suggest that they were becoming weaker, less physically developed, and more prey to 'vice'" ("Darwin's Gothic" 205). Along with Ray Lankester, Max Nordau, and Francis Galton, Wells understood masculine (and feminine) "fitness" as a determining factor of species evolution.

What makes a predator dangerous is, according to Moreau and to some extent Wells, also what makes it more human. Predators, the meat-eaters, have a certain traits of masculine virility, including strength, intelligence, and aggression. Several of Wells' characters embrace the symbolic power of the predator as a model for human society, and Wells appears to have mixed feelings about it himself. The predator is not the evil that it is for Sinclair or the symptom of failure that it is for Lawrence, but the anti-social tendencies he attaches to it are problematic for Wells also. Whatever their feelings toward predators, all three authors look down on sheep and their human counterparts. Sheep do not have what it takes to command their own destiny, and so they cannot be the saviors of

the human race and can only get in the way of future evolution. Where the authors disagree is on what to do with the sheep that we have. When Moreau brings Prendick into his inner laboratory to explain his vivisections, he tells Prendick why his attempts to make a man out of a sheep had failed: "animals without courage, these fear-haunted, pain-driven things, without a spark of pugnacious energy to face torment—they are no good for man-making" (128). His current project a (female) puma, gives him hope. The intelligence, the energy, and the aggression of a beast of prey will potentially make a better human.

The Martians' apocalyptic destruction of human civilization in *War of the Worlds* performs a similar selection for non-sheepish, "manly" humans by rounding up the weak while the resourceful and self-controlled individuals evade capture. The stress of being hunted causes the curate to degenerate into a madness that the narrator equates with animality: "this new and culminating atrocity had robbed him of all vestiges of reason or forethought. Practically he had already sunk to the level of an animal. But, as the saying goes, I gripped myself with both hands" (149). The artilleryman is, or at least presents himself as, the curate's opposite. "'[M]en like me are going on living—for the sake of the breed,'" he declares, "'We aren't going to be exterminated. And I don't mean to be caught either, and tamed and fattened and bred like a thundering ox.'" The narrator's response to this pronouncement is to exclaim, "'Great God! [...] But you are a man indeed!'" (171), which directly contrasts his earlier shout of "'Be a man!'" to the curate. Like Moreau's sheep, the curate is "fear-haunted" and "pain-driven" (Moreau's words). The curate undermines his own chance of survival by losing all self-control and making

enough noise to send a Martian tentacle to search him out and presumably make a meal of him.

The sheep of humanity are also aligned in contradictory ways with class divisions in Wells. For Wells, Sinclair, and Lawrence, the mass of humanity tends to be sheep. In Wells' narratives, the sheep are both the masses *and* the elite. Only the middle classes, he suggests, have the drive and ability to be human or more-than-human. The middle classes, therefore, must take charge of human society and human evolution, but there are risks of them devolving into cannibalistic predators of the other classes in the process. In *When the Sleeper Wakes* (1899), Ostrog represents this danger in vivid predatory language when he scoffs at Graham's desire to empower the poor: "'you would emancipate the silly brainless workers that we have enslaved [j]ust as they have sunk to what they are fit for […]. So long as there are sheep Nature will insist on beasts of prey'" (239). Ostrog's argument is that humanity is subject to the laws of survival-of-the-fittest, and by that account, the humans who more closely resemble predators will naturally dominate and perhaps eliminate those who resemble sheep. The artilleryman of *The War of the Worlds* makes a similar argument. The artilleryman believes that the weak and fearful members of humanity will gladly become the Martians' cattle and pets and eventually "'wonder what people did before there were Martians to take care of them'" (172). Meanwhile, the real men—and women—will live underground and prepare for rebellion. The artilleryman figures himself as the future of humanity, proudly proclaiming himself a "'wild beast'" who refuses to be "tamed and fattened and bred" by the Martians (171). While the artilleryman is not a direct predator of sheep, he implies that the Martians are doing him and his kind a service in eating up the rest. "'Life is real

again,'" the artilleryman says, "'and the useless and cumbersome and mischievous have to die'" (174). In order to breed a superior human species, some mechanism of selection is necessary, and Wells is not afraid to imagine violent ones.

Both Wells and Sinclair apply Darwinian evolutionary principles to human social systems (a move Darwin himself did not make), but they articulate different versions of evolutionary narratives. The artilleryman's idea of weeding out the weak and inadaptable aligns with the social Darwinism of Herbert Spencer whereas Sinclair argues that inclusive social units have cooperative advantages that make them more fit than competitive individualism. Sinclair suggests that cooperative species represent a more advanced evolutionary niche than either predator or prey functions, and Wells would agree to a point. The bonds of sympathy and brotherhood that elevate Sinclair's humanity are important to Wells, too, but Wells leaves portions of humanity intentionally and maybe sometimes inadvertently out of that brotherhood and condemns them to death.[15] Michel Foucault addresses the evolutionary logic of putting the undesirables to death in *Society Must Be Defended* (1975-6). He explains how the idea of biological fitness breeds "biological racism" and justifies biopolitical systems that condone killing for "the elimination of the biological threat to and the improvement of the species or race":

> The more inferior species die out, the more abnormal individuals are eliminated, the fewer degenerates there will be in the species as a whole, and the more I—as species rather than individual—can live, the stronger I will be, the more vigorous I will be. I will be able to proliferate (225-6).

Sinclair has a similar concern about species improvement and "health," but his commitment to expanding sympathy to all human beings poses a challenge to biopolitical action against the less "fit" among them. Wells, on the other hand, has conflicting ideas about how to remain humane and retain fellow feeling while contemplating weeding out segments of the human race.

In *The Time Machine* (1895), *The War of the Worlds* (1898), and *When the Sleeper Wakes* (1899), Wells provides three fairly consistent evolutionary narratives in which humanity diverges into two separate species roughly along class lines. In *The Time Machine*, the traveler visits the year 802,701 and finds the division fully achieved: the Eloi, a beautiful, child-like, and helpless humanoid species lives above ground while the Morlocks, a clever and industrious but cruel and repulsive humanoid species lives below ground, maintaining and feeding upon the Eloi. *The War of the World* involves no time travel and so humanity is as yet a single species, but the probability of divergence is already apparent. The Martians invaders quickly subdue and round up the human population to keep as a food source much like the Morlocks keep the Eloi. The narrator hides with the artilleryman who has begun, in his mind at least, a campaign to secretly resist the Martian overlords by living below ground and breeding a new population of strong and clever people to overthrow the Martians. In both stories, the cunning and resilient humans live below ground while the foolish and weak humans above ground become food. In *When the Sleeper Wakes*, humanity is again divided between above- and below-ground populations and the Sleeper perceives the beginning of the evolutionary split into two separate species: those above the surface are generally beautiful, naïve, and frivolous while those below ground—the exploited lower-class—are pale, weak, and

ugly. Each narrative provides different pieces of the same puzzle to explain the changes and speciation, and together they offer a complex system of evolutionary forces and mechanisms that are themselves clearly influenced by cultural practices.

The impact of capitalism, especially in producing striated economic classes, is an obvious concern and driving force in all three tales. Class division is of particularly great importance in *When the Sleeper Wakes*. Struggles over economic power drive both the plot and the beginnings of human evolutionary divergence in the story. Graham, the Sleeper, falls into a trance-like sleep in 1897 and awakens two thousand years later to find himself the owner of half the earth and the hoped-for savior of the people. He is at first distracted by a fascination with new technologies of flight and kept ignorant first by the Council, which has accumulated power and run the world on his behalf, and then by Ostrog, the charismatic leader of a Coup d'état staged in Graham's name. The world above ground is filled with beauty, light, and ingenious contrivances but also with vapid conversation, ignorance, propaganda, and disturbingly flirtatious and promiscuous women. Graham eventually meets the lovely and prudish Helen Wotton who rebukes him for betraying the hopes of his people by not acting to free them, and he begins to discover that beneath the surface of the care-free culture of indulgence and pleasure-seeking is an underworld of exploited and oppressed laboring masses:

> And fresh from the flushed faces of the dancing halls, the voluntary vigours of the business quarter, Graham could note the pinched faces, the feeble muscles, and weary eyes of many of the latter-day workers […]. The burly labourers of the Victorian times had followed the dray horse and all such living force producers, to extinction; the place of his costly muscles was taken by some dexterous machine.

> The latter-day labourer, male as well as female, was essentially a machine-minder and feeder, a servant and attendant, or an artist under direction […]. The women, in comparison with those Graham remembered, were as a class distinctly plain and flat-chested (239-40).

The poor in *Sleeper* are drawn into workhouses from which there is no escape unless a worker happens to be brilliant or beautiful. The effect of these conditions was that those who remained were dull, weak, and unattractive. The narrator speculates that one cannot blame these more fortunate individuals for taking the opportunity to escape, but he predicts that as the mentally and physically superior members of this population leave, those who remain will eventually breed out all possibility of attractive or intelligent offspring. Graham even observes that the "labouring mass […] was differentiating into a distinct class, with a moral and physical difference of its own—even with a dialect of its own" (240). Graham is in effect witnessing and understanding the causes of the class-based species bifurcation that the Time Traveller speculates about in the year 802,701:

> it seemed clear as daylight to me that the gradual widening of the present merely temporary and social difference between the Capitalist and the Labourer, was the key to the whole position […]. And this same widening gulf—which is due to the length and expense of the higher educational process and the increased facilities for and temptations toward refined habits on the part of the rich—will make that exchange between class and class, that promotion by intermarriage which at present retards the splitting of our species along lines of social stratification, less and less frequent (*The Time Machine* 40).

In both cases, the isolation of populations is caused by capitalist greed and the subjugation of a laboring class so that the wealthy can live a life of luxury and leisure. The Sleeper's description of the current population's pale and ugly features already sounds very similar to the Time Traveller's description of the "pallid bodies" and strange darkness-adapted eyes of the Morlocks, whom he believes also to be the descendants of the working class. And in both cases, the narrators recognize the tendencies of their own time that could lead to this disturbing result, particularly disturbing in the case of the Morlocks's cannibalism. If the workers of *Sleeper* are headed toward a similar appetite, there is no evidence as of yet. But they do pose a threat of violence to the upper-worlders in the form of their revolution. A notable difference in the two stories is that the Time Traveler sides with the Eloi against the Morlocks and even physically attacks the Morlocks, while Graham leads the laborers' revolution against Ostrog and the oppressive economic system he represents.

The alliance is somewhat reversed again in *The War of the Worlds*. Here, the narrator is temporarily in awe of the artilleryman's plan to take to the sewers and stay hidden below ground until the preparations for overthrowing the Martians are ready. The artilleryman imagines that the captured humans, the "tame ones," will evolve to be "big, beautiful, rich-blooded, stupid—rubbish!" This imagined future race, other than their size, is a fair copy of the Eloi. And the artilleryman recognizes that the risk to his own future species will be going from "wild" (which is a desirable quality) to "savage" and even worse—turning into rats. He mentions the risk of becoming rats twice, presumably because he envisions their lives lived in the subterranean sewer system (174). Because of the similarity between rats and Morlocks, it's worth a more probing thought. The white,

hairy creatures with large eyes, soft hands, and tiny nibbling teeth filled the Time Traveler with murderous horror, but the narrator of *War of the Worlds* hails the artilleryman as a "man indeed" (172).

The difference, I would argue, is fundamentally one of class. The Morlocks recall to the Traveller's mind the East-end Laborers, and he imagines their fate the result of the Capitalists "triumph over nature and the fellow-man" (40-41). The Morlocks, like the workers in *When the Sleeper Wakes*, were probably driven below ground according to their social and economic desperation. The artilleryman's race is also driven underground by a dominant race, but the artilleryman's people are not from the same demographic of humanity. His subterranean population is to be composed of a self-selecting band of "able-bodied, clean-minded" people with education, courage, and intelligence: "Able-bodied, clean-minded women we want also—mothers and teachers [...]. We can't have any weak or silly [...].We're not going to pick up any rubbish that drifts in," he says (174). Clearly this group is selecting against the "sheep" of humanity. With such precautionary criteria, their potential of evolving into rats or Morlocks seems relatively slight. From Wells' own account of his childhood ideas and his adult ideas as well, we can see that he believed the lowest economic strata of his time was fundamentally more sheep-like: writing of his boyhood in *Experiment in Autobiography*, Wells explains that "[s]o far as the masses went I was entirely of my mother's way of thinking; I was middle-class,--'petty bourgeois' as the Marxists have it" with a dislike for and sense of superiority to "people who frankly took the defeated attitude" (68-9). "I think it was a very lucky thing for me personally that I acquired this much class feeling," Wells writes. He relates that his "conversation with Lenin turned entirely on the 'liquidation' of the

peasant and the urban toiler—by large-scale agriculture and power machinery" (69). This "liquidation' hovers disturbingly near extermination, particularly given Wells apparent belief that "superior" and "inferior" humanity could be roughly divided along class lines.

Wells' desire to "liquidate" the Laborer manifests itself in the Social Darwinist visions of Moreau, the artilleryman, Ostrog, and in the eugenicist design of Wells' utopia. Except, perhaps, in the case of utopia, these visions involve a great deal of violence, cruelty, and death. Moreau hopes to "burn out all the animal" from each individual; the artilleryman says that "the useless and cumbersome and mischievous have to die. They ought to die. They ought to be willing to die. It's a sort of disloyalty, after all, to live and taint the race" (*War of the Worlds* 174); and Ostrog similarly argues that

> [t]he world is no place for the bad, the stupid, the enervated. Their duty—it's a fine duty too!—is to die. The death of the failure! That is the path by which the beast rose to manhood, by which man goes on to higher things [...]. It is the way that change has always travelled. Aristocracy, the prevalence of the best—the suffering and extinction of the unfit, and so to better things (238).

Even in *The Time Machine*, the Time Traveller admits to a "thirst for murder" where the Morlocks are concerned, and he addresses the reader with this explanation: "very inhuman, you may think, to want to go killing one's own descendants! But it was impossible, somehow, to feel any humanity in the things" (*The Time Machine* 54). The traveller's strange logic here suggests that if the reader finds his blood-lust "inhuman," then his self-justification is the inhumanity of the Morlocks. But what makes their inhumanity greater than or different from his own? Their appearance? Their predatory nature? Their class background? The source of the narrator's revulsion is never precisely

pinned down. But in the case of the artilleryman and Ostrog, the unfit are clearly defined as the weak, the timid, the silly, and the pleasure-seeking. These are the very qualities that were threatening to undermine British masculinity at the turn of the century.

Wells offers the reader troubling visions of humanity's future de-evolution, but he also suggests ways to circumvent species degeneration. Following Francis Galton's argument that the "universally desirable traits" under threat of degeneration are "'health, energy, manliness and courteous disposition'" (qtd. in Greenslade 28), Wells suggests that a breeding program wherein the most "strong-bodied and clean-minded" individuals alone may marry and multiply is part of the answer, either by self-selection or by government sanction—*A Modern Utopia* agrees with Ostrog and the artilleryman there. And although the narrators of *The War of the Worlds* and *When the Sleeper Wakes* either walk away from or outright reject these propositions, the stories themselves are more ambivalent. Graham refuses to accept Ostrog's assessment of humanity and its future. He, like the Traveller, had cherished ideas of human liberation and equality. Likewise, the narrator of *The War of the Worlds* feels ashamed and traitorous to his wife for his time spent with the artilleryman. However, Graham's successful liberation of London ends with his probable death, and Hellen Wotton, the heart behind the labor-revolution, has made it clear that the revolution won't succeed without Graham to rally and organize the people. And the dominating upper class has no such weakness: Ostrog claims that his own death would not change the course of events because another would just take his place. As for the artilleryman, his offensiveness to the narrator, when closely examined, is not his plan but his ineffectualness it carrying it out. He is all talk and no action, and the narrator is ashamed of having spent the night playing cards, drinking, and smoking

while the rest of humanity feared for its life. If the artilleryman had been more industrious and efficient in his tunneling, would the narrator have stayed? The story does not offer an answer one way or the other.

Critics such as Bernard Bergonzi and Leon Stover suggest that Wells in fact identifies with figures like Ostrog, but W. Warren Wagar says they go "much too far." Wagar protests that Wells would never support a capitalist oppression of workers and that in other settings he treats politicians like Ostrog with contempt. Warren also claims that "Ostrog's fantasies of subduing or eliminating the working class chime with nothing that Wells ever wrote, before or after, about labor" (74-5). While I agree with Wagar's argument against Ostrog as a politician and a capitalist, the evolutionary argument Ostrog voices is not so easily dismissed. Wagar is also probably right that Wells, despite his antipathy for the masses, would not wish them to suffer the hardships and indignities of the work house. But Wagar's statement that Wells never wrote about eliminating the working class is clearly not accurate, as we have seen from Wells' own recollection of his discussion with Lenin. Wagar even cites a passage from *Anticipations* in which Wells states, "whole masses of human population are, as a whole inferior in their claim upon the future" and would "have to go." While Wagar focuses on the racial overtones of these "masses," he also notes that Wells values "efficiency, not skin color" as the best measure of men. Wagar wonders "[j]ust exactly how [the masses] would all 'go'" and refers to a later passage in *Anticipations* that suggests the sort of breeding program Wells revisits in *Utopia*: "'to favor the procreation of what is fine and efficient and beautiful in humanity' and 'to check the procreation of base and servile types'" (qtd. in Wagar 90-91). Whether Wells believed that these "base and servile types" composed much if not all of the

laboring class may be left to debate, but his idea of selective human breeding is not too different from the schemes of Ostrog and the artilleryman.

Wells is generally more interested in men than women, but in the area of motherhood he grants women great importance. In his utopia, a woman will be maintained by the government and socially respected for raising children, with or without a husband. Wells provides for widows in this way, and he allows women to divorce, but he biologically and legally defines women as the bearers of children. Men are their own beings while women's status is delimited by procreation. This distinction can be seen in his utopian laws. The law unilaterally punishes women for infidelity while it leaves the fate of unfaithful husbands to the discretion of their wives. The justification for this disparity is the assumption that women are responsible for the conception of a child, and in Wells' utopia, only registered couples (deemed qualified in both health and education) may conceive children. This registration process amounts to an institutionalized monitoring of female sexual selection. The narrators of both *The Island of Doctor Moreau* (1896) and *When the Sleeper Wakes* (1899) express disgust and even horror at evidence of female desire and sexual aggression, particularly when paired with an abandonment of mothering as it is in *Sleeper*. This repulsion at female sensuality takes on a clearly bestial quality in *The Island of Doctor Moreau* when Prendick describes the females as degenerating faster than the males with a pioneering "disregard [for] the injunction of decency, deliberately for the most part. Others even attempted public outrages upon the institution of monogamy" (*Moreau* 167). The sexually-promiscuous hybridized women recall Gowan Dawson's findings in *Darwin, Literature and Victorian Respectability* (2007) of a nineteenth-century, post-Darwinian horror and fascination with

images of trans-species sexual encounters. Darwin's theory of sexual selection made available the "invidious prospect of powerful and sexually excitable women" even if Darwin did not discuss it (33). Through the Beast People, Wells taps into a cultural anxiety about female sexuality and their power in sexual selection.

It is possible that to some degree Wells' attitudes toward female sexuality were feigned or at least muted with an eye toward public reception. Wells claims in *Experiment in Autobiography* (1934), "the great bulk of my work displayed an exceptional want of reference to sex or love-making, [and] the position of the woman." He bemoans the fact that the publication of *Ann Veronica* in 1909 gave him the reputation he had hitherto been careful to avoid: "if I had been a D.H. Lawrence, with every fig leaf pinned aside, I could not have been considered more improper than I was" (396-7). Ironically, Lawrence had said the same thing about Wells and *Ann Veronica* in 1910 and chosen not to publish "The Saga" in order to preserve his early reputation from similar accusations of indecency (Worthen 15). Given Wells' concern for public opinion, it is difficult to read complexity into his representations of sexuality and women. However, the same self-censorship does not appear to apply to his representations of men. The reason for this, I believe, is the aforementioned interconnection between masculinity and species fitness.

Breeding is only part of the solution Wells' fiction presents to the risk of degeneration and the hope of progress. Capitalist greed and private property drive a wedge between sections of society, and as *The Time Machine* and *When the Sleeper Wakes* show, neither section is safe from degeneration. The Time Traveller postulates that the leisure and security of the elite Eloi has made them soft and silly. Having

conquered nature and enslaved the Morlocks' ancestors, the Eloi's own ancestors had had no more need for energy and ingenuity. "It is a law of nature we overlook," he reasons, "that intellectual versatility is the compensation for change, danger, and trouble" (61). So even if capitalism causes humanity to "commit suicide" as the Traveller suggests, so too would any system that attempted to ensure complete security and stability for its members. Stability, or rather the illusion of stability, is for Wells the greatest threat to humanity's future. The Beast People, the Eloi, the Morlocks, and the Martians, in their different ways, shake up the assumption of human stability by frightening us with visions of degenerating manhood. Interestingly, the attributes that make superior men —strength, health, resourcefulness, logical reasoning—are also in some important ways associated with machinery.

Evolution and Technology

Just as Wells blurs the boundary between animals and humans, he also complicates the distinction between organism and machine with surprisingly similar evolutionary stakes. Whether humans are to evolve or degenerate depends at least as much upon their relationship to technology as to their biology. Indeed, for Wells biology and technology are deeply intertwined, perhaps even to some degree indistinguishable. In his 1901 nonfictional *Anticipations of the Reaction of Mechanical and Scientific Progress upon Human Life and Thought*, Wells frequently describes organisms in technological terms and technology in organic terms. Vast areas of the British landscape he predicts will soon be joined by railway, telegraph, telephone, and "parcels delivery tubes," and his network of technological communication will unify the landscape "like nervous and

arterial connections" (61). Several pages later, he describes the feudal "working cultivator, peasant, serf, or slave" as "the multitudinous living machinery of the old social order [...] human machinery" (67). These comparisons reflect contemporary cultural discourse about the relationship between bodies and machines.

Carolyn Thomas De la Peña's *The Body Electric* (2003) describes how the late nineteenth century and particularly the 1880s saw an increasing use of mechanical analogies and principles within the disciplines of physiology and anatomy (23). "During the late nineteenth century," she writes, "it was common for books on popular health to refer to hearts as 'motors' or 'pumps' and food as 'fuel.' Even physical imperfection was described as a mechanical failure" (24). Anson Rabinbach argues in *The Human Motor* (1990) that the invention of steam and internal combustion engines led to a more meaningful basis for such analogies than had previously existed: like the human (or animal) body, "the motor was regulated by internal, dynamic principles, converting fuel into heat, and heat into mechanical work. The body, the steam engine, and the cosmos were thus connected by a single and unbroken chain of energy" (52). In other words, modern machines and living bodies could each inform our understanding of the other because both rely upon the same principles and exist within the same framework of natural laws. Both Rabinbach and De la Peña explore how this new dialectic translated into a sort of mechanization of human bodies with the hope of improving upon them. De la Peña notes a "popular belief that machines could improve upon God's given body" and that "people had begun to embrace a cooperative relationship between mechanized power and human potential" (24)

Wells engages the potential influence of technology on human bodies in a number of ways. He applies his evolutionary perspective to technology and reflects on how humans and technology have both evolved together under the same Darwinian principles of chance, competition, and adaptation. (Whether or not technology is influenced by sexual selection I cannot tell, but as we shall see, influence works in the other direction). Roslynn D. Haynes suggests that Wells' opinion of technology changed over the course of his career, that his scientific romances show a distinct distrust of machines whereas later prophetic works like *Anticipations* and *A Modern Utopia* embrace machines fully (70). While there is some evidence to support this claim, I would argue for a more complex and ambivalent reading of technology in all of these works. Like man's animal nature, technology responds to the laws of evolution and can therefore be a force for both progress and degeneration.

Anticipations of the Reaction of Mechanical and Scientific Progress upon Human Life and Thought is Wells' most direct and sustained treatment of what I will call evolutionary technology, although the ideas *Anticipations* puts forth are also present in several of the scientific romances. Evolutionary technology is, by my definition, a three-fold process in which local environment, humans, and machines each affect the development of the others. It may be obvious that humans direct the evolution of technology and that, through humans, technology is capable of altering its local environment, but Wells suggests that the relationship is far more circular and Darwinian.

Wells offers the development of steam technology as an illustration of this process. His choice of the steam engine is significant in that it is, as he and others claim, the symbol of the nineteenth century. Why, he asks, was it not invented earlier? The

"mechanical possibilities of steam," he explains, "had been known for two thousand years" and yet in all that time, no one invented the steam engine. The reason is not that such an invention was not possible; Wells rejects a series of arguments for why steam engines could not have been invented earlier (4-6) and stresses that for the most part, the developments in steam technology were "almost unconscious" and "accidental" as one small step led to another until the engine became the obvious result (6, 8, 9). Wells suggests that technological adaptation to a specific physical environment led to the evolution of steam engines: "it happened that the coal needed to replace the dwindling forests of this small and exceptionally rain-saturated country occurs in low hollow basins overlying clay [...]. From this fact it followed that some quite unprecedented pumping appliances became necessary" and since wind was "inconsistent" in this climate, steam was the logical choice for powering the pumps (7). That steam-powered pump was an "ancestral stage" of the modern steam engine (9). In other words, the environmental conditions in England as much as human ingenuity led to the development of the steam engine and its railroad. Understood in this way, technology co-evolves with humanity according to the same stimuli and evolutionary laws.

The evolution of technology, along with that of organisms, involves trial and error. Not all inventions have been successful, as Wells describes in his discussion of the steam engine. "Ever and again during the eighteenth century," he writes, "an engine would be put upon the roads and pronounced a failure." He calls one early French model a "monstrous Palæoferric creature," again using language that blurs the distinction between living creature and machine (8). And like humans, the successful steam engine of the nineteenth century bears the traces of its ancestral past, a past Wells desires it to

move beyond. The ancestral steam pump was "by no means exacting in the matter of weight" and its descendant's inherited heaviness has required it to move along rails, significantly limiting its flexibility (9). Wells expresses exasperation not only with rails but with the train's width gauged by its other ancestor: the horse-carriage. "Before every engine, as it were, trots the ghost of a superseded horse," he complains, and that stubborn measurement inhibits "comfort, power, and speed" (11). Wells' frustration with residual traits is founded on more than a mere impatience with technological evolution—he also fears that "short-sighted Nineteenth Century Progress [is] quite heedless of the possibility of ending in a *cul-de-sac*" (10).

Evolution of technology is limited by human imagination but also by politics and greed. Even at his most sanguine (as he arguably is in *Anticipations*), Wells recognizes the dangers of technology under the wrong management. Even in the area of transportation he has some reservations, although his more serious concerns relate to morality and class, which I will address later in this chapter. The stagnating railway train may never give way to more efficient forms of transportation, Wells predicts, but continue on its lumbering way because of the weight of capital behind it and the "acquiescence of men" to the establishment (12). Technological innovation within a capitalist system does depend on capital as well as creativity, and Wells, despite his overall optimism about the future of technology, does briefly consider an alternative future of corrupt stagnation. Interestingly, instead of suggesting socialism as the solution to this inherent risk in capitalism, Wells foresees the source of power against the wealthy railroad industry to be competition. However, he is doubtful of its success and makes no predictions about the form it will take.

Political environment impacts the development of technology, and technology in turn can influence political systems, but Wells also suggests that technology can affect humanity in more fundamental ways. It can reduce a man to a mindless extension of a machine in factory work, and it can stimulate individual creativity and human progress within the species. Technology alone may not determine humanity's future, but it certainly plays a role in determining the paths we follow and how we follow them.

Technological progress for Wells generally follows a trend toward greater efficiency and autonomy. For humanity, this progression leads to greater freedom of movement, ease of communication, and freedom from toil. How this progression will impact humanity's evolution is a driving question behind all of Wells' evolutionary narratives. Haynes argues that in the early phase of Wells' career, when he wrote his scientific romances, Wells had not decided how technology could function in an ideal future society. Until he could provide a safe solution, he wrote cautionary tales of "uncontrolled technology [and] the repeated warnings that unless it were controlled it would surely destroy all the humane qualities of society" (73). The widely held belief is that Wells evolved from a skeptic to a true believer in human progress, and those critics like Haynes who discuss Wells' attitude toward technology trace an identical trajectory. However, this linear progression or paradigm shift from distrust to enthusiastic assurance in progression and technology is not as complete as most Wells scholars contend. Reading the scientific romances alongside *Anticipations* reveals a career-long belief in both the potential for greatness associated with technology and a rather dubious final hope for humanity.

In *The Time Machine*, the Traveller comes to believe that the ancestors of the Eloi had created a perfectly controlled environment for themselves in which all of their needs were fulfilled by underground technology (and machine-minding Morlocks). The Traveller reaches the conclusion that the Eloi had "conquered Nature" and subsequently had no more need for work or thought or any form of productive activity (28). In *Anticipations*, Wells identifies this state of inactivity with a new shareholding class emerging around the turn of the century. The unique position of this proprietor class is that it is entirely removed from any labor or responsibility in relation to its property: "it is, indeed, absolutely irresponsible property, a thing that no old world property ever was" (72). Because nothing is required of this class to produce its wealth, the "shareholding ingredient of our new society [...] has no need of strength or wisdom […. T]he incumbency of knowledge, management, and toil fall entirely to others […] he is mechanically released from the penalty of the Fall" (74-75). The "force" that brought about the shareholder is "the development of mechanism" (76). The railway and the "appliances that invention was offering" created a demand among explorers and craftspeople, but they had to pay owners for access and materials. The shareholder's dividend was "the manumission money for machinery" (76-7). Now, this shareholder class profits securely off of the activity of the working class while it is free to spend its time as it pleases.

In *The Time Machine*, the Traveller ponders the mental and physical degeneration of the Eloi and comes to the following conclusion: "There is no intelligence where there is no change and no need of change." As long as "habit and instinct" are sufficient to ensure survival, then intelligence withers (61-2). The histories of the shareholder and the

Eloi suggest that as technology is developed to supplant human work, it actually creates conditions under which "habit and instinct" are all that survival requires. Wells calls the Eloi in this complete state of animality "a perfect mechanism" (62), thus implicating machinery in their evolution and finally turning the Eloi into machine-cattle with no volition of their own. By successfully using technology to conquer nature, the ancestral Eloi set their descendants upon a dead-end path. Haynes would probably identify the "perfect mechanism" as evidence of Wells' early distrust of machinery, but I think even in this early period Wells recognized a vitally important function of technology in the evolution of beneficial, "manly" human traits. Here in *The Time Machine* Wells identifies evolutionary advantages of adaptability and intelligence in those who work with machines.

"It is a law of nature we overlook," the Traveller argues, "that intellectual versatility is the compensation for change, danger, and trouble" (61). This idea of Wells' came, Gowan Dawson argues, directly from the teachings of T.H. Huxley. Huxley's *Evolution and Ethics* states that some struggle for existence is necessary for "'the good of society' by ensuring that 'those who are endowed with the largest share of energy' were 'in possession of wealth and influence.' Its complete removal, on the other hand, would inevitably precipitate a process of degeneration as individuals adapted to less complex and difficult conditions" (qtd. in Dawson 217). The Traveller makes this argument quite convincingly, and the Eloi seem to provide solid evidence of this degenerating effect. But even if the Eloi's ancestors did create the conditions of complete peace and tranquility, they made one fatal mistake that brought "danger and trouble" again in the shadows and the night. The simple and peaceful Eloi are unable to defend themselves against the wilier

Morlocks who have found their way out of their underground confinement. Wells suggests in *The Time Machine* and discusses at length in *Anticipations* that the "intellectual versatility" absent in the Eloi but still present among the Morlocks is or at least can be a result of interacting with technology.

In *Anticipations*, Wells explains that modern machinery requires a new and promising kind of intellectual engagement. "Wheelwrights, watchmakers, blacksmiths, […] individuals from all the older aspects of engineering, have been caught up by the new development," he claims, and in order to "make and repair" the new machinery of their trades, they must understand the already complex machinery, be adaptable to the machinery's "several types and patterns," and be able to update their information as new models appear. The learning process will never be complete as long as technology continues to evolve and break down, and so these technologically savvy workers "must be intelligent and adaptable" (86). The Eloi, in their non-technical pastoral paradise are neither of these things, but the Morlocks of the underground machinery are.

While by no means as "evolved" as humans, having degenerated by the same basic forces of security and routine as the Eloi (61), the very fact that the Morlocks have continued to interact with machinery is, according to the Traveller, what gives them an edge: "[t]he under-world being in contact with machinery, which however perfect, still needs some little thought outside habit, had probably retained perforce rather more initiative, if less of every other human character, than the upper" (62). Because of this "initiative," the Morlocks were able to alter the power dynamics of the hitherto perfect ascendancy of the upper-worlders. Whereas once the capitalist upper class had forced the laborers into subterranean slavery, now the Morlocks have become the predators and the

Eloi their prey. The intelligence of the predator and the helplessness of the prey are now the result of evolving respectively with and without technology.

The Martians of *The War of the Worlds* are a more powerful and intelligent version of the Morlocks. Their bodies may be weak, but they are clever enough to take decisive action when their home world can no longer sustain them. They use their problem-solving skills and their technology to travel to a new planet and procure the frightened and helpless human species as a food source. As I discussed earlier, the artilleryman thinks that the majority of humanity will be happier under Martian control. All human needs will be provided for and complete security ensured until a Martian grows hungry. The Eloi life of leisure comes at a price, and so does this freedom from want and worry under the Martians. But whereas the technological superiority of the Morlocks only gradually gave them an evolutionary advantage over a class that had previously subjugated them, the power dynamics between humans and Martians is a straight-forward contest of technological superiority and, to some extent, an illustration of two contrasting uses for technology. On the one hand, technology is associated with unification and, on the other, with domination.

Aaron Worth's "Imperial Transmissions: H.G. Wells, 1897-1901" (2010) provides an excellent analysis of technology in *War of the Worlds* based on this dichotomy. Worth notes that the prominent human technology in the book is "communications technology," specifically telegraph, railway, newspapers, and heliographs. Communications technology unites people over time and space and will, Wells predicts in *Anticipations*, finally do away with national boundaries and promote the world state of his *Modern Utopia*. And yet, Worth makes the intriguing observation that

the heliograph (an early form of wireless transmission using the sun for Morse code) would have, to the twentieth-century reader, been thoroughly associated with imperial conquest as it was used almost exclusively within a colonial context (70). Critics often consider *The Time Machine* to be an anti-imperialist text, posing the Martians as a figurative embodiment of British colonialism. Worth notes that "[j]ust as Wells confronts Britons with a possible future incarnation of themselves in his Martians [...] the Heat Ray represent the ultimate evolution of the sun-telegraph, a medium used by British forces in Afghanistan, India, and Africa: it is light become heat, a signal become weapon" (70-71). Technology developed for communication has already been used for purposes of domination, and so this evolutionary idea of the signal becoming a weapon is both symbolic and real.

The paradox that Worth identifies in Wells is this recognition of a violent tendency of communications technology and yet a belief that a world state may be achieved non-violently through the same medium. He displaces the aggressive use of technology onto the Martians and erases the colonial context of England within the novel, as Worth demonstrates (71), and in the end England rebuilds its communication networks in a "nascent version of [Wells'] 'world-state,' figured as a system of communication between and among interlocutors, rather than a system of exploitation modeled and abetted by cables extended from a controlling center" (75). For Worth, the major difference between a Martian colony and a world-state is not technological but political and social (71). He reads the conclusion of *The Time Machine* as hopeful that "England may perhaps yet avoid the fate of the tentacular imperialists from outer space" by moving away from centralized imperial pursuits to a more evenly distributed power base (75).

Wells indeed expresses this hope in *Anticipations*: "Government by the elect of the first families of Great Britain has in the last hundred years made Ireland and South Africa two open sores of irreconcilable wrong [b]ut within such an ampler synthesis as the New Republic will seek, these states could emerge to an equal fellowship" (265-6). Communications technology, by decentralizing economies and governments, will turn empire into community so that former colonial states could peacefully establish connections with former colonial centers with no "the bitterness from their unforgettable past" (266). By destroying the old centralized communications networks (and presenting humanity with a unifying threat), the Martians of *The Time Machine* leveled the playing field and allowed the world to start over as a global community. In the end, as Worth notes, the old communications technologies begin to reappear as both decentralized and "amateurish [...] as though, being newly reborn, the press must pass again through an embryonic phase" (174). But these are not the only technologies that Wells brings into the final chapter.

What Worth does not include in his analysis is that while the Martians are destroyed, their technology remains and humans are learning from it. The only piece of news mentioned in the embryonic newspaper is that "the examination of the Martian mechanisms had yielded astonishing results" (192). Humans are learning the "Secret of Flying" and although the exact chemical compounds of the deadly Black Smoke remain undetermined and the generator of the Heat-Rays "remains a puzzle," we are given to understand that the lack of success is not from lack of trying (196). If the message of the novel is that we should avoid becoming Martians, the final account doubts our ability to resist the temptation that technology offers us of doing that very thing.

Technological curiosity is generally a positive attribute in Wells, but it comes with certain risks. Curiosity is a quality of an active mind, and technological curiosity is particularly essential for the new elite he foresees in *Anticipations*. In *The Time Machine,* the Traveller confesses that he has a "certain weakness for mechanism" in a scene that draws perplexing parallels between him and the Morlocks. The Traveller is standing in a museum studying old machinery and comments that he is "more in my element, for rising on either side of me were the huge bulks of big machines" that "had the interest of puzzles" although he couldn't guess what they were for (53). Earlier in the story, the Traveller had gone below ground and found "great shapes like big machines [that] rose out of the dimness, and cast grotesque black shadows, in which dim spectral Morlocks sheltered from the glare" (44). Aside from the different tone produced by the adjectives and the light, the situations are basically identical. And the Traveller's puzzled study of the museum-machines mirrors the Morlocks' ineffectual study of his Time Machine, which they had partly disassembled and put it back together in an attempt to discern its function (62). This kinship between the Traveller and the Morlocks, rather than a sign of degeneration in either, is evidence of the one remaining glimmer of human intellectual engagement in this future age. Its importance can be inferred from the narrator's disappointment in the Eloi's general "lack of interest" (24) and his gloomy evolutionary speculations on "the sunset of mankind" that their species represents (26). But the Morlocks are no more a positive role model for future humanity than are the Martians. Something important is missing from both future species.

Graham of *When the Sleeper Wakes* is another fan of mechanism and another dubious role model, but in him we find something of this missing quality. Graham's

fascination with technology begins as a distraction and ends as a means of empowerment. Initially, his passion for the new technology of flight is all-consuming and blinds him to the oppressive and dissolute economic and political systems being run in his name. Both he and the Traveller express Wells' own dreams for humanity, but Graham takes action to assist humanity along the proper path as best he can. For both men, the "great triumph of Humanity" was to be a "triumph of moral education and general co-operation" (*The Time Machine* 41). Graham "hoped, as indeed his age had hoped [...] that the day was near when every child born of woman should have a fair and assured chance of happiness" (169). The role Wells hoped technology would play in producing these conditions will become clearer as we move into the next section, but Haynes believes that Wells has Graham fail because at the time of writing *When the Sleeper Wakes*, Wells "was still not clear in his own mind how humane justice and egalitarianism could triumph over ruthless power and dehumanising inefficiency in a technological society" (*H.G. Wells*: *Discoverer of the Future* 75). But is technology vilified in *Sleeper*? Haynes describes Graham as a "natural man" opposed to Ostrog's more mechanistic "'organisational man,' alert to the opportunities, technologically competent and hence powerful," who was "produced by the natural selection of the machine-age" (Haynes 74). Graham is ignorant at first, of course, but he is not opposed to technology. Haynes does not address the facts that Graham grabs the levers of the plane on his first flight and insists upon on a crash-course in flight technology the moment he lands, nor that he attempts to save the oppressed people from an unfair technological disadvantage by flying a plane into the oncoming fleet of war planes and disabling them in time. Graham

is far from the antithesis of Ostrog in terms of technological prowess, and technology in *Sleeper* can save the day as well as threaten it.

Technology is not completely neutral or innocent in *Sleeper* either, however. We do find cause to fear that technology can stunt human development in fundamental ways. During his tour of the underground work camps, Graham observes that mechanical energy, in replacing human muscle, had caused the latter to atrophy (270). Labor-saving devices still require human presence but not human strength, and so we see that the degeneration into Morlocks begins equally from class divisions and from replacement mechanical power. One isolates and enslaves the laborer; the other makes his or her vitality obsolete.

Technology can also stunt cultural evolution for the upper-worlders. Worth has argued that "[f]or Wells, media literally inform societies, giving them shape and coherence" (73), and in *Sleeper*, communication technology is used for brainwashing and for replacing "reality" with "realism." The kinematographs, similar to film projectors, record and freeze cultural production. Worth explains that these "preservation" technologies "held out the possibility, ostensibly at least, for cultural and, by extension, racial preservation across vast spans of time at a historical moment which such questions of survival loomed large in the British imagination." And yet Worth believes "Wells's treatment of the new media of inscription suggests the folly of such an archival logic, given the kinetic dispensation of evolutionary time, the ineluctable realities of linguistic and cultural drift" (84). The culture of the upper-worlders of *Sleeper* does appear to have become a shallow performance based on recordings of the past. However, an interesting case is the "bluff 'aerial dog'" whom Graham admires as a "thoroughly manly fellow"

and about whom he expresses gladness "to see that type endures." We discover the man is in fact mimicking the past manliness of Graham's own age: "'phonographs and kinematographs,' said Lincoln, a little spitefully. 'He has studied from the life'" (182). What are we to make of this relationship between manliness and technology? If humanity is evolving away from manliness because of the ease and safety technology has secured, then does preserving the model of manliness *through* technology help resist degeneration or does this preservation also amount to "folly"?

The ambiguous ending of this novel is also an ambiguous assessment of technology. While the profusion of "babble-machines" effectively brainwashes the public by communicating half-truths and falsehoods disguised as news, Graham is able to re-appropriate this technology to announce to the world that he is returning his wealth to the people. He uses it both to call for a unified global community and to level the economic playing field by redistributing wealth. Graham also defeats the oligarchy's army by turning their own elitist technology of flight against them, giving the people a chance to defend themselves against their oppressors. But in the final moments of the story, Graham's aeropile is damaged and hurtles to the ground carrying Graham to his death. Without Graham, we understand that the people will be leaderless and disorganized once more, and so Ostrog's prediction of the inevitability of the Oligarchy will presumably come true. Haynes finds in Ostrog's prediction evidence that "the machine is the cause as well as the symbol of his authoritarian technocracy" and that "while seeming to control the mechanisation of his world, he is in fact controlled by it." (Haynes 74). If this is so, Graham has also shown that the machine, under the command of someone who is both technologically curious and morally righteous, can be turned to better use. Graham's

failure, if indeed it is a failure, is only the result of his being the only man left with twentieth-century ideals combined with the economic and technological power to act upon them. In him, we see the prototype of Wells' engineering class.

A great danger inherent in technology, Wells, Sinclair, and Lawrence agree, is that machines have no feelings. In its symbolic register, the machine is cold, calculating, and efficient. Wells frequently presents this mechanical type as the villain or antihero with whom the kinder, gentler, more ethical hero contends. Moreau is an interesting example of this amoral character. Moreau is a tinkerer. He "invented" the Beast People (136), and his "research" into the laws of Nature has been a series of trials and errors, much like the early experiments in steam-powered locomotion that resulted in a "monstrous Palæoferric creature" (*Anticipations* 8). The difference is that Moreau's experimental objective is not to create machines but superior, intellectually advanced human beings. But are those advanced humans really different from machines? Haynes argues that "Wells was certainly the first writer to be fully aware of the basic distinction between science and technology, and to assert the moral responsibility of scientists for such technology as resulted from their researches" (Haynes 69-70). The basic distinction Haynes makes between science and technology, the distinction she claims Wells also makes, is that science increases our understanding of the world while technology provides us with control over it (69). By these definitions, Moreau is primarily an engineer. His interest in the laws of Nature is for their application. His passion is to create and perfect. And while Wells himself values scientific education as a means of stimulating the human mind, he is also deeply invested in practical applications, so much so that he desires the world to be run by engineers. But Wells and Moreau diverge, at

least ostensibly, on the question of ethics, as I discussed earlier. Haynes notes that the Martians in *War of the Worlds* reveal "the potential for cruelty and exploitation in the purely rationalistic mind" and that the novel "stresse[s] that the Martians are not 'evil,' only amoral and highly efficient." Haynes rightly argues that *The War of the Worlds* "provides no answer [...] no effective counter-impression to that of confused, self-centered men fleeing in confusion before the advance of an efficient, amoral, technological power" (Haynes 73-4). And if the intelligent, rational, technologically-advanced civilization wins wars, how are the amoral Martians fundamentally different from Wells' engineer? Or to put it another way, how can we guard against a Martian future in our technological evolution?

As I mentioned earlier in the chapter, Wells seems to suggest that morality requires a body. Moreau argues that evolution "grinds out" unnecessary traits like pain as the mind becomes more powerful and efficient. The narrator of *The War of the Worlds* sees in the Martians the results of this same evolutionary process:

> here in the Martians we have beyond dispute the actual accomplishment of such a suppression of the animal side of the organism by the intelligence. To me it is quite credible that the Martians may be descended from beings not unlike ourselves, by a gradual development of brain and hands (the latter giving rise to the two bunches of delicate tentacles at last) at the expense of the rest of the body (141).

"Without the body," the narrator reasons, "the brain would, of course, become a mere selfish intelligence, without any of the emotional substratum of the human being" (141). Therefore, in order to remain empathetic, as Prendick is toward the Leopard-man,

humans must retain bodily sensation. Wells appears to oppose mechanical rationality to animal sympathy, but he does not necessarily take sides. He has the Martians overpowered by bacteria, but what role does morality play in the Martians' failure? Moreau is killed by his vivisected puma but can his demise be attributed to lack of sympathy or morality? Mason Harris argues that Victorians were troubled by *Moreau* for the very ambiguity of its moral conclusions: "With characters who are disturbing but do not line up in clear moral polarities, and with Prendick's confused anxieties for a conclusion, Wells allows the reader no moral escape route from the oppressive atmosphere of his story" (55). Wells may have had reservations about pure rationality, but he was not a true believer in the ameliorative importance of corporal compassion and fellowship, either. In his long-term hopes for species survival, the ends sometimes justified the means, even if they included cruel competition, war, and a hostile take-over by the engineering class.

Wells was a socialist, but he also believed that a few great men would need to instigate and organize the new world order. In *Anticipations*, Wells hypothesizes the necessary conditions and variables for generating these superior men, and technology is an essential component of this process. He finds the evolutionary precursors of a superior being among "the unorganized myriads that one can cover by the phrase 'mechanics and engineers,' if one uses it in its widest possible sense" (85). These diverse middle-class professionals have found new modes of employment with "the coming of mechanism" and the "very lowest of them must understand the machine they contribute to make and repair." Unlike their joiner and ostler predecessors, these professionals must be prepared to keep up with the changes and variety in the technology of their trade. They must be

"intelligent and adaptable" and they must be "educated rather than trained" (86). The dynamic and experimental form of education that Wells advocates is already co-evolving with technology within the ranks of the engineers and mechanics.

With the advance of the steam engine, the telegraph, and other inventions of what Aaron Worth calls "communication technology," Wells foresaw that new spatial and economic mobility would precipitate a breakdown of social structures and call for new dynamic occupations made necessary by an increasingly technologically complex world. He understood technology as a shaping force of evolutionary change: "In industry, in domestic life [….] one foresees a steady development of complex appliances, demanding, and indeed in an epoch of frequently changing methods *forcing*, a flexible understanding, versatility of effort, a universal rising standard of education" (*Future in America* 10). In *Anticipations* Wells argues that "[c]orrelated with the sudden development of mechanical forces that first began to be socially perceptible in the middle eighteenth century, has been the appearance of great masses of population, having quite novel functions and relations in the social body" by which he means a new engineering class, educated to think creatively and adaptively.

But education alone will not produce a superior race of men. Some of these professional people are naturally more intelligent and adaptable than others and competition will weed out the lesser beings of the engineering class: a "competitive creation, an individual replacement and a push towards the abyss" will, over the twentieth century, involve "picking up new recruits and eliminating the incompetent." The class that will emerge through the combined evolutionary forces of technological advance and competition will, with its "scientific education" and "common fund of intellectual

training," provide the world with "at least the possibility, the primary creative conditions of a new, numerous, intelligent, educated, and capable social element [...] a new body, a new force, in the world's history" (86-8, 91). Competition among its members will select for the most intelligent and educated, but in order for this class to take its rightful place at the helm of humanity's evolutionary voyage, it must ultimately contend with that other middle class of wealthy proprietors currently in control of the world's resources.

Revolution and War

In order for the engineering class to turn the tide of human degeneration, democracy, nation states, private property, and economic-based class systems must go, and Wells contemplates several scenarios of how this overhauling of socio-economic and political systems will come about. In *Anticipations of the Reaction of Mechanical and Scientific Progress Upon Human Life and Thought*, he allows that the accumulation of power and influence by the engineering class could be achieved gradually and peacefully, but the massive overhaul of all governing and organizational systems needed to secure humanity's future will more likely, and certainly more efficiently, be achieved through revolution. Later, in *The Outline of History* (1919-20), Wells discusses the value of revolutions generally in his overall glowing description of the French Revolution. He speaks of "the immense vitality and the profound rightness of the flood of new ideals and intentions that the French Revolution (1789-1799) had released into the world of practical endeavour" and marvels that it "could still flow in a creative torrent after it has been caricatured and mocked in the grotesque personality and career of Robespierre." Wells attempts to put the violence of that revolution in perspective, claiming that only a few

years were actually part of the "Terror" and that fewer people were killed (and fewer innocents) than in those same years in Britain and America where "people were slaughtered for offences—very often quite trivial offences—against property" (1881). He calls the French Revolution the "ebb of this tide of Revolution in the world, […] which had created the great Republic of America and threatened to submerge all European monarchies" and, whatever its shortcomings and however it may have fumbled along the way, it "made a gigantic effort" and "swept many obsolescent and evil things away" (883-4). Revolutions, he argues, are "periods of action" but not of resolution. They are dangerous because "in revolutionary times society degenerates much more readily into a mere scramble." Without a plan or a steady, far-sighted leader, revolutions "may stop half-way in mere destruction" (884, 946).

Yet the promise of revolutions is also that they cannot have all the answers—in the process of clearing away the old, they uncover new questions and problems that, once addressed, advance human society that much further. After the French Revolution, Wells claims,

> Institutions that had seemed to be in the nature of things, and matters that had seemed to happen by the same sort of necessity that brought round the dawn and springtime, were discovered to be artificial, controllable, were they not so perplexingly intricate, and—now that the old routines were abolished and done away with—in urgent need of control (884).

Wells expresses the belief that socialism is the next step toward that control for humanity, but he cautions that while socialism "professes to be a complete theory of a new social order, we discover, when we look into it, to be no more than a partial theory—very

illuminating, so far as it goes—about property" but as yet untested in practice: "No socialist sect has yet defined its projected government clearly" or "gone on to a thorough examination of that proviso for efficient administration" (946-7). He finds the Fabians in England too paternalistic and the Russians a combination of ineffectual "mass meeting[s] of over three thousand people, incapable of any detailed criticism or direction of the Bolshevik government" and the country actually ruled by Trotsky and Lenin who "proved as autocratic as the less intelligent but equally well-meaning Tsar, Alexander I. (946). But despite these set-backs and missteps, the problem of property in a democratic society has led to new possibilities in the role of machines.

Until recently, the power that ran society was overwhelmingly human in origin. Monopolies and disenfranchisement of the poor are common features in history from the Roman empire up to the present, but the mechanical revolution, Wells argues, makes a "profound difference in the character of labour […] as the nineteenth century went on, the plain logic of the new situation asserted itself more clearly […]. What could be done mechanically by a human being could be done faster and better by a machine. The human being was needed now only where choice and intelligence had to be exercised." In a logic diametrically opposed to Lawrence's, Wells claims that this new machine power spells the end to the instrumentalization of humans: From now on, "[h]uman beings were wanted only as human beings" (932-3). Wells also acknowledges that the revelations born of revolution come slowly, but as he expresses in *Anticipations*, machines may help us with this problem as well.

The new educated engineering class has prepared itself through its technological education to think creatively and rationally and to strive for greater efficiency. Having

"discussed and tested and thrashed out many things," these engineering types will naturally turn their critical attention to the inefficiency and corruption of social and political structures (141). Under analysis, the present system will appear "increasingly obstructive, irrational, and feeble in its attempts to include and direct these new powers" (148-9). We have already seen that Wells believed in equal opportunity but not in equal ability. His dreary assessment of "the average man" was that he had "nothing in the mind [...] except blank indifference." A democratic system based on the "collective will" of these masses could have no hope of directing evolution in positive ways (145-6). The masses are too easily manipulated by the "electional system [that] simply places power in the hands of the most skillful electioneers" (147). The new class of "capable men […] of the new mechanically equipped social body," Wells argues, "finds no representation save by accident in either [the House of Commons or House of Lords]." And if a capable man were to obtain office in one of these assemblies, Wells predicts that his large-scale efforts in "public health, with army organization, with educational improvement, or with the vital matters of transport and communication" will be hampered by electoral districting (100). And despite the ineffectuality of current governments, they will not be easily uprooted because of politician's skillfulness in whipping up patriotic fervor, which will effectively defend the state's borders and internal structure for a while. However, Wells' prediction in 1902 is that patriotism will finally destroy itself in the violent competition of war, leaving an opening for engineers to seize the machinery of war to then reconfigure the machinery of government.

"To be patriotically quarrelsome is imperative upon the party machines that will come to dominate the democratic countries," Wells contends (167). Patriotism alone

provides "cohesion" in an inclusive democratic society without "detailed and definite public opinions," but patriotism cannot exist without a foreign enemy to define oneself against. "Simply to keep in power," Wells reasons, "the government or the party machine will have to insist upon dangers and national differences." The machinery is in motion that will drive the politicians toward war "because they are, by their very nature, compelled to go that way, because to go in any other direction is to break up and lose power" (168). The natural order of social evolution in the machine age is for technology to blur boundaries between nations and cultures, for democratic governments to respond by insisting upon boundaries based on patriotic fear and rivalry, and for these patriotic nations to drive themselves headlong into war and their own collapse. Competition leads to war, and war provides engineers and their educated class with the social disruption necessary to gain control over civilization. They may do so both through intellectual superiority and through technological power.

Warfare in the machine age would be nothing like wars of the past, Wells predicts, because the new educated class has brought about an "absolute revolution in the art of war [through] science and mechanism." Technology of communication closes distances in times of peace, and in times of war there will be "no where to hide from technologically-wired civilization" (199). Wars of the past were "showy, dramatic, emotional, and restricted" but the scale of impersonal destruction soon to be possible would depend not on a charismatic leader but upon "intelligent and scientifically-educated men" who will emerge out of the greyness into a defined class of their own (172-3). These men will be running all the machinery of the home front, from railways to electricity to food and water supply. They will also be running the machinery of war.[16]

According to Wells' prediction, these men will one day "find themselves" with this power in their hands and with the "fearless analysis of science" driving their intellectual curiosity. They will say to themselves, "'[W]e have these really most ingenious and subtle guns. Suppose instead of our turning them and our valuable selves in a fool's quarrel against the ingenious and subtle guns of other men akin to ourselves, we use them in the cause of the higher sanity, and clear that jabbering war tumult out of the streets.'" Ignoring the "established rights and prescriptions" of the ruling elite and the "ineffectual multitude below," the educated elite may then seize control and "try something a little more stable and orderly" (174). Wells is vague about how they are to effect these changes, although the use of "subtle guns" is suggestive of a violent coup or at least a threat of violence to enforce this change of regime. The technologically-educated elite in this scenario stop the tide of war and declare themselves in charge of establishing a new world order. But if they do not call a halt to the bloodshed, the result of the conflict is an even more thorough triumph of the engineer.

War of the future, Wells predicts, will be a "fight between the more efficient and the less efficient, between the more inventive and the more traditional" (205). He imagines the "gentlemanly old general" and his legions of "half-trained lads in uniform" fumbling into war "more like herding sheep than actual fighting" and then being "smashed in all sorts of dreadful ways" by modern weaponry before we realize that modern war must be conducted by the "very carefully-educated" (208). This vision of senseless death "haunts [his] mind," and yet Wells' argument also implies that this sacrifice of these multitudes (and the multitudes of "sheep," particularly) is both unavoidable and necessary to the break-up of the old order: "so long as there is peace the

class of capable men many be mitigated and gagged and controlled" (175). Under the competitive and violent stresses of war, the mind is also more alert and active. Like his artilleryman in *War of the Worlds*, Wells seems to welcome the dangers of war in *Anticipations* for bringing out some of the best qualities in humanity like "imaginative foresight, a perpetual alteration of tactics, a perpetual production of unanticipated devices" (198). If war goes as he imagines it will, then "victory will rest with the force *mentally most active*" (ibid, emphasis added). War will bring victory to the most highly evolved individuals, the best engineers in charge of the machinery of war. Technology under these circumstances is both destructive and creative, like nature itself. Wells offers us this chilling reflection on the species-level impact of natural selection in war:

> in the ampler prospect even this haunting tragedy of innumerable avoidable deaths is but an incidental thing. They die, and their troubles are over. The larger fact after all is the inexorable tendency in things to make a soldier a skilled and educated man, and to link him, in sympathy and organization, with the engineer and the doctor, and all the continually developing mass of scientifically educated men that the advance of science and mechanism is producing (209-11).

This natural selection may be possible to achieve peacefully with the gradual increasing and organizing power of the scientifically and technologically educated class and the slow drift of less intelligent and active beings toward the "abyss," but war is more efficient. Wells compares society to a physical body undergoing "complex reactions and slow absorptions" when along "comes War with the surgeon's knife. War comes to simplify the issue and line out the thing with knife-like cuts" (211). These violent incisions into the social body are reminiscent of Doctor Moreau's vivisections. Moreau's

"monsters manufactured" (123) are the result of a systematic application of evolutionary principles, a technological implementation of a scientific theory.

Anticipations is perhaps Wells' least ambivalent discussion of technology, and some of his prophesies, solutions, and values conflict with the warnings he offers elsewhere in his works. He embraces efficiency as a reliable solution to social problems and ignores the dangers of this approach that we saw manifested in Ostrog, the Martians, Doctor Moreau, and the Eloi. He even leaves ethics to be decided by efficiency rather than by embodied empathy and "fellow feeling." His ambivalence resurfaces, too, in his discussion of marriage and sexuality.

Advances in science and technology, he says, will enable his engineer's home and appliances to be so efficient that labor within the home will be almost nonexistent (*Anticipations* 106-110). Not only will these labor-saving innovations make a servant class obsolete, they will free wives from household chores. In fact, Wells implies that the easing of domestic responsibilities makes the importance of marriage (and more particularly of wives) somewhat questionable. In a sociological backward glance, he speculates that monogamy arose historically as a necessity to survival in harsh environmental conditions. "It must be borne in mind," he writes, "that it has been the middling and lower masses of […] men needing before all things the absolutely loyal help of wives, that has sustained permanent monogamic marriage whenever it has been sustained" (127). Monogamy and the nuclear family unit, he argues, "ha[ve] indisputably been the civilizing unit of the pre-mechanical civilized state." Monogomy has involved a great deal of "restraint" from the husband and "submission" from the wife, but the reward has been the "tendernesses that arise out of co-operation" as well as stability for children

(126-7). Without discomfort and challenges, what will be the new source of "tenderness" and ethical social bonds? Morality as a code of conduct, Wells postulates, will be a natural outgrowth of the efficiency principle that engineers have learned to value from interacting with technology.

Wells' future engineer will be both technologically proficient and moral. These joint qualities are not just coincidental but are the natural result of a rational, organized mind that will appreciate the need for morality:

> Essentially [the future engineer] will be a moral man, certainly so far as to exercise self-restraint and live in an ordered way. Unless this is so, he will be unable to give his principal energies to thought and work—that is, he will not be a good typical engineer (*Anticipations* 104).

Wells also mentions the necessity of bodily urges, but here they sound more like the annoyance they often are for Sinclair, and also like Sinclair, to be satisfied so that everything else may run smoothly. He argues that sensuality "without any trappings of sentiment or mysticism" may be a "concession to the flesh necessary to secure efficiency" (105). The engineering class will naturally possess certain moral qualities because such qualities will be selected for in their social evolution: anyone without these "habits of thought" and "a strong imperative to duty" will drift into another group of professions. Any religious affinity will be reconciled with science and "the emotional and mystical elements in his religion will be subordinate or absent" (104). Doctor Moreau argues that "much indeed of what we call moral education [...] is such an artificial modification and perversion of instinct" (*The Island of Doctor Moreau* 125), and Wells would seem to be attempting to return these instincts to their proper channels as

Lawrence also desires to do, but Wells leaves bodily and emotional drives secondary to the rational mind and under the regulation of self-control.

Wells emphasizes the relevance of rational morality to sexual and reproductive relationships, but in this area he also begins to contemplate some undesirable consequences. *Anticipations* paints a picture of the Engineer's family in what Wells believes to be the optimal arrangement for the species' success. And as with the rise of the engineer himself, the rise of this family structure is due in large part to modern technology. But as Wells seems to admire his typical future engineer's monogamous and mutually-supportive home, he also has to wonder if the very conditions which enable its existence—namely the efficiency of the "mechanical civilized state"—might lead instead to a very different moral and domestic scenario. Without the hardships that bonded mated pairs in the past, Wells wonders, "Will a generation to whom marriage will be no longer necessarily associated with the birth and rearing of children, or with the immediate co-operation and sympathy of husband and wife in common proceedings, retain its present feeling for the extreme sanctity of the permanent bond?" (128). And while Wells desires world-unification through efficient communications technology, he speculates that, for a while at least, unification will require some loosening of moral restraints. The Danes, he reminds us, call legitimate those children England calls illegitimate, and some compromises in defining family structure will be necessary when globalization comes (129). In

> a world which is steadily abolishing locality....Statesmen will have to face the alternative of either widening the permissible variations of the marriage contract, or of acute racial and religious stresses, of a vast variety of possible legal

> betrayals, and the appearance of a body of self-respecting people, outside the law and public respect, a body that will confer a touch of credit upon, because it will share the sigma of, the deliberately dissolute and criminal (130-1).

But while Wells makes "moral relaxation" sound like an inevitable part of future human development, he also suggests that it may be exacerbated by the "irresponsible wealthy" whose future, as Ostrog predicts in *When the Sleeper Wakes*, is eventual extinction. So is "moral relaxation" a terminal condition, or is it a vestigial cultural adaptation that we can move beyond in the machine age? Perhaps it is both. Wells imagines in *Anticipations* that the world will remain unified by transportation, laws, language, and economics, but its population will eventually re-form semi-isolated groups based upon like ideas and ideals. Variations in moral values will play a major part in these new cultural formations (138). How Wells reconciles this eventual patchwork stabilization with the need for unification and continual evolution or how it can fully safeguard humanity against dividing into various species of Morlocks and Eloi is unclear. Technology has destabilized the old order but its impact on the future is not entirely within Wells' power to perceive or direct**.**

Wells' hope for the marital and reproductive success of his engineering class is also somewhat qualified. He assumes that the engineer will desire children since "his scientific mental basis will incline him to see the whole of life as a struggle to survive" and that a childless life "however pleasant, is essentially failure and perversion" (105). He will also be inclined to choose a wife for rational and practical reasons:

> Having a mind considerably engaged, he will not have the leisure for a wife of the distracting, perplexing personality kind, and in our typical case, which will be a typically sound and successful one, we may picture him wedded to a healthy,

> intelligent, and loyal person, who will be her husband's companion in their common leisure, and as mother of their three or four children and manager of his household, as much of a technically capable individual as himself (105).

The sort of woman best adapted to be the wife of the "educated professional class" of his *Anticipations*, is very similar to the artilleryman's requirements for women of his underground resistance in *The War of the Worlds*. The women of this type are to be a support to their engineer husbands, but most importantly to be the "mothers of a regenerating world" (*Anticipations* 118). With and through them, society will become more technologically efficient and humans more creative and adaptive. However, even these select women have the power and the potential to destroy Wells' hopes for the future. Wells does not trust sexual selection, as we have seen in his *A Modern Utopia*, and here in *Anticipations* he provides a clearer reason for his concern: women's marital interests may be swayed by forces other than a desire to produce the best offspring, and technology is partly to blame, along with capitalism and literature.

Technology has created more leisure time for women, and Wells assumes that women will spend this time thinking about romance and seeking "luxury and freedom." Wells blames the residual culture of capitalist materialism and the "mass of modern fiction written by women for women" for filling women's heads with these desires (119). Wells fears that the women best suited to be the wives of the engineers and the mothers of humanity's best offspring could thus be wooed away by shareholders' wealth and power. Despite Wells' suggestion that some women will be as "technically capable" as their engineer husbands (105), he imagines women will have no ability to direct their own lives other than in choosing a husband, and even the "serious and labour-loving

type" might be tempted into marrying a shareholder for the "prospect of developing her exceptional personality in ease and freedom and in 'doing good' with his money" (119). And even if the right woman does marry the right man, her head might be so full of the cultural lure of wealth and frills that she will either alienate her husband or draw him "from the austere pursuit of some interesting employment, towards the adventures of modern money-getting" (121). Either way, the efficient and "sanely reproductive" (141) home of the engineer will be threatened. Women, by desiring the wrong qualities in a mate and in life, may cause the downfall of the human race.

Wells professed confidence that capitalism would burn itself out, however, and that eventually "these great kindred groups of capable men and educated, adequate women must be, under the operation of the forces we have considered so far, the element finally emergent amidst the vast confusions of the coming time" (142). But the role that technology plays in the outcome continues to be ambivalent. How can breeding a race that values efficiency avoid putting itself out of work and becoming a leisure-class of Eloi? Can machinery become entirely self-sufficient, or will we always need machine-minders who may degenerate into Morlocks? Can a society that values intelligence and technical prowess above all else avoid becoming amoral, bodiless Martians? Wells attempted to see the future and offered us warnings and encouragement, but in the end he could provide no real assurance. And while his ambition to stretch and exercise the human mind through his writing may have been admirable, his theoretical applications of the Laws of Nature, like a Moreau with his scalpel, may be as prone to creating monsters when he wants to make men.

"A new and higher kind of strength": Upton Sinclair's Precarious Evolutionary Balance Between Animal Sympathy and Mechanical Efficiency

Upton Beall Sinclair is now known primarily as the author of *The Jungle* (1904), a novel that brought him instant international fame and celebrity and created enough public outcry to lead almost directly to the passage of *The Pure Food and Drug Act* of 1906. *The Jungle* has been associated with Harriet Beecher Stowe's *Uncle Tom's Cabin* as one of the few novels in history to have raised public consciousness and effected real change. In his biography of Upton Sinclair, Kevin Mattson calls Sinclair "truly an American" whose heroes such as Abraham Lincoln and Thomas Jefferson inspired "deeply American ideals like equality and democracy" (4). Yet while *The Jungle* made Sinclair a household name in the United States, Sinclair found an even greater readership abroad. R.N. Mookerjee states that during his lifetime, Sinclair was "for quite some time the most widely read and known of all American writers" (1). He was invited to the White House to meet with President Roosevelt,[1] and he corresponded with many famous figures and thinkers of his day, including Joseph Stalin, Mahatma Gandhi, Albert Einstein, and D.H. Lawrence. *The Jungle* also brought him to the notice and friendship of H.G. Wells, who first sought him out on a visit to the United States in 1906.[2] Sinclair was even considered for a Nobel Prize for literature in 1931 (3).

However, the impact of his writing, even in the case of *The Jungle*, fell vastly short of Sinclair's ambitions for it. He stated that with *The Jungle*, he had "aimed at the Public's heart, and by accident […] hit it in the stomach."[3] His exposé on the food industry was meant to be illustrative of the more fundamental problems within human

society that was threatening the course of human evolution. Sinclair wrote to change the world by challenging his readers to reinterpret the Darwinian evolutionary narrative so as to reclaim it from capitalism and justify a new socialist order run by a superior, socially adaptive human race. His desire to ignite a social revolution against monopoly capitalism did not succeed; however, hitting his readers in the stomach has more significance with regard to his greater evolutionary concerns for humanity than his famous expression of disappointment suggests. Like Wells and Lawrence, Sinclair argued for the vital importance of embodiment to human progress and grappled with the social, political, and evolutionary significance of the human body in relation to animals and machines.

Sinclair has received a recent, although modest, surge in critical acclaim for his artistry and for his value as a historically-important writer of "period piece[s]" (Bloom 1), but similar complaints tend to be leveled against him as against Wells: his didactic, political, and evolutionary goals tend to overshadow and flatten his character development and story-telling. Like Wells, Sinclair wrote for the general public and did so in many genres including plays, pamphlets, articles, and histories. And also like Wells, Sinclair chose fiction as the primary medium for relatively similar reasons.[4] Sinclair generally preferred realistic naturalism[5] to science fiction or romance, although he dabbled in both. Sinclair's concern with long-term human survival and advancement was in some ways more active and immediate, as his participation in politics shows. Sinclair and D.H. Lawrence fall on nearly opposite ends of the spectrum when it comes to confidence in the effectiveness of selfless mass political action on behalf of a greater community, but they are united in seeing the individual's inner struggle to achieve enlightenment as the seed for revolution and species evolution. And whereas Wells

tended to illuminate the dark and dangerous aspects of evolution, Sinclair and Lawrence generally emphasized the striving, however imperfect, of characters to find a better way.

Sinclair's writing is often criticized as inartistic and "journalistic" both because of its straightforward style and for its suggestion of a factual based in on-the-ground research. Sinclair's fiction, like his nonfiction, intends to "hold up a mirror" to society (*The Book of Life* 15), diagnose the ills and suggest a cure, so the impact of his stories relies in large part on their being read as "truth." As he explains in his postscript to *King Coal* (1921), "[f]rom previous experiences the writer has learned that many people, reading a novel such as 'King Coal,' desire to be informed as to whether it is true to fact. They write to ask if the book is meant to be so taken" and he declares that the novel "gives a true picture of conditions and events observed" (384). This preoccupation with truth begs the question of why Sinclair would so frequently choose to write novels to convey his message, and the answer seems to be that fiction enabled him to lead his readers along an intellectual journey of discovery and understanding and opened the possibility of uniting people through sympathetic response to his characters. He used the intellectual and emotional education of his characters to likewise educate his reader about the social and political realities of his day, much as Lawrence crafted his fiction to teach readers to recognize true vitality or "man alive" (*"*Why the Novel Matters" 195). But Sinclair rather than teaching readers to heed and respond to the authenticity of their subconscious feelings, Sinclair believed that feelings—especially the negative feelings of the wealthy for the working class—were trained by prejudice and needed to be re-trained through understanding. He is in this regard using the same narrative techniques (omniscience and free indirect discourse) to teach sympathy as George Eliot and Thomas

Hardy. He is also participating in what Richard Brodhead calls a "disciplinary" literary tradition received from Harriet Beecher Stowe. Brodhead contends that the birth of this (feminine) literary tradition coincided with a turn against corporal punishment toward internalization of disciplinary structures as described by Foucault in *Discipline and Punish* (1975). He states, "the novel offered endlessly to renew its primal transaction […] by which a near one opens a world of sympathy and through that act carries authority deep inside" (47). Rather than Stowe's maternal figures like Little Eva, who "opens up a space that both enables and actively solicits deep emotional participation [through] love for this mother-surrogate" who is about to die and whose "monitions [are] inwardly felt commands" (46), Sinclair usually attempts to shift this paradigm toward a paternal rather than maternal urging for discipline, generosity, and selfless fellowship, but the result is more or less the same kind of emotional training for improved community-building.[6] Sinclair's great ambition was to usher in a new dawn of human progress under socialism, and his strategy for accomplishing this feat, as he expresses clearly in *King Coal* and implies elsewhere, was in educating and generating sympathy for and within the working class. He saw a future that promised progress beyond the laws of survival-of-the-fittest, at least within the human species.

Contrary to what some critics perceive as an anti-Darwinian stance in his work,[7] Sinclair was a staunch believer in the evolutionary principles laid out by Darwin and Darwin's disciples. Sinclair shows a strong understanding of Darwin's principles and even dismisses a contemporary clergymen's claim that "'Darwinism' had been overthrown" on the grounds that the "reverend gentleman" had misunderstood a scientific debate (*The Book of Life* 17).[8] Indeed, Sinclair's co-operative socialist argument for

mankind is far from opposed to Darwinian theory; it is only opposed to the cultural idea of social Darwinism, and even there his position is not against but beyond: sympathy and co-operation are the next evolutionary step. In fact, he sometimes argues that the individualism of capitalism is a regressive misstep in the evolutionary adaptations of social behaviors. Sinclair recommends Pyotr Kropotkin's *Mutual Aid: a Factor in Evolution* (1902) for a convincing argument that nature provides a model for cooperative behavior as an adaptive survival mechanism (18-19). Sinclair proposes that morality and sympathy have evolved to ensure the survival of social groups.[9] From a basic selfish will to live, social creatures have evolved a sympathetic communal will to live. He explains that T.H. Huxley was wrong in "Evolution and Ethics" for arguing that nature is not moral; Huxley's perspective was skewed by the slower evolution of "imaginative sympathy" in relation to the rapid increase in humanity's "mechanical skill, his mastery over the forces of nature" (19-20). The result of the moral lag had been the monopolization of technology by the greedy and selfish and the use of that technology to subdue and enslave the poor. Sinclair believed that this imbalance could be rectified as humanity learned to expand the boundaries of sympathy to include the entire human species. Sinclair was an advocate of technology itself, and he has argued that it not only would benefit all of mankind once private ownership were abolished, but also that technology could be the means of bringing large masses of workers together, in effect enabling wide-spread if not global social rebellion.[10] While sympathy plays a large role in establishing a moral community in Sinclair's early works, there is a notable shift over his career toward an emphasis on control, particularly of bodies, with efficiency as the ultimate goal. Similar to the expectations that Wells expresses in *Anticipations*, Sinclair

believed that morality and efficiency could be mutually sustaining and would enable future technology to be safely deployed for the good of all humanity. D.H. Lawrence did not share this belief in technology, as I will argue in the final chapter.

While Sinclair sometimes indicates that capitalism is an evolutionary regression or derailment, he also represents humanity's social and political evolution as linear, moving naturally and inevitably towards socialism. In both *The Book of Life* (1922) and *Millennium* (1907, 1924), he tracks this development directly: social evolution begins with primitive man in a communal, tribal organization then moves to slavery, then to feudalism, then to capitalism, and finally to socialism. Capitalism, in Sinclair's articulation of it, is a manifestation of nature's laws, at least of the lower order of natural laws. The "machine" of capitalism, the system of written and unwritten laws by which the few consume and live off of the labor of the masses, is, like the technological mechanisms it employs, an a-moral force. Sinclair symbolically represents this capitalist machine as a predatory animal—most often a wolf—and as he explains in *The Book of Life*, "the wolf knows nothing about the feelings of a deer" (18). Humanity itself retains some of this wolfishness, particularly within the capitalist system. Man "in his savage state," Sinclair explains, "develops reasoning powers enough to realize that there are others like himself, members of his own tribe, and he makes for himself taboos which forbid him to kill and eat members of that tribe." However much imaginative tribal inclusion may have expanded over the years, Sinclair suggests that it does not yet extend to the working class (ibid). These subordinated people have remained deer as far as the owners of technology are concerned—outside of sympathy and beyond the taboo of cannibalism.

But the predatory impulse, like technology, can be redirected to positive functions when sympathy and community intertwine. Man, he argues, is a gregarious tool-making animal and must be both to survive. Physically, humans are "the most helpless and pitiful of creatures" (19) and rely on ingenuity and numbers to protect themselves from would-be predators and to procure food and shelter. Technology is the primary means of achieving both control over the environment and expansion of the human community so long as the evolution of intelligence and sympathy unite to propel humanity out of "the jungle" and into utopia. Sinclair asserts that other social species, including monkeys, "[i]nsects and birds and fish, nearly all the herbivorous mammals, and even a great many of the carnivores," also form sympathetic communities and feel love, but what makes humanity superior to the rest of the animal kingdom is the evolution of higher intelligence (19). He describes how intelligence has enabled the human species to reflect upon and alter its own relationship to nature's laws:

> Whether by accident or design, there has been on parts of our planet such a combination of climate and soil as has brought into being a new product of nature, a heightened form of life which we call 'intelligence.' Creation opens its eyes, and beholds the work of the creator, and decides that it is good—yet not so good as it might be! Creation takes up the work of the creator, and continues it, in many respects annulling it, in other respects revising it entirely (22).

While he leaves open the possibility of the divine, Sinclair also makes plain that Darwinian evolution—with its mechanism of chance mutation—may be responsible for humanity's self-awareness and therefore his own capacity to study, understand, and explain how humanity came to this evolutionary moment. With this foundational

knowledge, humans can then suggest ways to achieve the next level of progress as the species takes on nature's role in shaping its own future.

Interestingly, Sinclair cites Wells as someone who has engaged this theme of the "[c]reation tak[ing] up the work of the creator," but rather than mentioning the more famous and popular *The Island of Doctor Moreau* (1896), which portrays this project as a dubious one to say the least, he references *The Soul of a Bishop* (1917) in which Wells proposes that man, through the acquisition of knowledge, is in the process of becoming a wise and just God. This second Wellsian incarnation of mankind becoming God obviously coincides better with Sinclair's more consistently optimistic attitude towards human evolution, but it also conveniently omits the eugenicist ideas embedded in Doctor Moreau's distinction between superior and inferior human-animal types and his selective tinkering with the former. This omission may be representative of Sinclair's fraught relationship with eugenics and his ambivalence about the mechanism by which superior beings will lead the human race forward. He resists the violence that Wells believes necessary to reset human society, probably because violence has no clear place in Sinclair's future human population. He does concur with Wells and Lawrence that not all humans are fit to reproduce, however, and he finally embraces seemingly benign mechanisms of bio-power to safeguard the future while preserving the full spectrum of human beings within a sympathetic community. He endeavors to argue that all of mankind may elevate itself voluntarily, but at other times he imagines life systems run by scientists and their carefully-researched methods of bettering the species, including rationing food and regulating breeding.[11] His attempts to humanize all humans also fall a bit short. As this study hopes to demonstrate, Sinclair and Wells use almost identical

imagery of animals and machines to distinguish the more evolved from less evolved human beings and human societies, and Sinclair even intimates a potential bifurcation of the human species along those very lines. He also engages this dynamic to indict capitalism and propose an alternative utopian system that somehow incorporates the evolutionary stimuli to continue strengthening the aforementioned key survival skills.[12] But whereas Wells implies that some humans are inherently superior to others and thus must self-select by claiming leadership roles and controlling the education and reproductive practices of the less evolved, Sinclair struggles to maintain democratic ideals. His emphasis on selflessness and efficiency as the best evolutionary motivations to carry humanity forward directly conflict with D.H. Lawrence's thoughts on evolution and provide fertile ground for a debate about evolution and technology.

This chapter tracks Sinclair's use of animal and machine imagery in his fiction and nonfiction to explore how his participation in evolutionary discourse contributes to and undermines his utopian visions. I begin by analyzing his different uses of animal images and the functions of predators, prey, parasites, and cannibals in describing embodied humans and their social interactions and in defining masculinity. I then discuss how technology participates in human progress and degeneration both on the level of the individual and in the engineering of society. The final section addresses Sinclair's ideas about ensuring the survival and improvement of the species through sexual selection and engineered procreation.

Predators, Prey, Parasites, and Cannibals

"Prince Hagen" (1904) is one of Sinclair's earliest works and not one of his finer ones, but it establishes some of the key imagery and dynamics that recur throughout his writing. For this play, Sinclair borrows characters from the Wagner opera series "Der Ring des Nibelungen" (which borrowed them from Norse mythology), and he describes the Nibelungs as a race of non-human creatures, small, deformed, and ugly, living underground with their hoarded gold. Their prince is half human and out of control. The king entrusts this Prince Hagen to the poet and passive observer Gerald, who is the son of the "railroad king." Gerald's sister Estelle describes Prince Hagan as "small and dark and ugly," "strange-looking […] almost uncanny," and "a wild beast" (180). The Nibelungs are not so much non-human as sub-human. We see little of them other than Prince Hagen, but Gerald remarks that he has "weighty reasons for doubting the perfectibility of the Nibelungs" (216). Anthony Arthur suggests that Sinclair may have based the themes of this play and his later novel *King Coal* on Wells' *The Time Machine* (167), and there certainly are similarities between these subterranean, ugly and devolved humanoid beings and Wells' Morlocks. And the half-human Prince Hagen, much like the Morlocks, becomes a (symbolic) predator of the wealthy and complacent upper class.

Prince Hagen has been sent to live among humans to educate him, and his outsider's perspective produces a social critique. He discovers that the economic and social systems are a "game" with rules, and he dedicates himself to winning the game. He amasses all the wealth that had belonged to the wealthiest set (railroad, steel, and coal) and explains to Gerald, "this world of yours has always seemed to me like a barrel full of rats. There's only room for a certain number on top, and the rest must sweat for it till they

die" (202). When Prince Hagen has fully devalued all their stocks and ruined them, the steel man and the oil baron beg him for mercy upon their knees, to which Prince Hagen responds, "You pious plunderers! Devourers of the people! Assassins of women and helpless children! Who made the rules of this game...you or I?" (208). Here and throughout his writing, Sinclair describes capitalism as a form of cannibalism. This game of monopoly capitalism is, in Hagen's words, "the survival of the strong," and "warfare of each against all."[13] The rules of this game enable a few to live off the labor and stunted lives of the masses and tend to alienate individuals from their companions as each fights to get the advantage over the rest. The language of predation in *Prince Hagen* is largely symbolic—neither the prince nor the industrialists he vanquishes are viewed actually eating their prey—but the distinction between symbolic and actual cannibalism begins to break down in Sinclair's next major work: *The Jungle.*

The Jungle (1906) describes meat production in great detail and uses the slaughtering of cattle and hogs to illustrate how the meat-packing monopolies "like fierce wolves […] rend and destroy […] devour and tear" (255-6). Cannibalism becomes literal in at least one place in the novel as an accidental byproduct of the predatory system. The narrator relates the various dangerous working conditions of the meat-packing plants and includes a description of the tank rooms with steam in the air and open vats at floor-level where workers' "peculiar trouble was that they fell into the vats; and when they were fished out, there was never enough of them left to be worth exhibiting […] all but the bones of them had gone out to the world as Durham's Pure Leaf Lard!" (82). Thus it is the unwitting consumer who eats the workingmen; but this dynamic is precisely what Sinclair wishes to point out: everyone is complicit in the predation of the working class.

We are all either predators directly engaged in the destruction of lives, or we are parasites living off the fruit of other people's labor, often without knowing anything of those peoples' lives or deaths. Sinclair's target audience is both the working class and the parasitic classes. In *King Coal* (1917), the main character expresses Sinclair's hope for the power of stories to stop the parasitic cannibalism and the predatory system itself:

> The story would go out to the great world of industry, which depended upon coal as its life-blood. The men in the factories, the wheels of which were turned by coal—the travellers on trains which were moved by coal […] Even the ladies, reclining upon the decks of palatial steamships in gleaming tropic seas […] might hear the cry for help of these toilers, and of their wives and little ones! And from this great world would come an answer, a universal shout of horror, of execration, that would force even old Peter Harrington to give way!" (199)

The "life-blood" of the industrialized world is literally the life-blood of the coal miners and factory workers, and Sinclair believed that if he re-connected that blood to individual bodies and personalities for his reader, the bloodshed would stop. Hal Warner, son of a coal baron, acts as representative and guide for the reader as he comes to realize from his undercover study of coalminers' lives is that he is one of these unwitting parasites. His conversion to sympathy and responsibility for his fellow men is arguably the model that Sinclair intends all his readers to follow, and yet the novel itself raises doubts about the general receptivity of this parasitic class to the lesson and its willingness to forgo its life of ease and wealth for the benefit of all mankind.

While Hal represents an idealized parasite-turned-socialist, Jurgis Rudkis, the main character of *The Jungle* inhabits a full spectrum of roles—the prey, the predator, the

parasite, and the cannibal—over the course of the novel. Critics are ambivalent about him as a developed character, I would argue, largely because he carries the responsibility of representing all of these roles along wth the new socialist species of man. However unwieldy his character may be, Jurgis allows us to see the "jungle" in action from all angles as it directs his evolution as a character and human being. Jurgis Rudkis is a recent immigrant from Lithuania, having brought his family to Chicago's meat-packing district with the hope of finding a better life of freedom and opportunity. Jurgis has great physical strength and animal vitality. His young, healthy, giant body gives him confidence in his ability to succeed in life. He "would clench his fists and hold them up in the air, so that you might see the rolling muscles" and chide his more jaded companions with the rhetorical question, "Do you want me to believe that with these arms […] people will ever let me starve?" (17). While Jurgis is physically impressive at the start of the novel, he is also coded as prey. The first time we meet him, he is at his wedding "in a far corner, frightened as a hunted animal" (2), and subsequently, no matter how hard he works or how tenaciously he fights, he senses something predatory stalking him, and he feels terror: "there would come stalking into his chamber a grisly phantom, the sight of which made his flesh curl and his hair bristle up" (6) or feel "as if a savage beast were lurking somewhere in the pathway of his life, and he knew it, and yet could not help approaching the place" (105) and then "the terror came over him…He was like a wounded animal in the forest […]. There would be no consideration for him because of his weakness" (189). Physical strength is not enough to make Jurgis "fit" to survive in the urban jungle. Between malnutrition and work-place hazards, Jurgis' strength evaporates and he is left vulnerable and alone.

In Wells' *The War of the Worlds*, the Martians gather up humanity to be their cattle. In *The Jungle*, Sinclair symbolically associates the laborers with cattle and the cattle with the laborers. Early on in the novel, the characters tour one of the packing plants and gaze in amazement at the vast "sea" of penned-up cattle, more cattle than anyone could have "dreamed existed in the world" and of great variety and diversity: "Red cattle, black, white, and yellow cattle; old cattle and young cattle; great bellowing bulls and little calves not an hour born; meek-eyed milch cows and fierce, long-horned Texas steers" (26). The cattle had been brought in by train to fill the pens, and other trains would carry them away again as meat while more live animals were brought in to fill the pens the next day. The narrator muses that "[o]ur friends were not poetical, and the sight suggested to them no metaphors for human destiny," but the narrator's metaphor is intentional and recurrent. The owner of this very packing plant is later said to have been responsible for the influx of immigrants into Packingtown, just as he is for the influx of cattle:

> he had sent his agents into every city and village in Europe to spread the tale of the chances of work and high wages at the stockyards. The people had come in hordes; and old Durham had squeezed them tighter and tighter, speeding them up and grinding them to pieces, and sending for new ones (56).

When a strike takes place in the middle of the novel, the company sends for "gangs of Negroes" from the South and inmates from prisons, bringing "carloads of them" to fill the stockyards with "fifteen or twenty thousand human beasts" (226, 228). The superintendent of the packing plant then shouts at the striking butchers, "You went out of

here like cattle, and like cattle you'll come back" (228). And a now sickly and weakened Jurgis finds that he "must take his chances with the common herd" (234).

This language of cattle and herds is representative, as it is in Wells' fiction, of a predator/prey dynamic within capitalism. The first of the socialist lecturers of the novel explains that everyone is "shackled and bound in the service of organized and predatory Greed" (252). In particular, "The Beef Trust […] was the incarnation of blind and insensate Greed […] a monster devouring with a thousand mouths, tramping with a thousand hoofs; it was the Great Butcher—it was the spirit of Capitalism made flesh" (264-5). The workingmen join the workforce of Packingtown of their own free will, innocent and unsuspecting, like the hogs that "went up by the power of their own legs, and then their weight carried them back through all the processes necessary to make them into pork" (27). The hogs "were so innocent, they came so very trustingly; and they were so very human in their protests" (29), but Jurgis' response upon seeing their slaughter was to exclaim, "'I'm glad I'm not a hog!'" (30). And yet he realizes later in his conversation with Ostrinski the socialist, "a hog is just what he had been—one of the packers' hogs" (264). At this point, Jurgis is finally able to see the "hiding places of the beasts of prey" that he has sensed lurking in the darkness throughout the novel. He sees the truth of Grandmother Majauskiene's prediction: "'You are like all the rest,' she said; 'they trick you and eat you alive'" (58).

Jurgis is prey to the capitalist predator because of his class, his ignorance, and his trust in the humanity of the system. At times he is also submissive and intellectually dull, traits that not only associate him with beasts of prey but cause some critics to doubt his ability to transform into a socialist agitator in the end of the novel and to question his

manhood. Morris Dickstein claims that "Jurgis does not have enough inner life to make his final conversion credible" (55) and Michael Brewster Folsom calls Jurgis "drab, timid, and complacently inferior," arguing that these qualities "prevent the reader from taking Jurgis seriously as a man and as a Socialist" (42). However, Folsom does not give Jurgis quite enough credit as a fighter, and Dickstein may be underestimating Jurgis' ability to reason and comprehend. Jurgis is the victim of a predatory system and a creature of bodily impulses more than one of thought, but Jurgis is one of Sinclair's more complex human animals and deserving of further analysis. Jurgis, I will argue, is both prey-like and predatory, and his masculinity is divided by *and* defined by these two competing tendencies. Furthermore, his conversion to socialism in the end of the novel—an ending that many critics and even Sinclair himself find weak and wanting—is emblematic of a weakness in Sinclair's own formulation of the socialist structure to include both predators and prey living in peaceful harmony. In order to make this argument, however, it will help to map out the repeated tensions and contradictions in how Sinclair reconciles the two types.

While Wells would likely have agreed with Folsom that a timid and unintellectual character would make a poor hero for leading, or even participating in, humanity's evolutionary aspirations, Sinclair shows more solicitude toward the weak and timid. Both Wells and Sinclair use fear, pain, and suffering to evoke sympathy from other characters and from their readers (both openly state that building sympathy is a central goal of their writing), but Wells tends to use that sympathy to propel the stronger, wiser characters forward while leaving the objects of their sympathy to die by their own folly or be killed out of mercy. We may recall the curate and the Leopard-man as examples of such

instances. But sympathy for Sinclair is not merely an acknowledgment of shared embodiment and a reason for kind and humane methods for exterminating the weak and silly; it is an obligation to care for those unable to care for themselves and to give them a place in the new utopia. In *King Coal*, his main character declares himself a shepherd come to protect and liberate the sheep (161). Whereas Wells acknowledges and embraces his bourgeois sense of superiority[14] Sinclair, through the voices of his bourgeois characters, acknowledges and *fights against* these attitudes.

Whereas predators tend to be both positive and negative in Wells' symbolism (representing intelligence, bravery, and vitality along with the more negative attributes of cruelty and domination), the predator is almost entirely undesirable in Sinclair's. And while Wells euthanizes his weak and fearful characters out of pity and necessity, Sinclair struggles to justify their inclusion and support. Sinclair's *Millennium* illustrates his divergence from Wells on these points very clearly. Sinclair's Granville is strikingly similar to Wells' Ostrog as the cold, intellectual, essential predator, and his Lumley-Gotham is nearly identical to *The War of the World*'s curate as the fear-haunted, irrational prey. [15] Lumley-Gotham, it is interesting to note, owns half the world like Wells' Graham of *When the Sleeper Wakes* (1899) and he owns a "pleasure palace" like the ones Wells described in *Sleeper*. But despite or perhaps because of his wealth and power, Lumley-Gotham is timid and useless. He begin as something of a Wellsian Eloi; he and his social set "had been kept in luxury, and had never had to lift a finger on their own behalf, whose costumes, manners, and ideas were all selected for the purpose of expressing their inability to do anything for themselves" (52). Before the apocalypse that leaves only eleven people on earth, he lives in fear of assassination either from outward

attack by the unhappy populous (again similar to *Sleeper*) or from food poisoning by s member of his inner circle. Lumley-Gotham's utmost ambition seems to be to keep alive and he has no intellectual life at all. Sinclair has Lumley-Gotham willingly betray his friends and serve the new predatory capitalist for the security of being fed his food tablets every two hours, much as Wells' artilleryman imagines a portion of the populace will willingly submit to being made into chattel by the Martians (*War of the Worlds* 172). While Lumley-Gotham is not precisely happy in this subjugated condition, he is unable to formulate a more far-sighted plan for survival.

Once their conditions change back to that of primitive survival, some characters are able to rise to the challenge while others are not. Lumley-Gotham's wife, for instance, reforms from her vain and pampered role as the leading lady of high society to prove herself an industrious, intelligent, and adaptive woman. She thinks through causes and consequences of the predatory system and rebels against it. In its stead, she and several of the other survivors establish a new community founded upon socialist principles. Unlike the apocalypse of Wells' Martian attack, there is a direct refusal in *Millennium* to separate out the men from the cattle in utopia—all are to be treated as men, whether or not they live up to the title. Mrs. Lumley Gotham at first wants to exclude her traitorous and ridiculous husband, but her fellow socialist rebukes her for desiring to leave the weak behind:

> 'let me not hear such inhuman sentiments proceeding from your lips! Have you not told me that you desire to inaugurate an age of brotherhood and cooperation? […] If that be true, let us begin with yon poor wretch, who was driven by weakness and fear to serve the vile purposes of Capitalism [...]. Go yourself and

untie the bands that bind the last wage slave, and bid him rise up a free and equal citizen of the Socialist State' (176-7).

In order to move beyond survival-of-the-fittest competition within the human race, Sinclair must include all types, even the Mr. Lumley-Gothams, in his future human community. "'We have no right,'" another character argues, "'to say that any human being is hopeless, incapable of better things'" (188). However, Sinclair does not go so far as to argue that all humans are created equal and that changing the system will fundamentally alter the person. Living free in the socialist cooperative commonwealth does not change Lumley-Gotham's essential character. At the end of the novel, he remains fear-haunted and runs and hides when he is confronted by danger (195). The wiser characters treat him with kindness but also with amused condescension. The point for Sinclair seems to be that compassion comes with understanding, and the future of humanity depends on expanding empathetic understanding to all human animals. More than either Wells or Lawrence, Sinclair attempts to rehabilitate our feelings toward not only the weak, fearful and silly but also the distorted, subterranean, toiling element of humanity they all describe in their writing with some degree of disgust and dread.

The writing of Wells, Sinclair, and Lawrence is strangely haunted by the lurking dark figure of the coal miner. Wells' time traveller, as we have seen, felt so threatened by their Morlock descendants that their presence filled him with terror and murderous rage. Lawrence also repeatedly disturbs his characters with the offensive presence of such creatures. In *Women in Love*, Gudrun finds the miners "half-repulsive" although she sees a "foul kind of beauty" in them as well. They "awak[en] a fatal desire, and a fatal callousness" in her with their "mindless, inhuman" voices. (138). Even Paul Morel feels

something of this disturbing threat from his own father's "despicable" and "disgusting" manners (*Sons and Lovers* 100). In *King Coal*, Sinclair attempts to undermine this trope of the subhuman miner and, like he does with Lumley-Gotham, bridge the human divide through understanding. Initially his hero, Hal Warner, feels revulsion for the "toil-bent, pallid faced creatures of the underworld, like a file of baboons" (143). Sinclair, like Lawrence and Wells, draws attention to the importance of non-verbal visceral response in deciding whether a person may be included within the human community or not, but Sinclair argues that the somatic response is a learned "race-consciousness" that can be unlearned. At first Hal wonders how he could "learn to love these people, who were an affront to his every sense—a stench to his nostrils, a jabbering to his ear, a procession of deformities to his eye?" (21). But by living among them and suffering the same hardships that have (sometimes literally) shaped them, he begins to formulate the argument that living conditions have caused their degeneration:

> the [coal] vein varied from four to five feet in thickness […] which made it necessary that the men […] should learn to shorten their stature. After Hal had squatted for a while and watched them at their tasks, he understood why they walked with head and shoulders bent over and arms hanging down, so that, seeing them coming out of the shaft in the gloaming, one thought of a file of baboons […]. Thus, as always, when one understood the lives of men, one came to pity instead of despising (22).

This reflection is meant to show Hal expanding his elite tribal ties to now include these downtrodden masses, illustrating the principle of social evolution Sinclair advocates in *The Æ˘Book of Life*. He intends Hal's pity and the corresponding pity evoked in the

reader to perform this enlarging of human communal bonds, but it never quite achieves that goal. In his discussion of *The Jungle*, Morris Dickstein calls pity "one of the most dehumanizing of all emotions," and he accuses Sinclair of offering his readers "objects of our compassion rather than subjects in their own right" (55). His critique applies to *King Coal* as well. Hal dwells upon the limitations of the miners and, even when he forms bonds of friendship with them, continues to look upon them as lower life forms. Early on he wonders, "What had civilization done for them? What could it do? After all, what were they fit for, but the dirty work they were penned up to do?" (21). Every justification he finds, from lack of education to physical exhaustion, only partially convinces him otherwise. His own experience with backbreaking labor in the mines causes him to wonder, "Could a man be brave enough to protest to a pit-boss when his body was numb with weariness? Could he think out a definite conclusion […] and back his conclusions with effective action, when his mental faculties were paralysed by such weariness of body?" (69-70). His answer for himself turns out to be yes: he summons the energy and wit to lead a fight for workers' rights. For his mining friends, the answer is a qualified yes: they can follow him.

Sinclair acknowledges that only Olson, the union agitator, "had faith in their manhood, and went ahead to awaken and teach them," but he gives little in the way of explaining or justifying Olson's faith (84). For Hal, his friends remain animals of prey, as his language continues to indicate. When describing Mike working for the resistance, Hal says he "capered about like a young spring lamb" and when caught by the guard, he "stared […] like a fascinated rabbit, making no move to protect himself" (147-8). Hal's declaration of his decision to fight with the workers also reveals this continued divide

between the true humans and prey-animals. When the marshall claims, "'[s]o long as there are sheep […] there'll be wolves in sheep's clothing […]. If any lamb is silly enough to be fooled by that old worn-out skin […] it deserves to be eaten,'" Hal retorts, "'the shepherds are asleep; but the watch-dogs are barking [....] They are going to wake the shepherds! They are going to save the sheep! [And] my place is with the flock!'" (161). The bond of sympathy between the shepherd and the sheep awakens Hal to his responsibility—a responsibility he has felt throughout the book for his fortune, education, and life of leisure built upon the labor of coalminers—but the troubling fact remains that while he casts himself in this role of responsibility, he continues to represent the workers as sheep, as less than human and helpless on their own. While the book ends in sympathetic union between Hal and the workers, they are still not of the same species (23, 261). Hal's actions are based on a guilty resistance to his own unwitting participation in a predatory system. His father's fortune, and therefore his own, is built on coal. After his experience in the mines, Hal is convinced that private ownership is a cannibalistic wolf: "he saw its wolfish eyes glaring into his own, he felt its smoking hot breath in his face, he saw its gleaming fangs and claw-like fingers, dripping with the blood of men and women and children" (196). Knowing what he now knows of how the capitalists prey upon the sheep, Hal wonders, "Could he take satisfaction in a pleasant and comfortable world, knowing that it was based upon such hideous misery?" (181). His decision to lead the resistance is in part a sympathetic response to the misery and fear he sees in the miners, but it is also an attempt to reclassify himself as a civilized human shepherd rather than a parasite/cannibal/wolf. All that this transformation accomplishes is to reclaim Hal's humanity while leaving the miners as merely safer, happier sheep.

Intelligent, rational, refined, warm-hearted, self-controlled, handsome, and athletic Hal Warner is manly in all the right ways. Throughout his trials at the coal camp, he retains this masculinity and his membership within the human species except, perhaps when he is in prison. When the coal camp authorities lock him up, Hal describes suffering from "jail psychology" which turns out to be animalization:

> In a jail, you have first of all the sense of being an animal; the animal side of your being is emphasized, the animal passions of hatred and fear are called into prominence, and if you are to escape being dominated by them, it can only be by intense and concentrated effort of the mind. So, if you are a thinking man, you do a great deal of thinking in a jail (142).

This description recalls the discourse of Wells' Doctor Moreau on animal passions and the importance of the mind in evolving beyond animality. It also reiterates precisely the same experience Jurgis Rudkis has in jail in *The Jungle*. Of course unlike Hal, Jurgis has embodied animal qualities throughout the novel. However, while in jail Jurgis shows the same combination of thought and animal passions, but his thoughts seem to contribute to those passions rather than suppress them: "there was the same maddening procession of thoughts that lashed him like whips upon his naked back. When night fell he was pacing up and down his cell like a wild beast that breaks its teeth upon the bars of its cage" (132). Here in prison Jurgis has time to think about what it all means, and he does think it through as best he can from his uneducated and uninformed position. He hears Christmas bells chiming in the distance and uses them to represent the wealthy and powerful element of society that

> were simply not counting him at all […] he was flung aside, like a bit of trash, the carcass of some animal. It was horrible, horrible! His wife might be dying, his baby might be starving, his whole family might be perishing in the cold—and all the while they were ringing their Christmas chimes! And the bitter mockery of it […] why could they find no better way to punish him than to leave three weak women and six helpless children to starve and freeze? (133)

This juxtaposition of celebration and cruel indifference enables Jurgis at last to comprehend the basic principle at work in the capitalist machine/jungle: its laws and justice are based on "force […] tyranny, the will and the power, reckless and unrestrained" that had "put him behind bars, as if he had been a wild beast, a thing without sense or reason, without rights, without affections, without feelings." His realization causes him to "tremble[e] with passion […] his whole soul ablaze with hatred and defiance" (ibid). The narrator of *King Coal* reflecting on Hal Warner's incarceration states that many reformers begin "mild and benevolent" but "under the operation of jail-psychology are made into blazing and determined revolutionists" (143), and this transformation would appear to be the case with Jurgis as well. Hal's mental faculties, however, serve to subdue his passions while Jurgis' thoughts enflame his. Part of this different function of intellectual analysis could be based in ideals of Victorian masculinity that both Sinclair and Wells endorse. Hal has self-control; Jurgis does not. Wells, we remember, distinguished between the masculinity of the artilleryman's planning and thinking and the curate's degeneration into an irrational collection of drives and impulses. Jurgas is enraged rather than terrified here, but whereas Hal seems to

successfully fight off the "jail psychology" that threatens to animalize him, Jurgis' thoughts only serve to further enmesh him in his animal being.

There are, however, two important differences in Jurgis' animality that in fact associate it with masculinity, albeit of a slightly different variety from the self-controlled thinking-man's masculinity. First, unlike Wells' curate, Jurgis' animal impulses are aggressive and sometimes even predatory. To save his family from starvation during a storm, "the soul of Jurgis rose up within him like a sleeping lion" (94) and he hunts down Ona's rapist in highly predatory language (126-8). Secondly, unlike Hal Warner's affectionate pity for the miners, Jurgis' anguish is prompted by the immediate threat of annihilation facing his own family. Scott Derrick makes a fascinating claim that *The Jungle* is a masculine narrative of "misogynistic fears of women and their reproductive powers" and that Jurgis "desire[s] to free himself from all family entanglements and to gain the masculine freedom of rural life" (128). Derrick takes Jurgis' statement that it would be better for Ona to die after the rape and her subsequent death as confirmation of this pattern (128-9). Derrick also argues that the parallel language between Jurgis' rural escape into masculinity and his son's escape into death "contributes to the decentering of Jurgis' selfhood" (129) leaving an opening for the true masculine model to be found in Schliemann, the unemotional, asexual intellectual whose authority as "absolute male intelligence" fulfills "an important goal of the narrative all along"(130). Derrick's arguments are provocative, but his main contention is predicated on the faulty premise that the overwhelming fecundity in the novel "coalesces into a fear of family life, and, within the confines of the family, misogynistic fears of women and their reproductive powers" (127). I agree instead with Folsom's argument that Jurgis' "manhood is tied to

his faithful dedication to the domestic sentiments" (40). Jurgis is a primitive man, but he is a man. And his sympathetic attachment to family is what gives him strength and a moral compass. Without family, his masculinity becomes wolfishly predatory; he spends time as a mugger, a stockyards' foreman, a cog in the political machine. Only his thoughts of family keep him from succumbing to alcoholism and bring him what self-control he is able to muster. When Ona dies, Jurgis rallies at Teta Elzbieta's plea that he put duty to family above his own grief, and he does so in the name of manhood: Elzbieta begs Jurgis to "show himself *a man*…Could he not *be a man* for Ona's sake, and pull himself together?" (161 emphasis added). And when he has lost everything but the memory of his family, the narrator warns that if their remembered "voices would die […] the last faint spark of manhood in his soul would flicker out" (245-6). This loss of manhood in *The Jungle* means a loss of human feeling, a loss of sympathy, and by extension, a loss of the potential to form a community.

Masculine rejection of family means essentially degeneration of the species from gregarious back to predatory survival, and that trajectory ends in annihilation. "We have made the point about evolution," Sinclair reminds his readers in *The Book of Life*, "that it may go forward or it may go backward" and that nature "has produced and continues to produce, all kinds of monstrosities and parasites and failures and abortions" (42). *The Jungle* repeatedly states that this is no world for women and children, but not because the novel repudiates family or creates a "gynephobic […] equation between women and the body" (Derrick 127). Rather, the narrative underscores the abortive, failed nature of the capitalist system through representations of the female body as the site of contest between capitalism and family. Women and children are not "fit" for capitalism because

capitalism is a sterile system and evolutionary dead end. Derrick does have a point about the troubling imagery of unlimited procreation and the female body as the source of that fecundity, but any anxiety about female bodies may be quieted once the next stage of human evolution is achieved and we enter into a scientifically engineered society of, as Schliemann puts it, "the scientific breeding of men and women" (*The Jungle* 286). I will return to this topic of controlled fertility in the next section.

Humanity and manhood are often as synonymous in Sinclair's writing as they are in Wells' and Lawrence', and Jurgis' two versions of masculinity neatly coincide with Sinclair's primitive man and socialist man in *The Book of Life*. Like "man in his savage state," Jurgis initially had "developed […] imaginative sympathy" for only his immediate family or "tribe" while, like the wolf, indifferently leaving the rest to their fate (*The Book of Life* 18). The freshly arrived and optimistic Jurgis had "consigned the unfit to destruction, while going about all day sick at heart because of his poor old father, who was wandering somewhere in the yards begging for a chance to earn his bread" (49). His father is one of many suffering under the same cruel system, but Jurgis' sympathy is for his father alone. His limited attachment here reveals how family affection can in fact blind him to the larger structure within which his father is a victim. And in *King Coal*, family feeling often proves to be an evolutionary limitation. The one thing that seems to keep most people living in the misery and horror of the mining camp is their fear for their families should they take a stand against the system. Andy, a Greek boy with "beautiful features" responds to Hal's suggestion that he leave by saying, "'Christ! How I get away? Got mother, two sisters" (32). And when Hal approaches Jerry, a self-proclaimed socialist, about demanding their rights, Jerry says such daring is fine for Hal because he

"'no got family!'" (94). When primitive man's family is under threat, he can devolve into either a timid and "cowed" creature or a wild and violent one, but in both cases his humanity is circumscribed by the limits of his tribal attachments. His limited attachments also seem to correspond with a limited understanding of his condition—Yurdis "fought like a tiger" against Ona's rapist, but his fight is essentially futile while he is unable to perceive and fight the system that protects and promotes people like Connor (126). In his encounters with Connor, which occur twice in the novel, Jurgis not only symbolically turns into a predator and Connor his "prey," but he actually literalizes his predation by sinking "his teeth into the man's cheek […] dripping with blood, and little ribbons of skin were hanging in his mouth" (127). The sympathetic, primitive bond of family feeling, then, can annul man's potential for change and advancement, can strengthen and sustain his noble human qualities in a degenerate world, and can bring out the bloodthirsty beast, but whatever the response, the limited tribal ties are not enough to turn the tide of power away from the indifferent wolves and tigers running the capitalist show; to survive humanity must, as Jurgis finally does in the end of *The Jungle*, expand the tribe to include at least all working-class creatures of prey in order to have a chance of evolving beyond competition. Through an awakened consciousness of shared plight and the power of joining forces with a larger, socialist community, Jurgis at last becomes fully human. He reestablishes his family connections and responsibilities in the end of the novel, but his masculinity and sympathetic community are no longer shaped and delimited by family. The enlightened and euphoric Jurgis of the novel's end has learned to fight for humanity as a whole through cooperation and mutual aid. While his individual future in the form of wife and children may be lost, his life has regained meaning and hope through his efforts

to shape the future of humanity. Through Jurgis, Sinclair has attempted to model the evolution of man from prey to predator to socialist ideal. Jurgis is not the cleverest creature nor the most self-controlled, and these persistent aspects of his being are perhaps what make his function as a socialist or as a masculine ideal questionable. But Jurgis' journey represents Sinclair's hopes for what the lowliest of creatures may achieve once the evil of capitalism gives way to the fellowship of socialism.

In his attempts to forge sympathy between the wealthy with the poor, Sinclair makes use of both sentiment and evolutionary logic. The most logical and detailed transformation is that of Mrs. Lumley-Gotham, who converts herself from superficial socialite into hardened socialist after careful study and analysis of prior social evolution from tribal to slave-owning to feudal to capitalist. Following this trajectory enables her to perceive the evolutionary imperatives that drove each change and to conclude from the underlying laws of nature that the next step for humanity must inevitably be an intentional reconfiguration of social rules and organization (167-8). Sinclair repeatedly asserts that this intentional reset for humanity must be based in nature. The socialist "Little Giant" in *The Jungle*, for example, makes the argument that "economic evolution" is directly related, if not identical, to natural evolution:

> Life was a struggle for existence, and the strong overcame the weak, and in turn were overcome by the strongest. […] but now and then they had been known to save themselves by combination—which was a new and higher kind of strength**.** It was so that the gregarious animals had overcome the predaceous; it was so, in human history, that the people had mastered the kings. The workers were simply the citizens of industry, and the Socialist movement was the expression of their

> will to survive. The inevitability of the revolution depended upon this fact, that they had no choice but to unite or be exterminated; this fact, grim and inexorable, depended upon no human will, it was the law of the economic process (273).

In other words, the principle of survival-of-the-fittest is still at work in economic evolution. Rather than competing for survival on the level of the individual, entire populations are driving the competition of economic systems, and the most "fit" economic system—the gregarious socialist system—will "inevitably" overcome the predacious capitalist system because its failure to do so will mean extermination. Rather than rejecting the survival-of-the-fittest mechanism, Sinclair depends upon it to explain the dire necessity of his socialist revolution for workers and for all of humanity. Competition between individuals must be consigned to our evolutionary past in order for this new economic evolution to prevail, and so we must also move beyond predatory language and envision humanity as neither predator nor prey, and not even a Wellsian mixture of the two. In *King Coal*, Sinclair settles upon a new analogy for humanity's future: the ant.

Ants are cooperative, industrious, and orderly; and perhaps most importantly, they value the society above the individual. John Edstrom, an ancient Swede from Minnesota and a self-educated man, teaches Hal and Mary Burke about economics, social evolution, and ants:

> "Mary,' he said, 'did you ever read about ants in Africa? [...] They travel in long columns, millions and millions of them. And when they come to a ditch, the front ones fall in, and more and more of them on top, till they fill up the ditch, and the

> rest cross over. We are ants, Mary […]. They cling to each other's bodies, even in death; they make a bridge, and the rest go over" (105).

There is nothing glorious about being an ant, and Hal has trouble identifying himself as one: "He had thought in his youthful fervor it would be thrilling to be a revolutionist; but to be an ant, one of millions and millions, to perish in a bottomless ditch—that was something a man could hardly bring himself to face!" (105). Here Hal almost makes Lawrence's case against ants and ant-like subsuming of the individual into the social body. Lawrence warns that such selflessness leads to emptiness, that society is nothing without fully developed individuals fighting for the freedom to pursue further individual development.[16] Edstrom seems to argue back that individuality cannot be asserted until the selfless work of the ants is complete. Hal's difficulty identifying with ants is challenged by the fact that Edstrom's conversion has enabled him to embody, as Hal describes him, many of the highest marks of masculinity: he is intelligent, rational, educated, self-restrained, and sympathetic to all mankind. Hal marvels that "in the midst of want and desolation, with his family broken and scattered, and the wolf of starvation at his door, [Edstrom] could look back upon the past without hatred of those who had ruined him […] because he had studied economics, and convinced himself that it was an evil system which blinded men's eyes and poisoned their souls." (104-5). By embracing ant-like determination and selflessness for the greater good of the species, Edstrom looks ahead to a "better day" when "it would be possible for men to be merciful to one another" (105), and this novel, like *The Jungle*, ends with that hope on the edge of being realized. But what happens when the ants succeed in crossing over to the other side? Sinclair shares Wells' concern that without competition, the species will degenerate. And also like

Wells, Sinclair suggests that science and technology will play a large role in establishing and sustaining the new order. From the destructive "machines" of capitalism and its corrupt laws will rise an age of technology far more advanced than could ever have been achieved under wasteful and wrong-minded private ownership.

Machines, Technology, and Engineered/Engineering Man

In *The Book of Life* (1921), Sinclair states that the "human body is a machine" with "nerves like telegraph wires" and a combustion engine that "takes in carbon and oxygen, and burns them…and develops energy in proportion to the amount of carbon it consumes" (53). Such a declaration was not unusual for the time period. As Carolyn Thomas De La Peña, Anson Rabinbach and others have noted, analogies between the workings of the human body and of machines in medical and popular discourse had become frequent in both Europe and America during the late nineteenth and early twentieth centuries. De La Peña writes, "it was common for books on popular health to refer to hearts as 'motors' or 'pumps' and food as 'fuel'" (24). Sinclair has an uneducated, somewhat simple-minded coal miner use this metaphor in *King Coal* when his narrator states that Old Mike "believed in eating—no man could keep up steam if he did not stoke the furnace" (69). Mike's association between bodies and machines comes directly from his experience working with machinery in the mine, but other educated characters throughout Sinclair's work agree that we must attend to the basic needs of the body in order for both the lower and the higher functions of the human being to operate successfully. In *The Jungle*, Herr Dr. Schliemann "studied the composition of foodstuffs, and knew exactly how many proteids and carbohydrates his body needed." He also

practiced "scientific chewing" to "tripl[e] the value of all he ate" (278). While Sinclair rejects the idea that the human mind is nothing more a machine that acts according to chemicals and stimuli,[17] the machine analogy suits Sinclair's long-term vision of maximizing the capacity of not only the individual body but of the social body as well. As we shall see, technology—what it represents and what it can do for human advancement—plays a central role in Sinclair's conception of human evolution. He uses technology to argue for a rational, scientific, and orderly arrangement of life systems that will both conquer nature and remain natural, as it is based on the natural laws of the universe. And yet he also acknowledges that technology can and has been misused and, like Wells, he cautions that too much control over nature may cause humanity to degenerate in the absence of competitive forces. This section of the chapter will highlight how machine metaphors and the potential of technology undergird Sinclair's shift from sympathy as humanity's driving evolutionary principle to biopolitical optimization of the species' efficiency.

Michel Brewster Folsom states that, as a writer, Sinclair "had the advantage, shared by none before him, and few afterwards, of enjoying and approving the industrial mode of production" and that Sinclair "was pleased to identify himself with things organized, systematized" (26)[18]. Indeed, in his 1925 *Mammonart*, Sinclair announces, "I am a Socialist who believes in machinery, and has no interest in any world that does not develop machine power to the greatest possible extent" (238). If the current form and use of machinery was uncongenial to other artists' imaginations, it was only because technology has been misused under capitalism and private ownership: "There is no reason why machines should not make beautiful and substantial things, instead of making

ugly and dishonest things—except the fact that the machines are owned by people" (ibid). Folsom and Sinclair himself find this pro-technology attitude to be particularly American. Sinclair comments in *Mammonart* that William Morris disliked Edward Bellamy's *Looking Backward* (1888) because of the novel's American propensity to "organiz[e] and systematiz[e] the world" (qtd. in Folsom 26). Knowing Sinclair's familiarity with Wells' work, this differentiation along national lines seems odd; Wells, too, was an advocate for organizing and systematizing, and his *Modern Utopia* (1905), which Sinclair read the following year, likely influenced Sinclair's own utopian visions.[19] But the comment does speak to a more general attitude of Sinclair's to perceive his English counterparts as mired in their present and less able to imagine things in their abstract potential. In *The Book of Life,* for instance, he argues that T.H. Huxley's mistaken belief that morality was antithetical to nature shows that Huxley was "in economics a child of his time," that his economic vision was shaped and limited by the "factory age in England" (18). Sinclair's claims for the more progressive and clear-sighted American perspective also speak to what appears to be a generally more enthusiastic acceptance and application of mechanistic principles both in American industry and social engineering.

Zoltán Simon argues that technological advancement was particularly interwoven in American national identity because the "revolutionary and early national periods in American history by and large coincided with a substantial industrial revolution […] and the belief that the country's progress and welfare are closely tied to technological progress has become a cornerstone of American consciousness" (9-10). Ronald Takaki agrees that in the mid nineteenth century, "America entered into a celebration of technology as an expression of its nationalism and progress" (148). Simon also notes that

an "almost unconditional trust in technology's positive impact on the nation's, or more generally, humankind's, progress was especially prevalent in the early twentieth century" and, thanks largely to Frederick Winslow Taylor (whom Simon places alongside Darwin, Marx, and Freud as influential in shaping modern civilization), it was an era of "scientific management, heightened efficiency, a rational and systematic approach not only in manufacturing, but also in virtually all areas of life" (10). From Henry Ford's assembly line to the American Breeder's Association's "Committee on Eugenics" founded in 1906, American society was embracing mechanization and control in all sorts of ways.

There was, of course, some resistance to and critique of these movements, and Sinclair was both a proponent and a critic. He believed in the potential of science and technology for improving lives and bodies, but he also felt some of Wells' and Lawrence' concern that technology could go too far and turn people into machines and trap them in economic and social structures that he also refers to as "machines." Simon rightly argues that Sinclair wished to "expose and discredit the false rhetoric of the positive sublimity of production" (Zoltán 36) by "expos[ing] the shallow rhetoric of industrialists and technocrats pointing with pride to the achievements of the United States as a world-leader in the field of manufacturing" (38). *The Jungle* in particular underscores how adults and children have been reduced to repetitive, mindless movements as mere cogs of factory machines in the Chicago meat industry. And despite Sinclair's interest in regulation and self-control, he does not go as far as other Americans who "viewed the machine as a replacement for the human body […] which would never become tired and one which would make it possible for the first time in history for man to become mind" (Takaki 149-50). His objection is in line with those presented by Mellors and Connie Chatterley

in Lawrence's *Lady Chatterley's Lover* and suggested in Wells' *The Island of Doctor Moreau*. In *The Book of Life*, Sinclair states that all efforts to isolate man from "the humiliating limitations of the flesh" fail because of "the fundamental fact that man is an eating animal, an animal insufficiently provided by nature against cold" (132). Like Wells and Lawrence, Sinclair argues that this "humiliating" fact of embodiment should actually be embraced and celebrated as the impetus for human ingenuity and evolutionary success. Sinclair specifically associates the stimulation of bodily discomfort with technological invention. Hunger and physical vulnerability motivated early humans to shape their environment and evolve communities for security and for more efficient and reliable food procurement. Inventing mechanisms to make life safer and easier is historically what has enabled the species to grow and culture to flourish, and Sinclair has high hopes for this evolutionary trend. However, like Wells, he strongly feels that private ownership of property in general and of technology in particular has caused the species to regress. Sinclair incorporates the social Darwinist naturalization of capitalism into his own evolutionary thinking, but he argues that, while capitalism follows the same mechanistic laws of natural selection, blindly following those laws leads humanity back to an earlier state of high competition that erodes community feeling, promotes predatory selfishness, and ultimately will lead to species annihilation if we do not evolve beyond capitalism.

One contradictory idea shared by all three author is that human evolution, on the one hand, requires the intervention of men like them and on the other will occur naturally when humanity is ready for it. They all sound the alarm of species degeneration and point to the same social and economic factors as a threat to long-term human survival, but they

also express a belief that capitalism is a natural step along a rather linear evolutionary trajectory. In the section of *The Book of Life* subtitled "Industrial Evolution," Sinclair explains that the laws of nature dictate that competition will "always end in monopoly" and, while this stage of social evolution is brutal and cruel, it sets the stage for a higher form of society to follow. Capitalist competition follows Sinclair's model of predatory creatures consuming weaker creatures:

> The big fish eat the little fish, the strong gain advantage over the weak, the rich grow richer, and the poor grow relatively poorer ….In other words, the tendency toward concentration in business, the absorption of the small business by the big business, is an irresistible natural process (127).

Yet this "irresistible natural process," as he describes through the technology of meat production in *The Jungle*, is violent, heartless, mind-numbing, and toxic to true human progress. The machines of the killing floor, as we have already seen, unceremoniously yank the pigs off of their feet and carry them to their helpless, terrifying, and undignified end. The canning machine, like the one young Stanislovas operates, requires monotonous, repetitive movements of its human extension that in turn symbolically and actually converts that human into a mere piece of mechanism. From the local level of an actual machine to the social and political "machinery" of capitalism, humans (and animals) are forced to play their parts in a system with laws fixed by corruption, collusion, and greed. Sinclair uses the word "machinery" again and again to signify this closed system of checks and balances that serves the rich, the bullies, and the scoundrels at the expense of the common man.

"Machinery," as Sinclair uses the term, signifies a working whole comprised of interlocking parts. Machinery of all types is governed by universal laws and its functions can be understood, predicted, and manipulated by the savvy engineer, whether the machine is a body on a diet or a political system run by "graft." He explores the "machinery" of capitalism repeatedly in his works, not to implicate the language of technology, as I argue Lawrence does, but to represent the pervasive systematization of capitalist corruption. When Stone threatens Hal Warner and his striking coal miners, he says, "we've got the machinery" (133) to break the strike and their will. And later, Hal asks Jeff Cotton to elaborate on the local political and economic collusion with the same words: "I'm interested to see the machinery**,**" he says (152). The reader learns through Hal's exploration of all the channels of so-called justice and truth that politicians, lawyers, law-enforcement personnel, and even most of the journalists are on Big Business' payroll, contributing to keeping the machinery of profit functioning at the expense of the many lives forced to run the physical machinery of the mine. Similarly, Jurgis in *The Jungle* hears that the government inspectors assigned to protect the public from contaminated meat were actually appointed by the packers and controlled by "three henchmen of the local political machine," all "on the graft" (79). And the narrator later states that the "whole *machinery* of society was at their oppressors' command" (148, emphasis added).

While capitalist machinery selects for some of the same traits as nature—namely adaptability, intelligence, and innovation, it de-selects some of the traits that Sinclair identifies as the highest adaptations of man: sympathy, self-control, and efficiency. Efficiency is of particular interest to Sinclair, and he extensively explores how capitalism

produces a mockery of it. When money is the only measure of success, efficiency is measured only in terms of profit. Therefore, laboring bodies, which are cheap and easily replaceable, do not count toward capitalist efficiency at all, and consuming bodies only count insofar as they can be convinced to buy a product. The machines that produce goods are designed to maximize output at a minimum production cost. Human inventiveness, rather than being employed for the betterment of the human race, serves the captains of industry to increase their own wealth, often, Sinclair demonstrates, at the cost of human health and lives:

> all the miracles of chemistry […] they performed, giving to any sort of meat, fresh or salted, whole or chopped, any color and any flavor and any odor they chose. In the pickling of hams they had an ingenious apparatus, by which they saved time and increased the capacity of the plant […] later on some ingenious person had hit upon a new device, and now they would extract the bone, about which the bad part generally lay, and insert in the hole a white-hot iron. After this invention there was no longer Number One, Two, and Three Grade—there was only Number One grade. The packers were always originating such schemes (*The Jungle* 111-12).

With human ingenuity and innovation thus perverted by greed, the forces that initially inspired inventiveness—namely, the frailty of the individual human body—become the victim rather than the inspiration of so-called "progress."

Bodies are of central importance to Sinclair, but unlike Lawrence's rapturous bodily awakenings, Sinclair rarely shows pleasure in bodily sensation; most often, characters become aware of the body through pain, cold, exhaustion, or hunger—all of

which could be minimized by advances in technology. Thus his claim that bodies are necessary to human advancement still treats them as an irritant that interferes with optimal mental function even as they inspire creative thinking on how to adapt so as to satisfy and then perhaps largely ignore them. His focus on eating is revealingly utilitarian and mechanistic. In his own life, Sinclair battled indigestion and headaches that increased as he worked, and he describes in his writing his attempts to find a diet that would allow him to work undistracted by his temperamental body.[20] Kevin Mattson studies Sinclair's history of dieting quite thoroughly in *Upton Sinclair and the Other American Century* (2006), observing that "Sinclair would claim that 'everything I wrote on diet was in the nature of a report of experiments.'" but Mattson find that "[n]othing could be further from the truth; he was a zealot when each new discovery was made" and was a "disciple" of first one doctor's theory and then another (77). Mattson goes on to explain that while achieving health was certainly a motivation, "there was also the ongoing desire to make his life *efficient* for his writing career" (79, emphasis added). In order to engage in intellectual activities and forward his causes for mankind's advancement, Sinclair tried to care for his body systematically. In *The Book of Life*, Sinclair details his misadventures with dieting as he explores how different foods impact his health and his productivity as a writer. What becomes clear from Sinclair's consultations with experts and his subsequent trials and errors with vegetarianism, raw diets, and all-meat diets, is that he believed there to be a science to food consumption and to the bodily processing of food. Sinclair's search for his ideal diet is a search for the right fuel to optimize his operating system so that he could focus his energies on "brain-

work."[21] He had "no doubt that some day we shall know enough to be able to find for every individual a diet which will keep him at the top of his power" (122).

In his futuristic *Millennium*, Sinclair imagines that scientific study *has* devised a formula for ideal nourishment in tablet form, along with the machinery for producing it. Mr. Lumley-Gotham has two such machines, and his doctors have advised that he take one tablet every two hours to maintain perfect health. In the final socialist utopia that closes the play, the characters are reunited when they all converge upon a single location because they all know it houses one of these tablet-making machines. The food tablets form the cornerstone of this otherwise pastoral settlement of the cooperative commonwealth, suggesting again that the body's needs can be satisfied scientifically and mechanically—both in that their food is produced by a machine and in that its consumption seems unlikely to be a source of pleasure, merely a necessary chemical process to keep the body functioning efficiently.

There is no suggestion of the tablets being customized, so the implication is also that the human body may be seen as a single, standard structure housing unique individual minds. Sinclair's attitude toward bodies seems, therefore, far more Cartesian than either Wells' or certainly Lawrence's. He even has a minor character in *Metropolis* lament the loss of his bodily vitality in a way that highlights his body's mechanical functioning, or malfunctioning: It is "worn out" and "falling to pieces," but *he* is trapped inside of *it* and unable to escape despite all of his fortune (264). Some critics and biographers have read such moments in Sinclair's writing as representative of Sinclair's own beliefs and have interpreted Sinclair's attitude toward the body in general as one of distaste and rejection. They note his rather asexual and ascetic personal habits and

speculate that Sinclair disliked bodies and wished to move beyond them, but Sinclair's writing also emphasizes the inseparability of mind and body. Even the character Schliemann, whom Scott Derrick describes as Sinclair's ideal of an unemotional, un-sexual "absolute male intelligence" (130) makes the point that we must first provide for the "material needs of men" and then give free rein to the intellectual needs (*The Jungle* 285). Certainly Sinclair resented his body's frailty and seemed more interested in controlling bodies than in finding pleasure in them (sexuality and food), but Sinclair also frequently argues that human beings are necessarily embodied and he suggests that the body is an important component of masculinity, sexual selection, and species advancement. Grimes' characterization of the body as a prison is, in fact, an attitude that Sinclair directly critiques in *The Book of Life*. Sinclair identifies a "tendency on the part of those who specialize in the making of ideals to repudiate the eating and the tool-making sides of man" but, as I quoted earlier, he insists that "none of them have changed the fundamental fact that man is an eating animal, an animal insufficiently provided by nature against cold, and with an intense repugnance to having streams of cold water run down back of his neck" (132). The vulnerable human body is our primary motivation for creativity, as I already mentioned, and this creativity is specifically applied to developing technologies which have in turn made expanded community and intellectual development possible.

The health of human bodies, according to Sinclair, also indicates the health of the larger social body. Despite his personal passion for diets, Sinclair satirizes diet crazes in several of his works, suggesting that dieting is a superficial and temporary fix for the underlying causes of bodily corruption: the capitalist machine with its attendant cultural

diseases of "money-lust" and misuse of technology (*Metropolis* 247). Mattson notes that Sinclair "believed that the health of the body related to the health of the body politic" (79) and the corruption of both is the focus of much of Sinclair's writing. Sinclair associates poor health, as Wells does, with both the drudgery of lower class labor and with the indolent lifestyle of the wealthy. The moneyed elite, whom Sinclair represents in detail in *Metropolis*, have most often acquired wealth by controlling technology, its raw materials, and its fuel sources. This accumulated wealth removes this population from the need of direct toil and, consequently, from the "healthy" functioning of the body. Bad eating habits and lack of physical exercise are two problems Sinclair identifies within upper-class bodies, both of which he attributes to excessive leisure and self-indulgence. Dr. Schliemann in *The Jungle* claims that physiologists had recently discovered "'that most of the ills of the human system are due to overfeeding'" (287). In *Metropolis*, Sinclair describes some of the futile ways in which the wealthy attempt to restore their bodies without attending to the deeper causes of their degeneration. They turn to "bizarre" cures in the form of specialized diets, eating regimens ("One would chew a mouthful of soup thirty-two times; another would eat every two hours, and another only once a week"), "rest cures," "water cures," religious and spiritual healing, and mechanical contraptions like "an automatic horse, which one might ride indoors, with a register showing the distance travelled," "an electric machine, which cost thirty thousand dollars, and which took hold of [one's] arms and feet and exercised him while he waited" and "riding an electric camel" (278). One character, who lives on a diet of graham crackers and milk, confirms the negative effects of wealth upon his own body when he complains,

> "I was young and strong once—I could take care of myself; and I said: I'll make money, I'll be master of other men! But I was a fool—I forgot my health. And now all the money on earth can't do me any good! I'd give ten million dollars to-day for a body like any other man's—and this—this is what I have!....Look at it!" he cried, hysterically. "This is what I've got to live in! It won't digest any food, and I can't keep it warm—there's nothing right with it!" (264)

Referring to this man, whose name is Henry S. Grimes, another character states his doctors have proscribed the graham cracker diet and that Grimes is "frightened at his own shadow" (207). This characterization of Grimes as timid and reliant on doctors' diets is practically identical to Sinclair's description of old Lumley-Gotham with his mindless terror of death and utter dependence on his food tablets since his "physicians had warned him that if he ate other foods he would not live very long" (*Millennium* 117). It is interesting to note that Sinclair's attitude toward these two medically-approved dietary solutions is contradictory: in Grimes' case, the graham cracker cure is pathetic and ridiculous but in Lumley-Gotham's it becomes a central component of an ideal socialist future. Sinclair alternates between obsessive promotion to his own diets and a mocking critique of dietary fads. This rather extreme fluctuation can in part be attributed to learning from experience or, as Mattson has argued, to a Walt Whitman-esque willingness to contradict himself. What remain consistent throughout his inconsistent dietary discourse, however, are his mechanistic biological and social principles. Sinclair believed eating to be a science and the body to be a machine, a component of a larger social machine-organism. So long as that larger mechanism was capitalist, according to

his arguments and examples, wealthy human bodies as well as poor ones would continue to malfunction, and diet cures would remain transitory and imperfect.

In *Metropolis*, Sinclair attempts to cultivate sympathy for the rich by suggesting that they, too, are victims of the capitalist machine and are also suffering in mind and body. The system of private property is to blame for the sad deterioration of body and mind rather than or more than the moneyed elite's own efforts to accumulate wealth. Sympathy, he even argues, should be bestowed upon the second generation of millionaires about whom the *Metropolis* narrator exclaims, "No wrong which they could do to the world would ever equal the wrong which the world had done them, in permitting them to have money which they had not earned" (726). Their unearned wealth causes them to be "cut off for ever from reality, and from the possibility of understanding life" and it gives them no productive outlet for their animal energies: "they had big, healthy bodies, and they craved experience—and they had absolutely nothing to do" (ibid). Boredom drives them to seek thrills in destructive ways. Specifically, the natural desire for the "chase" becomes perverted into a futile

> orgy of dissipation […] the frantic chase of some new thrill, some excitement that would stir the senses of people who had nothing in the world to interest them. That was why they were building palaces, and flinging largesses of banquets and balls, and tearing about the country in automobiles, and travelling over the earth in steam yachts and private trains (276).

The "madness" of this "furious pace" manifested itself most among the young men, the narrator argues. They made use of the technology of speed to simulate the rush of the hunt: "Some were killing themselves and other people in automobile races at a hundred

and twenty miles an hour. Some went in for auto-boats, mere shells of things, shaped like a knife-blade, that tore through the water at forty miles an hour" while others traveled the globe hunting trophy animals, engaged in staged combat with animals, or arranged to for animals to fight each other (278-281). The predatory instinct and blood lust seem to be innate in this litany of misdirected outlets, and Lawrence would probably agree with Sinclair's assessment of both cause and effect. He would certainly agree that the excitement of sexual chase and conquest are symptoms of capitalist commodification and the absence of any measure of value beyond monetary wealth and ostentation. The two authors might disagree somewhat on the healthier alternative, given Sinclair's treatment of the body as improved through order and efficiency and Lawrence's belief in the salutary power of the irrational bodily unconscious, but both see displacement of healthy animal urges in the frantic, insubstantial lifestyle of their contemporaries and the deteriorating health of individual and social bodies.

Scholars describe Sinclair as practically a-sexual, but he does put serious thought into sexuality in several of his works, describing strong, athletic bodies as the masculine (and even feminine) ideal and arguing that abundant male sexual energy can be socially productive. He refers to Elie Metchnikoff, "one of the greatest scientists," who in "The Nature of Man" (1903) argues that excess male sexuality is a vestigial and dangerous "relic of past evolution" along with the appendix and lower colon. Metchnikoff's argument, according to Sinclair, is "that the human male possesses a far greater quantity of sexual energy than is required for purposes of procreation. This becomes a cause of disharmony and excess, it causes man to wreck his health and destroy himself" (33). Sinclair rejects this conclusion on the basis of its not having taken economics into

account: "I do not believe that the sex troubles of mankind are physiological in their nature, but have their origin in our present system of class privilege. I believe they are caused, not by the blunders of nature, but by the blunders of man as a social animal" (33). Here and elsewhere in *The Book of Life*, Sinclair draws upon sociological primitivism for insights into human nature and evolution. He discusses a "happy race of savages" from the Marquesas Islands (113) to suggest that these "cannibals" show that "[e]xcess sexual energy is natural…and not harmful in itself.…we do not find that they wrecked themselves. Physically speaking, they were one of the most perfect races of which we have record. Both the men and women were beautiful; they were active and strong from childhood to old age" (34). Sinclair admires this happy race of beautiful cannibals so much that he holds them up as something of a model: "they knew how to live," he declares, and "they enjoyed every process and aspect of their lives, just as children do, naively and simply. This included their sex life; and I think it assures us that there can be no such fundamental *physical* disharmony in the human organism" (34).[22] From the example of these islanders, Sinclair draws the conclusion that the degenerative elements in the sexual practices of his day are not inherent to humanity but are another symptom of capitalist corruption. And excess energy of any kind, he argues, may be put to useful purposes: "We have within us the possibility of and the impulse toward more muscular activity than our survival makes necessary; but we do not regard this additional energy as a curse of nature, and a peril to our lives—we turn out and play baseball […].We have an impulse to think more, so we play chess, or whist, or write books and accumulate libraries" (34). These benign outlets for excess energy suggest that not all human pursuits are tainted by capitalism, or despite capitalism, some positive outlets for excess energy

still exist. More often, however, Sinclair stresses the unhealthiness of alternative outlets made available in a capitalist consumerist society, and excess female sexual desire he treats with revulsion and contempt later in *The Book of Life*.

Sexual Selection and Engineered Motherhood

Scott Derrick suggests that Sinclair disliked women, specifically women's bodies, and while Sinclair's relationship to bodies in general was certainly conflicted, my argument here is that what Derrick observed as "gynophobic" was really a dislike of excess and waste/inefficiency. *Engineered* maternity and sexuality were not only desirable but necessary for species survival. Characters like Mary Burke in *King Coal* and Anna/Oceana of *Naturewoman* serve as positive instances of attractive, sexualized women with the intellectual capacity to think in terms of cause and effect and to systematically pursue both social and sexual selection. Indeed, Sinclair often allows his female characters to possess more of the "masculine" traits of self-restraint and objective problem-solving than he does his male characters. Usually the women have been guided in their intellectual growth by father figures, of course, but calling Sinclair a misogynist misrepresents his literary projects and his hopes for the future of the human species.

The existence of these evolutionarily-minded women is not enough, however, to ensure the future of the species. Sinclair implies that despite their efforts at sexual selection, these women will be thwarted by their chosen mates' susceptibility to other women's dangerous manipulative power and to the social pressures of outdated moral codes. Like Lawrence, Sinclair represents women as both cultivating masculinity and diminishing it, and like Wells, he believes that the propagation of a superior human race

should be systematized, taking at least some of the risk out of sexual selection. Sinclair illustrates the tragic failures of "good" women and the corruptive influence of "bad" women particularly vividly in *King Coal* and *Naturewoman*. Mary Burke of *King Coal* is the "splendid […] tall and vigorous" daughter of an alcoholic Irish miner (23). Her education is limited, but her mind is quick and adaptable. She has the sense to look for larger causes and solutions rather than dwelling on local effects. Mary wins something more than "pity" from Hal and more convincingly effects the transformation from object to human subject than any of the other characters in the mining town: "So Mary's mind was groping for causes! [...] she was thinking of the deeper aspects of this terrible drink problem. There was still enough unconscious snobbery in Hal Warner for him to be surprised at this phenomenon in a common miner's daughter; and so, as at their first meeting, his pity was turned to intellectual interest" (41). When Hal impulsively desires to fight violence with violence, Mary teaches him that "[h]is was the attitude of the leisure-class person, used to having his own way; but Mary, though she had a temper too, was pointing the lesson of *self-control*" (124, emphasis added). And as she learns more about the forces at work on Hal and on the minors, she becomes a rallying voice of resistance and social change with a genuine affection for her fellows that is not colored by guilt as Hal's is, but by experience and true brotherhood/sisterhood. With her clear-sightedness and eloquence, Mary inspires a large company of minors to join together in the fight for a new socialist future, to choose a better system of living, to cease being cowed animals and to rise as men.

Mary Burke has become a social engineer intentionally redirecting human progress, and she also aspires to form a pair bond with the best instance of masculinity that she

sees. Hal, as I described earlier, is in almost every way a masculine ideal, and Mary acknowledges as much, calling him "'young and strong and different'" and "'too good a man for me'" (73, 187). Hal is drawn to Mary as well, but his high-society fiancée recognizes Mary as a threat and uses her feminine wiles to keep Hal to herself (281). Mary sadly relinquishes Hal to Jessie, describing her as "some kind of finer creature" but whose fineness is the result of depredating the poor,[23] a price Mary says she would not pay even to keep Hal (370-1). So Mary leaves Hal to Jessie but with the prediction that while "I know ye'd never be satisfied with me […] I'm thinkin' ye'll not be altogether satisfied with her, either. Ye'll be unhappy either way—God help ye!" (373). Mary's rough hands, patched dress, and limited education have made her unfit for Hal, but Jessie's refined femininity masks a prejudiced, cruel, and calculating selfishness, which may be the result of class but also some inherent evil. The suggestion is that the class divide has enabled the wrong woman to get the right man.

Mary speaks about the choice of mate in terms of companionship only, but Oceanna in Sinclair's protest play *Naturewoman* (1912) addresses procreation and sexual selection directly. Oceana is physically robust, independent, passionate, and natural—a "naturewoman." In her search for a mate, she has rejected the brave and strong native prince of her tropical-island home and her well-bred and educated cousin Freddy, symbolically rejecting first primitivism and then capitalism. Lovesick Freddy asks her why she won't return his love, and she intimates the regressive nature of capitalism by framing his unworthiness in terms of underdeveloped manliness: "You should have grown up years ago. You have been stunted [by] the world you have lived in" (46). She remarks upon his physical weakness and his tobacco-stained fingers, explaining the folly

of “trying to build a brain in a body that's decaying” and asks, “How could you stand it? [...] Don't you feel that you'd like to tame a horse, or to sail a boat in a storm? [...] That you must face some kind of danger” (47)**.** Her advice to him is to “go away, and make a man of yourself. Go West, get out into the open. Learn to ride and hunt [...] harden your muscles and expand your chest. Until then you're not fit to be the father of any woman's child!” (47). And Freddy follows her advice, going out West to be a “cowboy” and “make a man of himself” (61).

Before Freddy leaves, Oceana describes both the characteristics of a worthy mate and the nature of the bond she intends to form. Her description of manly qualities reveals a combination of physical, spiritual, and mental strength, restraint, and “beauty,” and she directly connects her desire for a mate with her intentions to procreate:

> I shall ask myself not merely, "Is he beautiful and strong of body?" but, "Is he beautiful and strong in soul?" I would not ask that he be learned [...] he might not chance to be a cultured man. But he would be a man of power, he would be a man who could rule himself, he would be a soul without base alloy. And when I had satisfied myself as to that, I would have found my mate. I would say to him, "I wish you to be the father of my child" (32).

She is not looking for romance or spontaneous love but for good breeding stock. Keeping the man as her life-partner is not even a goal. She says, “I would not exact pledges of him. I would say to him, ‘I do not ask you to take care of me; I do not ask you to take care of my child. You may go away when you wish [...] that rests with you; but *I* wish the child’” (ibid). Procreation, therefore, is the ultimate goal—breeding with a man of strength, beauty, and self-control so that her future children may inherit these same qualities.

Oceana discovers her ideal mate in Henry, her cousin's husband. She entices him away from his wife and the feeble social claims and ploys that have been stifling him, but she loses him in the end by giving him an opportunity to talk to his wife and be guided by his affection for her and sympathy for her suffering. Oceana is then haunted by a vision of their child that will never be conceived:

> A little child! You have no idea [...] how real it was to me! […] It called to me all day, and it played with me in my dreams; I felt its little hands upon me [...] its lips upon my breast. And it's gone! [...] it was hovering at the gates of life! It wanted to be! […] at any moment I might have said the word, and it would have come. But I did not say the word [...] and it is gone. And now it will never come! Never [...] never! I have murdered the child! My child! (68).

Oceana's tragedy is that her motherhood is doomed by the misdirected morality of an evolutionarily bankrupt society. In order for the right men and women to create the best new generation of human beings, we must remake society and redefine morality, at least in part by treating procreation as a logical and scientific undertaking. In other words, Sinclair does imagine that eugenics—the scientific breeding of men and women—must occur voluntarily but also perhaps by law. This opinion is not unlike Wells', but Sinclair's direct engagement with eugenics in his writing may have been influenced by the more pervasive enthusiasm for eugenics in America. Eugenics also provided Sinclair with a subtler, less overtly violent means of weeding out the undesirable elements of the species without having to exclude them from society or kill them outright.

Sinclair was familiar with eugenicist ideas of his day, and Lois A. Cuddy and Claire M. Roche explain in *Evolution and Eugenics in American Literature and Culture, 1880-*

1940 (2003) that American "fascination with progress" made social applications of Darwin's evolutionary ideas particularly appealing. At the time, there was in America "a drive to advance the human race […] based on heredity designed to improve the human race by selective breeding of the 'fittest' families" and by "the early twentieth century, many Anglo-Americans were focusing on such improvement as a measure of personal as well as social and national progress" (11). In *Breeding Contempt: The History of Coerced Sterilization in the United States* (2008), Mark A. Largent notes that beginning around 1850, American physicians began coercively sterilizing patients and "by the 1890s the movement had grown into a full-blown crusade to sterilize or asexualize people who doctors believed would produce undesirable children." The movement supported by biologists, social scientists and lawyers. "Within four decades," Largent writes, "two-thirds of the states had enacted laws that required the sterilization of various criminals, mental health patients, epileptics, and syphilitics" (1). Whether Sinclair approved of sterilization is not clear (his enthusiasm for birth control seems to suggest he wanted selective breeding to be voluntary), but he clearly was not opposed to using advances in science to encourage only the "right" people to reproduce.

In a previously unpublished speech that may have been given to the *Workers' Educational Association* in Australia around 1918-1919,[24] Sinclair describes in detail what he sees as a solution to the depopulation of Europe after the Great War. He speaks of "surplus women" now denied any reputable access to motherhood and suggests "Scientific Motherhood" as the solution, by which he means artificial insemination. Only older, married men with grown children would be allowed to contribute "life" to this cause, and only men whose background would first be studied by the Eugenic Records

Office in America[25] to discover any "defects in the family history" (Engs 101). In this way, "stainless maternity" would become available to a woman "whose natal gift to her child will be healthy breeding, whose legacy to her child will be selflessness and self-control, and whose contribution to her country will be the most valuable treasure a country can have […] whose share in race improvement will be incalculable" (100). Such a plan is not only morally and scientifically satisfying, but it is economically sensible, he claims. "Instead of spending thousands of pounds on emigration that may bring to our shores undesirable citizens, how much better it would be to support a proposal, which, from its economic standpoint, is entirely reproductive from beginning to end, which is certain to bring about race improvement, and help to solve the problem which faces us and which must be faced" (103). Registering with and applying to the Eugenic Institute for permission to marry would protect these "scientific children" from any accidental inbreeding (102) and, Sinclair adds, this application for marriage will likely be universal by the time these children are grown since "We hope that certificates for all marriages will be the custom then" (102). In order to reach this level of social progress, he argues, "Men and women must free themselves from the erroneous idea that mating and parenthood are synonymous. They will then be able to assure the safety and permanence of the race, by controlling both heredity and environment, which now left to themselves, sometimes conflict with one another and work tragic consequences" (93). Here he makes the argument that he implies in *Naturewoman* in having the tragic ending be the upholding of marriage vows over scientific breeding. The bonds of affection between Henry and his wife are not only dysfunctional (she uses her tears and suffering to keep him a prisoner in her materialistic world) but unscientific in terms of reproduction.

Largent brings up an interesting concern of the Eugenicist movement that, in fact, sympathy could be a potential cause of race degeneration if reproduction were not scientifically managed. In 1908, in a "Report of the Committee of Eugenics," David Star Jordan explained that the "development of altruistic sympathy [while] a positive step in human evolution, [if] left unchecked by rational planning could be ultimately destructive because increasing levels of sympathy would encourage activities that would erode the quality of the species" (51-2). This danger of sympathy seems of little concern to Sinclair so long as it does not interfere in propagating the species. Separating "mating" from "breeding," as he says, solves the problem. But just how such a separation is to be achieved and enforced he leaves vague.

In *The Book of Life,* Sinclair discusses the problem of reproduction from the other side—the problem of over-production. He advocates birth control as "one of the great fundamental achievements of the human reason, as important to the life of mankind as the discovery of fire or the invention of printing" (61). Birth control, he reasons, "is the deliverance of womankind, and therefore of mankind also, from the blind and insane fecundity of nature, which created us animals, and would keep us animals forever if we did not rebel" (ibid). Excess, again, and lack of control, are the threats that keep us slaves to natural forces and to our own animality—animality in the sense of being mastered by our bodies and impulses rather than by our rational minds. "Without birth control […] there can be no mastery of life" he concludes, and mastery of ourselves, of our society, and of our planet are all part of Sinclair's engineered vision for a better future.

The danger of birth control that he acknowledges in *The Book of Life*, just like the devastation of Europe's population of young men in the war, is the threat of "race

suicide" and, as he puts in in the speech, the "emigration that may bring to our shores undesirable citizens" (103). Sinclair sees that confining access to birth control to the upper and middle classes results in the poor immigrant populations "multiplying like rabbits" with the "practical consequence" that the Anglo-Saxon "stock, those who founded our country and established its institutions, are gradually removing themselves from the face of the earth" to be replaced by this other, inferior stock (62). Sinclair here, as elsewhere, tries to "repress such impulses toward race prejudice" but also justifies it in terms of efficiency by reasoning that even if these immigrant populations are capable of "high intellectual development," they need to be "scrubbed and taught and trained," which involves the expenditure of vast energies—a "waste of energy" in that we are replacing the already "scrubbed and taught and trained for self-government" with populations that need so much work to prepare for the same job (ibid). So he encourages birth control for the poor to prevent "foreign slum babies" (62). As important as sympathy might be to Sinclair in theory, efficiency and control take higher precedence and shape his vision of the future into one built more on mechanistic principles than emotional ones, seemingly confirming Lawrence's fears about technology's influence. It is "our duty as thinkers," Sinclair proclaims, "to watch life, to test it, to pick and choose among the many forms it offers" (9), and somewhat like Lawrence's Gerald Crich, Sinclair chooses technological efficiency as the best form.

Sinclair believed, like the other two authors, that intervention in evolution had become a necessity, but he also suggests that without our initial conscious interference in evolution, technology will assist nature in creating the conditions and training our minds to think like the engineers we are meant to become. In *The Book of Life*, he argues that

capitalism will naturally give way to socialism as its own excesses and its own competitive forces will create the conditions for greater systemic efficiency:

> the absorption of the small business by the big business, is an irresistible natural process, which neither can nor should be hindered […] it is a struggle which automatically brings itself to an end [...] the blind and indiscriminate production of goods under the competitive system leads to the glutting of markets and to industrial crises. At such times the weaker concerns are weeded out and the strong ones take their trade; and as a result, we have the modern great corporation, the most powerful machine of production yet devised by man (127).

This machine still requires manpower to operate it, and the accumulation of labor in one place, of people united in condition and feeling, with the added benefit of technologies of communication at their disposal is the perfect recipe for revolution: "Here they are gathered into city slums, and their wits are sharpened by continual contact with their fellows. The printing press makes cheap the spread of information, and the soap-box makes it even cheaper. Any man with a grievance can should aloud, and be sure of an audience to listen" And like Wells, he argues that these technologically-savvy workers have already become master tinkerers and that they may naturally apply the analytical skills of their trade on the larger machinery of their society. The worker, he writes,

> is dealing with machinery, something that he himself has made, and that he fully understands. If a machine gets out of order, he does not fall down upon his knees and pray to God to fix it. All the training of his life teaches him the relationship of cause and effect, the adjustment of means to ends. So the modern worker, as a

> necessary consequence of his daily work, is practical, skeptical, and unsentimental in his psychology (140).

This worker, like Wells' engineer, will use his technologically "sharpened wits" about cause and effect to understand and actively oppose the "machinery" of capitalism. He will also use communication technology to unify the world, bringing the uneducated (here associated with spiritualism) into the technological, revolutionary fold:

> [the modern worker] is making all the rest of society of the same temperament. He is building roads out into the country, and building machines to roll over them; he is running telephone lines and sending newspapers and magazines and moving picture shows to the peasant and the farmer; so the young peasants and farmers hunger for the city, and they learn to fix machinery instead of praying to God (140).

"[L]earning to fix machinery instead of praying to God" will lead to a modern working class ready to seize power from the capitalists and "replace private capitalism by some system under which the instruments and means of production are collectively owned and operated" (140-1). This "natural" evolution of society from capitalist to socialist seems to overlook the corrupt and collusive behaviors that Sinclair later identifies with communications technology in *King Coal* and *The Jungle*, and it imagines all of the working class transformed into Mrs. Lumley-Gothams and Mary Burkes with no sheep among them. It also imagines, like Wells, the spread of communications technology across the globe as benignantly unifying people. In contrast Lawrence bewails it as the extension of repressive social control, leaving nowhere for revolutionary figures to escape to.[26] Indeed, Sinclair's own *Naturewoman* suggests the impossibility of escape

as Oceana flees civilization for her tropical island, having already established that the island was itself becoming incorporated in modernity thanks to transportation technology.[27]

Sinclair leaves many questions unanswered in laying out his plan to use animal sympathy and technological efficiency as the opposing buttresses to unite and sustain a global humanity. Wells was a bit more aware of or upfront about potential problems with his version of this same structure, but Wells was also more concerned with eventualities while Sinclair wanted to inspire immediate change. He even ran for political office, promising to begin work on bringing about the social changes he imagined in his literature. His political run was a spectacular failure, thanks in large part to his opponent's smear campaign.[28] Communications technology evidently did not prove to be an aid to the socialist cause there.[29] Sinclair's evolutionary arguments are at times simplistic and naïve, but they are intriguingly bold and provocative contributions to the conversation about human advancement and decline. The next chapter will address some of the overlooked or downplayed dangers in engineering a species en mass. D.H. Lawrence grappled with similar ideas of sympathetic bonds and mechanized society yet remained highly skeptical about both.

"With a hope to quench the malady at its source": D.H. Lawrence and the Choice Between Vital Embodiment and Lifeless Machinery

In the introduction to *New DH Lawrence Essays* (2009), Howard J. Booth hails David Herbert Lawrence as "the first major writer to come from the industrial working class" and argues that this background makes Lawrence's perspective essential to "any account of British social and cultural history" (6). Lawrence felt the importance of his perspective, but he did not limit its relevance to one nation nor to reflecting the feelings of his class. He was, however, very concerned about his moment in history and, like H.G. Wells and Upton Sinclair, he wrote to shape the future. Lawrence struggled as a writer for both artistic recognition and financial security, but he continued to feel passionately about his work and to search for likeminded people who might strive with him against the rising tide of modernity. Dubbed "controversial" by H.G. Wells, Upton Sinclair, and most of his contemporary critics who thought his writing lewd or dangerous or both, Lawrence's work has been widely suppressed but also has inspired an enormous wealth of scholarly analysis. Lawrence has been taken more seriously by scholars as a great artist than either Wells and Sinclair, thanks in part to the early praise of F.R. Leavis. His writing has suffered periods of obscurity (see Adelman's 2002 *Reclaiming D.H. Lawrence*) but the author has recently received renewed scholarly attention as a representative voice of his generation and his historical moment. Booth credits the publication of the comprehensive series of Cambridge editions of Lawrence's drafts and letters with much of this critical interest as it has given scholars a more detailed look into the chronology of and influences on Lawrence's changing and developing ideas and

literary style.[1] These approaches include exploring 1) his place within literary movements and trends 2) his psychological, philosophical, and artistic confrontations with the First World War 3) his evolving relationships with religion, spirituality, and science, and 4) his attitudes toward technology and his status as a posthumanist thinker and writer. These various approaches to Lawrence studies all have some bearing on my reading of Lawrence as a transatlantic figure who expresses anxieties about human degeneration and endeavors to affect evolutionary change through his writing. For instance, Sandra Gilbert's "On the Road with D.H. Lawrence /-/- or, Lawrence as Thought-Adventurer" (2007) and A. Banerjee's "D.H. Lawrence's Discovery of American Literature" (2011) discuss the literary influence and importance of American writers on Lawrence, particularly Whitman, Hawthorne, Poe, and Fenimore Cooper. Ronald Granofsky in *D.H. Lawrence and Survival*: *Darwinism in the Fiction of the Transitional Period* (2003) calls Lawrence "the writer most identifiable as Hardy's heir in the English novel" and marvels that more critics (with the notable exception of Roger Ebbatson) failed to recognize or address his shared links to Darwinism (13). Michael Bell's "Lawrence and modernism" (2001) argues that the novels of Hardy and George Eliot served as "models" for Lawrence's early fiction and that his critical but also appreciative understanding of the Romantic tradition led him to embrace the "philosophical and psychological power" of feelings and so set himself on a "parallel project" to the more iconic modernists of creating something new (179-80).[2] Kirsty Martin's *Modernism and the Rhythms of Sympathy: Vernon Lee, Virginia Woolf, D.H. Lawrence* (2013) also explores Lawrence's relationship to George Eliot and to contemporary Virginia Woolf in his approach to sympathy and ideas of community.

The scholarship on Lawrence and the First World War addresses, sometimes obliquely, what I see as his conflicting philosophical attitudes toward death as part of the evolutionary process and as the potentially unnatural, mechanical aberration the war led him to conceive. These critics see the war as a moment of crisis for Lawrence's ideas about life, religion, community, and individuality. Carl Krockel's *War Trauma and English Modernism: T.S. Eliot and D.H. Lawrence* (2011) suggests that the violence inherent in Lawrence's vision of life processes is evidence of his failed attempts to work through the trauma of his wartime experience. Kirsty Martin identifies Lawrence's critique of war with his critique of the instrumentalist vision of life and argues that Lawrence's "vitalistic sympathy" counters the war's attending "'narrowing of spirit' by neglecting to value the intricacies of human life and feeling" (169, 26-7).[3]

An ongoing focus of Lawrence scholarship has been to explore the impact of religion, spirituality, and science on Lawrence's evolving philosophy and style, and recent studies of these themes have centered on his concept of embodied consciousness as a source of sympathetic intelligence and creative evolution and renewal, a vital force that is set in opposition to the mechanical automaton in its various guises. Ronald Granofsky's *D.H. Lawrence and Survival: Darwinism in the Fiction of the Transitional Period* (2003) argues that Lawrence's writing process and narrative strategy were direct manifestations of his latent Darwinism. Granofsky explains that Lawrence's "exploratory setting up of contrasting ideas within his works" and his "frenentic revision of individual works" set a competitive environment in motion, where new ideas could "evolve" as Lawrence "cull[ed] the weakest members of his conceptual herd in order to strengthen the whole" (6-7). Kirsty Martin, Timothy Weintzen, and others have identified Lawrence

with vitalism. Martin describes bodily desire as the linchpin of Lawrence's balance between the individual and a transcendental "openness to create [passionate] sympathy," a configuration that "poses a challenge to the ideas of morality and of rationality of emotion" (148). Weintzen's "Automatic Modernism: D.H. Lawrence, Vitalism, and the Political Body" (2013) offers a political reading of Lawrence's aversion to scientific positivism in which he argues that Lawrence "endeavored to imagine new forms of collective life" through the "materially indeterminate body" as an alternative to what he saw as capitalism's "massification" or conversion of individuals into passive automatons (34, 38). Luke Ferretter provides a detailed discussion of Lawrence's "revisionary" theosophical physiology and his adaptation of James Pryse's ganglia (similar to *chakras*) from *Apocalypse Unsealed* (1910) to locate "principlal life-centres" within the body. These ganglia, which Lawrence explains in "Two Principles" (1919), briefly mentions in *Kangaroo* (1923), and implies in *Studies in Classic American Literature* (1923), provides Lawrence with, according to Ferreter, "an account [of human duality] that is both religious and scientific" (Ferretter 30).

Finally, the recent posthuman approach to reading Lawrence has attempted to complicate the binary oppositions and final statements attributed to Lawrence in past literary criticism, arguing instead for complexity and "unresolved" tensions (see Deanna Wendell's "'There will be a new embodiment, in a new way': Alternative Posthumanisms in *Women in Love*" (2013)). Carrie Rohman argues in *Stalking the Subject: Modernism and the Animal* (2009) that Lawrence both blurs and reaffirms "distinction[s] between human and animal by foregrounding connections between eating and power" (53). Jeff Wallace in *D.H. Lawrence, Science and the Posthuman* (2005)

likewise sees an ambivalent posthumanism in Lawrence who had "a deep and sometimes seemingly evangelical commitment to the redemption or retrieval of the 'human' from the threats posed to it by modernity" but also resisted any position that is "fixed, orthodox, pious or sentimental […] about the value of the 'human.'" Wallace also claims that in Lawrence, the opposition between nature and technology is both "contestatory" and in "a constant process of reappraisal" (26, 34). Beatrice Monaco's *Machinic Modernism: The Deleuzian Literary Machines of Woolf, Lawrence and Joyce* (2008) looks at Lawrence's novels as Deluzean-Guattarian "machines," by which she means systems of interacting forces, "processes" as opposed to products, and she discusses Lawrence's interest in allotropy (as does Martin) as a model for literary technique to allow elements (or characters) to exist in multiple states with no singular ego but a "deeper, non-binary level of being and concept of human behaviour" (56). David Trotter's "Techno-Primitivism: Á Propos of *Lady Chatterley's Lover* (2011), studies the function of rubber in *Lady Chatterley's Lover* to argue that a discourse of nature and "wildness" marked this synthetic (or really semi-synthetic) material and that through Connie Chatterley dancing naked in her rubber shoes and "rubbing" herself and Mellors, Lawrence gestures toward a positive blending of natural and artificial as well as toward a way of being primitive while also being technologically modern.

My project both overlaps and challenges many of the claims these authors make about ideas that Lawrence promotes and the work that his writing performs. I, too, see Lawrence as responding to a historical moment of crisis and upheaval—of religion, war, politics, ontology, and ethics—and find him evolving a system for saving humanity from its bad choices through a combination of received and invented approaches to

embodiment, nature, animality, and evolution. Many scholars have noted a fluctuation in Lawrence between the urge to form a community and to retreat into alienated isolation, and most incorrectly, I would argue, see his "leadership politics" or "Messianic phase" as ending with the onset of World War I.[4] The recent re-readings of Lawrence as political and actively revolutionary cite his friendship with Bertrand Russell or his indebtedness to the Edwardian literary tradition as inspiration for interceding in social development, but they do not identify him with what I see as a contemporary transatlantic literary movement to shape minds, change hearts, and reinvigorate bodies for the recovery of a dynamic human species.[5] By reading Lawrence with and against H.G. Wells and Upton Sinclair, I situate him within this particular literary movement that unites evolutionary anxiety about (especially masculine) degeneration, cultural and political anxiety about technology, and a belief in the solemn power of novels to save humanity from these hazards. Sandra Gilbert says that what was "fundamentally most damning" about Lawrence was his "profoundly anti-Wildean commitment to the importance of being earnest" in "an age of irony and parody" (238). Lawrence *was* in deadly earnest, with the future of the human race at stake and his art all that stood between it and extinction.

Lawrence was the son of a middle-class teacher and a barely literate collier, and he spent his youth in the mining town of Eastwood in Nottinghamshire. Like Wells and Sinclair, Lawrence knew what it was to have a working-class father unhappily married to a middle-class mother and to have conflicting class associations**.** Graham Holderness explains that Lawrence's reaction to his mixed heritage was partially to reject affiliation with both classes (71). Lawrence's relationship with the working class is a combination of admiration and repulsion, but unlike Wells and Sinclair who aimed their writing at the

masses as well as at the bourgeois class(es), Lawrence seems to have felt that the educated classes were more in need of his teachings, and his style in more psychological, fragmented, and symbolic than that the other two authors in this dissertation. In these ways, Lawrence was more in tune with the modernist literary movements of his day that W. Warren Wagar claims made Wells "passé."[6] But like Wells and Sinclair, Lawrence believed his message was urgently needed, not to represent his people but to change them. His hopes may have originally been specifically for his countrymen, but he expanded his aims for a number of reasons. John Worthen notes, "At the time of *Sons and Lovers*, he could quite simply assert that 'I do write because I want folk—English folk—to alter and have more sense'" (qtd in *Novels* 184). Lawrence's subsequent disillusionment with England in the lead-up to the war and throughout its duration encouraged him to look beyond England's borders for an audience and a home. Booth claims "Lawrence believed that travel and engagement with other peoples and cultures offered a way forward both for individuals and for an exhausted Europe" (8). Some critics take seriously Lawrence's later statements that he despaired of impacting English people and decided to write for himself alone, but I agree with John Worthen and Kim Hertzinger that even while he "preach[ed] isolation," he was "a writer who had learned to write directly out of his own self-divisions, and who by the very writing of novels was asserting a link with a community of readers stronger than any attachment felt by his heroes and heroines" (ibid). His writing was a means of bringing about harmonizing, revivifying change in himself and in anyone who would read his work and answer his call.

Lawrence's sense of dislocation was more profound than anything the other two authors experienced. While all three confronted challenges to their ideas and criticism of their writing, some of Lawrence's work was found to be so dangerous to "our public health," as one book reviewer warned of *The Rainbow*, that his more provocative novels were banned by the magistrate and all copies of *The Rainbow* were confiscated from his publisher's offices by the police (Worthen *D.H. Lawrence* 43, 44). The nation on the verge of war was especially sensitive to disruptive influences, and Lawrence's overtly sexual writing and questionable politics put both his work and his life under severe scrutiny. Martin Delaney notes that the "war was only a few days old when the Lawrences were questioned by three sets of detectives after they were overheard speaking German at a dinner party" (19-20) and he was afterwards continually watched on suspicion of being a spy (Krockel 6). The social and political atmosphere was distressing to Lawrence personally and also ontologically. As I will discuss at greater length later, the war seems to have precipitated a darker reflection on the deathly allure of positivist, mechanical reality in its culmination in capitalism, war, and suicide.

Like Wells and Sinclair, Lawrence used his writing to probe the nature of human development with the hope of regenerating a species on a path to devastation, and he, too, looked beyond his national borders for inspiration. While Sinclair's and Wells' transatlanticism was predominantly an inclusive gesture inspired by the global reach of communications technology and by intellectual curiosity and hope for renewal and advancement, Lawrence's was also driven by the need to escape. Martin Delaney writes that by 1916, Lawrence had determined that "he could not influence English politics, and [...] that the state was actively hostile to him" (167). He had some hope that America or

Australia would provide a more fertile ground for generative growth than Europe during and after the war. As Earl Ingersoll writes in his "'A New Continent of the Soul': Lawrence's Transcultural/Transhistorical Meeting with Herman Melville" (2009) Lawrence "became persuaded" halfway through World War I that "the Old World was hopeless—both without hope and beyond hope [...]. Increasingly in that transitional year of 1916, [...] Lawrence set his sights westward to New Worlds—not merely the Americas but beyond to the Pacific—as 'a new continent of the soul'" (21). Michael Bell goes so far as to call Lawrence "in some measure an adoptive American writer just as his American *émigré* contemporaries […] became European" ("Lawrence and Modernism" 80). From time to time Lawrence also discussed establishing a utopian community in America.[7] But America's attraction for Lawrence was not its embrace of a new technological future that inspired Wells and Sinclair but its heritage—the "classic" writers from almost a century earlier and the Native American traditions and beliefs that he first read about in Fenimore Cooper (Ferretter 51). For modern America he felt the same disgust and despair that he felt for Europe, and yet he agreed with Wells that America's lack of "tradition" and "culture-history" gave it a youthfulness that meant a better chance of growing toward the future rather than wallowing in its past. If modern America would only pay attention to the "something that urges inside a young race like sap" and seek "inspiration" and "confirmation" in "the very America that has been rejected and almost annihilated," it could yet come back to life.[8]

Like Wells and Sinclair, Lawrence believed Western culture and politics were on the verge of self-destructing, not only through war but through a mistaken understanding of what we are and should be as a species. Lawrence writes in his essay "Morality and the

Novel" (1925) that the "novel can help us live, as nothing else can" (*Study of Thomas Hardy* 175). His many essays explain and his stories and novels illustrate how his contemporaries were "rotting" and dying inside, and he repeatedly uses the terms "cul du sac" and "extinction" to suggest that the malady has dire implications for the future of the entire human species. Lawrence believed that his novels could bring humanity back from the brink. In "Why the Novel Matters" (1925), he calls the novel "the one bright book of life" that can access the "tremulations on the ether" that make up the genuine fullness of life. As such, novels can make a reader "tremble" with affective, "genuine life" (*Study of Thomas Hardy* 195). He goes on to proclaim that as a novelist, "I consider myself superior to the saint, the scientist, the philosopher and the poet, who are all great masters of different bits of man-alive, but never get the whole hog" (ibid). The power of the novel to "get the whole hog" is that it can access feelings in their genuine complexity and present life in a way that is dialectical and unified at the same time. The characters and narrator express different ideas and points of view, and the characters experience different sensations in an ongoing process of making meaning dialectically. Lawrence, like early Wells, challenges his readers to participate in this process, exchanging a stable and orderly structure of reality and ethics for a system of dynamic growth and productive uncertainty.

Lawrence's preoccupation with a shift from a stable reality to one of flux might also be partially attributed to both his mixed class background and his exposure to evolutionary science**.** Like Wells and Sinclair, Lawrence broke with the Christianity of his youth and a number of scholars cite his exposure to material science as the impetus for this rupture, or at least as a welcome alternative to a system of belief that no longer

convinced young Lawrence. His close childhood friend, Jessie Chambers, dates a major upheaval in Lawrence's thinking to his reading of Darwin, T.H. Huxley, And Ernst Haeckel in his second year of college**.** She and many Lawrence scholars argue that material science provided Lawrence with a more convincing explanation of life's processes than religion had and, at least for a time, materialism supplanted his mystical phenomenology.[9] Ferretter quotes a letter from Lawrence to Reverend Reid in 1907 stating, "'Reading of Darwin, Herbert Spencer, Renan, J.M. Robertson, Blatchford and Vivian…has seriously modified my religious beliefs'" and Ferretter suggests that Herbert Spencer was particularly influential as a "final account of religion" for Lawrence (qtd in Fetterer 6). Booth credits Haeckel's *The Riddle of the Universe*, first translated in 1901, with suggesting "a physiological explanation for individuality" which made the "religious conception of the soul" unnecessary (36).

Some scholars argue that this early affinity for science was of short duration, noting Lawrence's strong distrust of rationalism and trusting Jessie Chambers' interpretation of Lawrence's feelings. Graham Holderness, for instance, agrees with Jessie Chambers that even *The White Peacock* (1911) is laced with the "despair" of his reluctant materialist explanations and that he ""felt compelled to accept [a materialist approach] for want of any other'"(qtd. in Holderness 104). Holderness also claims that *The White Peacock* shows Lawrence seeking an alternative to materialism in the "contemplation of 'the beautiful'—to aesthetic perceptions" which better "provided the necessary substitute for religious feelings" (105). There are several difficulties with this reading of *The White Peacock* that would also be applicable to Lawrence's later works. The "beautiful" in *The White Peacock* is almost always expressed and experienced

through nature, but nature in this novel is also suffused with nostalgia for harmonious unity which may never have actually existed, as the novel hints at through a series of obvious and at times absurd pathetic fallacies. To add to the sense that beautiful nature is at least partially a human construct, we catch glimpses of violence, indifference and cruelty in animals and in rocks. The power of aesthetics is also brought under critical scrutiny by the very two characters Holderness says most demonstrate the beauty of aesthetic perceptions (105). Cyril and Annable meet and connect over the study of decay, and in their most intimate moment, Annable reveals the source of his human-animal ideas to be an emotionally charged rejection of the spiritualized animality of his first wife. In Annable's acerbic critique of her aesthetics of beauty and nature, he suggests that idealized aesthetics can undermine the truth of nature and of manly vitality.

Rather than replacing science with an aesthetics of beauty, I agree with Rick Rylance, Ronald Granofsky, and other scholars that Lawrence incorporates and adapts a multitude of approaches to reality rather than settling for one at the expense of another. Rylance succinctly explains that the "problem with some commentary on Lawrence's encounter with evolutionary and materialistic ideas is that it is captured by an 'either-for-or-against-it' paradigm. But Lawrence tried to think through available options and refused the revolving door of that classic Victorian stalemate." He calls the early narratives "disorderly" for the reason that they are "explor[ing] the limits of models of coherent explanation" (19). The supposed coherence and totality of both the religious and scientific attitudes of Lawrence's day were dangerous, in Lawrence's view, because they could too easily become teleological and reductive and serve to control and limit the creative adaptation all three authors felt necessary for humanity or any species to flourish.

Interestingly, one of Lawrence's main objections to the Christianity of his youth was the very morality that critics of evolutionary theory feared would be lost without religion. Gowan Dawson explains in *Darwin, Literature and Victorian Respectability* 2007) that Darwin's "evolutionary accounts of morality" had early on generated anxiety that a "relativistic understanding of ethics could not ensure the permanent 'abhorrence of certain acts as impure and sinful'" and a fear that such a fluid understanding of ethics would "fan the flames" of destabilizing political and cultural forces including the "brutal insurrection" and "excesses" of the French Revolution and "the more animalistic aspects of human nature, particularly in relation to sexuality" (42-3). Colin Milton argues that evolutionary biology provided Lawrence with a line of questioning that convinced him of the dangers of Christian and similarly "permanent" moral codes. Speaking for Lawrence, Milton asks, "How could such apparent aberrations, such seeming violations of evolutionary 'laws'" as altruism and non-violence "have come into existence and how could the human conceptions of value they embodied be related to the scientific facts?" (3). Sinclair answered these questions by affirming that altruism and non-violence *are* evolutionary adaptations of gregarious species, but Lawrence's parable of the poppy suggests the absurdity and destructiveness of withholding one's own bloom so that others might eek out a limited growth themselves. This system of unity through "pity" suppresses true creativity and generative life forces according to Lawrence. Milton rightly argues that Lawrence perceived "Christian morality and its analogues as means by which –consciously or unconsciously—the true nature of human motives and impulses are concealed" (ibid), and Lawrence warns that this suppression is the actual cause of humanity's self-destructive impulses.[10] The evolutionary narrative enabled Lawrence to

exchange this stability for fluidity like Wells and Sinclair, and in some ways he was even more Darwinian than the other two authors. For Darwin, species' "fitness" was relative, depending on a particular set of local conditions and having nothing to do with superiority as an abstract or universal idea. To some degree Wells, Sinclair, and Lawrence all harbored the notion of *progress* in their evolutionary narratives, but Lawrence's vision was far less linear than those of the other two authors. His commitment to the disruptive, irrational, and unknowable forces that constitute his Dark God, sounds more akin to Darwin's random mutations and subjective fitness than the utopian economic and social imaginings of Wells and Sinclair. His allegiance with Darwin is undermined, however, by Lawrence's objection to the principle of scientifically knowable "mechanisms" for change. However much Darwin's theory may resist teleology, Lawrence suspected it to perpetuate what Heidegger termed technological "enframing"—the idea that everything is detectable and explainable through a series of set mechanistic laws that, once learned, could be actively applied by humans to remake our world and our species by standardizing and curtailing the freedom of individuals. In other words, it is all too easy to move from Darwinism to social Darwinism and from masters of technology to technological instruments. Wells and Sinclair shared Lawrence's complaint against the rational, materialist mindset that reduces life to mechanical components.[11] But Sinclair and (to some extent) Wells felt that these risks could be mitigated through social regulations. The power to understand and harness the machinery of nature that gave Sinclair and (late) Wells the hope of saving and improving the human species was, to Lawrence, a false god and the seed of annihilation. Lawrence nearly always uses language relating to the mechanical to express deadening

and destructive ideas whereas Wells and Sinclair only present this negative quality of mechanisms as symptomatic of a false evolutionary step, which is most often the evolution industrial capitalism. I argue that Lawrence saw the crises of his day, from worker strikes and war to repression of sexuality and alienation of the body, as extending from the competing impulses to organize/stabilize meaning and to disrupt/adapt. The fact that Lawrence often understood both impulses as complementary and each necessary to the other makes him a posthumanist thinker, according to the broad definition of this movement, but on the blending of humans and machines I find him less ambivalent than do Wallace, Monaco, and others. Del Ivan Janik argues that Lawrence's more extreme stances may be attributed to his reacting against current trends and may not represent actual hard-line beliefs ("D.H. Lawrence and Environmental Consciousness" 1983), and while I do find Lawrence's anti-technology language so pervasive as to make such a qualification rather dubious in this case, his more rigid stance on technology does make situating Lawrence in conversation with Wells and Sinclair particularly illuminating. Lawrence, who came after Wells and Sinclair and read the works of both,[12] expresses ideas in opposition and maybe even in response to the two older writers and others of their way of thinking and writing. He was critical of literary didacticism, democratic impulses, and external systems of control, and explained the problems with all of them through analogies with machines.

I hope by reading Lawrence alongside and against Well and Sinclair to open up new avenues for inquiry into the evolutionary relationship between humans and machines and to reveal additional complexities in the function of novelists as prophets, moralists, and agitators in the technological age. Because of Lawrence's greater interest in

psychology and his distrust of machinery and "mechanistic" material science, he developed his study of human bodies and social bodies differently, and the structure of the chapter reflects his different approach and emphasis. In this chapter I will track three major ways in which Lawrence puts machines/technology in (unstable) binary opposition with ideas of the creaturely. The overarching categories for this study will be 1) mind and body: individual and the collective: 2) man and woman: dominance, dialogue, and depredation 3) war and revolution: two kinds of death. The first section will show how Lawrence critiqued and reinterpreted the traditional Cartesian split between mind and body and applied it to the social body. Through his articulations of the individual and the collective, I will illustrate the reasons for Lawrence's distrust of social machines, specifically capitalism *and* socialism, and what he imagines individuals can do to build alternative structures of community based on an ethics not of equality but of authenticity. The second section discusses the foundations for (re)generative and destructive partnerships between individuals, most often expressed through sexual relationships. It is particularly in these partnerships that Lawrence articulates his versions of predator/prey dynamics, cannibalism, and "good" animality along with "bad" and possibly good machines. Lawrence's masculinity and femininity are based on sexual difference but also on the degree to which either is already mechanized and directing its energy toward dialogue or domination and cannibalism. The final section will address the difference between war and revolution for Lawrence, which I refer to as his two versions of death: one purely destructive and the other regenerative. This section will also explore Lawrence's literary ambitions for bringing about productive change, answering his

question, "What are we for?" and discussing how his definitions of human differ from and align with those of the other two authors in this dissertation.

Mind and Body

Roger Ebbatson describes the novel as a "structure which expresses human feeling […] to synthesise a sense of inner identity," and he claims that writers "steeped in evolutionary theory" were able to "radically" reimagine character as something no longer stable but evolving with an "intricacy, complexity and interdependence of physical and psychic" changes (xviii). This definition seems to fit quite well for Lawrence's conception of character as well. In "Art and Morality" (1925), Lawrence writes,

> Each thing, living or unliving, streams in its own odd, intertwining flux, and nothing, not even man nor the God of man, nor anything that man has thought or felt or known, is fixed or abiding. All moves. And nothing is true, or good, or right, except in its own living relatedness to its own circumambient universe; to the things that are in the stream with it (167).

For Lawrence, modeling the "interdependence of physical and psychic" is the novel's great purpose: "Let us learn from the novel," he urges in "Why the Novel Matters" (1925). By presenting the reader with characters in flux, novels can teach an "instinct" for authentic life stemming from the "whole consciousness in a man, bodily, mental, spiritual at once" (*Study of Thomas Hardy* 196). In much of his work, Lawrence builds upon his revision of the Cartesian distinction between the mind and the body (in which the mind is

the residence of the spirit, the soul, or the true self and the body is little more than a machine). Against this model Lawrence posits a dual intelligence or double consciousness, a dialectic relationship between mind and body where both are sources of knowledge. In "Ontological Incoherence in *Women in Love*" (2003), Eric Levy argues that "Lawrence's doctrine regarding the interaction of these two minds is notoriously ambiguous" and that the communication between the two is "problematic" with the necessity of "lapsing" out of consciousness and learning "not-to-be" (158), and these are problems that I will return to in my discussion of different kinds of death. Regardless of the difficulties inherent in Lawrence's new model of mind and body interaction, however, it serves to illuminate the dangers of the old Cartesian model. Lawrence suggests, as do Wells and Sinclair, that treating the mind as the source of knowledge and the body as a mere vessel for that mind risks undermining human sympathy and turning humans into cold, calculating, and destructive machine intelligences on one side of a power structure and mindless laboring automatons on the other. However, he goes further than either of the other authors in describing these machine minds and bodies and in elaborating an alternative embodied consciousness.

Lawrence does not draw a straight line between nature and machines, although he does distinguish certain types of nature from machines. Inert natural substances, like fingernails he can situate in a liminal space between his living body and his pen ("Why the Novel Matters"),[13] and the trunk of a tree he can use as a metaphor for mechanized knowledge saved by the growing portions of the same tree. The tree-trunk-man's life moves [14]

> into the channels long since built […] happy, all is known, all is finite, all is

> established, and knowledge can be perfect, here in the trunk of the tree, which life built up and climbed beyond…safe within the proven, deposited experience […] traveling the old, fixed courses, though which life still passes, but which are not themselves living (*Hardy* 34-5).

Contrasted with the machine and the tree trunk is the plant's leading shoot, one of Lawrence's favorite metaphors for vital, productive life: "It seems to me as if a man, in his normal state, were like a palpitating leading-shoot of life, where the unknown, all unresolved, beats and pulses, containing the quick of all experience, as yet unrevealed, not singled out" (34). The leading shoot has a responsive consciousness not unlike that of the working machine man's "[a]wareness of certain forces," but the shoot has a great deal more flexibility in its responses to stimuli.

The tree-trunk knowledge, the abstract, intellectual consciousness that often precipitates the "fall" into machinic unconsciousness, is predicated on a Cartesian separation of mind from the body. Interestingly, the machine haunts both the body and the mind of the rational intellectual. The characters that value the mind above the body treat the body either as an encumbrance that they hope will one day be replaced by technology or as "a little engine that you stoke with potatoes and beef-steak"[15] ("The Novel and the Feelings" 203). The company at Wragby (the Chatterley estate) illustrates these positions. Olive speaks of a book that imagines a future "'when babies would be bred in bottles, and women would be 'immunized'"[16] and expresses the hope that such a reality is imminent: "'the future's going to have more sense, and a woman needn't be dragged down by her functions.'" Winterslow agrees that it is "'quite time man began to improve on his own nature, especially the physical side of it [and] get rid of our bodies

altogether'" (63). Clifford Chatterley later argues that evolution, or God if there is one, is "slowly eliminating the guts and alimentary system from the human being, to evolve a higher, more spiritual being'" (203). To these attitudes toward the mind and body split Tommy Dukes responds, "'We're only cerebrating make-shifts, mechanical and intellectual experiments'" that are doomed to failure (64). The machinic consciousness that instigates the elevation of the mind over the body results in this emptying out of vital substance in each. Tommy Dukes hypothesizes, and Connie Chatterley experiences, the far more vital, pleasurable, and full consciousness of the mind and body reunited and de-mechanized. Connie even senses a visceral intelligence through those very guts that Clifford wishes to evolve beyond. But the body denigrated to a transitory generator of fuel and babies is only half of the problem with the "life of the mind," as Tommy also suggests. The "mechanical and intellectual" are really one and the same in terms of process and effect. Jeff Wallace explains that there is for Lawrence "a fatal correspondence or equivalence between ideas and machines: the 'ideal world' is 'invented exactly as man invents machinery,' and 'the moment man learned to abstract, he began to make engines that would do the work of his body'" *(*qtd. in Wallace 29). In other words, the sort of intellectual activity that led Wells and Sinclair to their conclusions about human nature and human needs, and that enabled them to imagine future global societies of greater intellectual achievement and efficiency, was itself mechanical in nature and therefore logically incorporated machines in the projected embodiment of those ideas. The mechanical intellect that seeks to disassemble man down to his working parts and build him up again by improving the internal machinery of his being and controlling his external environment offended Lawrence deeply and threatened

life itself. In "Why the Novel Matters," he states that the scientist "has absolutely no use for me so long as I am man alive" because the scientist merely "puts under the microscope a bit of dead me, and calls it me. He takes me to pieces [….] My heart, my liver, my stomach have all been scientifically me, according to the scientist; and nowadays I am either a brain, or nerves, or gland, or something more up-to-date in the tissue line" (195). Lawrence refuses to locate "himself" in any fragmented portion of his being ("I absolutely flatly deny that I am a soul, or a body, or a mind, or an intelligence, or a brain, or a nervous system, or a bunch of glands, […] or consciousness, or anything else that is merely a part of me") in response not only to the offending vivisectionist scientist but also to the parsons, philosophers, and "stupid" people who focus their attention on ideas that supposedly exist outside of the sentient, living body and in the process degrade or objectify that body as a "bottle," "tin can," or "vessel of clay" (193). Lawrence believed that the neglect of bodily consciousness has caused it to deaden, as he illustrates in the body of Connie Chatterley before she is brought back to her living flesh by Mellors. Her relationship with Clifford is purely intellectual, a union of "his mind and hers" while "bodily they were non-existent to one another" (16), and as a result Connie feels her body "going meaningless, going dull and opaque, so much insignificant substance." This realization causes her to bitterly call "the metal life" a "swindle" (60).

Bodies in Lawrence's works are alive in ways that Wells and Sinclair did not contemplate, although all three authors agree that the body is as important as the mind in enabling the species to grow and thrive. For Wells and Sinclair, the evolutionary value of the body is its frailty, both as the source of sympathy for the suffering of others and as the impetus for creating technology, which in turn stimulates the intellect to higher degrees

of adaptive creativity. Lawrence despised their kind of sympathy and suggests that while technology serves bodily comfort up to a point, we need only take it so far as to achieve moderate comfort; making technology an evolutionary player, as Wells and Sinclair do, is asking for trouble in the shape of Heideggerian standing reserve and Derridian biopolitics.

Lawrence argues in the essay "John Galsworthy" (1927) that the Cartesian split between "objective consciousness" (mental knowing) and "subjective consciousness" (bodily knowing) causes individuals to become "social being[s]" (211). The process of creating a social being he refers to as a "fall" from innocence and from unity with "the great continuum of the universe." Social beings are not true individuals; they are Sinclair's ants, and Lawrence despises them.

In *King Coal*, Upton Sinclair appeals to his protagonists—and readers—with the argument that in order to overthrow a cruel and corrupt social system, individuals must put aside their personal desires and give themselves selflessly to the greater good of society at large. The old Swede John Edstrom admires ants for their willingness to sacrifice themselves so that others might achieve the common goal: "when they come to a ditch, the front ones fall in, and more and more of them on top, till they fill up the ditch, and the rest cross over" (105). Both Wells and Sinclair came to the conclusion that humanity's only hope for future success was to erect an overarching social structure based on social equality (i.e. the right of each individual to the same opportunities and materials for sustaining life and succeeding in whatever endeavors each should choose to pursue). And in order to achieve and maintain this future of equal opportunity, both authors—to varying degrees—appealed to sympathy as a unifying and motivating force.

Lawrence scathingly critiques the function of sympathy and selflessness as social drivers, arguing that the undergirding assumption of social equality thwarts human development.

There is an initial common ground among all three of these authors in their treatment of capitalism and capitalist machines. They agree that capitalism turns humans into tools and slaves of machine and that unless this social system is overthrown, humanity will destroy itself. Lawrence even implies the same sort of natural social evolution from feudal to capital to socialist in *Women in Love* and *Lady Chatterley's Lover*[17] that parallels the progression the other authors use to illustrate the inevitability of socialism. However, Lawrence did not see a socialist future as a desirable utopia nor did he recognize an evolutionary potential in technology. Despite the many changes that he observed and experienced in industry and technology in his lifetime, his writing aligns machines with repetition and stunted growth, even in—or especially in—democratic systems.

Lawrence is as eloquent in describing the dehumanization of labor as either Wells or Sinclair. As we have seen, the coal miner is a popular figure of capitalist degeneration and degradation, and Lawrence more than Wells or Sinclair had reason and authority to represent this particular subset of humanity. He had first-hand experience growing up in a mining town with a father actually employed in the mines. Interestingly, he also figures the subterranean worker as an embodiment of the warping influences of capitalist technology and as a potentially new and degraded species. In a number of his novels, most notably in *Sons and Lovers* (1913), *Women in Love* (1921), and *Lady Chatterley's Lover* (1932), rough, deformed colliers and obsessive, power-hungry owners of mines play crucial roles in demonstrating the physical and spiritual degeneration caused by

mechanized labor and the willful control of nature. In *Sons and Lovers*, Lawrence provides a rare instance of an individualized miner in the character of Walter Morel, the protagonist's father. Walter is an uncouth and frequently dirty alcoholic unable to express his affection for his family in a manner that could be received and reciprocated. The children recoil from him most of the time and resent his rough ways. The portrait may be loosely based upon Lawrence's own father but gives little insight into the function of technology or even the life of mining. Morel is a failure of a man but whether he is inherently doomed or his occupation and environment doom him is left unexplored. Most of Lawrence's colliers are seen at a distance and as a collective entity. The narrators describe them in much the way Sinclair does in *King Coal* and with suggestions of the kind of species degeneration we see in Wells' Morlocks: Gudrun reflects to herself that the colliers have a "look of abstraction and half-resignation on their pale, often gaunt faces. They belonged to another world" (*Women in Love* 139) and Gerald observes a group as "thousands of blackened, slightly distorted human beings with red mouths" (257). In *Lady Chatterley's Lover*, Connie describes them as having "neither eyes nor minds […] haggard, shapeless, and dreary as the countryside, and as unfriendly […] terrible and a bit mysterious"(12). She watches them "trailing from the pits, grey-black, distorted, one shoulder higher than the other, slurring their heavy ironshod boots [….] The animal of mineral disintegration!" (137). Their alienation from Clifford and herself, she claims, was not a result of any resentment on the part of the workers but because "they merely belonged to another species altogether from the colliers. Gulf impassable" (13). This other species she also refers to as "a new race of mankind" with "something uncanny and underground [about them]. Weird, distorted smallish beings like men [that

have been] reduced [to] less than humanness" (131-2). These figures exist as mindless cogs in much of Lawrence's work, just as they do in the works of Wells and Sinclair. Their bodies have become machines and their minds have gone dormant within them. In *Women in Love,* Gudrun reflects to herself that the colliers have a "look of abstraction and half-resignation on their pale, often gaunt faces" (139) and Connie refers to them as "half-corpses" in *Lady Chatterley's Lover* with "the spontaneous, intuitive side dead" (132).

Lawrence uses miners as impersonal symbols of a ruinous system—they are purely functional even within his fiction—to illuminate the corrupting influence of private ownership and technological ideology that cause both the workers and the owners to degenerate in their different ways, but both out of a cold pleasure in the power of the machine to abstract and dominate. And Lawrence's narrators tend not to enter the mines, as Sinclair's Hal Warner does, to experience the hardship of the labor that numbs the workers' minds and distorts their bodies. And unlike the miners of the other two authors, Lawrence's elicit no pity or sympathy, although he at times claims that they retain a spark of real animal life and in *Lady Chatterley's Lover*, Mellors suggests that merely giving the men red trousers would awaken them to their sensual potential and free them from the mindless grind (189)**.** But they often not only appear beyond saving from the degeneration of mind and body but are fully complicit in their own degradation. The "great malady […] in the heart of man," he concludes in *Study of Thomas Hardy,* is a craving to be "tame," to live in unconscious security and stability: "we hang back, we dare not even peep forth, but, safely shut up in bud, safely and darkly and snugly

enclosed, like the regulation cabbage, we remain secure till our hearts go rotten, saying all the while how safe we are" (15).

The yearning for security is reminiscent of the "cattle" people's supposed contentment under Martian rule in Wells' *War of the Worlds*. Lawrence argues that a social system that values self-preservation or the preservation of mankind above all else is "humiliating" and finally destructive to the potential for generating anything really new (*Study of Thomas Hardy* 12). It seems that all three authors would agree that security should not be the ultimate goal of humanity, but Wells and Sinclair thought it should be a primary function of the social machinery and a cause for which communities should unite against Capitalism. Lawrence, while he contemplates community action from time to time in his writing, overall felt there to be too many problems with uniting people under a single cause, first among them being the risk of fostering "social beings" willing to sacrifice themselves for a shadowy, hollow "greater good." Anton Skrebensky illustrates this principle of the social being in his commitment to serving the nation, which sounds very much like the religion of the machine. He sees himself as "just a brick in the whole great social fabric, the nation [….] What did personal intimacy matter? One had to fill one's place in the whole, the great scheme of man's elaborate civilisation" because he believed that as a part of the whole, "he represented the great, established, extant Idea of life, and at this he was important and beyond question [….] That which was the greatest good for them all, collectively, was the greatest good for the individual" (316). The narrator disagrees: "the community is an abstraction from the many" and has become a "formula lacking in all inspiration or value to the average intelligence." What the community "wants" is only material well-being, nothing "subtle or difficult," so

Skrebenksy's choice to serve amounts to killing any "true hope of self-effectuation" in favor of "the established order of things" (316-7). In *Study of Thomas Hardy*, Lawrence rhetorically asks, "Which is greater, the State or myself?" and answers, "Myself, unquestionably" because

> The glory of mankind has been to produce lives, to produce vivid, independent individual men, not buildings or engineering works or even art, nor even the public good. The glory of mankind is not in a host of secure, comfortable, law abiding citizens, but in a few or more fine, clear lives, beings, individuals, distinct, detached, single as may be from the public (46-7, 48).

The individual must be our first priority because otherwise we risk losing our creativity and our ability to challenge and disrupt the status quo. In this opinion, he is in direct opposition to the ideas Sinclair expressed in *King Coal.* In *Kangaroo*, Lawrence even has a character describe the masses of social beings like Skrebensky around the world as ants:

> They are full of cold energy, and they seethe with cold fire in the anthill, making new corridors, new chambers—they alone know what for. And they have cold, formic-acid females, as restless as themselves, and as active about the ant-hill, and as identical with the dried clay of the building. And the active, important, so-called females, and active, cold-blooded, energetic males, they shift twig after twig, and lay crumb of earth upon crumb of earth, and the females deposit cold white eggs of young. This is the world, and the people of the world. And with their cold, active bodies the ant-men and the ant-women swarm over the face of the earth (119).

The ceaseless cold energy of ant-people can be a product of fear, as Lawrence explains in "John Galsworthy." The machinic-capitalist system that has split humans into minds and bodies and turned them into social beings teaches them to toil tirelessly for "material assurance," or rather "insurance" for themselves and "perhaps [for] everybody else" (211). He makes a similar claim in *Study of Thomas Hardy* that humans go on working even when they have enough to eat because they must "provide for the future" and "provide for the poor" who ultimately are "never provided for" and thus a constant cause for continued work. Lawrence calls this perpetual work cycle a "ghastly programme" (32) and Lovat Somers in *Kangaroo* says it is better to be a "'wicked creature' any day than a mechanical tread-miller of a careerist. Better anything on earth than the millions of human ants" (149).

Under capitalism, security is the motive for which people work more than they need to, and feelings of fellowship are either nullified in the cold rationalism of the machine, as are Gerald's for his workers, or are deployed to justify excessive work, as is providing for one's family or for "the poor." The sympathy that drives philanthropy is not a genuine bond with one's fellow man, Lawrence argues, but "self-pity" displaced onto others so that an individual does not have to acknowledge his or her own failure to pursue self-realization: "if he dare not plunge in, if he dare not take off his clothes and give himself naked to the flood, then let him prowl in rotten safety weeping for pity of those he imagines worse off than himself. He dare not weep aloud for his own cowardice. And weep he must. So he will find him objects of pity" (*Study of Thomas Hardy* 19). Lawrence imagines that casting off this pity and being brave enough to seek out our true selves will cause us to have "less need of storehouse and barn" and certainly less need to

be concerned about the storehouses and barns of our neighbors (ibid), taking our chances, apparently, on nature providing for our basic wants once we stop bleeding it dry in our attempts to stockpile goods. He makes no mention of machines here, although he does discuss the potential usefulness of machines a little later in the book for reducing the time we need to spend laboring to achieve comfort and security. Wells, Sinclair, and Lawrence wanted to stop wasting time and energy on fighting for basic survival, but Lawrence was not (usually)[18] willing to sacrifice individual freedom to get it. He feared that having efficiency be the principal motivation for creativity would also lead again to the mechanization and nullification of people.

Sinclair identifies the desire for bodily comfort as the primary impetus for humanity's inventiveness: the desire to keep water off our necks led to the development of housing, and likewise all technology has been the result of attempts to make life easier (*The Book of Life* 132). Lawrence does not necessarily object to this kind of security, at least not all together. He wrote in *Study of Thomas Hardy* that he appreciates inventions that "will produce what we want, and save us the necessity of much labour [….] Wherefore I do honour to the machine and to its inventor " (36). But it seems that Lawrence places a rather severe limit to how much technology we need and how much ingenuity should be put into making technology progressively more efficient. Once we have enough technology to free us from having to work for our basic needs, we stop tinkering with technology and turn inward to develop our own individuality. He does not even see the necessity of improving objects with better machinery—he describes looking around his room at his bed, counterpane, books, chairs, and bottles and expresses his satisfaction with each: "I rejoice over [the bed's] essential simplicity. I would not wish it

different [….] Only that which is necessary is there, whittled down to the minimum“ and he seems to prefer living with the ugliness of the pattern in his rug than seeing people work to design machines to make things beautiful as well as functional (36). Wallace attributes Lawrence's anti-technology sentiment to the same capitalist-appropriation arguments made by Wells and Sinclair, which is true up to a point: Lawrence states in the same paragraph that "greed transforms the machine from a 'means to freedom' into a 'means to more slavery'" (qtd. in Wallace 204). However, Wallace goes on to suggest that Lawrence endorsed a certain "deep 'craving' for […] working as 'the perfect machine'" (205) and believed that "the mechanical" could be associated with "fulfillment, especially when associated with the absorption of satisfying work" (194). I argue that Lawrence still connected such cravings and fulfillments with capitalism, degeneration, and death.

Lawrence explains further on in the same section of *Study of Thomas Hardy* that "nobody wants to work, originally.--Yet everybody works, because he must" and he associates work with artificial controls over his "stream of life"--controls taught him by culture and internalized or forced upon him in order to survive in human society (32).[19] He does grant that there is a possibility of the sort of fulfillment that Wallace identifies but that it is highly rare and remains hypothetical: "It *may be argued* that work has a fuller meaning, that man lives most intensely when he works. That *may* be, for some few men, for some few artists whose lives are otherwise empty. But for the mass, for the 99.9 per cent of mankind, work is a form of non-living, of non-existence, of submergence" (33, emphasis added). Lawrence goes on to say that since we really want to work as little as possible, we must work as efficiently as possible, and efficiency is linked to repetition

and mechanization:

> how does any man become quick, save through finding the shortest way to his end, and by repeating one set of actions? A man who can repeat certain movements accurately, is an expert [….] And these movements are the calculative or scientific movements of a machine. When a man is working perfectly, he is a perfect machine. Aware of certain forces, he moves accurately along the line of their resultant. The perfect machine does the same (33).

Even for the few who find fulfillment in it, work in the end is "always a prison" because the singleness of work's objective—efficiency—eventually ends in repetition and predictability:

> He may find knowledge by retracing the old courses, he may satisfy his moral sense by working within the known, certain of what he is doing. But for real, utter satisfaction, he must give himself up to complete quivering uncertainty, to sentient non-knowledge [….] So there is this deepest craving of all, to be free from the necessity to work (*Study of Thomas Hardy* 35).

Lawrence does find inventiveness to be an effective form of addressing the unknown, probably because invention relies on what we already know of the laws of nature from positivist science. The dynamic creativity that the other two authors associate with inventing, maintaining, and updating machinery, Lawrence provides damning instances of in Gerald Crich and Clifford Chatterley as I have already described. Efficiency is just another iteration of technological enframing.

The ideal of efficiency that drove Clifford and Gerald was, however, the capitalist version that determines everything's and everyone's value in terms of money. Might not

a socialist version safely serve to provide for everyone's basic needs without the risk of mechanizing human beings? Lawrence may not have been entirely opposed to this idea, as I will discuss later, but he did not have lasting faith in socialism as a real and better alternative to capitalism since it harbors the same underlying assumption of social equality that he dreaded.[20] Socialism may even be more prone to encouraging an ideology that promotes selfless social creatures like Skrebensky who nullify themselves in adhering to the Ideal of social equality. In *Lady Chatterley's Lover*, Lawrence has characters suggests that Bolshevism, in reacting against capitalism, creates the same ideology of the machine that we see among the Crich workers:

> 'Bolshevism, it seems to me,' said Charlie, 'is just a superlative hatred of the thing they call the bourgeois; and what the bourgeois is, isn't quite defined. It is Capitalism, among other things [….] Then the individual, especially the personal man, is bourgeois: so he must be suppressed. You must submerge yourselves in the greater thing, the Soviet-social thing. Even an organism is bourgeois: so the ideal must be mechanical. The only thing that is a unit, non-organic, composed of many different, yet equally essential parts, is the machine. Each man a machine-part, and the driving power of the machine, hate…hate of the bourgeois. That, to me, is Bolshevism' (33).

The submersion of the self is what Lawrence dislikes most about machinic democracy and what he distrusts about altruism and sympathy. Although from time to time Lawrence uses the word "sympathy" as Wells and Sinclair do—to signify empathy and fellowship—he also attempts to distinguish it as a form of psychological projection and denial. Such sympathy, rather than establishing a bond that can lead to social uplift for

all, stunts the natural development of individuals. In *Study of Thomas Hardy*, Lawrence uses the poppy as a parable to critique the social pressures of democracies to keep everyone equal:

> It is as if a poppy, when he is grown taller than his neighbours, but has not come to flower, should look down and because he can get no further, says: 'Alas for those poor dwindlers down there: they don't get half as much rain as I do.' He grows no more, and his non-growing makes him sad, and he tries to crouch down so as not to be any taller than his neighbour, thinking his sorrow is for his neighbour (18)

This parable of the poppy exposes the absurdity of denying oneself the "natural" development of individuality for the sake of the social community. Feeling sympathy for those below the poppy is really a way of masking his fear of his own potential, the fear of becoming something new and facing "the unknown" (ibid). Like Winifred Inger, Anna Brangwen, and many other undeveloped souls, this figurative poppy makes excuses and lies to itself about its reasons for failing to blossom. Sympathy, socialism, selflessness, and hatred are all convenient means of justifying the fact that we are failing to grow as individuals and, by extension, as a species.

Beatrice Monaco offers an interesting distinction between machinic and organic systems that helps to explain why Lawrence believed democracy and the machine to be inseparable and dangerous. Monaco states that "an organic form functions not only through the interdependence, but the hierarchy of its parts. By contrast, the machine is a *passive* formulation with internally *distinctive* part, and yet these parts are, like the organism, in an interdependent relation (5, emphasis in the original). In *Women in Love*

Lawrence describes a fascinating phenomenon of "machine worship" among the Crichs' workers as they fall victim to democratic ideals, and it seems that what appeals to the colliers about democracy is this non-hierarchical aspect of the machine that Monaco describes (as well as its power to dominate nature). When Gerald's father, Thomas, managed the mines, his ruling ethic was "directed by Christian philosophy to Charity and a sort of reverence for the low, working poor, so he tried to design an "industry to be run on love" (259). Lawrence's narrator explains that despite their relative comfort, the miners became dissatisfied with his paternalism and wanted a democracy, for which they used the following mechanistic argument: "All men are equal [….] Each man claimed equality in the Godhead of the great productive machine" (262). We learn that Gerald's workers were

> satisfied to belong to the great and wonderful machine, even whilst it destroyed them [….] They were exalted by belonging to this great and superhuman system which was beyond feeling and reason, something really godlike. Their hearts died within them, but their souls were satisfied […] participat[ing] in a great and perfect system that subjected life to pure mathematical principles. This was a sort of freedom, the sort they really wanted (*Women in Love* 266).

All parts are equal, but no parts are able to function independently or control the direction of their functions. The freedom of this perfect machine is really a freedom from individual responsibility, much like Wells' human cattle's supposed contentment in being kept by their Martian overlords. And here, too, there is still an overlord at least ostensibly commanding the machine-people so long as the mine is privately owned by the Crichs. Capitalist democracy is a lie, as several characters explain, perpetuated by the illusion of

equal opportunity for the accumulation of wealth. The character of Struthers in *Kangaroo* explains that the system works "like holding a carrot in front of five thousand asses all harnessed to your machine. One ass get [sic] the carrot, and all the others have done your pulling for you" (*Kangaroo* 199-200) and Rupert Birkin likewise tells Gerald that

> 'We are such dreary liars. Our one idea is to lie to ourselves. We have an ideal of a perfect world, clean and straight and sufficient. So we cover the earth with foulness; life is a blotch of labour, like insects scurrying in filth, so that your collier can have a pianoforte in his parlour, and you can have a butler and a motor-car in your up-to-date house, and as a nation we can sport the Ritz, or the Empire, Gaby Desleys and the Sunday Newspapers. It is very dreary' (*Women in Love* 71)

Under the delusion that democracy enables all to succeed, and taught by capitalism that material wealth is the measure of human happiness, workers keep on toiling for the machine. But Gerald's workers persist even in the face of a deteriorating financial situation, Lawrence explains, so the desire for wealth must not be the fundamental attraction of impersonal, mechanistic democracy. The lie is something more pervasive and insidious, one that will eventually subsume the Geralds of the world, too, with or without a socialist revolution.

The process of instrumentalization at work in capitalism turns not just the workers but also the colliery owners into machines and eventually makes them devolve and become obsolete. Once Gerald Crich of *Women in Love* and Clifford Chatterley of *Lady Chatteley's Lover* adopt the symbolic language of mechanism to describe their workers, they themselves are subsumed within an epistemology of the machine.. Lawrence

illustrates this principle in detail through Gerald and Clifford. Following the linear logic of increasing efficiency and mechanization, both men become mentally absorbed in the working of their mines as their miners become physically absorbed into the machines they serve. Gerald's initial "exultation" and vigor when his "vision had suddenly crystalized" to "conciev[e] the pure instrumentality of mankind" (257) leads eventually to his anxious, perhaps regressively infantile, dependence on Gudrun. She then despising him for needing "her to put him to sleep, to give him repose [….] Was she his mother? Had she asked for a child, whom she must nurse through the nights, for her lover" (525-6). Likewise Clifford Chatterley "outwardly, "began to be effective" when he took charge of making the Tevershall mine efficient and productive but "[i]nwardly he began to go soft as pulp" (92) and eventually needed to be "rocked to sleep, like a child…letting go all his manhood, and sinking back to a childish position that was really perverse" (252). The men in charge, therefore, rather than continuing to master their machinery with virility and adaptability, become fearful, dependent children in need of "rest" and oblivion.

Gerald had been "educated in the science of mining" but at first took no interest in the business. He had experimented with different ideas of reform, including socialism, and had at last reached the conclusion that a perfect society would be composed of individuals acting as perfect instruments, performing one function perfectly. He had "conceived the pure instrumentality of mankind" (257). And with this realization came the discovery that he was in a position to direct and control a vast number of human instruments. Gerald's attraction to mechanized society was not about equality; he was drawn to the power that he could wield through machinery—the power of intellect to

calculate and achieve maximum efficiency and the power to use people as tools that he could bend to his will. Gerald saw, as his workers apparently did not, that even if a machine is basically nonhierarchical, someone must direct and run it: "He knew that position and authority were the right thing in the world […] for the simple reason that they were *functionally necessary* […] like being *part of a machine*" (262 emphasis added). And he exulted in the fact that the miners were "all moving subjugate to his will [….] they were his instruments. He was the God of the machine" (257). Gerald calling himself "God" did not, however, imply any kind of mysticism or suggest any requirement to be benevolent toward his followers. The rationality of the religion of instrumentality spared him any feelings of guilt or any discomfort in wielding human beings to tools, because the notion of equality at the heart of the system also freed him from responsibility:

> He himself happened to be a controlling, central part, the masses of men were the parts variously controlled. This was merely as it happened. As well get excited because a central hub drives a hundred outer wheels—or because the whole universe wheels round the sun (257).

Clifford Chatterley likewise describes people—and classes—as "functional parts" and implies a similar arbitrariness, but also an inevitability, to an individual's location in either functional class:

> Aristocracy is a function, a part of fate. And the masses are a functioning of another part of fate. The individual hardly matters. It is a question of which function you are brought up to and adapted to […] We all need to fill our bellies. But when it comes to expressive or executive functioning, I believe there is a gulf

and an absolute one, between the ruling and the serving classes. The two functions are opposed. And the function determines the individual (157)

The language of functions, fate, and happenstance reveals the *passivity* of mechanization that Monaco described. So while a class-based society with private ownership does not necessarily look like a machine made of equal parts, the distinctions between the parts are arbitrary and finally meaningless. The machine logic of Clifford and Gerald absolves them of any kind of fellowship and responsibility, but it also empties the individual of any sort of unique essence, reducing powerful individuals to passive machine parts as well.

Gerald came upon the capitalist-mechanical philosophy by an intellectual process of elimination; however, Lawrence also suggests that the process itself is practically inevitable once mechanical principles are applied to life and reality as Gerald has applied them to his workers and to the universe as a whole. Connie in *Lady Chatterley's Lover* discovers the secret that mechanization basically creates and perpetuates itself: "The mines, the industry, had a will of its own, and this will was against the gentleman-owner. All of the colliers took part in the will, and it was hard to live up against it. It either shoved you out of the place or out of life altogether" (136). This same will manifested itself within the workers under Gerald Crich's father, and Gerald "was just ahead of [his workers] in giving them what they wanted, this participation in a great and perfect system that subjected life to pure mathematical principles. This was a sort of freedom, the sort they really wanted" (266). The workers' thrill of being absorbed into a giant machine echoes Jurgis' sensations upon first seeing the expansive meat-packing plant in Sinclair's *The Jungle*. He, too, exulted in the power and magnitude of machinery and was proud to

be a small working piece of it. Jurgis, however, thought the machine would also be a kindly and nurturing entity, and his religious zeal for the Packingtown machinery faded once he understood its essential cruelty and heartlessness. The nihilistic religion of the machine that Lawrence describes is something else. Gerald's workers witnessed and submitted to the shift from a system that had place for sympathy to one that had none: "terrible and inhuman were his examinations into every detail; there was no privacy he would spare, no old sentiment but he would turn it over." Gerald laid off older workers "as so much lumber," and made widows start paying for their coal ("Widows, these stock figures of sentimental humanitarianism, he felt a dislike at the thought of them […] Why were they not immolated on the pyre of the husband, like the sati in India"), he passed small costs along to the workers to accumulate capital for big changes, and then he brought in engineers and cutting-edge technologies to displace many of those same workers. Now "all the control was taken out of the hands of the miners. [They] were reduced to mere mechanical instruments"[21] and yet throughout they "were satisfied [and] exalted [….] Otherwise Gerald could never have done what he did" (265-266). This complicity on the part of the owners and workers to produce a thoroughly mechanized society was now covering the English landscape. "This is history," Connie muses. "One England blots out another. The mines had made the halls wealthy. Now they were blotting them out, as they had already blotted out the cottages. The industrial England blots out the agricultural England. One meaning blots out another" and even this trajectory, she claims, is "not Organic, but mechanical" (*Lady Chatterley* 134).

In order to return to the Organic, or to the growing tip of life, Lawrence argues that we must cast off the old version of consciousness and embrace the animal and

creaturely impulses we have repressed to become social and moral beings. The body enables us to access the Lawrence calls both the dark jungle and Dark God through the "lapsing" of consciousness in sensual, sexual encounters and in heeding our individual irrational "gut" feelings. Both of these embodied experiences are atavistic, it would seem, according to the language with which Lawrence describes them. They are primitive, primeval, wild, and bestial. But while these concepts were usually associated with degeneration during his time period, Lawrence sets them up as the salvation from degeneration. In "The Novel and the Feelings," Lawrence states that "unless we proceed to connect ourselves up with our own primeval sources, we shall degenerate," explaining that repressing our irrational feelings causes them to erupt in violent, destructive urges (204). The "primeval, honorable beasts of our being" speak to us in a language of feelings that is "wordless, and utterly previous to words" (205). The prelinguistic beasts of our dark interior "aboriginal jungle" are of all sorts, including mild lambs, roaring lions, and slithering snakes (203). He describes human animals less often in terms of predators and prey, but like Wells he establishes an important distinction between wild and domesticated/tame human-animals, describing our "tame" and "pet" emotions as dogs, lambs, pigs, horses, and rabbits that are "all completely at our service." Unlike domesticated animals, humans domesticate ourselves by repressing and feeling shame for our irrational feelings (ibid). This domestication of ourselves is what we need to undo by returning, reverting, and regressing to the primeval forest within. Lawrence felt that Freudian psychoanalysts were complicit in the domestication process by "show[ing] the greatest fear of all, of the innermost primeval place in man, where God is, if He is anywhere" (204). William Greenslade convincingly argues that Lawrence's disagreement

with Freud over the subconscious, namely that sexual impulses arising from the subconscious must be suppressed and controlled for the individual to become a productive member of society, had a direct impact on his attitude toward degeneration. Rather than fearing the animal within, Lawrence embraced it:

> The persistent grip of degeneration on late nineteenth-century culture derived essentially from the fear of what was repressed. It is the absence of that fear that marks Lawrence out as singular. This separates him from a major emphasis of degeneration—from the discourses of reversion and atavism, the 'un-cropping' of the 'bestial,' the fear of the 'other'—which so preyed on the first and second generation of post-Darwinians. By embracing, in more or less idiosyncratic ways, the activity of the unconscious, the instinctual, the body, the primitive, Lawrence defused those particular sources of the 'other' (9).

By directly identifying his Dark God with wild beasts, Lawrence is turning this evolutionary anxiety about bestial degeneration on its head. The crisis of the human species, Lawrence argues, is that it is using fear of its animality to degenerate into tame animals and lifeless machines. Bringing humanity back to life requires letting go of our fear and our need to feel in control. Connie Chatterley illustrates the process of undomestication as an effect of unleashing her sensuality with Mellors:

> Shame, which is fear: the deep organic shame, the old, old physical fear which crouches in the bodily roots of us, and can only be chased away by the sensual fire, at last it was roused up and routed by the phallic hunt of the man, and she came to the very heart of the jungle of herself. She felt, now, she had come to the real bed-rock of her nature, and was essentially shameless. She was her sensual

> self, naked and unashamed. She felt a triumph, almost a vainglory. So! That was how it was! That was life!" (*Lady Chatterley* 214)

Finding this connection with the life of the body requires, as Rupert Birkin explains, "a deluge" that "drown[s] the mind and the known world." It is "death to one's self" and "learn[ing] not-to-be" so that a new self can be born with "the great dark knowledge" of the blood (*Women in Love* 57).[22] Sexual climax destroys the self, but only the intellectual machinic self that relies for its existence on control and mental knowledge. Allowing the body to take over—temporarily—re-establishes a balance and interconnection between the mind and body. This relinquishing of control also means facing and conquering the fear and shame we have used to subjugate the body. At times the mindlessness is connected with unconsciousness, but Lawrence believed that the body is conscious in a different way, and so even as the mind goes unconscious, the body awakens to a new yet old form of knowing.

Man and Woman

Sexual, erotic couplings can bring about the reconnection between mind and body, and Lawrence invests romantic partnerships with great, almost supreme, importance. But these relationships can also perpetuate the divisions and destructive tendencies of Cartesian machines. Once the mind gains dominance over the body, this power dynamic becomes replicated throughout all areas of human existence: domination of nature by machinery, domination of workers by owners, domination of man over woman or woman over man. The intellect, or the "Will" leads to a life of constant battle

or ends in submission and more deadness. Many of the human relationships in Lawrence's works are poisoned by the will to dominate. Relationships, good and bad, are generally combative in Lawrence's work, but the ones that stem from the will to dominate are cruel and destructive. Examples of these relationships abound in his writing, but here I will look at Miriam and Paul in *Sons and Lovers* (1913), Anna and Will in *The Rainbow* (1916), and Hermione and Birkin in *Women in Love* (1920).

When there is an urge to dominate within a male-female relationship, the underlying fault is that one or both parties feels incomplete in him or herself and so seeks to absorb/cannibalize and control the other to fill the emptiness within. In *Sons and Lovers*, Miriam's love of nature is mystical, but underneath what would appear to be an organic communion with flowers is a fear of the body. There could be no physical connection between Miriam and Paul because Miriam "did not want to meet him, so that there were two of them, man and woman together. She wanted to draw all of him into her" (170) by keeping their connection "always on the high plane of abstraction, when his natural fire of love was transmitted into the fine stream of thought. She would have it so" (152) and Paul, sensitive to her fear of sensuality, "suppresses" his desire for a life of the body "into a shame" (157). Shame, as I explained earlier, is for Lawrence is an internalized social control of the body that prevents people from developing into true individuals.

The struggle between stunted, incomplete characters becomes more directly mechanical in *The Rainbow* with the marriage of Anna and Will where Lawrence pits the machine against the cannibalistic animal. Will at first seems to be the antithesis of the machine: he "preferred things he could not understand with the mind. He loved the

undiscovered and the undiscoverable" (157). Will's mindlessness might be a good thing except that he is also stagnant, as is suggested in his "blind attachment" to religion and the description of him as a "blind, subterranean thing [who] just ignored the human mind and ran after his own dark-souled desires, following his own tunneling nose" (165). Mechanistic and willful Anna, who is at times a "worship[er] of human knowledge," a believer in "the omnipotence of the human mind" does her best to break her husband down with machinery both literal and figurative. She is "triumphant" over Will by working at her sewing machine when he had asked her not to. The narrator describes how the "darting needle danced ecstatically down a hem, drawing the stuff along under its vivid stabbing, irresistibly. She made the machine hum. She stopped it imperiously, her fingers were deft and swift and mistress" (156). Her power expressed through the machine defeats him and sends him back to his love of religious architecture. Anna's reaction against Will's religious ecstasy for the unknown is a harsh application of scientific rationalism ("Did he believe that water turned to wine at Cana? She would drive him to the thing as a historical fact"). She undermines and falsifies her husband's attachment until he breaks under her will: "Brangwen loved it, with his bones and blood he loved it, he could not let it go. Yet she forced him to let it go. She hated his blind attachments [….] She seemed to be destroying him. He went out, dark and destroyed, his soul running its blood. Because his life was formed in these unquestioned concepts" (164). In this way, by destroying the symbols he had for the unknown, she caused him to redirect his dependence onto her in the form of predation: "She hated him, because he depended on her so utterly […] like a leopard that had leapt on her, and fastened" (178) and like a

> tiger lying in the darkness of the leaves […] exerts its will to the destruction of the free-running creature [….] Gradually she realised that her life, her freedom, was sinking under the silent grip of his physical will. He wanted her in his power. He wanted to devour her at leisure, to have her (176-7).

Anna describes her husband's will to dominate her in animalistic and specifically predatory language, both because of the threat that he poses to her independent self, and because his desire to remain in the unconscious darkness (where the beasts of our nature dwell) threatens her reliance on knowledge and the mind.

Anna emasculates Will throughout their relationship, but Lawrence suggests that despite his connection with darkness, Will was not a true man to begin with. His attachment to "unquestioned concepts" suggests that Will has failed to grow and develop as an individual, and Anna's attacks, materialist as they are, ought to have provoked him to probe his beliefs in productive ways rather than relinquish them. The nature of his transferred attachment to Anna likewise suggests that both relationships are uncreatively dependent. Rather than forming a partnership of individuals, bound together in a dialectic of stability and movement, he and Anna attempt to force each other into submission and finally seek false fulfillment elsewhere—he in architecture, a fleeting affair, and an unhealthy attachment to his oldest daughter, Ursula.[23] His predatory need, the narrator intimates, would produce the same destructive battle for freedom with any woman (178). Anna in giving up her own "adventure to the unknown" in seeking fulfillment by proxy: she becomes the "threshold" through which her children go out into the world (187). Beatrice Monaco calls Anna "the novel's female materialist in the same style—if not activity—of Tom Brangwen or Gerald Crich […] given over to a life of maximum

productivity—of children. She is the organic turned homogeneously mechanical (a machine of motherhood)" (76).

In *Women in Love*, Lawrence explains through Hermione Rodicce and Rupert Birkin that using the will and intellect to dominate and control a romantic partner is a fear-induced reaction to avoiding one's own lack of bodily connection. Rupert Birkin accuses Hermione of wanting to "'clutch things and have them in your power'" because "'you haven't got any real body, and dark sensual body of life'" (57). The narrator explains that Hermione sensed her own "lack of robust self" but that her efforts to "make herself invulnerable" always failed since she could not identify the location of the "secret chink in her armour." Instead, she "craved for Rupert Birkin" as someone to "close up this deficiency" (29). But while a lover can be the means of closing up the deficiency of self, as we shall see, Hermione, like Miriam, wants the lover intellectually and not sensually. Therefore the relationship will fail both partners and fail to move out of the realm of the machine.

Lawrence is (in)famous for writing vividly about sexual organs and experiences (we may recall Well's "every fig leaf turned aside"), and sexuality for Lawrence is largely about the impact of gender *difference* on consciousness and the evolution of human society. In *Study of Thomas Hardy*, he argues that the relationship between male and female generates consciousness, symbolic thought (language and religion), and culture. Lawrence's description of consciousness is similar to that of Jacques Lacan's psychoanalytic theory wherein lack creates consciousness in desiring subjects. Like Lacan's objet petit *a,* an actual woman stands in as a replacement for the part of the male that he lacks, that which he cannot know or conceptualize. A relationship with a woman

can produce the right kind of movement toward fulfillment although it can never complete that movement. Lawrence writes that "desire is the admitting of deficiency" and "man is stirred into thought by dissatisfaction, or unsatisfaction, as heat is born of friction" (*Study of Thomas Hardy* 58). This deficiency is both necessary and dangerous. If the relationship between man and woman breaks down, man "must seek to make conscious his desire to find a symbol, to create and define in his consciousness the object of his desire," which is "the religious effort of Man" (ibid). Lawrence's explanation of consciousness is a bit confusing here. On the one hand, consciousness is a result of failure to find fulfillment and is the same as thought: "man, the male, is essentially a thing of movement and time and change. Until he is stirred into thought, he is complete in movement and change. But once he thinks, he must have the Absolute, the Eternal, Infinite, Unchanging" (ibid). Thought is associated with the mind-body split, with knowledge, with mechanization, and with stagnation, whereas "good" consciousness results from the constant efforts of man and woman to find a balance within their relationship: "Consciousness is the same effort in male and female to obtain perfect frictionless interaction, perfect as Nirvana. It is the reflex both of male and female from defect in their dual motion. Being reflex from the dual motion, consciousness contains the two in one, and is therefore in itself Absolute" (59). The "dual motion" of man and woman he describes as a wheel and an axle. He believed that the male and female represent two different but interconnected pieces. The male, symbolized here by the wheel, is pure motion. The female axle is stability. In striving to "obtain perfect frictionless interaction," are man and woman not striving to become a perfect mechanism? Perhaps it is their inability to achieve perfect harmony that rescues them

from this state. But there is no such sense of imperfection in Lawrence's description of the same relationship using the language of trees. In *Kangaroo* he describes the stable female as the roots and the moving man as the branches:

> A man must strive onward, but from the root of marriage, marriage with God, with wife, with mankind. Like a tree that is rooted, always growing and flowering away from its root, so is a vitally active man.

Here, the machine returns as the antithesis of positive movement and growth:

> But let him take some false direction, and there is torture through the whole organism, roots and all [….] let him once get out of unison, out of conjunction, let him inwardly break loose and come apart, let him fall into that worst of male vices, the vice of abstraction and mechanisation (Kangaroo 164-5).

Lawrence voices the belief that the male is generally at higher risk of becoming mechanized than the female despite the fact that her nature is stable and his fluid. He writes that the man gives himself fully to work while the woman keeps part of herself separate and, therefore, safe from absorption into the machine. In *Sons and Lovers,* Paul Morel "enjoyed it when the work got faster, towards post-time, and all the men united in labour" but he noticed that at this time, "[T]he man was the work and the work was the man, one thing, for the time being. It was different with the girls. The real woman never seems to be there at the task, but as if left out, waiting" (98). Perhaps for this reason he "liked the girls best " and the "men seemed common and rather dull" (96). In *The Rainbow,* Ursula plods along with her studies in order to gain financial independence through work, but she also knows that she has another option: "she knew that she had always her price of ransom—her femaleness. She was always a woman, and what she

could not get because she was a human being, fellow to the rest of mankind, she would get because she was a female, other than the man. In her femaleness she felt a secret riches, a reserve, she had always the price of freedom" (322). And what is this "price of freedom"? It seems that the female's ability to resist complete mechanization in work is the hidden option of *not* working—presumably the ability to marry or otherwise depend on a male for financial security.[24] Women are not inherently immune to the forces of mechanization, then; they just have the option to use their femaleness to make a man do the working for them.

Yet in a way the women's not working makes them more susceptible to the allure of technology and "progress," according to the opening of Lawrence's *The Rainbow*. While the men of Cossethay worked in the fields and with their cows, their hands on the pulse of life and their consciousness "faced inwards to the teeming life of creation, which poured unresolved into their veins," the women in their houses were oriented toward the road and became awakened to another kind of consciousness through a dissatisfaction with the present system: "Her house faced from the farm-buildings and fields, looked out to the road and the village with church and Hall and the world beyond" where the sound of "the spoken word" drifted toward her. The woman "strained to listen [to] the lips and the mind of the world speaking and giving utterance" and "strained her eyes to see what man had done in fighting outward to knowledge, she strained to hear how he uttered himself in […] the battle that she heard, far off, being waged on the edge of the unknown. She also wanted to know, and to be of the fighting host" (5). This reimagining of the biblical Eve has major implications for how Lawrence sees the sexes operating. Not only do women have a potential ability to resist being mechanized, but they have the power to

cause species adaptation—or rather degeneration—from one generation to the next by shaping their children's minds. The husbands of the prelapsarian agrarian society in *The Rainbow* were content and fulfilled with "their brains […] inert, as their blood flowed heavy with the accumulation from the living day" (4). Meanwhile the discontented, yearning wife "craved to achieve this higher being, if not in herself, then in her children" (6). The women, tempted by the power of intellectual knowledge (machine consciousness), propel their sons toward education and urban centers and teach their daughters to have greater will to wield power over their husbands. Paul Morel's mother in *Sons and Lovers* was pleased to have "two sons in the world. She could think of two places, great centres of industry, and feel that she had put a man into each of them, that these men would work out what *she* wanted; they were derived from her, they were of her, and their works would also be hers" (89). And in Lawrence's unfinished "Autobiographical Fragment," he ruminates on how mothers and grandmothers have shaped their sons and grandsons from strong, independent beings to emasculated drones:

> As soon as mothers become self-conscious, sons become what their mothers make them. My mother's generation was the first generation of working-class mothers to become really self-conscious. Our grandmothers were still too much under our grandfathers' thumb, and there was still too much masculine kick against petticoat rule. But with the next generation, the woman freed herself at least mentally and spiritually from the husband's domination, and then she became the great institution, the character-forming power, the mother of my generation [who] proceeded to mould a generation [in] the shape of her own unfulfilled desire.

In the grandmothers' generation of original Eves, the desire was for a "gentle and

understanding and moral" man (818). And the result was a new generation of men who were "so patient, so forbearing, so willing to listen to reason, so ready to put themselves aside" that they were still poor but now "with a hopeless outlook" (818). The next generation of women, grown bold and then bored with having all the power and decision-making—with "driving the matrimonial cart"—raise their children to be more materialistic and pleasure-seeking, a very consumer-capitalist generation by the sound of it, although Lawrence does not use those words (820-1). Gauging what the future holds for men based on the desires of each generation of women, he notes that women in their twenties at the time of writing had no clear idea of what men should be, which suggests that "perhaps the next generation but one won't be anything at all" (281). Women have the "terrible" power to "dream dreams that shall become flesh," and Lawrence wishes his "grandmother and all her generation had been better dreamers" (ibid) and thanks God that he has "no son to undertake to onerous burden" (820). Their dreams have become flesh, but more accurately, the grandmother's machine consciousness has transmitted itself through the generations. Having externalized their desire in the form of knowledge and power, or "will," these women have destroyed the creaturely satisfaction and natural harmony of the prior generations and shattered the masculine mindlessness, exchanging "blood-consciousness" for meaning through language and money, both of which are abstractions.

In reaction to machinic abstraction, which attempts to disguise its own lack through domination and consumption, Lawrence posits a different kind of incompleteness, which is the acceptance of the existence of utter, incomprehensible difference. He resuscitates woman, to some extent, from her role as the destructive

mechanical Eve, by positing her has the best manifestation of man's unknowable other.[25] Motion and change are essential to relationships, to individuals, and to life in general. Lawrence writes in "Why the Novel Matters" that "[i]f the one I love remains unchanged and unchanging, I shall cease to love her. It is only because she changes and startles me into change and defies my inertia, and is herself staggered in her inertia by me" (196).[26] This element of change is necessary since the loved one symbolically represents the unknown and unknowable. If either partner stabilizes in his or her personality, not only does that person cease to function as the unknown for his or her partner but turns into a "stupid fixed thing like a lamp-post." The individual's "integrity" exists but can never be known to either the loved one or the individual: "I shall never know wherein lies my integrity, my individuality, my me. I *can* never know it." Part of Lawrence's critique of Freudian psychoanalysis is its concept of the ego, that stable idea of the self that would require him to "cut myself out to pattern" (196-7). Lawrence's understanding of how the individual operates is more akin to Jaques Lacan's theory than Freud's, although he diverges from Lacan in important ways too. Lacan's petit objet *a* functions as the love object does in Lawrence—as a never-quite-complete substitute for what the subject truly desires and can never have. Lacan and Lawrence agree that desire keeps the subject in positive motion, and that the failure to fully possess the object of desire is necessary for conscious life. Consciousness also has limits, and what lies beyond it Lacan calls the Real. The Real can only be accessed symbolically, and as soon as we create a symbol to represent it, the Real slips again beyond our reach. The Real is prelinguistic and unknowable except through the cracks that erupt in the fabric of our constructed reality, thereby preventing reality from stabilizing and propelling us onward in the process of

making meaning. The Real is thus the source of creation and destruction. Lawrence also believed in the Real, which he called the Dark God. However, Lacan understood desire as stemming from a lack related to the Oedipal complex. The Father castrates the subject by causing a break between the subject and the mother, forcing the subject to repress the forbidden desire for the mother and replace her with desire for the petit objet *a*. Lawrence, on the other hand, believed that lack is a symptom of the Cartesian hierarchy of mind over body, as I have already argued, and that the Oedipal complex is a false excuse for the social degradation of the body and sexuality. He insisted that "real" men and women do not lack but rather acknowledge within and between themselves this generative darkness that can be accessed obliquely through the body.

While much of his work advocates bonds of love and fellowship between individuals, we see the burgeoning reservations expressed by Birkin in *Women in Love* reach a culmination in *Kangaroo*: essential as the love bond between man and woman is, it must not become totalizing or rigid. Lawrence offers several different iterations of what else must exist beyond love, including additional attachments—at least for men—and alternative kinds of attachment.

Woman is only one manifestation of man's unknowable otherness, and Lawrence suggests that the heterosexual love bond is also replicable on the scale of the community. At various points in his fiction, Lawrence offers the possibility that love can be the glue that holds couples and communities together, but he also problematizes the relationship between love and difference, suggesting that love—at least as it was generally understood at the time—demands absolutes that cannot accommodate the "intrinsically other" (*Women in Love* 125). Birkin early on advocates stability of love when he tells Gerald

that love can be a "finality" that forms "the centre and core" of life. Gerald expresses disbelief that there is a center, arguing instead that everything is "artificially held *together* by the social mechanism'" and Birkin replies that love is the only possible solution: "'It seems to me there remains only this perfect union with a woman—sort of ultimate marriage—and there isn't anything else'" (74-5, emphasis in the original). Later Birkin says he does not want love because "love" is a word overused and misused that needs to be replaced by a "'new, better idea'" (154). This new idea is a "stark and impersonal [pledge]" to accept one another "not in the emotional, loving plane—but there beyond, where there is no speech and no terms of agreement" and no "responsibility":

> It is quite inhuman [….] One can only follow the impulse, taking that which lies in front, and responsible for nothing, asking for nothing, giving nothing, only each taking according to the primal desire [….] I don't *know* what I want of you. I deliver *myself* over to the unknown, in coming to you, I am without reserves or defenses, stripped entirely, into the unknown. Only there needs the pledge between us, that we will both cast off everything, cast off ourselves even, and cease to be, so that that which is perfectly ourselves can take place in us'" (171-3).

This impersonal bond between the two of them, between "man and woman" is, he argues, only the most localized expression of a "'mystical conjunction, the ultimate unison between people'" that holds "'the world'" together. Birkin sometimes calls this mystical conjunction "love," but he distinguishes his impersonal love from the kind of love that he calls "sentimental cant" that feeds the ego (179-80). Mellors and Connie Chatterley's referring to themselves by euphemisms for their genitalia—John Thomas and Lady

Jane—is another way that Lawrence attempts to articulate this impersonal reverence between the man and the woman, where the individuals do not really matter to the relationship but merely serve a function toward the rebirth of themselves in balance and flow with the other. The primary danger in love is, as Somers explains in *Kangaroo*, that humans must have an absolute, and they tend to seek it in each other. But every individual is a "wayward, willful, dangerous, untrustworthy quantity" who is "bound to react at some time against every other individuality, without exception—or else lose its own integrity" and so love "*cannot* be absolute," at least until everyone finds the impersonal "polarized God-passion to hold them stable at the centre." (201-2). Birkin calls this dangerous absolute love a "process of subservience" and Somers calls it "love-will," both of which sound very much like Lawrence's illustrations of warring couples fighting for dominance that I discussed earlier. In order to break out of these restrictive and destructive associations, humans must find their absolute in the unknown and allow other people to be relative.

Lawrence locates the same desires and the same problems in politics that he finds in love partnerships. Several of the political revolutionaries in *Kangaroo* describe a new socialist state built upon a perfect union of love between "mates" that sounds very much like Sinclair's idea of expanded tribal sympathies: "'If our society is going to develop a new great phase, developing from where we stand now,'" Struthers proclaims,

> 'it must accept this new relationship as the new sacred social bond, beyond the family. You can't make bricks without straw. That is, you can't hold together the friable mixture of modern mankind without a new cohesive principle, a new

> unifying passion [….] And this will be the new passion of a man's absolute trust in his mate, his love for his mate' (200-1).

Expanding the familial bonds of love and fellowship to include all of humanity is what Upton Sinclair also advocated as the best or only way of eradicating the predator-prey relationship from human interactions. Lawrence, however, indicates that the human capacity to love is more complex than the above philosophy implies, and it can be restrictive and destructive of individual freedom. Just as the demands of loving one individual absolutely devolves into destructive conflict, so the bonds of absolute love of one's fellow man will end destroying the community they attempt to form. *Kangaroo*'s narrator expresses the problem through an analogy with ships at sea:

> Human love, human trust, are always perilous [….] Because to place absolute trust on another human being is in itself a disaster, both ways, since each human being is a ship that must sail its own course, even if it go in company with another ship. Two ships may sail together to the world's end. But lock them together in mid-ocean and try to steer both with one rudder, and they will smash one another to bits. [….] Since man has been trying absolutely to love women, and women to love man, the human species has almost wrecked itself. If now we start a still further campaign of men loving and absolutely trusting each other, comrades or mates, heaven knows the horror we are laying up" (201).

Lawrence was only too familiar with the power of patriotic fervor to distort love into violence, but he also suggests that even revolutions against state power and against economic enslavement must not be built upon love of others. Lawrence's revolution is not Sinclair's call for fellowship nor is it Wells' engineering coup d'état. The affectionate

and rational motives of each will fail for not properly incorporating the chaotic violence inherent in and essential to life.

Revolution and War

As I mentioned in the introduction, recent scholars have become convinced that the Great War had a dramatic impact on Lawrence's thoughts, feelings, and perhaps even the shape of his writing. Milton argues that the "war convinced him that his earlier faith in an essential human vitality, which had been overlaid but not significantly damaged by the ugly carapace of industrial life, had been misplaced; evidently the harm done to our instinctive selves was more fundamental than he had supposed" (193). Lawrence appears to corroborate this statement in a letter to an "American enquirer": "'If *The Rainbow* ends on a positive note, it is because it was completed before the war began—'I don't think the war had much to do with it—I don't think the war altered it from its prewar statement'*; Women in Love,* on the other hand, 'does contain the results in one's soul of the war'" (qtd in Milton 193). Krockel reads Lawrence's works during and after the war as therapeutic attempts to recover from war trauma that, in the process, mostly reenact that trauma. Krockel claims that Lawrence constantly returned in the language and imagery of war and that it therefore impacted his articulation human history, progress, and essential being. The conflict that forms the central premise of Lawrence's idea of creation ("something new") is therefore caused by the war and not, he seems to suggest, by a broader evolutionary or socio-economic condition of which the war could be a manifestation. Krockel has some convincing ideas about the impact of the war on humanist ideas, like the shock of the impersonal mass slaughter shook a fundamental

principle of individual significance, claiming that this upset brought about both democratic and fascist responses. But while Krockel sees Lawrence grappling with his trauma, he remains unconvinced that Lawrence successfully differentiated his ideas about humanity from the psychological impact of the Great War and thus implies that Lawrence's articulations of the human condition are manifestations of a traumatized mind. Krockel's analysis raises a doubt as to whether Lawrence's ideas can access actual truths about life and death as Lawrence believed they did. The war certainly did give Lawrence's mission an urgency that sometimes bordered on despair, but to attribute all of the violence in his philosophy to the war is to ignore the early evolutionary as well as classical influences on his ideas. Ferretter argues that Lawrence's idea of "conflicting forces" can be traced directly to his reading of Spencer's *First Principles* in 1907 (21). The impact of the war did not fundamentally alter Lawrence's dialectic vision, but it likely did make death a more prominent feature of his thinking about both mechanization and evolution. As Delaney writes, "Abandoning his earlier claim that the war had not changed his beliefs or visions, he now chose to go forward into the destructive element [...] for the artist to 'follow home' the war meant that he must himself swallow Europe's poison of hatred, blood lust, and grief" (20). But what seems to have troubled Lawrence more than the blood lust of war was the new mechanized indifference of war. In his essay "With the Guns" (August 18, 1914), Lawrence juxtaposes the experience of overhearing the patriotically enthusiastic farewell of a smiling soldier on his way to the front with his own observations of the front. He proceeds to meditate on the cold, impersonal reality of this war: "What work was there to do?—only mechanically to adjust the guns and fire the shot. What was there to feel?—only the unnatural suspense and suppression of serving a

machine which, for ought we knew, was killing our fellow-men, whilst we stood there, blind, without knowledge or participation, subordinate to the cold machine." Against the "glamour," "glory" of patriotic visions of war and against the potential beauty of the day and the landscape, the war brings a deadening of all feelings along with a "mechanical, expressionless movement" and a realization that every "individual" was now "a fragment of a mass" to "live and die or be torn." Lawrence's narrative voice cries out in the end "My God, why am I a man at all, when this is all, this machinery piercing and tearing? It is a war of artillery, a war of machines, and men no more than the subjective material of the machine. It is so unnatural as to be unthinkable. Yet we must think it." We must think it in order to find a way to resist its dehumanizing, totalizing power. If the rich, responsive intelligence of the body *can* be reduced to this "material of the machine" to be "torn," then what is left to fight with? The speaker claims not to understand or be capable of understanding, but Lawrence does understand the power of mechanization in this brutal and stark scene of trench warfare and in what he perceives to be its source in the subtle mechanics of the same materialist and democratic logic of efficiency that turns Gerald Crich's workers into crooked automatons and Gerald himself into first a cruel master, then a domineering dependent man-child, and finally a frozen corpse. What Connie Chatterley calls the "bruise" to the "emotional soul" that only worsens as the body heals affects both Clifford, who returned "more or less in bits" from the war, and also the collies who were "talking again of a strike" not out of genuine "manifestation of energy" but out of the "great ache of unrest, and stupor of discontent" brought to the surface by "the bruise of the false inhuman war." Connie reflects that it "would take many years for the living blood of the generations to dissolve the vast black clot of

bruised blood, deep inside their souls and bodies. And it would take a new hope" (5, 43). This passage seems to me to be one of the darkest of Lawrence's career, far more so than Birkin's yearnings to see humanity wiped from the earth for a clean start with a new life form. The pain of this passage is the lengthy and uncertain struggle to reclaim not just the human species but the possibility that mechanical violence could be opposed with something that exists outside its enframing reality. It suggests that even resistance to power structures, like the miners' strike, is futile in the face of this overwhelming threat to embodied meaning. What Lawrence describes in these painful reflections on war are, to some extent, relatable to the terror and horror in Wells' and Sinclair's representations of being hunted and slaughtered respectively. The problem comes down to the issue of *meat* and what it fails to signify about the once-living being and also how it threatens to undo the meaning of the presently living body. But rather than revert to the idea of a disembodied soul or spirit beyond the reach of bodily destruction, all three authors return to the body as the creative source of resistance to mechanization. Wells and Sinclair establish their utopian communities on human responses to the shared threat of bodily harm: humans unite through sympathy/empathy generated by a bodily awareness of common feeling, and humans join forces as an adaptive survival technique to combat external threats to their fragile bodies. The result of these dual incentives, according to their predictions, will be a revolution in politics and economics leading to a socialist world order founded on the principles of freedom and efficiency. The movement is outward from the individual to the social body. Lawrence's revolution is against democratic "social beings" and egos with their solidified Ideas, which are the machines he perceives lurking beneath the surface of humanism, socialism, nationalism, and all

other -isms. He establishes the body as a bridge between what is known and what is unknown, between the self and the creative source of all life. His revolution against meaningless death begins by redeploying the concept of death to re-animate life.

There are several forms of revolutionary "good death" in Lawrence's writing that I will elaborate upon here, but all are predicated upon destroying what is repetitive, static, and degenerative in the self and in society. Sexual partnerships, as we have seen, can incorporate a kind of death of the self. Sexual climax temporarily shatters the conscious mind with bodily sensation, and pair bonds based on impersonal love pull the individual out of solipsism into dialogue with the unknown. The numerous references to species extinction, to wiping humanity out, are also refreshing to the characters who have despaired of humanity but hope that new and better life will come once our mechanical species is cleared away. In *Women in Love*, Birkin voices this desire but imagines that the responsibility for extermination lies with God: the ichthyosauri and mastodons "failed creatively to develop, so God, the creative mystery, dispensed with them. In the same way the mystery could dispense with man, should he too fail creatively to change and develop […] and replace him with a finer created being" (539). In *Lady Chatterley's Lover*, the duty to deal out death takes a more Wellsian turn. In the second-to-last chapter, Mellors argues that "'the tenderest thing you could do'" for the men and women who have become pure mechanical wills "'would be to give them death'" and "'I ought to be allowed to shoot them'" like Prendick shoots the Leopard Man in *The Island of Doctor Moreau* (*Lady Chatterley's Lover* 242). Mellors explains that these people are "doomed" anyway, and "'only frustrate life.'" Like Wells' Ostrog, he claims, "'Death ought to be sweet to them'" (ibid). But neither Birkin nor Mellors is fully convinced that

there is no coming back from the mechanized state, and Lawrence provides models in his narrative of how to do it.

His most revolutionary tactic is to psychologically confront and embrace death in a near suicidal surrender. This encounter with death, if successful, effectively transforms the material scientist's "bits of dead me" and the war's "subjective material of the machine" into a triumphant resistance to any single enframing reality. Death is the ultimate unknown, and courageously facing the truth of death's unknowability and inevitability can be a step toward individual growth.[27] Both sisters in *Women in Love* meditate on death in this manner and at least temporarily find a way out of stultifying reality through it. Gudrun is an unlikely character to overcome mechanization through death, but she provides a potent illustration of the power that death has to restore an individual, even if her restoration is only partial and probably fleeting. Most critics read her as an instance of failure to develop genuine life, and certainly she does exhibit many of the worst mechanical qualities throughout most of *Women in Love*. Gudrun is led primarily by her will and desire for self-control. One of the first things the narrator tells us about her is that Gudrun "wanted to be quite definite" (19). She enjoys a power to "place" people "for ever" so that they were "sealed and stamped and finished with" (27). She often "performs" her part, embracing a flattened version of herself (192, 293) and the importance of controlling and submerging her internal workings is made clear by the rage she feels toward Ursula when her sister acts spontaneously and unreservedly.[28] Her attraction to Gerald likewise suggests her fascination with and desire for control. For example, as she watches him sleep, Gudrun thinks, "he was a pure, inhuman, almost superhuman instrument. His instrumentality appealed so strongly to her, she wished she

were God, to use him as a tool" (471). And what he does with his horse, it could be argued, she does with him: forcing him to bend to her will until she breaks him. Her fight for dominance and control, however, temporarily shifts in a more promising direction through a waking nightmare about mechanization. Gudrun is terrified by the spectral world she conjures up of "wheels within wheels of people […] a very madness of dead mechanical monotony and meaninglessness" (523-4). At first she mentally turns to Gerald for protection only to realize that he is lost in the machine himself: "Poor Gerald, such a lot of little wheels to his make-up! He was more intricate than a chronometer-watch! […] Gerald could not save her from it. He, his body, his motion, his life—it was the same ticking, the same twitching across the dial, a horrible mechanical twitching forward over the face of the hours" (524, 526). And then she is afraid to look at herself in the mirror, knowing that her own face is a clock:

> She never really lived, she only watched. Indeed, she was like a little, twelve-hour clock, vis-à-vis with the enormous clock of eternity [….] Didn't her face really look like a clock dial—rather roundish and often pale, and impassive. She would have gotten up to look in the mirror, but the thought of the sight of her own face, that was like a twelve-hour clock dial, filled her with such deep terror (525).

Lawrence uses the clock metaphor again in *Lady Chatterley's Lover* to denote the mechanicalness of a purely intellectual existence: "She and Clifford lived in their ideas and his books [….] Time went on as the clock does, half past eight instead of half past seven" (17). Connie breaks out of her mechanized existence through a sensual awakening with Mellors, but Gudrun breaks free in her moment of confronting the clocks. At first she echoes the desire for oblivion through the dependent, infantilized sleep that

overcomes Clifford Chatterly and Gerald Crich. She wishes for "somebody to take her in their arms and fold her safe and perfect, for sleep. She wanted so much this perfect enfolded sleep," but she then lashes out at Gerald and the rest of society as "them" in an attempt to intellectually separate herself from the system of mechanization: "Let them become instruments, pure machines, pure wills, that work like clockwork, in perpetual repetition. Let them be this, let them be taken up entirely in their work, let them be perfect parts of a great machine, having a slumber of constant repetition" (525). But her hope for herself comes not from rejecting "them" but from embracing death: "To Gudrun, this day was full of a promise like spring [….] All possibility—because death was inevitable, and *nothing* was possible but death" (527-8). However, despite her reference to "spring," there is nothing creative in Gudrun's confrontation with death. She breaks a hole in the wall of mechanical reality, but she finds nothing to move toward. Having never experienced or believed in a love that was not dominated by will and predation, she ends the novel in Dresden, presumably with Loerke, with whom she maintains a relationship "on the level of a game" (528). Her sister progresses further along the path to salvation, both in her more extensive contemplation of death and in her attempts to build new worlds with Birkin.

Ursula is less bound by her own ego that Gudrun and is able to let go of herself, to "submit" to death, and to work toward submitting to the love she shares with Birkin. She thinks, "'To die is to move on with the invisible. To die is also a joy, a joy of submitting to that which is greater than the known; namely, the pure unknown'" (224). Like Gudrun, Ursula establishes a binary opposition between death and machinery: "all life was a rotary motion, mechanized, cut off from reality. There was nothing to look for from

life—it was the same in all countries and all peoples. The only window was death" (214). Death is the end of life and beyond life's power to absorb and control, so symbolically it represents the individual's way out of destructive power structures. And because "[t]o know is human and death is beyond humanity's capacity to know," Ursula claims that "we are not human" once we embrace death without giving it meaning (225). Without actually dying or going extinct, we can contemplate extinction and be reborn as a new, redeemed species. Holly Laird notes in "Suicide in D.H. Lawrence's *Women in Love*: a modernist ethic" (2009) that Ursula's regenerative contemplation of death ends in an inclusive gesture through the shift in pronoun from "I" to "we" (67) and that her struggles between the two deaths, the literal death of "hopelessness" and imaginative death of embracing the unknown and unknowable, illustrate an "ebb and flow" and "flux" that Laird opposes to the deadly "side-taking" of Gerald and Gudrun (68). She sees both Gerald and Gudrun as failing to find life through death, which seems fair in light of Gerald's suicide but less so in Gudrun's case. Laird leaves Gudrun in a "social and personal 'cul de sac'" (75), overlooking the springtime sensations and the parallel language of Gudrun's deathly vigil and Urusla's. Gudrun's experience is important because it reveals the limitations of death's regenerative capabilities—death can really only clear an opening for new growth; it cannot set us upon an actual path towards vital newness.

Laird also links the "mythologizing narrative of the 'death-process'" with the "bleakness" of the First World War as a measure of Lawrence's "seriousness," but despite her recognition of the life-giving force of renewal in death and her acknowledgment of the heavy shadow cast by the war, she does not relate the two deaths

of suicidal despair and regenerative crisis of known reality with the emotional bruise of the war's mechanical tearing and indifferent killing. It is against both Gerald's self-annihilating end to mechanical efficiency and the war's brutal end to human meaning that I see Lawrence attempting to deploy this anti-mechanistic Dark God of destruction and creation.

The destructive aspect of Lawrence's revolution was fairly well hammered out in *Women in Love*, but the creative portion was not as clearly defined. Lawrence was able to articulate it more precisely by the time he wrote *Lady Chatterley's Lover,* although there is still some lingering hesitation and uncertainty as to the ultimate success of the couple. Both relationships—Ursula's with Birkin and Connie's with Mellors, have generally the same ambitions and both contain a kernel of doubt as to their ability to withstand the pressures of the world and to stay truly open and committed to the journey together. Ursula "*dared* not come forth quite nakedly to his nakedness […] lapsing in pure faith with him" and so they "were never *quite* together […] one was always a little left out." This reflection ends with Ursula "glad in hope" and Birkin "still and soft and patient, for the time" (492, emphasis in the original). There is a chance for them, but they have not yet succeeded and Birkin may not wait forever for Ursula to let down the last of her defenses. Mellors and Connie have come further in harmonized and total impersonal connection and in establishing complete trust in each other and their love, but the world threatens them with "great grasping white hands in the air, wanting to get hold of the throat of anybody who tries to live" (260) and they are forced to live apart in hope but also in doubt. "If only one were sure," Mellors writes to Connie in his final letter before re-affirming his faith in their "little flame" (261). Through them, Lawrence is able to

illustrate the working toward and achievement of selflessness fulfilling attachment that Birkin sought in his "love that is like sleep, like being born again, vulnerable as a baby" (216). Tenderness is the word that Mellors and Connie use to describe the kind of sensuality that goes beyond sexual passion and also makes men "manly."[29] Mellors struggles to believe in the future, which causes him to say, as Sinclair's characters have said before him, that '"[i]t seems to me a wrong and bitter thing […] to bring a child into this world" (188). But Connie teaches Mellors his own meaning and gives him a way to imagine the future, not as bound up with the mechanized world he despises but as something apart and new. In order to truly break free of the grasping monster, you must have something beyond your fight with it:

> the spontaneous soul must extricate itself from the meshes of the *almost* automatic white octopus of the human ideal, the octopus of humanity[…] each denial of the spontaneous dark soul creates a reflex of its own revenge. But the greatest revenge on the lie is to get clear of the lie (*Kangaroo* 272).

The timeless struggles to bring oneself to life through death and through love are efforts to "get clear of the lie," but most of Lawrence's protagonists wander nomadically through space and time, uncertain whether they are primarily running away or toward something. The fact of the child changes this dynamic for Connie and Mellors. A child signifies the tangible future, and Mellors is troubled with guilt and fear. But once Connie tells Mellors that his meaning is the "'courage of [his] own tenderness'" (239), he is able to have hope for a general future, however faint, and to believe the truth of her statement, "'Be tender to [the baby], and that will be its future already'" (241). Worthen says that Lawrence's novels "above all […] assert[] community even while preaching isolation," but he claims

that only *Lady Chatterley's Lover* "really fails" in this regard (*D.H. Lawrence and the Idea of the Novel* 184). Certainly the characters are physically isolated from each other, but Mellors expresses no more alienation from the masses than most of Lawrence's characters. He may not be preaching, but he goes to "sit in the Wellington and talk to the men" and expresses a renewed wish that he could deliver his message of scarlet trousers to them (259). In fact, the child, I argue, binds the protagonists of *Lady Chatterley's Lover* more completely to the fight with the world. They are literally responsible for the future.

Through the "pentacostal flame" of Mellors, Connie, and their baby/love that helps Mellors "'trust in something beyond himself,'" *Lady Chatterley* addresses sexual selection and species survival in a new, more hopeful light. The life-affirming tenderness that generates this hope both distinguishes Lawrence from Wells and Sinclair and reveals his kinship. Tenderness seems really to be their sympathy with added physicality or "touch" as Mellors has it. It becomes the glue that holds Mellors, Connie, and their future family together, and it also bonded Mellors with his troops. The concept becomes diffuse as Mellors attributes it to cultivating manliness, giving life meaning, providing for a woman, raising a child, and caring for soldiers under his command. Can one sensation do all of these things? What is its relationship to the destructive violence that is also part of Lawrence's vision and part of Mellors' feelings? For instance, does tenderness come into Mellors' wish to kill off humanity's failures? *Lady Chatterley's Lover* concludes with a faith in tenderness that the narrative's trajectory may not entirely warrant. It is an intriguingly patient and subdued resolution that is really no resolution at all.

In "The Novel and the Feelings," Lawrence explains that through "real novels" we can "educate ourselves in the feelings" by listening "to the low, calling cries of the characters, as they wander in the dark woods of their destiny" (205). Success for humanity, according to Lawrence, would be to *not be human* as Birkin and Ursula describe it—to be expanded, fluid, and unresisting to the unknown creative forces within us. And despite his reservations about language as a medium for conveying this message about the prelinguistic, unknowable inhuman darkness, Lawrence had faith in the novel as a means for training readers to find their way toward becoming the proverbial plant shoot. In "Why the Novel Matters," he calls the novel "the one bright book of life […] tremulations on the ether [that] *can* make the whole man-alive tremble. Which is more than poetry, philosophy, science or any other book-tremulation can do" (195) by providing a "microcosm" in which characters "can do nothing but *live*" and the reader can discern when a character is not living but following a set "pattern." When characters cease to live, Lawrence argues, "the novel falls dead." And since "[i]n all this wild welter, we need some sort of guide" and "at its best, the novel […] can help you" by training you to recognize "when the man goes dead, the woman goes inert. You can develop an instinct for life, if you will, instead of a theory of right and wrong, good and bad" (197-8). So while Lawrence doesn't "want to stimulate anybody else into some particular direction" (196), his attitude toward the importance of his work is no less dramatic than Wells' proclamation that he had found the key to life.

Like Wells' novels, Lawrence's participate in the process of evolving consciousness, destabilizing reality and requiring adaptability of their readers. But Lawrence does not see his work as didactic in the vein of late Wells and most of Sinclair.

He notes in *Study of Thomas Hardy* that "a novel is a microcosm, and because man in viewing the universe must view it in the light of a theory, therefore every novel must have the background or the structural skeleton of some theory of being, some metaphysic" but Lawrence warns against allowing that "metaphysic to predominate and turn the novel into "a treatise" (91). Bruce Steele, in his introduction to *Study of Thomas Hardy and Other Essays*, says Lawrence "might have added, the resulting form of the novel will appear imposed or contrived, rather than a natural flowing" (xxix), to which I would add that a treatise would likely both lack the living characters necessary for the novel to do its real work and that a treatise would set out a specific program and parameters, leading readers in a "particular direction [which] ends in a cul de sac" ("Why the Novel Matters" 196). Lawrence addresses this same danger of authorial interference in "Morality and the Novel" when he claims that the novel "can help us to live, as nothing else can […]. If the novelist keeps his thumb out of the pan." If he cannot, Lawrence warns, "the novel becomes an unparalleled perverter of men and women" (175-6). This strong language is rather ironic coming from a man whose own works had been banned for being "dangerous," but it stands to reason that he believed novels capable of causing great harm since he certainly believed in their influential power to heal. Whether Wells' and Sinclair's didactic works have perverted their readers or driven them into a cul de sac is difficult to say for certain since their visions for the future have yet to be realized. Lawrence's refusal to commit to a specific plan of action beyond reading his often contradictory novels has not obviously cultivated a world-altering movement either, although it has inspired numerous scholars to ponder the issues he held dear. In "The Future of the Novel," Lawrence claims that its future is "to take the place of

gospels, philosophies, and the present-day novel as we know it [with] the courage to tackle new propositions without using abstractions; it's got to present us with new, really new feelings [to] break a way through, like a hole in the wall [….] [G]radually first one and then another of the sheep filters through the gap, and finds a new world outside" (155). Wells and Sinclair may have disagreed with Lawrence over the details of how to build this literary bomb to free the sheep and what to do with the sheep once they were free (and Sinclair might have objected to the violent image of a bomb), but in terms of the future role of the novel and the novelist, they were agreed: their work was to open a new space in which humanity could evolve into something different and hopefully better.

Epilogue

What does it mean to be human? This is a profoundly dangerous question. How we answer it shapes us, shapes our behaviors, and shapes our world. And so we must answer it very carefully. What was at stake in answering the question for H.G. Wells, Upton Sinclair, and D.H. Lawrence was humanity's survival and, more importantly, its subjecthood. They saw people around them becoming lifeless automatons, and they understood that economic, political, and social structures were only the surface manifestations of a deeper problem of signification. This problem was far from new, but it reached a moment of crisis in the early twentieth century as the earlier make-shift categories that humans used to define themselves against noticeably broke down. Put simply, evolutionary theories had destabilized the categories of human and animal, and the industrial revolution had destabilized the categories of human and machine. The result was that there was no clear line anymore between subject and object.

The underlying mission of all three authors was to redefine humans as subjects, as the cultivators of their own lives, the architects of their species' future, and also as dynamic beings resistant to final categorization. By articulating ways in which animals and machines are simultaneously both different and the same as humans, they found ways to complicate and destabilize (some of) the old binaries. Borrowing the language of predator/prey from the classification of animals, they apply it symbolically, and sometimes literally, to modern capitalist society at large and within individual human relationships. They argue that while the predators ostensibly occupy the subject position and the prey the object position, both figures are trapped in a binary that limits selfhood

and evolutionary capacity. Sinclair's approach to eliminating the human-object was to teach humanity through sympathetic understanding and evolutionary logic that all members of the species must be *treated* as subjects. He argues that we must move beyond the roles of predator and prey to embrace a higher evolutionary model of cooperation, and he relies on the incorporation of technology and the technological ethos of innovation for efficiency to keep the species evolving in the "right" direction. Lawrence finds cooperative social beings to be an equally limiting and objectifying concept. He embraces the unknowable otherness of animals (and wild nature generally) and locates it within humans as well. In order to be true "Man Alive" subjects, we must refuse objectification by denying knowability, respecting each other's otherness instead of sympathizing with each other's commonality. In order to have space for the unknown, we must reject the positivist logic that everything can be understood and incorporated within a technological framework. Wells found Sinclair's inclusion of all humans and Lawrence's exclusion of technological innovation both untenable options. Wells' approach to ensuring human subjecthood is closer to Sinclair's than to Lawrence's, but his doubts about the humanity of all humans and his concerns about the instrumentalizing power of machine efficiency kept him aware of an ever-present danger of devolving into objects once more. The risk to Wells' and Sinclair's models of efficiency—a risk they themselves recognized and attempted to address—was the end of progress and thus the end of regenerative life.[1] Lawrence avoids this particular pitfall by resisting the urge toward the perfection of mechanism, but he approaches a similar standstill by replacing scientific investigation and technological innovation with the less visible explorations of the unknown self's inner meaning.

The challenges and dangers of defining humans, animals, and machines today is as rich and complicated—if not even more so—than it was in the previous century. With chromosomal mapping, genetic modification of organisms, and the development of smart technologies, the categories of animal, human, and machine are less stable and more provocative than ever. As Andy Clark argues in *Natural-Born Cyborgs: Minds, Technologies, and the Future of Human Intelligence* (2003), "We humans have always been adept at dovetailing our minds and skills to the shape of our current tools and aids. But when those tools and aids start dovetailing back—when our technologies actively, automatically, and continually tailor themselves to us just as we do to them—then the line between tool and user becomes flimsy indeed" (7). In *Regenesis: How Synthetic Biology Will Reinvent Nature and Ourselves* (2012), Harvard Professor of Genetics George Church and Doctor of Philosophy Ed Regis explain the new power of nanobiotechnology to alter the shape of life itself: "starting with the simplest organisms and ending, most portentously, by being able to alter our own genetic makeup," we have

> the potential to recapitulate the course of natural genomic evolution, with the difference that the course of synthetic genomics will be under our own conscious deliberation and control instead of being directed by the blind and opportunistic processes of natural selection (12-3).

Our ever greater potential for "conscious deliberation and control" over our world and evolutionary future means that it's not enough to ask "What *can* we do? […] we must go one step further and ask, What *should* we do?" and they warn that "[d]oing nothing, or doing what is traditional or natural, is not even close to a recipe for survival" (243-4). But who is qualified to answer the question, "What *should* we do?"

Clark argues, like Wells, Sinclair, and Lawrence before him, that before anyone can productively answer that question, we must first reach a better understanding of what we *are* (and *are not*). Clark agrees that we must reject the "particularly dangerous kind of cognitive illusion" of the self as the conscious mind and a "kind of privileged [tool] user" and instead see ourselves as "just tools all the way down" with "[n]o single tool among this complex kit is intrinsically thoughtful, ultimately in control, or the 'seat of the self'" (136). With "soft-selves" continuously "open to change and driven to leak through the confines of skin and skull" (136-7), Clark approaches Lawrence's conception of Man Alive, a being both consciously and unconsciously responsive and open to forces from within and without. However, Clark identifies no role of embodied emotional feelings as my authors conceived of them,[2] and his "coalition of tools" also sounds like the democratic machine of social equality that Lawrence feared leads to sympathy as an excuse for and justification of unrealized human potential. Just how Clark's "cyborg" human model will play out on the social level he does not venture to guess, although he follows Wells, Lawrence, and Sinclair in recognizing that how we see ourselves has "implications for our science, morals, education, law, and social policy" (139). His particular concern with the current iteration of the human (aside from its privileging of the conscious mind) is that it reinscribes a division between human and machine that gives us the false idea that we can cut ourselves off and shut technology down when it threatens our sense of ourselves. He warns that excluding technology from our definition of the human, as Lawrence usually tries to do, is "counterproductive" and ultimately impossible because technology has always been an extension of ourselves "at least since the dawn of text, and probably since the dawn of spoken human language. This mingling

is the truest expression of our distinctive character as a species" (139). Here Clark's understanding of the human is close to that of Wells and Sinclair. It is our human nature, or the nature of our particular intelligence, to evolve with and through technology. "Our self-image as a species," he argues, "should not be that of ancient biological minds in colorful young technological clothes. Instead, ours are chameleon minds, factory-primed to merge with what they find and with what they themselves create" (141).[3] And he argues that "knee-jerk" wholesale rejections of technological incorporation disrupt and delay the necessary critical conversation about how to safely and ethically respond to new realities and possibilities. Like Sinclair, Clark explains that our technology advances faster than our "social structures and value systems," and also like Sinclair, he seems to believe that we can bridge the gap by actively and intentionally adapting rather than by imposing rigid ideals or absolute exclusions (139).

A major factor in bringing our values up to date, according to Wells, Sinclair, Lawrence, and to their Victorian forebears, was the activation and training of our embodied feelings through narrative. According to Ralph R. Acampora's concept of "symphysical" response, one body responds to the visual signs of pain in another body in a precognitive process of identification, suggesting that empathy begins in the body rather than the mind. Jenefer Robinson's *Deeper than Reason: Emotion and Its Role in Literature, Music, and Art* (2005) argues that a symphysical response occurs in reading of literature, too. She argues that readers engage in "affective appraisal" of narrative which "causes *physiological changes, action tendencies*, and expressive gestures, including characteristic *facial and vocal expressions*, that may be subjectively experienced […] as *feelings*, and the whole process is then modified by *cognitive monitoring* (qtd. in Keen

26, original emphasis). Robinson's theory, like Acampora's, claims that the body responds to an encounter first and that the mind interprets those feelings second. As Keen explains, "narrative literature, particularly realist fiction, is first understood through the reader's emotional responses" in a "rapid non-conscious affective appraisal" that only later is interpreted cognitively as "belief or judgment" (28, 26). Lawrence would agree with this description of the roles of mind and body in interacting with literature, and Wells would mostly agree as well. Trust your feelings, trust your gut, and then challenge your mind to adjust your ideas and moral judgments to the truth you feel in your body. Sinclair, however, is less confident in the *a priori* truth of feelings. Rather than training the intellect to heed the precognitive messages from the gut, he suggests that retraining our ideas through knowledge and understanding will naturally cause a change in our feelings.

Rae Greiner finds this same approach to sympathy in Victorian literature. In "Victorian Sympathy" she claims that realist narratives produce a kind of sympathy that is not primarily based in emotions but rather in something more abstract and intellectual. Claiming Adam Smith's 1759 *Theory of Moral Sentiments* as a model for Victorian narrative strategy, Greiner argues that "sympathizing with the other isn't a matter of seeing and knowing, much less being in contact with other bodies, but 'situating' the other in an imaginative narrative temporality" (296). Wells, particularly in his scientific romances, cultivates some of the "instantaneous shock" and "quick pulse of embodiment" that Greiner associates with the less socially-beneficial "sensation fiction," (299), but Sinclair is closer to his Victorian predecessors in using realist narratives to produce a sympathetic identification that builds and reaffirms itself over time, where the

"simultaneity" of identification is "replaced by more protracted, reflexive, and deliberate acts" of meeting without "merg[ing] into one" (293). Greiner assumes, along with Smith, that another person's feelings cannot be experientially known, at least not without become solipsistic and turning inward rather than outward. "Given that nothing can secure that knowledge" of others' experience, Greiner explains,

> sympathy functions in its absence, requiring that our imaginative encounters with other people take the form of speculating about their conditions along with our own. The successful sympathizer 'is conscious' of social conventions [and] imagines his behavior 'in the light in which the impartial spectator would view it' (qtd. in Greiner 297).

Sympathy of this sort also seems almost to involve a degree of performance and self-policing, as implied in the idea of an imaginary "impartial spectator." Submission to established moral codes would never do for Wells, Sinclair, or Lawrence; however there are undeniable similarities to this model of sympathy even in Lawrence's work. Greiner states,

> For Smith, as for the realists, sympathy trades knowledge, identification, and reference for will, dissimilarity, and harmony, desiring not emotional 'unisons,' but 'concords…and this is all that is wanted or required.' […] Smith highlights sympathy's facility in activating the motion of intersubjective 'exchange.' We might say that this motion, rather than emotion, forms the basis of his ethical system (298).

The body is not absent from this model of sympathy (or feeling to use Lawrence's word), but its involvement is, like Lawrence describes in his novel-reader, a test of the

authenticity of the connection, detecting whether "rhythm" and "harmony" exist in these motions (ibid). The requirement of the reader to both think and feel as a growing process is what appeals to all three authors about the realist novel form, however differently they conceptualize realism the sympathy they desire it to generate.

In distinguishing between two kinds of sympathy—the protracted rhythmic sympathy of imaginative speculation and the simultaneous and rapid bodily response to "sensation fiction," Greiner suggests that emotional response can come both before and after cognition, but she implies that only the latter serves the educational ambitions of novelists. Underlying this distinction is also a potential latent elitism in supposing "traditional psychological realist fiction" has powers that other genres do not and that "all who read narrative responsively have had their tastes formed in the Anglo-American canon of novels that looms so large in philosophers' accounts of reading and narrative impact" (Keen 29). But does even "traditional psychological realist fiction" have the power to change people as Wells, Sinclair, and Lawrence believed it did? Sinclair's disappointment in *The Jungle*'s failure to "hit [readers] in the heart" seems to corroborate what Keen calls the 'paradox of fiction' illustrated in Raymond Williams's more general observation that readers' "pity" for fictional workers has no impact on their attitude and behavior toward "their real-life counterparts" (Keen 29, 33). Imagination can enable us to identify with another's experience, but does the "illusory quality of fictional worlds" limit the scope or duration of their emotional impact? (29). Perhaps a similar concern motivated all three of my authors to write nonfiction as well as fiction and underlay Sinclair's (and sometimes Wells') insistence on the truthfulness of his fictional stories.

We may question whether "feelings evoked by fiction reading actually result in moral improvement" (Keen 25), but the very imaginative quality of fiction at the root of this potential failure may also, somewhat paradoxically, inspire technological innovation. Eileen Gunn's recent article in *Smithsonian Magazine*, entitled "How America's Leading Science Fiction Authors are Shaping Your Future," argues that "science fiction's capacity to spark an imaginative fire in readers" has sometimes turned fantasy into reality. Two examples of such literary inspirations are William Gibson's "cyberspace" and Jules Verne's "light-propelled spaceships." The latter of has inspired a global interest in developing "solar sails."[4] Gunn also argues that "at its best," science fiction "engenders the sort of flexible thinking that not only inspires us, but compels us to consider the myriad potential consequences of our actions," but Joseph D. Miller also sees a dark side to this kind of imaginative engagement. In "The 'Novel' Novel: A Sociobiological Analysis of the Novelty Drive As Expressed in Science Fiction" (1999) He warns that cautionary tales like Wells' scientific romances may run the risk normalizing dangers rather than teaching us to avoid them:

> the popularity and abundance of certain forms of cautionary tale (e.g., the post-apocalyptic novel) may habituate the reader to the technological consequences that the tale cautions against or even make those consequences perversely attractive. . When 'novel' novel is no longer 'novel,' the pedagogical function fails, with potential disastrous consequences (328).

Novels might be as influential as Wells, Sinclair, and Lawrence hoped their own would be, but stories might not necessarily serve the purposes for which they were intended. The three authors hoped that by nurturing openness, responsiveness, and creative

thinking in their readers, they were providing humanity with the best tools for its future survival and adaptation. However dangerous or benign, it is probably wise to understand narratives' designs on us, especially when those narratives are attempting to intervene in our evolution, re-designing who we are and shaping what we are going to become.

Introduction:

[1] H.G. Wells "Future in America," 3.

[2] According to Darwin, species evolve through three major causes that, unlike Lamarckian "divine directives," are generally called "mechanisms" (which is an important metaphorical and perhaps actual tie to machines and technology). The Darwinian evolutionary mechanisms are (1) random mutation, (2) natural selection, and (3) sexual selection. In contrast to Lamarck, who saw mutation as a direct response to change, Darwin found evidence for multitudinous random mutations, some beneficial and many "monstrous" and detrimental. When environmental change occurred, these pre-existing mutations would either aid or inhibit the mutated individuals in obtaining sustenance and in eluding predators in a world of finite resources. Random mutation was partially responsible for deciding whether or not an organism was viable in its environment, and Darwin believed, as Lamarck did as well, that traits were heritable, although neither man knew the methods by which traits could be inherited. However, Darwin noticed that more often than not, it was the female of the species who chose her sexual partner, and Darwin postulated that female sexual selection, in addition to competition for individual survival, accounted for certain traits being passed down to the next generation. Henry Plotkin outlines Lamarck's theory more fully than I will do here, but the main point is that while Lamarck accepts that environments are continually changing and acting upon species, adaptation of species is caused by divine inspiration within living things to alter themselves to best fit their environment, a function "immanent" that leads always to greater perfection. There is no competition in Lamarck's evolution, no struggle. Change is harmonious and moves gently toward perfection. Plotkin describes it as a "theory less of descent than of ascent," 27.

[3] There are traditionally thought to have been two industrial revolutions—the first Industrial Revolution (late 1700s to mid-1800s) brought with it, among other things, the railway and its attendant advances in mining and using iron, coal, and steam technology. The second Industrial Revolution, occurring toward the end of the century, introduced combustion engines, the telephone, the automobile, and electric lighting.

[4] See Raymond Williams' *The Country and the City* (1973). In the chapter "Knowable Communities," Williams explains how narrative omniscience became a tool for training sympathy in readers. By raising the underprivileged classes to the awareness, understanding, and sympathy of the reader, George Eliot creates what Williams calls a "deeply inauthentic but socially successful" combination of paternalism and ventriloquism—representing lower class characters as "'dear old,' quaint-talking honest-living" folk and giving them "surrogate, parts of her own consciousness" (170). Rae Greiner uses the (more recent) distinction between empathy and sympathy to highlight sympathy's "rhetorical and cognitive features." Sympathy is not a feeling itself but a "mechanism of feeling-production" that requires sustained training over time whereas empathy is an instantaneous shared feeling ("Sympathy Time in Adam Smith and George Eliot*"* 293). Ralph R. Acampora develops this idea of empathy in great detail in *Corporal Compassion*: *Animal Ethics and Philosophy of Body* (2006). The version of narrative sympathy that Williams discusses, as I explain in my second chapter, is highly akin to the sympathy that Sinclair desires from his readers. It is somewhat of interest to Wells and of very little to Lawrence. All three authors model a dialogue between mind and body that, like the morally-instructive novels of their predecessors, involved the training of cognition, feelings, and often both, but some of their moral or ethical purposes differed.

[5] Adam J. Johns notes in *Assault on Progress: Technology and Time in American Literature* (2008) that the etymology "*logos* (word, discourse) appended to *technê* (art, skill, craft, cunning) – would seem to indicate something like 'discourse on arts, skills, and crafts,'" 8. Earl Ingersoll argues that Jacques Ellul's *The Technological Society* (1965) establishes a dialectical relationship between science and technology: "first came primitive technique which eventually gave rise to

science which was needed in order for technique to progress beyond a certain point" (qtd. in Ingersoll 10). Paul Levinson claims in *Mind At Large: Knowing in the Technological Age* (1988) that technology is the embodiment of human ideas, 12. According to these definitions, technology is a man-made object, a process for making that object, a "consciousness of the mechanized world," and a series of mutually influencing forces. If Ellul is right, our concept of technology, which goes beyond the machine, first came into being because of machines and the contingent idea of mechanization. It presumes and produces a mechanistic worldview and coincides with Heidegger's idea of enframing. And if Levinson is right, then the "story" of technology is also the story of evolution.

[6] See Heidegger, Martin. "The Question Concerning Technology." *Basic Writings from* Being and Time *(1927) to* The Task of Thinking *(1964*). 1993, 307-342. Print. In this essay, Heidegger states that the "supreme danger" to humanity exists within the framework of technology that presents everything as a means rather than as an object or being with possible meaning outside of utility: "As soon as what is unconcealed no longer concerns man even as object, but exclusively as standing-reserve, and man in the midst of objectlessness is nothing but the orderer of the standing—reserve, then he comes to the very brink of a precipitous fall; that is, he comes to the point where he himself will have to be taken as standing-reserve," 332. For a more detailed analysis of Heidegger's theories about technology, see Cary Wolfe's *Before the Law: Humans and Other Animals in a Biopolitical Frame* (2013).

[7] For more important studies of the sexual politics of scientific discourse, see Carolyn Merchant's *The Death of Nature: Women, Ecology and the Scientific Revolution* (1980) and Donna Haraway's *Simians, Cyborgs, and Women: The Reinvention of Nature* (1991).

[8] The eugenics movement could possibly be made to serve certain feminist purposes, as Dana Seitler argues of the work of Charlotte Perkins Gilman, and my argument is not to posit eugenics itself as a purely masculine undertaking. However, the overall scientific rationalism and instrumentality of bodies and sexuality that it requires does line up rather neatly with Victorian scientific and technological masculinity.

[9] See Donna Haraway's *Simians, Cyborgs, and Women* (1991) for an extended critique of how scientific language and concepts are influenced by patriarchal society. See also Cecilia Tichi's "Technology and the Novel" in *The Columbia History of the American Novel* (1991) in which she identifies a bifurcation between the masculine "world of contemporary technology" and the feminized "domestic-familial alternative" originating with America's Puritan colonialism. She argues that by Emerson's day, the world was "constituted on masculine terms of precise calibration in the survey, and of engineering, of construction, of design" (474). See also Ruth Oldenziel's *Making Technology Masculine: Men, Women, and Modern Machines in America* (1999), and Herbert Sussman's "Machine Dreams: the Culture of Technology" in *Victorian Literature and Culture* (2000), which also associates technology with "the [Victorian] masculine ideal of self control," 199.

[10] See de La Mettrie, Julien Offray. *Man a Machine* and *Man a Plant*. Trans. Richard A. Watson and Maya Rybalka (1994). In these mid-sixteenth century works, de La Mettrie argues that careful study of the physical compositions of man and various other organisms leads inevitably to the conclusion that differences between species are only in degree and not kind and that the mind and "soul" are expressions of imaginative intelligence of a complex brain and clearly impacted by the health and nourishment of the body. He argues that Descartes secretly knew men were nothing more than machines and only distinguishes between mind and body "to make theologians swallow a poison hidden behind an analogy [between animals and humans that] forces all scholars and meticulous investigators to admit that however greatly these proud and vain beings desire to exalt themselves, they are at bottom only animals, perpendicularly crawling machines, more distinguished by their pride than by the name of man," 71. He concludes, "man is a machine, and that the entire universe contains only one single diversely modified substance," 76.

[11] While the body is usually awakened in this way through sexual encounters between a man and woman, Lawrence also contemplates the potential of a love bond between two men achieving a similar abandoning of self-consciousness and ego, most notably discussed in *Women in Love* between Rupert Birkin and Gerald Crich. This bond is fraternal but also surreptitiously bodily and erotic.

[12] While my study is transatlantic, it does not encompass a wider transatlantic reading that would include both women and other races. For broader transatlantic readings, see Bridget Bennet's "Transatlantic Relations" in the *Cambridge Companion to English Literature 1830-1914* edited by Joanne Shattock (2010), 270-284, Mary Nolan's *The Transatlantic Century: Europe and America, 1890-2010*, Jessica DeSpain's *Nineteenth-Century Transatlantic Reprinting and the Embodied Book* (2014), and Kevin Hutchings' *Transatlantic Literary Exchanges, 1790-1870: gender, race, and nation* (2011).

[13] Claybaugh, Amanda. "Toward a New Transatlanticism: Dickens in the United States." *Victorian Studies* 48.3 (2006): 439-460.

[14] *The Collected Letters of D.H. Lawrence*, 388.

[15] In *Experiments in Autobiography* (1934), Wells explains that he was dismayed by the impact on his reputation of the response to sexuality in Ann Veronica. He writes, "The fact that the great bulk of my work displayed an exceptional want of reference to sex or love-making, or the position of the woman, was ignored; and if I had been a D.H. Lawrence, with every fig leaf pinned aside, I could not have been considered more improper than I was. This brought me a quiet new type of reader, and books like *Kipps*, *The War of the Worlds*, *The First Men in the Moon* and *The Wonderful Visit* were bought by eager seekers after obscenity—to their extreme disillusionment," 396-7.

[16] Cooke and Turner's *Biopoetics: Evolutionary Explorations in the Arts* (1999) argues that even if art is "for art's sake," it appears to be subject to the same evolutionary laws of selection and adaptation, 3-4. "Art and evolutionary psychology make available to each other an immense array of highly useful data, of lived facts and reactions to them. But more than that, art constitutes the most comprehensive index of our common heritage, our deepest point of access into what may turn out to be our shared human nature," 5.

[17] Keith Sagar says that Lawrence's writing conveys his own struggle to evolve ("heal") and in so doing invites his reader to participate in the process: "The vocation of the great writer is to be a healer, to bring the gifts of healing truths. But before he can perform this task, he must heal himself. The work enacts or reenacts the struggle for atonement and completion, and the reader's participation in this struggle is itself a healing experience," 211. Sagar, Keith. "How to Live?—The End of Lawrence's Quest." *Windows to the Sun: D.H. Lawrence's 'Thought-Adventures*.' (2009) 207-223.

[18] For a more comprehensive discussion of evolutionary forces at work on the shaping of literature, see Cooke and Turner's's introduction to *Biopoetics*: *Evolutionary Explorations in the Arts* (1999).

[19] Sinclair states that "play" is the defining feature of art that distinguishes it from "an essay, a sermon, a speech or a mathematical demonstration" and that play "is nature's device whereby the young train themselves for reality [….] *Art is play, having for its purpose the development of human faculties, and experiment with the possibilities of life,*" 20.

[20] While E.O. Wilson does not discuss narrative in particular in his assessment of how art functions in human development, Mark Seltzer's *Bodies and Machines* (1992) suggests that through a "double discourse" of "floating" opposite or contradictory ideas like bodies and machines and evolution and degeneration, naturalist novels attempt to establish a "flexible mechanism of adjustment […] intrinsically promoting a coordination of conflicting practices, while strategically preserving the differences between these practices." The desired result a "system of transformation and exchange […], a system of crisis-management," 40, 41.

[21] See also Beatrice Monaco's *Machinic Modernism* (2008). Monaco argues that modernist fascination and experimentation with form and function was evidence of a cultural convergence between art and science as both became increasingly responsive to an "evolutionary imperative toward change." Monaco also makes the claim that modernist artists, particularly those who were also aware of recent scientific and technical developments, came to understand art as technology. The result was a movement away from the idea of literature as an organic whole toward a more mechanistic and dynamic approach to literature as an assemblage of "bare tools of creation" including "language, form, style and even the internal mechanics of consciousness itself," 14. Through such experimentation with the tools of literary creation, she claims, modernist writers challenged and debated their philosophical inheritance of "Enlightenment ideals of progress, science, humanism, rationalism, modernity," 4.

Chapter One

[1] McLean credits Brian Stableford with finding that the 1870 Education Act produced a new non-specialist readership interested in science.

[2] In his *Experiments in Autobiography* (1934), Wells recalls that his parents were "very much in the tradition of the eighteenth century," meaning that they believed and accepted that class and power structures were unchanging: "to my mother certainly it seemed an eternal system only to be ended at the Last Trump, and I think it was solely in rare moments of illumination and transparence that my father glimpsed its instability," 36.

[3] In *H.G. Wells and the Modern Novel*, Hammond explains that the root of the disagreement between James and Wells is ontological: "James's novels and letters posit a conception of the universe in which man's stability and security are axiomatic" while in Wells' work we see his "sense of uncertainty, of the precariousness of man's foothold on the universe," 37. And in his preface to *Babes in the Darkling Woods* (1940), Wells writes, "My early life as a naïve, spontaneous writer was much afflicted by the vehement advocacy by Henry James II, Joseph Conrad, Edward Garnett, and Ford Madox Heuffer, of something called *The* Novel, and by George Moore of something called *The* Short Story ("The Novel of Ideas," 216).

[4] In *The Early Fiction of H.G. Wells* (2009), Steven McLean cites a 1894 essay in *Nature*, "Science, in School and After School," in which Wells details two "distinct methods of teaching science": imparting a series of facts versus more theoretical and practical experimentation to develop "scientific reasoning." Wells advocates "moulding the vessel" rather than filling it with facts (McLean 67). Roslynn D. Haynes states that the two main goals of scientific research are to achieve "the closest possible approximation to the experimental truth" and to "have pragmatic value." She claims that Wells' training in " such a systematic approach to experience" naturally led him to novel-writing "with aims which were almost exclusively functional," 241-2.

[5] John Huntington argues that this fluctuation within Wells' early writing enacts an experiment in cognition: "Though extravagant and inconclusive," he claims, the movement between "disarray" and "balance" within Wells' early fiction is "a way of thinking," and Wells' scientific romances "constitute both an important experiment in and a central model for such thought," xi, x.

[6] Wells' *A Modern Utopia* (1905) offers perhaps the most dramatic example of his experimentation with form and with what Darko Suvin calls "cognitive estrangement." In the "Note to the Reader," Wells details his journey of experimentation with style the major differences between the effects of fiction and nonfiction in various forms. The next section, "The Owner of the Voice," Wells instructs the reader to imagine a narrative voice, body, and personality distinct from his own, and within the story itself he conflates the reader and the rather unsympathetic character of "the botanist." These literary devices draw attention to the acts of writing and of reading as acts of production and construction and promotes active participation from his readers by destabilizing reality both within and without the fictional realm. For an

excellent reading of Wells' creative use of form, see William J. Scheick's *The Splintering Frame* (1984).

[7] In his introduction to the collection of his scientific romances published in 1933, Wells responds to the unfavorable comparison critics had made between his work and Verne's. He argues that while Verne was "practical," dealing "almost always with actual possibilities of invention and discovery," Wells' romances "do not pretend to deal with possible things; they are exercises of the imagination [that] have to hold the reader to the end by art and illusion and not by proof and argument," 181.

[8] Wells earliest experiments in literature became known collectively as his scientific romances, and, although he disclaimed the classification, science fiction, which was a relatively new genre at the time. In his highly regarded *Metamorphoses of Science Fiction* (1979), Darko Suvin argues that science fiction (SF) enacts a "cognitive estrangement" in that it "discusses primarily the political, psychological, and anthropological *use and effect of knowledge*, *of philosophy of science*, and the becoming or failure of new realities as a result of it […]. Once the elastic criteria of literary structuring have been met, *a cognitive—in most cases strictly scientific—element becomes a measure of aesthetic quality, of the specific pleasure to be sought in SF*," 6, 14-15, emphasis in the original.

[9] See Parrinder, Patrick. *Shadows of the Future: H.G. Wells, Science Fiction, and Prophesy* (1995): "Wells himself pointed out that the Invisible Man would actually have been blind if his eyes were invisible. His science-fiction contemporary M.P. Shiel observed that the Time Traveller ought to have died as he voyaged into the future and that civilisation on Mars could not have survived if the bacteria had been eliminated," 11. In a 1896 letter written in response to contemporary critic Chalmers Mitchell's critique of *The Island of Doctor Moreau*, Wells claims that there *is* in fact hard scientific evidence of trans-species grafting. Wells references an article published in the *British Medical Journal* of October 31, 1896, that "contains the report of a successful graft by Dr. Mayo Robson, not merely of connective tissue between rabbit and man." Wells snidely "trust[s], therefore, that 'Natural Science' will now modify its statement concerning my book, and the gentlemen of the provincial press who waxed scornful, and even abusive, on Mr. Chalmers Mitchell's authority, will now wax apologetic" (*The Island of Doctor Moreau*, 187).

[10] In *Women in Love*, Lawrence has Rupert Birkin say, "'I don't propose at all […]. When we really want to go for something better, we shall smash the old. Until then, any sort of proposal, or making proposals, is no more than a tiresome game for self-important people,'" 71.

[11] In *The Jungle*, a character describes the change as one of perspective, going from the ground to an eagle's height so he can see all the features of the ground below—but the ground remains solid and formed from either point of view.

[12] See Lawrence's letter to Pinker in *The Collected Letters of D.H. Lawrence,* 388.

[13] "Comus rout" refers to Milton's drama *Comus* (1634) in which Camus, Circe's son, transforms humans into animals by "evoking animal aspects of human nature, assisted by drunkenness." See Harris's *Moreau* note 1, 108.

[14] See Ralph R. Acampora's *Corporal Compassion,* 81.

[15] See also Jacques Derrida's "Eating Well" in which he describes a "non-criminal putting-to-death" that removes subjectivity, 112.

[16] It is also important to consider how war tends to accelerate technological innovation in order to overcome new urgent obstacles and to "evolve" faster than the enemy. Wells himself took part in this war-time innovative fervor as he recalls in *Experiment in Autobiography* (1934). After observing the trenches in the summer of 1916, he lay awake imagining the terrible effect of rain and mud on the communication trenches and he came up with a solution: "I tumbled out of bed and spent the rest of the night planning a mobile telpherage system. My idea was to run forward a set of T shaped poles with an erector wire, so that they could be all pulled up for use or allowed to

lie flat and that two tractor wires could then work on the arms of the T. Power could be supplied by a motor lorry at the base of this line," 584. Wells shared his idea with Winston Churchill who "saw my points and put me in touch with capable men to supplement my mechanical insufficiency […].We invented a really novel war accessory—I contributed nothing except the first idea and a few comments—and it was available as a perfected pattern before the end of the war, though never in sufficient quantity to produce perceptible effects," 585.

Chapter Two

[1] Kevin Mattson in *Upton Sinclair and the Other American Century* (2006) writes that Sinclair influenced a series of American presidents from Teddy Roosevelt to Lyndon Baines Johnson and that he "expressed pride in having his ideas 'stolen' and 'robbed' by presidents and leaders." Mattson also argues that the story of Sinclair's impact on "the course of American history…deserves telling today, even more so now that it is in danger of being forgotten," 5.

[2] See Carl Jensen's introduction to Sinclair's *The Millennium: A Comedy of the Year 2000* (xi). Also see Kevin Mattson's. *Upton Sinclair and the Other American Century*: "When the famous socialist and novelist H.G. Wells came to the United States in 1906, he demanded to meet Sinclair," 68.

[3] "What Life Means to Me," *Cosmopolitan Magazine*, October 1906.

[4] See my chapter on Wells, 29-30.

[5] Whether Sinclair was a realist or a naturalist is an issue that has aroused some debate. According to Scott Derrick, "*The Jungle* is strikingly faithful to some of the most powerful contemporary critical accounts of naturalism, particularly in terms of naturalism's well-known relationship to Darwinian evolutionary thought," 126. However, according to the definitions posited by Lois A. Cuddy and Clair M. Roche in their introduction to *Evolution and Eugenics in American Literature and Culture, 1880-1940* (2003), Sinclair would be a realist—he adhered to a Darwinian worldview with "Realism's fidelity to the details of contemporary, everyday life [which] almost required that those authors document class structure, define the 'fittest' within class conflicts, and reveal the injustices perpetrated on the poor by the rich" instead of naturalism which "differed from realism in its assumption of scientific determinism, which led naturalistic authors to emphasize the accidental, physiological nature of their characters rather than their moral or rational qualities," 22-3.

And Kevin Mattson suggests that Sinclair learned to write realism from fellow authors: "Sinclair was learning about a new movement in the arts and literature from [Jack] London, a movement known as realism. While the workers had their trade unions and the politicians their campaigning, intellectuals in the socialist movement had embarked on the task of expressing realism in their writing. Realism became a revolt against the bourgeois classes just as trade unions were," 52.

Jennifer Carol Cook in *Machine and Metaphor* suggests that a prevailing characteristic of American realism was pretention to scientific objectivity in its treatment of subject matter. Sinclair's focus on sympathy is often scientifically and objectively treated in his work, but he also attempts to evoke it in his readers by portraying the suffering of innocent and likeable characters. In fact, according to Cook, Sinclair's efforts to evoke sympathy would make him a realist precursor of "modernist concerns": "While the considerations of modernism might seem distant from American literary realism of the fin de siècle era, I would nevertheless argue for a new awareness of realism as precisely the genre to cull for the roots of modern concerns and methodologies. Symbols, metaphors, fragmented planes trying, even in their brokenness, to offer something that will move us to sympathetic response, are understandable destinations for realist writers striving to perfect a fully 'authentic' and ethically responsible language they never could achieve," 135. Mark Seltzer writes, "The subject of the realist novel, stated very generally, is the internal genesis and evolution of character in society. The realist novel, through techniques of narrative surveillance, organic continuity, and deterministic progress, secures the intelligibility

and supervision of individuals in an evolutionary and genetic narration. The linear continuities of the novel make for a 'progress' that proceeds as an unfolding and generation of character and action that are always, at least ideally, consistent with their determining antecedents. The naturalist novel involves a mutation of these techniques that consists also in a systematic and totalizing intensification of their effects. This mutation, again stated very generally, makes for functional shifts in emphasis – thematic and narrative shifts, for instance, from inheritance to heredity, from progress (as evolution) to recapitulation (as devolution), from histories of marriage and adultery to case histories of bodies, sexualities, and populations. Yet these differences themselves emphasize a significant continuity: if the realist novel resembles a time machine, the naturalist novel diagrammatically foregrounds, and maps in high relief, the evolutionary dynamics of this machinery," 43.

[6] In "What Life Means to Me" (1906), Sinclair writes that *Uncle Tom's Cabin* was a "model of what I wished to do" with *The Jungle*, and he blames his failure to instigate the kind of sympathetic outcry that Stowe had achieved for slaves on industrial workers' lives being more "mechanical" and "less picturesque," 591.

[7] See Yoder who conflates Darwinism with *Social* Darwinism and says Sinclair opposes it (7). In contrast, see Sinclair's own declaration in *The Book of Life* that "the fact that life has evolved in an ordered series from the lower to the higher…[is] now the basis of all modern thinking, and as generally accepted as the rotation of the earth," 17.

[8] While Sinclair describes nature as "blind to her own processes," recognizes the fecundity and waste in nature, and insists that evolutionary "fitness" is relative and based on environmental conditions, not innate superiority, he takes a more positivistic and linear view of humanity's own evolution. See in particular *The Book of Life*, 21-22.

[9] Morality also comes under heavy criticism in Sinclair's work, particularly in *The Book of Life*, because, he argues, it has been wrongly stabilized by religion and capitalist discourse when it should be evolving along with the species.

[10] In *The Book of Life*, Sinclair states that the growth and consolidation of industry has meant that more and more workers are forming a single united workforce: "they are gathered into city slums, and their wits are sharpened by continual contact with their fellows. The printing press makes cheap the spread of information, and the soap-box makes it even cheaper. Any man with a grievance can shout aloud, and be sure of an audience to listen," 140.

[11] See Dr. Schliemann's speech in *The Jungle,* 286 and Sinclair's formerly unpublished speech entitled "Eugenic Celebate Motherhood" in Ruth Clifford Engs' *Unseen Upton Sinclair: Nine Unpublished Stories, Essays and Other Works,* 91.

[12] "Now what [mankind] must do with his new morality, if he wishes to save himself from degeneration, is to manifest the wisdom and far vision of the old mother whom he spurned, and to say to himself, deliberately, as an act of high daring: I will protect the species, I will preserve the type! I will deny myself the raptures of alcoholic intoxication, because it damages the health of my offspring; I will deny myself the amusement of sexual promiscuity for the same reason. I will devise imitations of the chase and of battle in order that I may keep my physical body up to the best standard of nature. Because I understand that all civilized life is based upon intelligence, I will acquire knowledge and spread it among my fellow men. Because I perceive that civilization is impossible without sympathy, and because sympathy makes it impossible for me to be happy while my fellow men are ignorant and degraded, therefor I dedicate my energies to the extermination of poverty, war, parasitism and all forms of exploitation of man by his fellows" *The Book of Life,* 29-30.

[13] These ideas may have originated with Thomas Hobbes who, in *Leviathan* (1651), argues, "For the laws of nature (as *justice, equity, modesty, mercy,* and (in sum) *doing to others, as we would be done to,*) of themselves, without the terror of some power, to cause them to be observed, are contrary to our natural passions, that carry us to partiality, pride, revenge, and the like. And

covenants, without the sword, are but words, and of no strength to secure a man at all. Therefore notwithstanding the laws of nature, (which every one hath then kept, when he has the will to keep them, when he can do it safely,) if there be no power erected, or not great enough for our security; every man will, and may lawfully rely on his own strength and art, for caution against all other men," 224.

[14] See Wells' *Experiment in Autobiography* (1934): "So far as the masses went I was entirely of my mother's way of thinking; I was middle-class,--'petty bourgeois' as the Marxists have it [….] My thought, as I shall trace its development in this history, has run very close to communist lines, but my conception of a scientifically organized class-less society is essentially of the expanded middle-class which has incorporated both the aristocrat and plutocrat above the peasant, proletarian and pauper below," 68-9.

[15] Granville goes a step further than Ostrog and calls not only for the death of the weak but of all life: "I looked at life from every aspect, and I saw that it was a trap of nature. Every intellectual man discovers that—there is no conceivable end to it, no meaning, no excuse. But what the thinker discovers, he never dares to practice, seldom ever to teach. There is that dreadful thing we call morality. There is life, blind, insistent—screaming like a starving infant. 'Let me exist! Let me go on!' And there is the philosopher who dares to say: 'Strangle it, stifle it, put an end to it!'"(90).

[16] See Lawrence's *The Rainbow,* 316-7 and my discussion of his attitude toward ants in the next chapter, 171.

[17] Sinclair writes, "it seems certain that consciousness really does 'butt in' on the chain of natural causation…. Here I am writing a book, appealing to men to act in certain ways….I know that not all will follow my advice. Some will be foolish—or what seems to me foolish. Others will be weak…But some will be just; some will be free; some will use their brains—because, you see, I am convinced that they *can* use their brains! I am convinced that ideas will affect and stir them, in complete defiance of the bio-chemist, who tells me that they act that way because of certain chemicals in their brain cells," 57.

[18] Leo Marx would disagree that the anti-technology stance predominated in America. He finds attitudes somewhat similar to Sinclair's in Emerson, Thoreau, Melville, and other early and prototypically American authors. See *The Machine in the Garden* (1964).

[19] In his autobiography *American Outpost* (1932), Sinclair recalls meeting H.G. Wells in 1906 and, after confessing to Wells that he "had never heard of him," Wells sent him *A Modern Utopia* inscribed, "To the most hopeful of Socialists, from the next most hopeful." Sinclair writes that he "found it a peerless book," 203.

[20] See chapter 19, "Experiments in Diet," in *The Book of Life*.

[21] Interestingly for a comparison with Wells and the significance of meat-eating, Sinclair announces in *The Book of Life* that eating lean meat is best for brain-work, 121. Sinclair tried vegetarianism for a while, and even wrote a book in support of a vegetarian diet, but he eventually found it did not resolve his health issues and, in *The Book of Life*, he regrets having written the book and denies that he had supported this diet for ethical reasons (*The Book of Life* 119). "We are by nature omnivorous animals," he writes, like monkeys and squirrels. "One of the common errors of the nature cure enthusiast is to cite the monkey and the squirrel as fruit and nut-eating animals, when the fact is that monkeys and squirrels eat meat when they can get it […]. If there is any race of man which is vegetarian, you will find that it is from necessity alone," 121. Sinclair was not an animal-rights activist and does not appear to include animals within his imagined sympathetic community, despite his call for sympathy with pigs in *The Jungle*. Indeed, the pigs and the other animals slaughtered in *The Jungle* become merely metaphoric as a means of expressing the dehumanized of the workers under capitalism. Once they have served the purpose of alerting the reader to the degenerative forces at work in the meat-packing district, they cease to demand sympathy. Therefore, despite Sinclair's belief in evolution and its concurrent

possibilities of human degeneration and advancement, he maintains a rather firm line between the human species and other life forms. He writes in *The Book of Life,* "We cannot live without asserting our right to subject the lower forms of life to our purpose; we kill innumerable germs when we swallow a glass of grape juice, or for that matter a glass of plain water" and seems to imply that because this killing of germs is inevitable, there should be no ethical objection to killing "higher organisms" for scientifically-based nourishment, 122.

[22] Sinclair hastens to assure the reader that he is not leading up to a promotion of "some self-indulgence, some form of sex orgy" (*The Book of Life* 34) or even "that we should set out to emulate the happy cannibals in the South Seas […] our lost happiness will be found, not by going 'back to nature,' but by going forward to a new and higher state, planed by reason and impelled by moral idealism," 35.

[23] Mary describes Jessie Arthur as "'a smooth, sleek cat that has just eat up a whole nest full of baby mice, and has the blood of them all over her cheeks!'" 371.

[24] Ruth Clifford Engs, the editor of *Unseen Upton Sinclair: Nine Unpublished Stories, Essays and Other Works*, writes, "little is known about this manuscript," not even if it was "delivered, or printed, by the association for its members. The manuscript has two titles crossed out ("The Right to Motherhood" and "Celibate Motherhood") and a final title of "Eugenic Celibate Motherhood," 91.

[25] The Eugenics Record Office was established by Charles Davenport in 1907 with funding from the Carnegie Institute. See *Evolution and Eugenics in American Literature and Culture, 1880-1940*, edited by Lois A. Cuddy and Claire M. Roche.

[26]Connie Chatterley states in Lawrence's *Lady Chatterley's Lover*, "Couldn't one go right away, to the far ends of the earth, and be free from it all? One could not. The far ends of the world are not five minutes from Charing Cross, nowadays. While the wireless is active, there are no far ends of the earth. Kings of Dahomey and Lamas of Tibet listen in to London and New York […]. The world is a vast and ghastly intricacy of mechanism, and one has to be very wary, not to get mangled by it," 243.

[27] Oceana's escape back to her island paradise is problematic in its idealization of noble savages and also because of her earlier complaint that her "beautiful natives" were being corrupted by trade in tobacco and alcohol, turning her paradise into a hell. So not only does she not get the man and child she wants, but there's really no place for her to exist with her values and way of life.

[28] Sinclair wrote about his failed political life in *I, Candidate for Governor: And How I Got Licked* (1935).

[29] Anthony Arthur notes that Sinclair's campaign for governor found support with a group called the "Technocracy movement" that "grew out of a Columbia University consultant's proposal that engineers and technicians should run the economy along scientific grounds. The Technocrats were strongly influenced by Thorstein Veblen's argument that poverty in the midst of plenty was simply irrational—besides, as Sinclair said, being morally wrong," 256.

Chapter Three

[1] Howard J. Booth and Kim Hertzinger both state that this historical perspective on Lawrence was missing from earlier scholarship.

[2] Michael Bell says in *Sentimentalism, Ethics, and the Culture of Feeling* (2000) that from "digesting" Eliot, Hardy, the American classics, and the writings of continental novelists, Lawrence came to the conclusion that ethical feelings originate in the individual rather than coming from an "external social principle" to which the individual must "live up," 141. Bell argues that this position marks a clear distinction between eighteenth-century ideas of social morality and modern psychological individualism.

[3] Luke Ferretter also claims in *The Glyph and the Gramophone* (2013) that the war deeply shook Lawrence's religious thought and gave him greater impetus to name and attempt to realize (if not physically then spiritually) his dreamed-of utopian community of "Ranamim," 12.
[4] See Delaney: "Lawrence's Messianic phase—the time when he imagined himself a prophet called to save England, and to build a new Jerusalem in the ruins of the old—lasted nine months, from late January to late October 1915 and was closely linked with his intimacy with Bertrand Russell. Afterward he lived in England only because he was refused permission to leave" (64). In his introduction, Granofski calls the period between *Women in Love* and *Kangaroo* a "catalyst that transformed a writer of exploratory, experimental, and significant fiction into one who produced mediocre writing at best and, at worst, strident, shrill, preachy, and just plain poor work," 4. Ferretter claims, "There is no end, in his religious thinking, to Lawrence's leadership phase, but only a development of it from a version of concrete political institutions into a vision of a purely natural hierarchy freely acknowledged by all," 146.
[5] Kim A. Hertzinger does see Lawrence and Wells as similar in their "notions of the novel's purpose and power" as "social and cultural therapy" and in their literary strategy of confronting characters with the breakdown of society and reality, but she also agrees with Samuel Hynes that Wells was only interested in social change, not a literary revolution, which seems a bit unfair to Wells. (1982) 27-30.
[6] W. Warren Wagar writes in *H.G. Wells*: *Traversing Time* (2004), "literary tastes underwent a vast transformation in the 1920s to which Wells could not adjust. Younger writers explored inner worlds. They were psychologists. Wells' macrocosmic imagination, however venturesome and unique in its own way, grew passé," 16.
[7] Lawrence had been contemplating starting a utopian society since his youth, according to Jessie Chambers' *D.H. Lawrence: a persona record* (1935), and for a time thought America might be the right setting for it. Carl Krockel explains that Lawrence's "fantasy of escape to 'Rananim' only demonstrated his sense of hopelessness about England, without offering a viable alternative to it elsewhere. He continued to believe that he could escape from the "fighting line" in England to America, but was frustrated" by the rejection of his petition to leave England in 1916. In his epilogue to *Movements in European History,* Lawrence "den[ies] a future direction for Europe as the growing tip. The future tip, presumably, or new leading bud from a side socket, will emerge in America, 64, 147.
[8] from Lawrence's forward to the 1920 version of *Studies in Classical American Literature*.
[9] Rick Rylance claims that for "Lawrence's generation the word 'materialism' meant the denial of divine agency in the natural world. Natural processes, materialists believed, occurred as a result of the material properties of nature rather than by supernatural design or intervention. Throughout the nineteenth century, therefore, materialism was a derogatory label fixed by Christians on developments in biology, the bio-medical sciences, psychology and other areas. One result was the familiar schism between science and religion emphasised in the debate on evolutionary theory" (Rylance *Cambridge Companion* 17) "For Lawrence's generation, the relations of mind to body, and human to animal, were chronically disturbed, as reflected in the anxieties of his reviewers," 18.
[10] In "Morality and the Novel," Lawrence states: "Religion, with its nailed down One God, who says *Thou shalt, Thou shan't*, and hammers home every tie; philosophy, with its fixed ideas; science, with its 'laws': they are all of hem, all the time, want to nail us on some tree or other" (*Study of Thomas Hardy* 172).
[11] See Sinclair's *The Book of Life* (1921): "the 'determinists,' […] assert one unbreakable chain of natural causation, and regard the human body as an automaton [but] I am convinced that [men] *can* use their brains! I am convinced that ideas will affect and stir them, in complete defiance of the bio-chemist, who tells me that they act that way because of certain chemicals in their brain cells," 57.

[12] Sinclair sent Lawrence a copy of *Oil!* (1927) and kept a record of their brief correspondence (*My Life in Letters*). Lawrence also recommends Sinclair's *Money Writes* to Mabel Dodge Luhan as "very good, in its way: and very true" (*The Letters of D.H. Lawrence* volume VI, 1991) and Lawrence thought highly of Wells' *Tono-Bungay* but later felt that Wells had lost touch with true life in his fiction.

[13] "Whereas, of course, as far as I am concerned, my pen isn't alive at all. My pen *isn't* me alive. Me alive ends at my finger-tips […]. Only my finger-nails, those ten little weapens between me and an inanimate universe, they cross the mysterious Rubicon between me alive and things like my pen" ("Why the Novel Matters," *Study of Thomas Hardy* 193).

[14] Tommy Dukes in *Lady Chatterely's Lover* says, "'while you live your life, you are in some way an Organic whole with all life. But once you start the mental life you pluck the apple. You've severed the connexion between the apple and the tree: the organic connexion. And if you've got nothing in your life but the mental life, then you yourself are a plucked apple…you've fallen off the tree […] it's a natural necessity for a plucked apple to go bad,'" 32-33.

[15] Lawrence would strenuously object to the sort of "scientific" calculations Sinclair's Herr Schliemann makes about bodies and food for his socialist utopian state, treating the nonhuman world as pure human resource and the human body as a furnace to fuel the mind.

[16] D.H. Lawrence and Aldous Huxley were close friends, but *Chatterley* (1928) was written before *A Brave New World* (1932).

[17] See *Women in Love* 259-262 where the Crichs' miners precipitate their own degradation as they agitate for democratic equality, and see Connie's ruminations on one version of England blotting out another in *Lady Chatterley's Lover,* 134.

[18] Lawrence went through an overtly socialist phase as evinced by the letter he wrote to Bertrand Russell on 12 February, 1915 in which he argues there "must be a revolution" that will nationalize industry and provide for the basic needs of everyone so that "no man amongst us, and no woman, shall have any fear of the wolf at the door, for all the wolves are dead" *Collected Letters of D.H. Lawrence,* qtd in Delaney 69.

[19] Lawrence makes a false contrast, I believe, between humans and birds on page 32, suggesting that birds do not work. According to his previous definition of work as obtaining the necessities for survival, all animals must "work" to eat, just as humans must. But his argument that humans go on working to accumulate capital and provide charity does seem, generally, to be a convincing contrast between human "social beings" and animals.

[20] In response to the democratic idea of equality, Rupert Birkin states, "'One man isn't any better than another, not because they are equal, but because they are intrinsically *other*, that there is no term of comparison'" (*Women in Love* 125).

[21] Clifford Chatterley shows similar dispassion when he reflects that the "miners were, in a sense, his own men; but he saw them as objects rather than men, parts of the pit rather than parts of life, crude raw phenomena rather than human beings along with him [….] He was remotely interested; but like a man looking down a microscope, or up a telescope," 14.

[22] Birkin and Ursula have a similar experience of sexual awakening to that of Connie Chatterley, but theirs is clearly less about physical passion (and sexual climax) than about tender touch: "He seemed to be conscious all over, all his bod awake with a simple, glimmering awareness, as if he had just come awake, like a thing that is born, like a bird when it comes out of an egg, into a new universe" (*Women in Love* 356).

[23] Will's transfer of emotional dependence onto Ursula causes her to come into consciousness "too soon" (212) and to have to fight him off, too, by asserting her "will."

[24] To be fair, Lawrence elsewhere attempts to shake off the capitalist value structure, even to the point of contemplating tearing down of all social order and the annihilating the human species. Ursula is meant to be a radical figure of resistance to the machine, but here the language smacks of prostitution to it. Beatrice Monaco in *Machinic Modernism* also sees Ursula's choice in this

scene as a non-choice, where the "opposing meanings ironically amount to the same thing […] Ursula's withholding (not giving herself) is also her motivation to work, and both are functions of her mental faculty (her will), not of her body. Her femaleness (her body) is an active reserve (of power), but also one that is the source of her passive reservations—she can exercise the choice as to whether she uses it or not" and this choice represents the power of mind *over* body, 80-81.

[25] "The great relationship, for humanity, will always be the relation between man and woman. The relation between man and man, woman and woman, parent and child, will always be subsidiary. And the relation between man and woman will change forever, and will forever be the new central clue to human life. It is the *relation itself* which is the quick and the central clue of life, not the man, nor the woman, nor the children that result from the relationship, as a contingency" ("Morality and the Novel" 175).

[26] The fact that Lawrence describes this relationship as a wheel and axel is problematic for his argument because it indicates that either some technology defies the tendency toward repetition—an achievement that he does not explain—or his metaphor is misleading. A wheel and axel may change direction, but they do not alter their essential being or the nature of their association.

[27] See Lawrence's "Why the Novel Matters" in *Study of Thomas Hardy,* 195. And "With the Guns" (1914).

[28] There are several instances that show Gudrun attempting to control her own emotions and being annoyed when her sister is unreserved: She is jealous of Ursula's declaration that she doesn't care what other people think of her, 67. "Gudrun's cheek was flushed with repressed emotion. She resented its having been called into being," "Gudrun hated her bitterly for being outside herself. It was unendurable that Ursula's voice was so powerful and naked," and when Ursula insists that Loerke's drawing is still a "picture of a horse," Gudrun is furious at her for "giving herself away," 23, 133, 486.

[29] Mellors, in fact, realizes that he had this tenderness and "'bodily aware[ness]'" of the men under his command in the army during the war. They had a "'natural physical tenderness, which is the best, even between men; in a proper manly way. Makes 'em really manly,'" 240.

Epilogue

[1] See Johns' *Assault on Progress* (2008): "technology threatens to kill time" if "technology accelerates toward a final liberation […] further events are irrelevant once the story of history has been completed," 8.

[2] Suzanne Keen sees this absence as pervasive in cognitive studies generally, and "even though scholars of cognitive narrative poetics often claim that emotion now fits under its big tent […] it is still the case that most cognitive scientists carry out their work without regard to the emotions; basic textbooks on cognition rarely refer to emotions, and then only in passing, 21.

[3] Clark even argues that we should reject the term "post-human" because it implies that hybridization is a new evolutionary step. Clark's position is that we are already hybrids or "cyborgs" and further incorporations of technology into our lives and beings, however "deeply transformative," do not change our fundamental nature as humans, 142.

[4] See William Gibson's *Neuromancer* (1984) and Jules Verne's *From the Earth to the Moon* (1865). H.G. Well's Martian "heat ray" is also commonly considered to be the prototype for today's lasers.

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