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By

Justin Mark Vaccaro

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Committee in charge:
Professor Anton Kaes, Co-Chair
Professor Kristen Whissel, Co-Chair
Professor David Bates

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Abstract

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Professor Anton Kaes, Co-Chair

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This dissertation argues that monster movies from the 1930s to the 1960s infected the popular imagination with deep anxieties over the rapid and seemingly uncontrollable advances made by the human sciences. During the first half of the twentieth century, scientific progress appeared to threaten not only the human body but the very humanistic concept of being human itself. Human monsters as imagined by cinema embodied modern techno-science's terrifying erosion of the liberal-humanist subject. Such embodiments took numerous shapes, including industrial and soldier zombies, Darwinian ape-men, nuclear werewolves, viral revenants, and mutant children. These films reveal less the dissolution of the sovereign self than that of the fleshy human itself; they are filled with creatures that suffer as much as they threaten.

These creatures engage in the historical work of articulating and addressing the epochal change of technoscience's transformation of the human and that transformation's political ramifications, which Michel Foucault termed biopower. Biopower uses the modern human sciences—psychology, economics, medicine, and human biology—to "invest life" with power. I show that the two poles of biopower—the disciplinary and the biopolitical— are best embodied by the zombie in its two iterations, those of the 1930s and 1960s, respectively. The zombie and the other monsters I examine are a way to make legible the invisible nature and progression of biopower. Unsurprisingly, the films they inhabit are science fiction-horror films, films in which the breach of rationality erupts into terror. Moreover, I show that this blurring of boundaries between the genres of science fiction and horror mirrors the blurring of boundaries between other conventional categories—humans and animals, humans and machines, upper and lower classes, "free" people and slaves, and the human and the physical sciences.

Beginning with the early zombie film, I argue that the cinematic zombies of the 1930s embody a trend of human automatism. The battlefield and the factory floor, both sites of Foucauldian discipline, are where we first find the zombie and the early zombie's "docile body." Also in the 1930s, primatology, influenced by Darwin's theory of evolution, established itself as a discipline, under the umbrella of concerns over sex and reproduction. Genre films responded by using ape-men to simultaneously engage with issues of sex, evolution, and contemporary human-ape

experiments. I contend that these depictions instantiated human-ape equivalency and further provided simple, if inadequate, solutions to the systemic concern over reducing humans to animals.

Jumping ahead to the late 1950s to analyze how the atrocities of World War II reverberated in sf-horror films in the form of composite creatures, I examine how creatures from werewolves to cyborgs arose from contingency. The modern world of technoscience is filled with technological accidents. The "villains" of these films are not mad scientists, but medical doctors, who exploit the victims of these accidents in the name of humanity. I argue that, in their figuring of cybernetics, radiation, and Nazi atrocities, these films dealt with a fear of apocalyptic accidents that put individual humans at the mercy of dehumanizing scientific practices. Finally, I look at films from the early 1960s that feature monstrous populations instead of singular monsters. These are monsters of biopolitics, which does not discipline individuals but regulates entire populations. In the films the members of these populations have no visible monstrosities, but rather announce a new normal. These monsters, often children, are figures for anxieties over invisible forces such as DNA and radiation. It is these invisible and seemingly agentless forces that animate a new type of zombie. The zombie has gone from being a docile body under the command of a master to a member of a horde that acts "instinctually" and arises by chance. Instead of a laborer or a soldier, the zombie is now a cannibal, consuming merely to perpetuate itself. The canonical zombie inaugurated with the *Night of the Living Dead* (Romero, 1968) is the exemplary monster of biopolitics: power and life are now indivisible.

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INTRODUCTION

The body that experiences ever more intensely the indistinction between power and life is no longer that of the individual, nor is it that sovereign body of nations, but that body of the world that is both torn and unified.

Roberto Esposito[1]

A Tale of Two Bodies

The first body is that of a scientist. Working in optics and chemical research, he discovers a formula that renders him invisible. With this invisibility comes a new kind of power, one free from censure and the eyes of the law. But the power is irrational, leading the scientist to strive to conquer England and then the world in a "reign of terror." This is the basic plot of H. G. Wells 1897 novel *The Invisible Man* and of the 1933 film version from Universal Studios directed by James Whale, part of their classic horror film cycle. The film is a relatively faithful adaptation of the novel, arguably more faithful than the other big-name horror adaptations of the era.[2] But one of the most telling changes (beyond adding the obligatory romantic interest to the plot) is that Jack Griffin, 'the invisible man,' is driven insane by his experiments, specifically the ingesting of the potion that makes him invisible. In contrast, in the novel, the experimental project of invisibility was rooted in the *a priori* insanity of Griffin. Insanity, that is, irrationality, is the corrupting force that influences the science at hand towards destructive ends.[3] In Wells' *Invisible Man*, like his *The Island of Doctor Moreau*, science is powerful but vulnerable, too easily swayed by the unpredictable morals of its practitioners. In the film, though, it is science itself that is the corrupting influence, the 'great' achievement of invisibility causes insanity, a reign of terror. Science is not merely susceptible to the irrational; it breeds it.

Yet, this change in the plot and its subsequent re-drawing of the image of science is not the most striking difference between film and novel; *that* difference, which is also the one that elevates the film over the novel, is the change of medium. An invisible man in literature is something of a damp squib. A man, like everything else *represented* in a novel is already invisible. He is literally a thought experiment, no more 'visible' to our senses than any other character. But on film, we experience his invisibility. We *see* the strange paradox of an invisible man. He is the uncanny, the visual representation of something not visible. An image, a man that

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[1] Roberto Esposito, *Bios: Biopolitics and Philosophy*, trans. Timothy Campbell (Minneapolis: Univ Of Minnesota Press, 2008), 11.

[2] Keith Williams argues that even many of the cinematic qualities of the film derive from the novel and Wells's "quasi-cinematic effects". Keith Williams, "Chapter 2: The Dis/Appearance of the Subject: Wells, Whale and The Invisible Man," in *H. G. Wells, Modernity & the Movies* (Liverpool University Press 2004 Limited, 2007), 49–72.

[3] He is like Wells's Dr. Moreau; his motives are not pure from the get go.

both is and isn't there. In the film, we are ushered into this phenomenon through a spectacular deconstruction of the body. First, we see Griffin *sans* jaw. In a subsequent scene, he dismantles himself by disrobing: first his nose, then his eyes, the top of his head, then legs and hands. [fig I.1-4] The film uses special effects particular to the cinema to illustrate the process of erasure brought on by science.[4] That is to say, technoscience is used to illustrate the effects of technoscience.

If film is itself already an uncanny technology, the past made present, the inanimate animate, the absent present and so forth, the invisible man is doubly so. The invisible man as image is thematically of a piece with the invisible man as concept. In both cases, the miraculous new technology turns back on its user. The camera captures the image of the man and makes him visible, observable, an object of vision.[5] But as an object of vision the man is no longer a subject. Subjectivity is erased. *The Invisible Man* (1933) goes one further and erases the body as well.

The Invisible Man presents us with a critical, anxious vision of technoscience and the monsters it creates, a vision whose power is rooted in its very visibility, because it is an image generated by the the same complex of technoscience with which it grapples, a complex in many ways organized around vision and images. What I mean by technoscience is not merely the union of technology and science, but the techniques that instantiate the two. *Who* (scientists, engineers, labors, doctors, managers) *does what* (measures, alters, separates, conjoins, destroys, creates, groups, moves) *with what* (forms, machines, laws, equations, practices, instructions, access, denial) *where* (institutions, laboratories, hospitals, schools, factories, homes) *to whom* (animals, machines, humans). If technology is the material half, and science is the conceptual half, then it is the techniques that not only bring the two together but make them happen in the first place. The technoscience complex is the joining of concepts, objects, and practices.[6] Technoscience, then, is a grouping of various Foucauldian disciplines – "a domain of objects, a set of methods, a corpus of propositions considered to be true, a play of rules and definitions, of techniques and instruments"—and the discourses they support; As Foucault argues, "the production of discourse is at once controlled, selected, organized and redistributed by a certain number of procedures whose role is to ward off its powers and dangers, to gain mastery over its chance events, to evade its ponderous, formidable materiality."[7] Technoscience is not inert but active, an agent of control *and* change.

What happens to the body in the diegesis of *The Invisible Man* is of a piece with the technical visualization of that body on the screen. Each body gives us access to a greater understanding of what is at stake in the production of the other. Each body is manipulated and appropriated by technoscience. Moreover, together they are figures for what happens in general

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[4] Even the simple wire effect of the floating shirt is striking on film. For more on the effects work see Williams, "Chapter 2," 60.

[5] See Jonathan Crary, *Techniques of the Observer: On Vision and Modernity in the 19th Century* (The MIT Press, 1992). See also Lorraine J. Daston and Peter Galison, *Objectivity* (Zone Books, 2010); Jimena Canales, *A Tenth of a Second: A History*, Reprint (University Of Chicago Press, 2011).

[6] For the classic sociological formulation of "technoscience" see Bruno Latour, *Science in Action: How to Follow Scientists and Engineers Through Society*, Reprint edition (Cambridge, Mass: Harvard University Press, 1988), 157–76.

[7] Michel Foucault, "The Order of Discourse," in *Untying the Text: A Post-Structuralist Reader*, 1981, 59, 52.

to bodies through technoscience. Here, bodies are the object of technoscience. And technoscience is key for opening up the body to "political technologies of power," so that power works through bodies (and biology) not subjects. But what does that mean? How does one visualize a body through which power moves and acts upon, a body invested with power?

This brings us to the second body, 45 some years later, that of a ruler, a dictator. In 1975, Francisco Franco lies dead while yet being kept alive. [fig I.5] Franco's reign over Spain continues as long as his body lives. He is nothing *but* a body, which dictates nothing but power. But this is not simply the power of a sovereign, but biopower. Michel Foucault argues for Franco's body as exemplary of biopower.

> To symbolize [biopower], let's take, if you will, the death of Franco […]. It is very interesting because of the symbolic values it brings into play, because the man who died had, as you know, exercised the sovereign right of life and death with great savagery, was the bloodiest of all the dictators, wielded an absolute right of life and death for forty years, and at the moment when he himself was dying, he entered this sort of new field of power over life which consists not only in managing life, but in keeping individuals alive after they are dead. And thanks to a power that is not simply scientific prowess, but the actual exercise of the political biopower established in the eighteenth century, we have become so good at keeping people alive that we've succeeded in keeping them alive when, in biological terms, they should have been dead long ago. And so the man who had exercised the absolute power of life and death over hundreds of thousands of people fell under the influence of a power that managed life so well, that took so little heed of death, and he didn't even realize that he was dead and was being kept alive after his death. I think that this minor but joyous event symbolizes the clash between two systems of power: that of sovereignty over death, and that of the regularization of life.[8]

Biopower radiates out of Franco's body, but also through it. His biopowered body is inseparable from the technology that keeps him alive. His is a body so politicized that it becomes only biology and power, no subject or subjectivity. Technologies and techniques which seem to be "simply" material are actually political. The case of Franco's body is indicative of the way biopower suffuses the body and its milieu.[9]

Each of these bodies, the real-life Franco and the fictional Jack Griffin, are images of the brute material effects of technoscience, but also warn of something more abstract, the biological body as the subject of power. How popular culture in general, and the sf-horror film, in particular, understood and visualized this phenomenon is the subject of this dissertation.

Monster movies from the 1930s to the 1960s visualized the terrifying erosion of the liberal-humanist by modern science and its concomitant technologies. These films show us not so much the erosion of a political subject or a philosophical concept than that of the fleshy human body. Such visualization took numerous shapes including industrial zombies and zombie soldiers, Darwinian apemen, nuclear werewolves, viral revenants, and more. In every instance, what is shown is not a new subjectivity liberated from liberal-humanism but, first, the dissolving of the boundaries that define the subject and, then, the erasure of the qualities of subjectivity and

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[8] Michel Foucault, *"Society Must Be Defended": Lectures at the Collège de France, 1975-1976*, trans. David Macey, Reprint (Picador, 2003), 248–49.

[9] On the co-determinative nature of an organism and its milieu see "The Living and its Milieu" in Georges Canguilhem, *Knowledge of Life*, trans. Stefanos Geroulanos and Daniela Ginsburg, 3rd ed. (Fordham University Press, 2008), 98–120.

even individuality. By the end of the 1960s, we see the complete elimination of the subject altogether in *The Night of the Living Dead*'s hordes of mindless zombies erratically roaming the countryside, looking to feed on people. They are figures for the results of the political technologies of life, political technologies which seem to have no classical political goals (territory, subjects, friends and enemies). Instead, they show that by the latter part of the 20th century, life itself was power's goal.

In this dissertation, I argue that monster movies from the first half of the sound era (from the 1930s to the 1960s) show how concerns and anxieties over what would come to be termed "biopower" were manifested in the popular imagination. I show that the social and material advances made by the human sciences in the 19th and 20th centuries were seen as threatening not only to the concept of humanist "Man" but also to the very bodies of humans (humanist or otherwise).[10] In the films under consideration, the threat takes the form of distinctly cinematic human monsters found in genre films. I argue that so-called creature features interpreted popular ideas about the human and other sciences—in this dissertation represented primarily through articles from major newspapers—and gestured towards critical conclusions, such as those contemporaneously put forth by the Frankfurt School, even as they performed the traditional "cathartic" function of assuaging anxiety.[11] In fact, I contend that, though far from acting in isolation, it was only through genre cinema and the monsters it could visualize that these issues around a nascent sense of biopower could be engaged by popular culture. The reason for this last claim is that the low, disreputable genre of sf-horror engages the same low and disreputable aspects of the subject, their body and biology, that biopower does.

A Tale of Two Cultures

> *The individual appears as an ego isolated from and against other in its drives, thoughts, and interests. This isolating individuation is overcome and a common world constructed through the reduction of concrete individuality to the subject of mere thought.*
>
> *Herbert Marcuse*[12]

Writing in the 1930s, Herbert Marcuse pointed out that "culture" in the modern capitalist West, was actually what he termed "affirmative culture": "By affirmative culture is meant that culture of the bourgeois epoch which led in the course of its own development to the segregation from civilization of the mental and spiritual world as an independent realm of value that is also considered superior to civilization."[13] The material world and the material body are actively devalued and denied by affirmative culture in favor of the immaterial world of the modern "soul" and a vulgar idealism: "To the need of the isolated individual it responds with general humanity,

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[10] Like Foucault's famous prediction, "one can certainly wager that man would be erased, like a face drawn in sand at the edge of the sea." Michel Foucault, *The Order of Things: An Archaeology of the Human Sciences*, Reissue edition (New York NY: Vintage, 1994), 387.
[11] Angela Smith's *Hideous Progeny* takes a related approach and looks at some of the same films, but to different ends. See Angela M. Smith, *Hideous Progeny: Disability, Eugenics, and Classic Horror Cinema*, Film and Culture (New York: Columbia University Press, 2011).
[12] Herbert Marcuse, *Negations; Essays in Critical Theory* (Boston: Beacon Press, 1968), 159.
[13] Herbert Marcuse, "'The Affirmative Character of Culture'(1937)," in *Negations: Essays in Critical Theory* (Boston: Beacon Press, 1968), 95.

to bodily misery with the beauty of the soul, to external bondage with internal freedom, to brutal egoism with the duty of the realm of virtue."[14] The splitting off of all positive values and goals to an abstract and immaterial plan, while all concrete, especially bodily, conditions and phenomena are denigrated and devalued is not simply the distinction between high and low culture. According to Marcuse, it is a way to shift all attention and cultural efforts away from the exploitive and depriving nature of the material situation of civilization. Furthermore, "the freedom of the soul was used to excuse poverty, martyrdom, and bondage of the body."[15] Everything good and free is of the immaterial realm, ergo there is no cause to change the material realm for nothing truly worthwhile is to be gained.

As Foucault shows, from the 18th century on, it is through the body, of the individual and of the species, that power begins to work. Both the Frankfurt School and Foucault point to the fact that the valorization of the "soul" is used for material control of the body: "rather than seeing this soul as the reactivated remnants of an ideology, one would see it as the present correlative of a certain technology of power over the body."[16] This leads Foucault to declare, "The soul is the effect and instrument of a political anatomy; the soul is the prison of the body."[17] While affirmative culture and disciplinary discourses talked incessantly about the soul, the technologies of power went to work on the body. The question for culture was how to represent a concern and a focus on bodies, when interest in bodies qua bodies was disreputable? The answer was through a "sensational" medium, the cinema, and a low, gross genre, horror, a "body genre" in the terms of Carol Clover and Linda Williams. Williams argued that what makes body genres—and what makes them so compelling and powerful—is a "gratuitous" excess in their presentation of the body. And it is precisely this excess and its *seeming* gratuity, I contend, that was needed to visualize the transformation power that was the ascendance of biopower.

The Power of Genre Film

> *Often castigated for oversimplification of history and human relations, genre films also gain from their simplicity, for it is the very concentration derived from simplification that allows cowboys, gangsters, dancers, detectives and monsters to take on symbolic value so easily and systematically.*
>
> *Rick Altman*[18]

That genre films do socio-cultural work, while certainly not universally accepted, is one of the basic modes of genre analysis.[19] Robert Warshow, in one of the very first film genre

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[14] Marcuse, 98. Michel Foucault will also use a similar conception of the modern soul. See chapter one below.
[15] Marcuse, 109.
[16] Michel Foucault, *Discipline & Punish: The Birth of the Prison*, trans. Alan Sheridan (New York: Vintage Books, 1977), 29.
[17] Foucault, 30.
[18] Rick Altman, *Film/Genre* (British Film Institute, 1999), 26.
[19] As Tom Gunning notes, even agreeing on just what genre is a near impossible task, let alone agreeing on the approach one should take with it. Though, he adds, this is all for the best. "The very vitality and popularity of genre as a concept partly relies on its polysemic vagueness." Tom

analyses, showed how the gangster articulated the problems of modern urban capitalism—the rarity and cost of success, the ubiquity of failure, the demand to always be happy, and the very brutality of capitalism itself—all these issues could be given a visual and narrative form in the gangster picture.[20] The audience, then, was granted a kind of release or amelioration of these anxieties. Richard Dyer, too, saw the classic musical as involved with the contradictions and failures inherent in American capitalism, offering in its place a utopian "something better."[21] Scholars, particularly of horror films, saw the problems of gender and sexuality played out on screen (Williams; Halberstam; Clover; Wood; etc.).[22] In each case, deviation from realism and high culture is what enables genre films to confront the problems and fissures of the culture. Williams points out, in relation to the "body genres" of horror, melodrama, and pornography, that these low and disreputable cultural products are engaged in the work of cultural problem solving. Rick Altman claims that, in fact, genre films of all kinds are inherently counter-cultural; it is precisely where these films run counter to cultural norms and dictates that their generic qualities appear.[23] This does not mean that this counter-cultural approach provides a simple solution in the Levi-Straussian sense of resolving cultural contradictions. More often than not, the need genre films fulfill is that of instantiation, visualization, making an issue or problem legible for the culture. This is perhaps the central function of melodrama (moral legibility) but we find the drive to visualize across genres, and these visualizations can, of necessity, be quite subtle. [24] In his *Shell Shock Cinema,* Anton Kaes showed how many fantastic films of the Weimar era of German cinema were dealing with and giving form to an otherwise un-visualizable post-war trauma of World War I.[25] While Alexander Nemerov's *Icons of Grief* shows that "World War II haunts the horror films of Val Lewton. Though none is about the war,

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Gunning, "'Those Drawn with a Very Fine Camel's Hair Brush': The Origins of Film Genres," *Iris*, Autumn 1995, 49–61.

[20] Robert Warshow, "The Gangster as Tragic Hero," in *Immediate Experience: Movies, Comics, Theatre and Other Aspects of Popular Culture*, 1962, 85–88.

[21] Richard Dyer, *Only Entertainment*, 2nd ed (London ; New York: Routledge, 2002).

[22] Linda Williams, "Film Bodies: Gender, Genre, and Excess," *Film Quarterly*, 1991; Carol J Clover, *Men, Women, and Chain Saws: Gender in the Modern Horror Film* (Princeton, N.J: Princeton University Press, 1993); Judith Halberstam, *Skin Shows: Gothic Horror and the Technology of Monsters* (Durham : Duke University Press, 1995., 1995); Robin Wood, "An Introduction to the American Horror Film," in *Movies and Methods*, vol. 2, 1985, 195–220.

[23] Altman, *Film/Genre*, 144–64.

[24] Much of the work on melodrama is centered precisely on the genre/mode's ability to provide "moral legibility." See, for example, Linda Williams, *Playing the Race Card: Melodramas of Black and White from Uncle Tom to O. J. Simpson* (Princeton University Press, 2002); Linda Williams, "Mega-Melodrama! Vertical and Horizontal Suspensions of the 'Classical,'" *Modern Drama*, no. 4 (2012): 523; Peter Brooks, *The Melodramatic Imagination: Balzac, Henry James, Melodrama, and the Mode of Excess: With a New Preface* (New Haven: Yale University Press, 1995); Marcia Landy, ed., *Imitations of Life: A Reader of Film and Television Melodrama* (Wayne State Univ Pr, 1991).

[25] Anton Kaes, *Shell Shock Cinema: Weimar Culture and the Wounds of War* (Princeton: Princeton University Press, 2011).

it appears in them all the same, even if we never catch a clear glimpse of it."[26] Both Kaes and Nemerov direct our attention to the fact that for popular culture, many topics are better or even only able to be adequately addressed in fantastic terms. Genre films engage and give an image to concerns that realism, classicism, and humanism cannot or will not address – herein lies genre films' power and purpose.

But more than that, I contend that genre films (and perhaps genre in the modern age) are explicitly and implicitly engaged in a coming to terms with the constant and often radical historical changes of modernity. Richard Slotkin notes that,

> Within the structured marketplace of myths, the continuity and persistence of particular genres may be seen as keys to identifying the culture's deepest and most persistent concerns. Likewise, major breaks in the development of important genres may signal the presence of a significant crisis of cultural values and organization. The development of new genres, or substantial modification of existing ones, can be read as a signal of active ideological concern in which both the producers and consumers of mass media participate.[27]

Slotkin's formulation, though, is focused on the continuity of culture, of concerns and values, of genre itself. But genre is the play of similarity *and* difference, and I assert that genre films are always a historical barometer, registering changes and crises whether they seem "significant" or not.

Industrial warfare and industrial labor, primatology, the problem sex, WWI and II, the Great Depression, the Cold War, scientific experiments on humans, radical new medical techniques, the effects of radiation, the discovery of genetic code, the theory of evolution, these are some of the major concerns of the mid-20th century. In ways great and small, each phenomenon reconfigured what the human body is and what it can and should do. For example, scientific management abstracted the human and their labor. It then quantified them and visualized them through charts and diagrams. It then prescribed new movements and a new ordering of objects in time and space, the human only one of those objects. I contend that it was the sf-horror film that registered these phenomena and what they do to the human. Moreover, through analysis of the human monsters these films generate, I show how these concerns are imbricated in the rise of biopower. This necessitates taking a different approach to genre analysis. Instead of seeing monsters as figures we identify with—or more often reject—I contend we should see them as emblematic of the various scientific discourses.[28] These monsters are creatures of knowledge/power. Neither morally charged like horror according to Vivian Sobchack, nor coldly distant, as she characterizes SF. Tellingly, Sobchack refers to sf-horror as a kind of "miscegenation," revealing a subconscious desire to maintain distinctions at all costs.[29]

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[26] Alexander Nemerov, *Icons of Grief: Val Lewton's Home Front Pictures* (Berkeley: University of California Press, 2005).

[27] Richard Slotkin, *Gunfighter Nation: The Myth of the Frontier in Twentieth-Century America* (New York : Toronto : New York: Atheneum ; Maxwell Macmillan Canada ; Maxwell Macmillan International, 1992), 8.

[28] Clover in particular analyzed horror films around the idea of identification. While someone like Noël Carroll leans more towards rejection. See Noël Carroll, *The Philosophy of Horror: Or, Paradoxes of the Heart* (Routledge, 2003).

[29] Vivian Sobchack, *Screening Space: The American Science Fiction Film* (Rutgers University Press, 1997), 26–43.

In contrast to Sobchack, I take sf-horror as a real genre and as one that does work its "parent" genres alone cannot.[30] That work entails the breaking of boundaries between genres in order visually present the boundaries being broken between other classes of things—humans and animals, humans and machines, upper and lower classes, "free" people and slaves, humanitarian and inhumane medicine, and so on.

In the sf-horror films I analyze in this dissertation, from *White Zombie* (Halperin, 1932) to *Night of the Living Dead* (Romero, 1968), *Dr. Jekyll and Mr. Hyde* (Mamoulian, 1931) to *Bigger than Life* (Ray, 1956) and *Colossus of New York (*Lourié, 1958) and *Island of Lost Souls* (Kenton, 1932) to *These Are the Damned* (Losey, 1963), the creatures they imagine—zombies, werewolves, cyborgs, mutant children, apemen—engage in the historical work of articulating and addressing the epochal change that is technoscience's domination and the rise of biopower. These films are filled with creatures that suffer as much as they threaten. If many of these films feature villainous "mad" scientists, I show that as we move forward in time the scientist becomes less villainous and more like a technician. Moreover, the causative agent of the monsters moves from psychic powers and strange concoctions to experimental medicine, radiation, genetic mutations, and eventually just "nature. As more and more of the world comes under the purview of science, the location of the source of monstrosity in sf-horror films becomes harder and harder to pinpoint. By the time *Night of the Living Dead* was released, the trope is established that these "monsters" just happen.

The monster I begin and end with is the zombie. The most popular human-monster of our era. Zombie scholar Kevin Boon notes that "most approaches to zombie studies fall into two broad categories […] the sociohistorical evolution of the myth through and across cultural landscapes [and] psycho-philosophical critiques of the zombie designed to clarify the nature of the myth and its relationship to human consciousness."[31] I partake a bit in both of these approaches to the zombie and towards the other monsters I analyze. But I also situate these creatures in a more techno-material context, an STS influenced approach. Through this focus, I show that the zombie's figural strength is its discontinuity. There's no zombie "myth" so much as a protean zombie template, one that is twisted and reformed to suit changing material-historical contexts. As I will show the cinematic zombie is a modern figure, one that registers the shifting conditions of modernity, providing a known vessel for modern anxieties. I contend that the zombie is like genre; its discontinuities as important as its continuities.

Each human-monster is historically specific, responding to the issues of its day. I begin by situating the early zombie film in the context of industrial warfare and industrial labor. I argue that these first cinematic zombies of the early 1930s embody an ongoing trend of automatism, the human seen as a collection of automatic processes. The battlefield and the factory floor are locations where this is all that is wanted from the human. And it is in these two locations that we first find the zombie. I argue that both locations are sites of Foucauldian discipline, the early zombie best understood as a docile body. At the same time in the 1930s, primatology establishes itself as a discipline, under the umbrella of broader institutional concerns over sex and

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[30] Following Gunning, I take a genre qua a critical tool, as a *post facto* designation applied in order to accomplish a particular critical task. There are no "pure" or natural kinds of genres that can miscegenate. See also Janet Staiger, "Hybrid or Inbred: The Purity Hypothesis and Hollywood Genre History," *Film Criticism* 22, no. 1 (Fall 1997): 5–20.

[31] Deborah Christie and Sarah Juliet Lauro, eds., *Better off Dead: The Evolution of the Zombie as Post-Human*, 1st ed (New York: Fordham University Press, 2011), 6.

reproduction and influenced by Darwin's theory of evolution. Many genre films responded by using ape-men to simultaneously engage with issues of sex and evolution, issues coming to a head in bizarre crossbreeding experiments undertaken by the Soviets at the time. I argue that these depictions instantiated human-ape equivalency and then provided simple but inadequate solutions to the systemic concern over reducing humans to animals.

I then jump ahead to the late 1950s to analyze how the atrocities of World War II—in particular the medical experiments in the Nazi camps and the dropping of atomic bombs on Japan—reverberated in sf-horror films in the form of composite creatures. I examine how in these films werewolves and cyborgs, for example, were created through contingency and medical practice. The "villains" of these films are not mad scientists, but medical doctors. I argue that the films in their figuring of cybernetics and Nazi atrocities dealt with a profound fear of accidents, accidents that put one at the mercy of dehumanizing, if well-meaning, scientific practices. Finally, I look at a group of films from the early 1960s that feature monstrous populations. The members of these populations, though, have no visible monstrosities. I contend that it is in these films that the biopolitical dimension of biopower is first dealt with in the cinema. Biopolitics traffics in populations not individuals and invests the life of populations with a power that manages contingencies over time. Biopolitical practices and many of its effects are invisible, much as the monstrosities in the film are. I end by returning to the zombie who has gone from being an individual body commanded to perform actions and generated by individuals to being a member of a horde that acts "instinctually" and arises by chance. The canonical zombie is the first monster of biopolitics.

The figure of the zombie shows how the trajectory from esoteric and irrational causes of monstrosity to rational and contingent causes parallels the movement away from sovereign power and its spectacle of command to the regulatory power of biopolitics, a power that works on all of life, a power directed at a species level and from a myriad of discourses and disciplines. This is a power that is in most ways invisible. But in sf-horror films and the human monsters they imagine, we find an image of this power at work. We can see the invisible. The films give us the visual representation of something not visible.

Figure I.1 Dismantling the body part I.

Figure I.2 Dismantling the body part II.

Figure I.3 Dismantling the body part III.

Figure I.4 Dismantling the body part IV.

Figure I.5 The reign of the man-machine.

CHAPTER 1: BODIES WITHOUT MINDS

Coming out of the darkness

The early 1930s. It is night in Haiti. Coming out of the darkness, a group of unkempt, blank-eyed men slowly and stiffly walk down a hill, approaching the camera. We can't tell how many there are. Four? Eight? The first one, looking something like a pirate of all things (this is 1932 after all), blocks the view. [fig1.1] The image lasts less than three seconds before a cut to a white American couple, the film's erstwhile protagonists, in a carriage, wearing shocked expressions. The film then cuts again to their coach driver, a black Haitian, as he fearfully exclaims "Zombies!", and rushes the coach and the couple away. This is the cinematic zombie's first appearance, the first time the word has been uttered on screen. As the carriage races away—through a graveyard, of course—the film cuts back to the zombies descending the hill to join and then follow their master, Murder Legendre (Bela Lugosi). The zombies remain stiff and impassive. But what exactly are there "zombies"? The film's explanation comes moments later after a cut back to the carriage arriving safely at its destination. The coach driver clarifies with melodramatic intensity, "They are not men, they are dead bodies…zombies, the living dead. Corpses taken from their graves . . . Made to work the sugar mill, fields at night." The "zombie" has arrived. With 1932's *White Zombie* (directed by Victor Halperin) the zombie staked its place in Western culture and the (often but not always) shambling and (often but not always) mute figure has been with us ever since.

Some 85 years after *White Zombie* hit the screens, the zombie is *the* dominate 'monster' in popular culture. The zombie as we know it is a monster of the silver screen. Though its roots lie Haiti and West Africa, the zombie that seems a fixture of 21st century culture was born in Hollywood in 1932. [32] Since then it has become ubiquitous popping up in nearly every corner of Western/American culture – popular, high, academic, political. The zombie is used by mathematicians to model viral pandemics, by the CDC to teach disaster preparedness, by philosophers to debate consciousness, and as a metaphor for describing collapsing financial systems and institutions ("zombie banks!").[33] Yet while instantly adopted by the West, in its first

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[32] Henceforth, the term "zombie" unless otherwise noted refers to the figure in audio/visual media – the "cinematic zombie" – and derivatives of that iteration.

[33] For a taste of zombie finances see, James Baker, "How Washington Can Prevent 'zombie Banks,'" *Financial Times* 1 (2009); Howard Bodenhorn, "Zombie Banks and the Demise of New York's Safety Fund," *Eastern Economic Journal* 22, no. 1 (1996): 21–33; Cesar Calderon and Klaus Schaeck, "The Effects of Government Interventions in the Financial Sector on Banking Competition and the Evolution of Zombie Banks," *Journal of Financial and Quantitative Analysis* 51, no. 4 (2016): 1391–1436.
Philosophical zombies are pretty silly and while I don't subscribe to Daniel Dennett's positions in general, his disdain for zombies is delightful, Daniel C. Dennett, "The Unimagined

decades the zombie was far from the forefront of mass culture. The term zombie was popular enough to quickly spawn a potent tiki-bar cocktail in 1934 but still esoteric enough to trigger a successful lawsuit over the very use of the word in the title of the second zombie feature, *Revolt of the Zombies* (Halperin) in 1936. For its first thirty-odd years, the zombie lurked in the background, a perennial fixture of b-genre films and poverty-row filmmaking. It never commanded the attention and caché of Dracula (vampires), Frankenstein's monster, the Wolfman, or the Mummy[34]. Why was the zombie so quickly incorporated into popular culture but had to wait decades to become a 'top tier' monster? Unlike those creatures, the zombie is modern, in no way Romantic and only rarely even gothic (and it had no literary antecedent). The zombie had no personality let alone the outsized personality that branded Dracula or the Wolfman, filled with desire and torment respectively. The zombie was never the protagonist nor truly the antagonist. In these first decades, it was often just there, a factotum, a weapon, a simple machine, a resource, more uncanny than frightening.

In contrast to most classic film monsters, zombies are not *necessarily* evil, destructive, or threatening. While some are violent or cannibals, especially from 1960s and onward, others are completely passive, barely capable of the simplest actions. In the classic-era(1932-1944), zombie films were populated by what I term the early zombie, which were little more than compliant workers, shambling through their tasks. The zombie is so because its defining factor, that which makes it a *monster*, is not that it is dead but that it is mindless, without consciousness. Steven Shaviro characterizes the zombies of Romero's Dead Trilogy as "in a sense all body: they have brains but not mind."[35] The zombie's defining characteristic is its total absence of subjectivity – a human being lacking all of that, which supposedly, makes one *human*. "They are empty shells of life that scandalously continue to function in the absence of any rationale and of any

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Preposterousness of Zombies," 1995; Daniel Clement Dennett, *Sweet Dreams: Philosophical Obstacles to a Science of Consciousness* (MIT press, 2005).

The Center for Disease Control's Zombie Preparedness had original been conceived as a fun way to address disaster preparedness, especially hurricanes. It proved so popular and effective it has taken on a life of its own. "Zombie Preparedness|Are We Prepared?|PHPR," accessed April 23, 2017, https://www.cdc.gov/phpr/zombies.htm.

As with the CDC, mathematicians found a fun way to model pandemics, and gain some media coverage, Philip Munz et al., "When Zombies Attack!: Mathematical Modelling of an Outbreak of Zombie Infection," *Infectious Disease Modelling Research Progress* 4 (2009),133-150.

[34] These were the creatures featured in various spoofs (e.g., *Abbott and Costello Meet Frankenstein* (Barton, 1948), which featured Dracula and the Wolfman as well; and *The Munsters* TV show (CBS, 1964-1966)). Moreover, The Mummy, and then the Invisible Man, and Dr. Jekyll but no zombies. The big four of which had their own breakfast cereals (the zombie remains absent from the breakfast table). More recently, the major monsters were all part of the prestige drama *Penny Dreadful* (Showtime, 2015-2016), and as of this writing, Universal is attempting to start a new monster series (The Dark Universe) beginning with *The Mummy* (Kurtzman, 2017), which also features Dr. Jekyll and soon to be followed by *Bride of Frankenstein*.

[35] Steven Shaviro, *Cinematic Body*, 1st ed. (Univ Of Minnesota Press, 1993), 86. Romero's Dead Trilogy is composed of *Night of the Living Dead* (Romero, 1968), *Dawn of the Dead* (Romero, 1978), and *Day of the Dead* (Romero, 1985).

interiority."[36] To put it another way, the zombie is the negative definition of subjectivity. The zombie has no consciousness, no free will, no autonomy and, in general, no affect. Whatever actions the zombie undertakes are done without thought or reflection, whether they are purely automatic in the manner of an animal or machine or under the direction of an external will: However consciousness is defined, whatever it denotes, has been removed or suppressed in the zombie. Zombification is the erasure of subjectivity; this may be analogous to death, it may include death but it is not equivalent to it. The zombie is not so much a dead person, but an anti-person.

Here we have the essence of the zombie's figurative power. Throughout the zombie's history, a core fear is zombification, that is, not just what zombies might do to the subject or even the subject's death, but the fear of the subject losing its subjectivity and becoming a zombie. This fear at the heart of the figure of the zombie makes it a genuine monster:

> The monster is a living being with negative value […] Now, the monster is not only a living being of reduced value, it is a living being whose value is to be counterpoint. By revealing the precariousness of the stability to which life has habituated us – yes, merely habituated, even though we have turned this habit into a law – the monster bestows upon the repetition of species, upon morphological regularity, and upon successful structuration a value all the more eminent in that we can now grasp their contingency. The vital counter-value is thus not death but monstrosity. Death is the permanent and unconditional threat of the organism's decomposition, the limitation from without, the negation of the living by the nonliving. Monstrosity is the accidental and conditional threat of incompleteness or distortion in the formation of the form; it is the limitation from within, the negation of the living by the nonviable.[37]

Georges Canguilhem approaches the topic of monsters as they have been dealt with in the historical world (as opposed to the purely fictional), that which is now studied under teratology. Historically the study of monsters had looked at monstrosities, incidents of morphological irregularity, distortion of forms, and the like: too many or too few appendages or organs, too small or too large of the same, misplacement or misalignment of physical attributes, or the appearance of attributes from other species, races, genders. The classic monster is known by its monstrosities which are in some manner, immanent to it, and because the monster has monstrosities it is monstrous (i.e., nonviable in biology but something transgressive even immoral in other cultural domains, e.g., law).[38] The monster is the being, the monstrosities define it, and its value, a negative value, is monstrous. Canguilhem points out that there is nothing monstrous about death. This is why death qua biological death in zombie films holds no more value there than it does in other types of narratives and genres. To better understand what negative value zombies do hold we must modify Canguilhem's formulation by understanding "life" as "human life," not the life of a biological human, but life in its distinctly human existence, the humanist life. The humanist portion of life is what the zombie threatens, the law it breaks, the viability it negates. It is within the register of the humanist life that zombies, zombification, and, occasionally, death by zombies are monsters, monstrous. Zombies do not

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[36] Shaviro, 86.

[37] Canguilhem, *Knowledge of Life*, 135–36.

[38] See Michel Foucault, *Abnormal: Lectures at the Collège de France, 1974-1975*, trans. Graham Burchell, Reprint (Picador, 2004), 57–75. "Until about the middle of the eighteenth century, monstrosity necessarily indicated criminality" Ibid., 75.

need to be biologically dead and arguably never are, just dead qua humanism. As we will see later, being only *biologically* human, but otherwise completely lacking human qualities, is the locus of the monster's figurative power.

The Being of Nonbeings

> *That man is free and human by virtue of his sole proprietorship of his own person, and that human society is essentially a series of market relations.*
>
> *C. B. Macpherson*[39]

The classical-era or early zombie was figuratively distinct monster but it was also particular in another way as well. It appeared in places the other classic monsters were not found – the factory floor and the industrialized battlefield. Modern spaces, spaces of dehumanization, spaces, moreover, where dehumanization was not a side effect but a goal, one to be achieved through technical and rational means. The zombie is at home in such places. The zombie gives us the perfect image of the subject as a body, as a resource for both war and commerce. Whatever else the zombie may be, however removed from modernity its roots may appear, it is part and parcel of the modern industrialized world. Modernity, the secular, scientific, industrial-capitalist, and rapidly changing world that dominates by the end of the 19th century *is* the home of the zombie.[40] If we look past the shadow cast by the cinematic zombie's pre-industrial origins, we see not primal forces and atavistic drives but the same techniques at work in the making of zombies that are used to 'make' modern workers and soldiers. The perfect soldier and the ideal worker were the object of a panoply of techniques bound to the human sciences, a fate the soldier and worker shared with other denizens of modernity who on the surface appear to have no common ground. For one of the things the figure of the zombie does is close the gap between the self-possessed bourgeois humanist and its negatives, including the slave.

In the capitalist West, the individual does not exist as a person, even as a human unless they possess themselves. As Macpherson succinctly describes it, "the individual in a possessive market society *is* human in his capacity as proprietor of his own person; his humanity does depend on his freedom from any but self-interested contractual relations with others."[41] The trans-Atlantic slave on the other hand, does not possess themselves, they are possessed. The slave is not free from any but self-interested relations, all their relations are in the other's interest. Slaves are the "socially dead," non-human, possessing no humanity. "[The slave] is desocialized and depersonalized," introduced to the master's community as a nonbeing.[42] To the extent a slave was a person, this personhood, as Saidya V. Hartman shows, "signified little more

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[39] C. B. Macpherson, *The Political Theory of Possessive Individualism: Hobbes to Locke* (Oxford: Clarendon Press, 1964), 270.

[40] For a further elaboration on the broad term "modernity" see Ben Singer, *Melodrama and Modernity: Early Sensational Cinema and Its Contexts* (Columbia University Press, 2001), 1–2, 17–35.

[41] Macpherson, *The Political Theory of Possessive Individualism*, 271.

[42] Orlando Patterson, *Slavery and Social Death: A Comparative Study*, 1st edition (Cambridge, Mass.: Harvard University Press, 1982), 38.

than a pained body or recalcitrant in need of punishment."[43] They were a quantified person but one quantified around "minimal standards." "The calculation of slave existence was determined by base conditions necessary for functioning as an effective laborer, and the extent of protection to life and limb was decided by diminutions in the value of capital."[44] The slave was a peculiar piece of equipment. But the way slaves were *managed* was not peculiar but modern and applicable to those far from the plantation fields.[45]

The figure of the zombie carries with it the conditions of the slave, the practices used on them, their status and value and shows these to not be unique to the slave, not something other. Orlando Patterson noted that part of the slave's quality as a slave is their otherness; "it was the slave's isolation, his strangeness that made him most valuable to the master; but it was this very strangeness that most threatened the community."[46] The zombie, too, is strange and threatening. But it exists at and arises from a nexus of technologies and techniques endemic to modernity. These techniques worked through the body, and ideally appropriated the subject and reconfigured it into an object suitable for the battlefield or the factory floor or wherever the need may be. What we encounter in *White Zombie* and the zombie films that follow is the fear that these appropriations are not limited to war, business, psychiatry, medicine, or any other particular site or institution, but that modernity itself holds the potential to make zombies happen because the modern subject is immanently zombifiable.

If the classic monsters are often seen as dealing in the irrational and atavistic, themes made perhaps most explicit in the Wolfman films but undeniably present in the Mummy, Dracula, and even the Frankenstein films (the Baron Frankenstein is not simply an overreaching scientist but a man possessed beyond reason, his monster a creature governed almost purely by base emotions). The zombie is not like this. The zombie is a rational monster, a modern monster. Scholarship on the early zombie film has not approached the zombie as such. Most often the films of the 30s are seen in comparison to the Romero and post-Romero zombie films, though in more recently scholarship the zombie's Haitian roots have been foregrounded and the racial dimension stressed.[47] And though a number of scholars have noted how much the zombie is like a laborer, either a depression era worker or pre-industrial slave, the broader implications of these comparisons have not been pursued. Far too often, the zombie of the 1930s and 40s is treated as distinct from later, more famous iterations, to the detriment of analysis and understanding of both.

A Monster of Biopower

> *Men, too, secrete the inhuman. At certain moments of lucidity, the mechanical aspect of their gestures, their meaningless pantomime makes silly everything that surrounds them.*

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[43] Saidiya V. Hartman, *Scenes of Subjection: Terror, Slavery, and Self-Making in Nineteenth-Century America*, 1 edition (New York: Oxford University Press, 1997), 94.
[44] Hartman, 95.
[45] See footnote 57 below.
[46] Patterson, *Slavery and Social Death*, 38.
[47]Christopher M. Moreman and Cory Rushton, *Race, Oppression and the Zombie: Essays on Cross-Cultural Appropriations of the Caribbean Tradition* (Jefferson, N.C. : McFarland, c2011., 2011); Roger Luckhurst, *Zombies: A Cultural History* (London: Reaktion Books, 2015); Christie and Lauro, *Better off Dead*; Sarah J. Lauro, *The Transatlantic Zombie: Slavery, Rebellion, and Living Death* (New Brunswick, New Jersey: Rutgers University Press, 2015).

Albert Camus[48]

The cinematic zombie from its very beginning was not simply an animated corpse, or even a human without a mind or soul, but a modern automaton, a creature particular to the world historical epoch that encompasses capitalism, modern science, and the nation state. In the films *White Zombie* and *Revolt of the Zombies*, the first and second zombie films respectively, and presaged by the Weimar classic *The Cabinet of Doctor Caligari* (Wiene, 1920) one sees the early zombie in its various iterations as soldier, worker, and patient. These archetypes appear to be a disparate lot, and their origins and ontologies are anything but clear. But by seeing them from the perspective of Martin Heidegger's "Question Concerning Technology" we can get a better view.[49] In "The Question Concerning Technology" Heidegger was not concerned with technology as an object or objects or even a system but with the worldview that underwrote and organized the conception and use of those phenomena. For Heidegger, this was the conception of the World as a resource, energy; everything, perhaps even ultimately people, are a resource to be used to extract more resources. The zombie can be seen as a product of a similar worldview. I analyze the figure of the zombie as the result of modern techniques of techno-rationalism, that is, of modern forms of power and the human sciences that transformed human subjects into mere bodies. I focus on how these early zombie films show the generation, deployment, and rationality of these modern bodies. Throughout, I underline the unifying logic that connects the myriad iterations and goals at work in the films: the idea that humans can be understood and instrumentalized by treating them as automata, automatic machines.

While an automaton may seem a simple, even obvious way to characterize the zombie it helps us see the zombie in a broader context, one that encompasses slavery, race, economics, etc. yet not limited to any one source or explanation. In fact, the zombie was seen in these broader, if ambiguous and inchoate terms, from the outset. Much of the scholarship on the early zombie films has not so much unearthed the symbolic power and meaning of the zombie as it has buried it. A modern turn to the zombie changes the kinds of life ascribed to a corpse, the kinds of fears that animate it. What makes *this* monster modern is that its mindless, soulless quality is, in part, not that of an animal like the Wolfman (wolf), Dracula (bat/rat), or Mr. Hyde (ape), but of a machine in accordance with the conceptions and practices of the human sciences, and a materialist, mechanistic view. Rational techniques, the worldview of science and technology, the essence of technology as Heidegger terms it, animates the zombie. The zombie is a monster of the Enlightenment. It is not, like the creatures mentioned above, a monster that dramatizes the Enlightenment struggle with the forces of irrationality and unreason; rather, it was generated in response to the latter and a nullification of both.

The zombie then tells a story *of* control, not of the need for control. If again, this seems obvious when discussing the early zombie films, filled with mindless servants beholden to a zombie master, it also means that we should understand the zombie as a political monster, a monster of politics, a monster that is the result of a monstrous politics. The zombie film articulates in a fantastic form a crisis brought on by a shift that began in the 18th century from the organization of politics and power around subjects (e.g., of the crown or a collective sovereign)

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[48] Albert Camus, *The Myth of Sisyphus and Other Essays*, trans. Justin O'Brien (New York: Vintage, 1991), 15.

[49] Martin Heidegger, *Question Concerning Technology, and Other Essays, The* (New York, NY: Harper Torchbooks, 1977).

and territories to the organization of politics and power around bodies and populations.[50] This transformation of the nature of power is the decline but not the disappearance of sovereign power and the ascendency of what Michel Foucault calls biopolitics or biopower, which he describes as "modern technologies of power that take life as their objective."[51] Prior to this, power and politics were primarily directed at and conducted between ostensible subjects, subjects who can obey or make demands or be divested of rights. As the modern world unfolds throughout the 19th and 20th centuries, the subject is exalted but also subsumed into statistics and the masses, producing, as Foucault describes, "the simultaneous individualization and totalization of modern power structures."[52]

Foucault describes how beginning in the 18th century politics and power take on a the radically different form of biopower. At the level of detail was *an anatomo-politics of the human body* that "centered on the body as a machine [and] its disciplining."[53] At the mass level are regulatory controls, concerned with the biological processes of populations: "propagation, births and mortality, the level of health, life expectancy longevity, with all the conditions that can cause these to vary."[54] This second form of power is not deployed to discipline or in any way impinge on particular individual bodies, but to regulate populations. However, biopolitics often involves the coordination of both of these registers. This new *bio*power then is not directed towards subjects but at the level of the individual towards bodies (i.e., disciplinary power) and at the level of the multiplicity towards populations (i.e., regulatory power). In both cases, it is a biological entity not a political or conscious one that is being worked on, an entity derived and generated by the human sciences. This biopolitical horizon acts as both the condition of possibility for the zombie and what it makes legible as a political monster. For the zombie is a body, a life animated by power.

The history of the zombie as a monster of biopower follows a similar trajectory to Foucault's own history(ies) of biopower. While the zombie today is almost always part of a population—e.g., the hordes that swarm in *World War Z* (Forester, 2014) and roam in *The Walking Dead* (AMC, 2010-present) and driven by "species" concerns, that is, a creature best understood in the terms of the biopolitical pole of biopower, this was not always the case. In contrast with the later *Night of the Living Dead,* with its crowds or masses of zombies*,* the early zombie films are centered around zombification in a predominately disciplinary key. In these films, the primary concern is individual zombie bodies and what they can and should do. Thus, in these films we always find a recognizable zombie master, one modeled along the lines of a classical sovereign, ruling and directing the zombies. However, this sovereign seems to partake as much in the imago of the liberal subject as that of the absolute monarch. To further complicate matters, even in these early films, the zombies themselves are shown in mass, the individual often obscured by the multiplicity of the group (though not a population). Yet, regardless of all

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[50] Michel Foucault et al., *Security, Territory, Population: Lectures at the Collège de France 1977--1978*, ed. Michel Senellart, trans. Graham Burchell, 1 edition (New York: Picador, 2009), 1.
[51] Michel Foucault, *The History of Sexuality, Vol. 1: An Introduction*, trans. Robert Hurley, Reissue edition (New York: Vintage, 1978), 152.
[52] Michel Foucault, *Power*, ed. James D. Faubion, trans. Robert Hurley, 1 edition (New York: The New Press, 2001), 336.
[53] Foucault, *The History of Sexuality, Vol. 1*, 139.
[54] Foucault, 139.

these qualifications, the early zombie unmistakably functions as what Foucault calls a "docile body," the body understood as something that can be made to perform in particular ways, the locus of disciplinary power, exemplified by the soldier being drilled.

The Great War and *Revolt of the Zombies*

Within the first ten minutes of *Revolt of the Zombies*, the zombie is not only completely severed from its historical sources (Africa, Haiti, Voodoo), it is also divested of any pseudo-gothic trappings it may have acquired from *White Zombie* and hurled pell-mell into the crucible of modernity—both figuratively, in the torrent of meanings and explanations attached to the zombie, and literally, in the form of modern catastrophe that was World War I. The beginning of the second zombie film proper, 1936's *Revolt of the Zombies,* is one of the most striking articulations of biopower in the early zombie film.[55] The film's opening of zombies fighting on the Austrian front plunges the zombie squarely within modernity's paradoxes. Yet the film's haphazard execution has meant it has been largely ignored. Whereas *White Zombie* has been canonized as a minor classic of 1930s horror, exemplifying the substantial aesthetic possibilities of low-budget filmmaking, *Revolt of the Zombies* is generally remembered for its complete failure to duplicate its predecessor's achievements in either arena, and is characterized as the nadir of Poverty Row filmmaking in the 1930s.[56] Yet of the two it is this film that more fully reveals why the zombie is so enduring and powerful a metaphor for power's investment in the biological. *Revolt of the Zombies*' very illogic and inconsistency serve to highlight this fact.

In his distinguished history, *The Rites of Spring: The Great War and the Birth of the Modern Age,* Modris Eksteins characterizes the First World War as the first great war of the bourgeoisie: "[i]t is therefore hardly surprising that the values of this middle class should have become the dominant values of the war, determining not only the behavior of individual soldiers but the whole organization and even strategy and tactics of the war."[57] And therein lies that great paradox of World War I. The war of bourgeoisie values was ironically a bourgeois apocalypse. Industrialization was one of the great achievements of the bourgeois 19th century, but the industrial warfare it birthed ran counter to all bourgeois values in its brutal materiality. It is in this sense of the war as a bourgeois limit experience that it has the ability to generate the bourgeois antithesis, the zombie. All bourgeois values disintegrate on the battlefield. Sigmund Freud captured the dichotomy of the war in the shape of what he called the conflict between the war ego and the peace ego, two states antithetical to each other. The bourgeois civilian turned soldier (because this was conflict primarily of citizen soldiers not professionals) must abandon his peace ego, wherein one is not in constant threat of death and does not seek to kill other men. This soldier must take on a "war ego," yet the peace ego will try to defend itself (and the person)

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[55] *Revolt of the Zombies* was directed by Victor Halperin, who had also directed *White Zombie.*

[56] A typical example of this attitude, "Almost without exception, the Poverty Row horror films of the 1930s were a dreary and antiquated lot. One of the dullest of the dull was Academy Pictures' *Revolt of the Zombies* (1936)" Tom Weaver, *Poverty Row Horrors!: Monogram, PRC, and Republic Horror Films of the Forties* (McFarland, 1993), x.

[57] Modris Eksteins, *Rites of Spring: The Great War and the Birth of the Modern Age*, 1 edition (Boston: Mariner Books, 2000), 177.

from figurative and literal death.[58] If Freud seems to be positing a universal theory, one applicable to all wars of civilized individuals, one cannot help but see it deriving from WW I and even then, of not taking into account the full effects of the war. For it was not just a conflict of values and behaviors, but of the physical location of bodies cast into deliberately made anti-body environments, where the body was understood and acted upon not as carrying values or housing a subject, but merely as a resource. 1930's *All's Quiet on the Western Front* (Milestone), was arguably the first film to fully engage with WWI in these terms. The protagonist Paul Baumer's journey from naïve college student to near catatonic 'old' soldier is sharply punctuated by a breakdown when the contradictions and anxieties become too much. Paul effectively shuts down not only his "peace ego" but most of his humanity.

Paul's behavior is reminiscent of "the *automatisme anesthésiant* that the trench experience induced" according to Eksteins.[59] The trench experience changes soldiers, bourgeois subjects, into automatons:

> What becomes clear from the diaries and letters of front soldiers is that in front-line service, particularly in action but in routine duty as well, the senses become so dulled by the myriad assaults on them that each man tended after a short while to live according to reflexes. He functioned instinctively [and these] reflexes and instincts were in large part prescribed by the soldier's society.[60]

Trench warfare performs Foucauldian-like discipline over the soldiers qua bodies, taking over and extending the disciplinary function of the various spheres of peacetime life.

Foucault saw the soldier as the *locus classicus* of the disciplinary techniques of modernity: "Out of a formless clay, an inapt body, the machine required can be constructed; the posture is gradually corrected; a calculated constraint runs slowly through each part of the body, mastering it, making it pliable, ready at all times, turning silently into the automatism of habit."[61] The trench becomes a disciplinary apparatus. Those soldiers who lived beyond a few weeks began to shut down their "human" faculties, like thought and emotion. Most surprising, though, they shut down their instinct for self-preservation. The automatism of the soldier-machine even trumps the fear of death.

It is not just trench warfare by itself that marks World War I as a signal event of modernity and precursor to the zombie, as modern trench warfare is itself coupled with attrition, a war of exhaustion. In the Great War, "waging war became an increasingly technocratic process."[62] Attrition did not aim at achieving specific tactical goals, such as territorial advancement. It aimed at depleting the enemies' resources and stifling its productivity. The primary resource to be depleted was soldiers, men. Attritional warfare engaged the enemy at the level of statistics. In this frame, World War I is an exemplary instance of the biopolitical in action, for attrition operates in the same "regulatory" register as the biopolitical.

Revolt of the Zombies takes up the issues arising from the Great War in a variety of ways. This engagement is foregrounded in the beginning of the film, which is so bizarre it is surprising

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[58] Sigmund Freud, "Introduction to Psychoanalysis and the War Neuroses. Standard Edition 17: 207-210. Translated and Edited by Strachey," *London: Hogarth Press* 1954 (1919): 208–10.
[59] Eksteins, *Rites of Spring*, 172.
[60] Eksteins, 171.
[61] Foucault, *Discipline & Punish*, 135.
[62] William James Philpott, *War of Attrition: Fighting the First World War*, First edition (New York, NY: The Overlook Press, 2014), 168.

more attention has not been given to it. The film begins with a scrolling text declaring that, "Many strange events were recorded in the secret archives of the fighting nations during the World War […] But none stranger than that which occurred when a regiment of French Cambodians from the vicinity of the lost city of Angkor arrived on the Franco-Austrian front." We then cut to a general rejecting protagonist Armand Louque's report of "mesmerism, occultism, men without souls, hordes of supermen capable of annihilating armies of trained men." Louque, recently returned from Cambodia, timidly tries to convince the general of the factual nature of his report. Upon hearing a dispatch on Austrian troop reinforcements, the general concludes their meeting by saying "I wish I could believe in your robots, I could use seven regiments right now." Louque exits the ornate Old Europe office to the far more utilitarian antechamber. There we find an American officer and a pale grey-haired Asian in a toga-like robe standing erect and expressionless, a vaguely ritualistic posture, one divorced from its environment (Is he one of those "robots" just mentioned?). [fig 1.2] The American Clifford Grayson chides his French friend for lack of "intestinal fortitude," the ability to be ruthless, self-centered, to go after what one wants regardless of sentiment or the consequences. Louque retorts by sardonically calling this "Ego."

They then take up the debate from the general's office. Cliff concedes to Armand that black magic and telepathy could exist, "but not your robots." We must pause here to remark on the use of the word "robot." Like zombie, robot was another new word and one that described a particularly modern, 20th century phenomenon. Coined by Karl Capek in his 1920 play *R.U.R.* (Rossum's Universal Robots), a robot was initially not so much a machine as a worker, a manufactured serf to help in manufacture.[63]

These zombies are like Capek's robots, laborers. Armand explains that Angkor was built by zombies, "controlled and directed mentally by their priest-king" of which the priest Tiang, the silent Asian to their right, is the last descendant. The priest, now included in the conversation, declares that he will demonstrate for the General the power and effectiveness of his zombies. The film cuts to the front – mostly represented through rear-projection and constant gunfire on the soundtrack – and we can just see the top of an Austrian trench as the Cambodian zombies enter uniformly from both sides of the frame. They form ranks and the camera tracks across them in a medium shot. They do not appear dead but stoic and vacant, their French uniforms open or missing sleeves. The zombies have blank expressions and tight, severe movements which are at the same time almost languid. During the shot, Tiang is briefly superimposed, only to be replaced by an extreme close-up of two eyes (belonging to Bela Lugosi, an image from *White Zombie*). [fig 1.3] The zombies slowly march forward in a flat, frontal composition that mirrors their own "flatness," flatness further accentuated by the lack of depth in the image from the rear-screen projection. [fig 1.4] An Austrian fires into one, and a close-up of his chest shows the bullets striking but having no effect beyond bloodless holes (this is a restaging of a moment from *White Zombie*). The zombies take the trench, dispassionate and unabated. In the General's office an Austrian military envoy implores, "I am not here to plead the cause of the Central European powers but that of modern civilization. In the name of humanity you must not go further with your experiments. It may mean the end of the white race." The French General assures him that the "experiment" is ended. Subsequently, the Cambodian priest is imprisoned and mysteriously

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[63] Karel Čapek, *R.U.R. (Rossum's Universal Robots)*, Penguin Classics (New York: Penguin Books, 2004).

murdered. The allies then decide to undertake an expedition to Angkor after the war to find the secret of the zombies' animacy and destroy it. The rest of the film is effectively a new story.

What grabs one's attention first is the characterization of World War I as filled with strange events. This opening line reminds us just how apocalyptic this event was for the peoples that passed through it. Hayden White describes "modernist events," of which World War I is one of the first, "events that not only could not possibly have occurred before the twentieth century but whose nature, scope, and implications no prior age could have imagined."[64] White continues,

> Some of these events – such as the two world wars, a growth in world population hitherto unimaginable, poverty and hunger on a scale never before experienced, pollution of the ecosphere by nuclear explosions and the indiscriminate disposal of contaminants, programs of genocide undertaken by societies utilizing scientific technology and rationalized procedures of governance and warfare (of which the German genocide of six million European Jews is paradigmatic) – function in the consciousness of certain social groups exactly as infantile traumas are conceived to function in the psyche of neurotic individuals. This means that they cannot be simply forgotten and put out of mind or, conversely, adequately remembered, which is to say, clearly and unambiguously identified as to their meaning and contextualized in the group memory in such a way as to reduce the shadow they cast over the group's capacities to go into its present and envision a future free of their debilitating effects.

Beginning with Paul Fussell's *The Great War and Modern Memory*, many of the most distinguished historical works on World War I take as their central theme the attempts of the various participants to understand the war.[65]

In its own fantastic way, *Revolt of the Zombies* is another example of this coming to terms, here in the form of phantasmagoria both with zombies and a non-existent "Franco-Austrian Front."[66] The opening scenes show us what will be the center of this process – the modern battlefield with its trench warfare and a strategy of attrition based on draining the opponent's resources, i.e., fighting men. Thus, the Entente general wishes that there *were* zombies. He spells out what is needed in this situation, hordes of supermen, men without souls, robots. This elaboration of the zombie ontology through naming continues outside the office – "automatons, tireless, feelingless human machines"—the American Clifford then completes the equation "or as you call them zombies." The term is spoken to highlight that the "zombie" is just an exotic, "strange," technical term for a known (or at least deducible) quantity. The litany of names then does not reflect confusion over what it is, simply what one should call this particular instance. If anything, the implication is that the exotic zombie is just fancy dress for a much more mundane phenomenon. Certainly, what makes the zombie *a priori* understandable is that it embodies those qualities modern warfare demands—a body unencumbered by thoughts and feelings, a body that makes no demands but only fulfills them.

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[64] Hayden White, *Figural Realism: Studies in the Mimesis Effect* (JHU Press, 2000), 69.

[65] Paul Fussell, *The Great War and Modern Memory*, New edition (Oxford: Oxford University Press, 2013); Jay Winter, *Sites of Memory, Sites of Mourning: The Great War in European Cultural History*, Reprint edition (Cambridge: Cambridge University Press, 1998); George L. Mosse, *Fallen Soldiers: Reshaping the Memory of the World Wars* (New York: Oxford University Press, 1990); Eksteins, *Rites of Spring*.

[66] An instance of WWI not being "adequately remembered."

The efficacy of the zombie body as weapon, as a military resource, is a pre-given. "I could use seven regiments right now," states the general even as he disbelieves. That is to say, zombies cannot be real yet they are rationally required. They are the perfect soldiers. When they are set into action, we see them advance in formation, they march at a steady pace, and they absorb ordinance without falling or breaking ranks. And it is this very perfection that is problematic, for it transfigures the bourgeoisie *weltanschauung*, drawing together its essential contradictions into a single location—progress and tradition, the autonomous and the universal subject, the individual and the masses, self-interest and self-sacrifice. By concentrating the culture's contradictions, zombies jeopardize its existence. The crisis the zombie embodies is an apocalyptic one, the end of bourgeois humanism. This is the crisis that the Austrian attaché is responding to, and it is within this frame that we can find the "white race" and what threatens it with "destruction." It also helps us understand one of the axes on which race is being configured, not a race war in the sense of two opposing races but an internal struggle within the ideal type of the white race.[67]

This moment and its connotations are a biologization of culture. What is at stake is not necessarily the future of a particular bloodline or skin color but the end of a particular ideology and socio-political system that those biological qualities are seen to announce. This is the ending of those qualities that make up this particular instance of "whiteness," the end of the bourgeoisie as reality and paradigm, the end of the bourgeois race as a way of life. This crisis for the white race comes about because the perfect soldier the zombie embodies is precisely one that lacks subjectivity. The war between bourgeois nations must be fought and won by embracing a bourgeois antithesis. The soldier is both subject and non-subject, or we should say the battlefields of World War I reveal the subject in its essential non-subjectivity. In Adornian terms, the subject comes to understand the primacy of the object as it pertains to itself, a traumatic insight indeed. The West's progressive success is not based on creating more or better subjects but objects, "a domination which a priori keeps subjects from being subjects and degrades subjectivity itself to a mere object."[68] Thus, the nature of the power exerted on the soldier is not the sovereign power that demands to be recognized and willfully obeyed, nor is it the power of the collective subject that enacts a social contract, but it is a disciplinary and to an extent regulatory power that demands nothing but trains, manipulates, and deploys soldiers' bodies.

From Caligari to Legendre, Part I: The Psycho-Science of Zombies

> *If all psychology since that of Protagoras has elevated man by conceiving him as the measure of all things, it has thereby also treated him from the first as an object, as material for analysis, and transferred to him, once he was included among them, the nullity of things*.
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> *Theodor W. Adorno*[69]

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[67] On the difference between internal and external race war see Foucault, *Society Must Be Defended*.

[68] Theodor W. Adorno, *Negative Dialectics*, trans. E. B. Ashton, 1 New (Routledge, 1990), 178.

[69] Theodor Adorno, *Minima Moralia: Reflections from Damaged Life*, trans. E. F. N. Jephcott (London; New York: Verso, 2006), 63.

The notion that World War I can be viewed as a source of zombies or at least a site of zombification is not wholly original to *Revolt of the Zombies*. Once we understand the zombie as a concept that takes many names and forms we can then locate it *avant la lettre*. Perhaps surprisingly, we see that it is *The Cabinet of Dr. Caligari* (1920) that should be considered the prototype or even the first zombie film. The film not only presents us with a zombie analogue but also helps us to see how questions of power and sovereignty connect with the human sciences and its techniques, here in the complex of psychology-psychiatry-psychoanalysis. Anton Kaes has shown that the film is productively seen within the horizon of shell shock and trauma.[70] Kaes argues that many of Weimar cinema's greatest works recast World War I and the trauma it caused into fantastic form. It is precisely the fantastic and its irreality that enables these films to grapple with the war and shell shock. Kaes states that "If it was near impossible for realism at the time to represent the destructive magnitude of the war, it was absolutely beyond its ability to give form to the point of view of trauma. The fantastic masterpieces of Weimar cinema, though, found a way to restage the shock of war and defeat without ever showing military combat. They were post-traumatic films, reenacting the trauma in their very narratives and images."[71]

Kaes begins his analysis of *The Cabinet of Doctor Caligari* not with the film but a malpractice case going on at the time of its release (one in which Sigmund Freud was called as an expert witness) involving a shell shocked soldier who "accused his psychiatrist of torture . . . [and] with misdiagnosing him as a malingerer."[72] He concludes, "the protagonists in this court trial—the powerful director of an insane asylum who may be crazy or evil, and a shell-shocked patient who may be hallucinating—are also central characters in Wiene's feature film."[73] In the film, Francis's story becomes exemplary of the recasting of the trauma of war into a phantasmatic form once we see him this way, his past life as a soldier, now shell-shocked, brought him to the institution of the frame tale. The disciplined soldier, its compliment the shell-shocked soldier, and the zombie are all made possible due to the modern conception of the human which has shaped the first, diagnosed the second, and projected the third—logical if fantastic extension of the former two. This is the conception that the early zombie always gravitates to—that of the human being to a greater or lesser degree a machine.

With World War I and shell shock this man-as-machine approach engendered shock therapy and solitary confinement as treatments even while diagnoses fell back to moral judgments or wartime expediency.[74] In contrast to and often counter to a psychiatry of brute physicality, psychoanalysis took a hermeneutical and organic approach, treating the irrational as constitutive of the human and not an avoidable defect. Psychoanalysis as a science rationalizes the irrational, systematizes it and makes it subject not simply to interpretation (of dreams, fantasies, behaviors, etc.) but also to understanding and control, a docile psyche. If psychoanalysis seems to have evaded the trap of human-as-machine, it still posits a mechanistic if occulted view of humanity, one composed of rationally explainable processes (an *economy* of drives or the infamous steam engine analogy). In this sense, psychoanalysis fits squarely *within*

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[70] Kaes, *Shell Shock Cinema*, 45–86; Anton Kaes, "War–Film–Trauma," in *Modernität Und Trauma: Beiträge Zum Zeitenbruch Des Ersten Weltkrieges.*, ed. Inka Mülder-Bach (Wein: WUV Universitätsverlag, 2000), 121–30.
[71] Kaes, *Shell Shock Cinema*, 3.
[72] Kaes, 46.
[73] Kaes, 48.
[74] Kaes, "War–Film–Trauma," 121–23.

the Enlightenment tradition; and as the notion of the dialectic of the enlightenment would lead us to expect, psychoanalysis's insights, its reclamation of the irrational to the rational, have furthered human beings' ability to dominate the human. Not only has it penetrated to the depths of the psyche, but it has also opened the psyche up as a field of application for experts to analyze and manipulate.

At stake here for the zombie film is psychoanalysis's symbolic force within Western culture vis-à-vis the subject. The empirical individual is shown to be always subject to control and manipulation by forces outside of itself (or the Ego) such as drives, traumas, family members, and most importantly, psychoanalysts. In *The Cabinet of Dr. Caligari*, the notion of the doctor having potentially absolute power over his patient is staged at multiple points. Not surprisingly then, the film also serves as a prototype for most of the early zombie films with their emphasis on the zombie master's power. Caligari himself figures psychoanalysis's power over the individual but also the West's increasing ability to minutely control the individual through the domination of a nature that is re-inscribed deeper and deeper into humanity's being. We should thus be able to see and understand Caligari's henchman/factotum Cesare as the object of these techniques of knowledge and power, the figure of the subject's immanent potential for dissolution and erasure on which the zombie is founded. In many ways he already is a zombie – a somnambulist (the visual-empirical reference point for zombies), almost completely devoid of emotion, lacking free will, no language use (he is *used* by language, being a medium), easily replaced by a doll, and kept in a coffin when inactive.[75] Moreover, if we follow Siegfried Kracauer's original insight into Cesare's utilization by Caligari as a killing machine, as a soldier "who is drilled to kill and be killed" and combine it with Kaes's sensitivity to the traumatic historical component informing the film, Cesare is then seen as a victim of shell shock. He is the zombie after-effect of the war.[76] *The Cabinet of Dr. Caligari* plays out the subject's potential to be subjected and controlled by external powers, which for various reasons—ontological, ideological, and institutional—it is powerless against.

The doctor of the frame tale is himself presented as like his phantasmatic double, well beyond the fact of being played by the same actor (Werner Krauss); he claims an omnipotent understanding and corresponding power that is analogous to the absolute power of Caligari or of the generals and heads of state responsible for sending men off to war, or the scientists and technicians that made both modern warfare and psychiatry possible. The film, through its layering of these realities on top of each other and the many doublings of characters, situates the

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[75] Sleepwalking is a repeated motif in *I Walked with a Zombie* (1943); more recently Thomas Ligotti described the zombies of *Night of the Living Dead* as "sleepwalking attackers" in *The Nightmare Factory* (New York : Emeryville, CA: Carroll & Graf, 1996), xii. See also contemporary African zombies in Robert Thornton, "Marginal Utilities, Time, and Zombies: Comment on Jane Guyer's' Prophecy and the near Future: Thoughts on Macroeconomic, Evangelical, and Punctuated Time,'" *American Ethnologist* 34, no. 3 (2007): 438; these zombies *are* somnambulists, during the day normal people unaware of their nighttime zombification and exploitation. Zombie women are likened to giant dolls in both *Voodoo Man* (1944) and *I Walked with a Zombie.* Zombies resting in coffins in-between tasks will recur throughout the genre's history, for example in *Zombies on Broadway* (1945)*, The Ghost Breakers* (1940)*,* and *The Zombies of Maru Tora* (1957)*.*

[76] Siegfried Kracauer, *From Caligari to Hitler: A Psychological History of German Film* (Princeton, N.J: Princeton University Press, 1974), 65.

zombie concept at many sites simultaneously—soldier, psychotic, mental patient, trauma sufferer, somnambulist—as well as in curious relation to its erstwhile masters, whose control and self-identity are also called into question. Certainly, the sovereign as monarch or absolute ruler is discredited. But another is set in his place, not one who channels a line of royal power but one who partakes in a dispersed power of modern science and its allied discourses, a power not based *on* obedience but one *through* analysis.[77]

"Anatomy in Motion"

"Is Man an Automaton?" William Benjamin Carpenter addressed this question in a lecture given in 1875 at Glasgow City Hall. It is a preeminently modern question, not only because it is posed from the forefront of contemporary life sciences—Carpenter was a wide-ranging natural scientist working in biology, physiology, and a nascent psychology—but because the very sense of the word automaton had changed from its classical connotation. *Automata* had been mechanical representations of life or myth, but since the Enlightenment the concept incorporated the view of life itself as mechanistic and modeled after machines: "[a]utomata figure in the sciences of the Enlightenment as machines in the form of humans and as humans who perform like machines."[78] Arguably this begins with Rene Descartes who characterized men's bodies as machines and likened them to automata (e.g., clocks). One could even confuse men with the latter: "Were I perchance to look out my window and observe men crossing a square, I would ordinarily say I see the men themselves […] But what do I see besides hats and clothes, which could conceal automata?"[79]

By the time of Carpenter's lecture, the mechanical had further inscribed itself into the natural and nature. Carpenter's automaton reflects this new state of affairs. His automaton is exemplified not by the clock or any other device but by the centipede and its ability to be cut into self-propelling segments thanks to a body structured around an extensive network of ganglia. Carpenter's lecture then proceeds up the chain of being, tracking the increasing size of the cerebrum and its concomitant dominion over the body. Yet, as he notes, one still sees a preponderance of automatic processes and actions. In an arresting reformulation of the mind/body split, Carpenter goes as far as to describe the human body as "a trained automaton" with the mind or Ego giving it orders: "The Ego determines to do a certain action, and commands the automaton to do it."[80] Yet as Carpenter notes, we are then led to ask "how far the mind of man acts automatically."[81] This is the source of the lecture's title. Does not an

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[77] We can see Caligari's movement through time, a feat repeated by Doctor Mabuse in *The Testament of Dr. Mabuse* (Lang, 1933) as similar to the transmaterial *second* body of the sovereign, the source of his power as shown in Ernst H. Kantorowicz, *The King's Two Bodies* (Princeton, N.J: Princeton University Press, 1997).

[78] Simon Schaffer, "Enlightened Automata," *The Sciences in Enlightened Europe*, 1999, 126.

[79] René Descartes, *Meditations on First Philosophy*, trans. Donald A. Cress (Indianapolis: Hackett Pub Co Inc, 1979), 22. Descartes' mechanical materialism is a bit more nuanced than usually presented, see for example, David Bates, "Cartesian Robotics," *Representations* 124, no. 1 (2013): 43–68.

[80] William Benjamin Carpenter, "Is Man an Automaton," *A Lecture Delivered in the City Hall, Glasgow, on 23rd February*, 1875, 24.

[81] Carpenter, 25.

individual's personal history, social setting, and—most importantly for Carpenter—his heredity appear to ultimately determine his mental actions?[82] Carpenter does not deny the force of these influences, in fact their influence is undeniable. But, he states, the Ego does have one area of agency: it can direct *attention* and by choosing what to attend to, one can to a certain extent direct one's life. It is this singular quality of the human Ego, attending, that differentiates him from insects and machines. Without a cerebrum and its ability to choose what to be attentive to, humans *are* nothing more than automatons, in essence something like zombies.

Perhaps what is most interesting about Carpenter's lecture is the very fact that it was necessary to make a public argument that Humans were not automatons, that they were not a piece of automatic machinery. Moreover, the question animating his lecture was not anomalous or all that esoteric.[83] The idea of automatism was of course far from new. In the eighteenth century, Descartes' characterization reached an apogee of sorts with Julien Offray de La Mettrie's *Man a Machine* (1748).[84] La Mettrie had argued, to some controversy, that humanity should be understood in mechanical terms through and through, not just his body but his mind and soul (the latter "an enlightened machine").[85] A little over a century later, Thomas Huxley and William James engaged in a public debate in the of pages of *Nature* and *Mind*. Huxley felt pained to admit that we were perhaps "sentient automatons" after all.[86] James would have no truck with this and in his "Are We Automata?" (a title which echoes Carpenter's lecture from 4 years earlier) he counters with a "Common-Sense Theory" founded on "interest and *selective attention*," (emphasis mine) as key qualities of consciousness and ones that cannot be reduced to mechanism. But even James, at the end, concedes that future knowledge and the data it gathers may prove out the "Conscious-Automaton Theory" ascribed by Huxley and the like.

The "human as a machine" was a disturbing proposition, and the more validity it seemed to have, the more urgent the need to refute it. As the human sciences provided material explanations for an ever-wider sphere of human behavior, the qualities that marked the individual as an agent seemed to be eroding. What had been initially philosophical speculation was, by the late nineteenth century, the topic of public and scientific debate. In part this was because the image of the mechanistic human was especially problematic in the modern era, as the cultures and societies of the West that were underwriting modern science were themselves predicated on human individual as autonomous, self-interested, and self-directing—rational, yes, but not mechanical. But there was more going on here than just a conflict between competing conceptions of the human. As Foucault pointed out, "the celebrated automata […] were not only a way of illustrating an organism, they were also political puppets, small-scale models of

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[82] For example, Carpenter was an early proponent of alcoholism being primarily an inherited condition and something outside of the alcoholic's immediate control.

[83] William James's essay discussed below begins by listing off many recent instances of answering "yes" to the automaton question. William James, "Are We Automata?," *Mind*, 1879, 1.

[84] Julien Offray de La Mettrie, *Man a Machine and Man a Plant* (Indianapolis: Hackett Publishing Company, Inc., 1994). As Schaffer notes, La Mettrie had moved beyond simple machines for his understanding. Schaffer, "Enlightened Automata," 142.

[85] Schaffer, "Enlightened Automata," 142.

[86] Thomas Huxley, "On the Hypothesis That Animals Are Automata, and Its History," *Nature* 10 (1874): 362–66.

power."[87] Framed in this way, we have the antinomy between what Foucault called the "docile body"—one both analyzable and manipulability, and thus, one "that may be subjected, used, transformed and improved"—and a subject posited as free from necessity and material constraints in its subjectivity. This is almost disembodied will or Ego, Macpherson's self-possessed individual but also the inhabitant of Marcuse's affirmative culture**.** [88] But thanks to the steady encroachment of the human sciences, the autonomous subject of the modern West was in imminent danger of dissolving into just a docile body, an automaton. It is this vexed situation of the subject, valorized ideologically while being undermined both epistemologically and in more practical ways (e.g., scientific management of workers' bodies) that sets the stage for the zombie's assimilation in the twentieth century.

The zombie also gives substance to new forms of political power. Biopolitics manages and conducts life itself and does this in large part by reducing human subjects to nothing but biological material. The early cinematic zombie is, then, a figure for the instrumentalizing tendency in the West of which the soldier and the factory worker are the signal examples. Schaffer notes that, "automata as models of the well-regulated workshop also proliferated. . . These projects ingeniously connected a culture that viewed laborers as machines with one that saw machines as sources of power."[89] As such, the human becomes a resource in Heidegger's sense, fulfilling his vision of the essence of technology's threat, or as the Frankfurt school would characterize it, the reification of humanity.

From Caligari to Legendre, Part II: The Business of Zombies

> *Only when the process which begins with the metamorphosis of labour-power into a commodity has permeated men through and through and objectified each of their impulses as formally commensurable variations of the exchange relationship, is it possible for life to reproduce itself under the prevailing relations of production. Its consummate organization demands the coordination of people that are dead.*
>
> *Theodor W. Adorno*[90]

The zombie's set-piece in *White Zombie* is not staged around battlefields, laboratories, or clinics but the other privileged site of modernity, the factory. Caligari would be just as apt a head of a factory as a psychiatric clinic. The majority of the zombies in *White Zombie* are portrayed "as laborers in a capitalist regime."[91] The initial definition of a zombie, as given in the film, quickly locates them as workers: "They are dead bodies […] Zombies, the living dead, corpses taken from their grave and made to work the sugar mills and fields at night." The full import of this statement is not realized until plantation owner Charles Beaumont arrives at industrialist and zombist Murder Legendre's sugar mill. Legendre informs him that the zombies are not simply mindless workers who will work without complaining: "they do not mind long hours," Legendre

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[87] Foucault, *Discipline & Punish*, 136.
[88] Foucault, 136. Macpherson, *The Political Theory of Possessive Individualism*; Marcuse, "'The Affirmative Character of Culture'(1937)."
[89] Schaffer, "Enlightened Automata," 135.
[90] Adorno, *Minima Moralia*, 229.
[91] Gary D. Rhodes, *White Zombie: Anatomy of a Horror Film* (Jefferson, N.C: McFarland, 2006), 45.

sardonically informs us. They have absolutely no individual value, are easily replaceable parts "themselves indistinguishable from the gears and machinery."[92] In this scene we are witness to the culmination of technological reason in a morbid replaying of *Metropolis* (1927) and young Freder's journey to the workers' underground. Freder, searching for the the beautiful Maria, descends below the city and into the machine-filled underworld where the workers live and toil. There he sees the inhuman conditions of the workers—their movements rigid, synchronized, mechanical, evoking Capek's robots. [fig 1.5-6] But in *White Zombie,* the workers don't merely operate the machinery, they are integrated into it. Freder's vision shifts to a phantasmagoria as the workers become ancient slaves, and the machines become Moloch, an angry God which consumes them. Freder is thrown out of this vision when one of the machines explodes, hurling fire and destruction, and workers, everywhere. In both films, we watch the collapsing of the mundane into the fantastic, as workers, robots, zombies, and perhaps most tellingly, slaves, all become indistinguishable from each other, all rooted in industrial capitalism.

Slavery is announced in the very title of the film, *White Zombie*, a play and allusion to white slavery. But the film, more so even than *Metropolis,* also makes clear an often-occluded aspect of slavery: its integral role in capitalism including industrialization. New World slave plantations and the like saw a proliferation of accounting and management techniques often associated with more 'modern' sites such as factories and office buildings. Some of these techniques were appropriated from factories in the North (and back in the Old World) while many others were created *in situ*. Slaves were given an objective, quantitative value based on productivity (hourly, daily, weekly), type of labor, age, gender, etcetera. They were tracked across time and compared and ranked with each other. Management decisions regarding these slaves were then made based on the data acquired. The proto-scientific management that was developed on the plantations was a form of biopower working in parallel, and sometimes in dialogue with, the managerial practices in factories, often the same factories using the resources produced by the slaves. Disciplinary power reigned at the plantations, focusing on individual slaves, in contrast to the regulatory power at the factories, attending to the output of a deindividualized population of workers.[93] *White Zombie* gives us the image of this connection between field slaves and factory workers, in fact we do not see zombies toiling in the fields as is the common image of the new world slave; instead, they toil in the factory, illustrating the indissoluble bond of worker and slave in capitalism.

All of this is baldly on display in the film's set piece, prefiguring and surpassing Chaplin's iconic sequence in *Modern Times* (1936), wherein the Tramp is consumed by the

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[92] Peter Dendle, *The Zombie Movie Encyclopedia* (Jefferson, N.C: McFarland & Company, 2000), 190.

[93]Sven Beckert, *Empire of Cotton: A Global History* (New York: Knopf, 2014). Edward E. Baptist, *The Half Has Never Been Told: Slavery and the Making of American Capitalism* (New York: Basic Books, 2014); Greg Grandin, *The Empire of Necessity: Slavery, Freedom, and Deception in the New World* (New York: Metropolitan Books, 2014); Caitlin C. Rosenthal, "From Memory to Mastery: Accounting for Control in America, 1750–1880," *Enterprise and Society* 14, no. 04 (2013): 732–748; Bill Cooke, "The Denial of Slavery in Management Studies," *Journal of Management Studies* 40, no. 8 (2003): 1895–1918; Caitlin Rosenthal, "Slavery's Scientific Management," *Waldstreicher D Slavery's Capitalism*, 2013; Caitlin Rosenthal, *From Slavery to Scientific Management* (Cambridge, MA: Harvard University Press, 2014).

machine he was working in tandem with. With only the incessant sound of the sugarcane grinding, we see dozens of zombie-workers on multiple planes expressionlessly and unfailingly operating and powering the rather simple machines. Sisyphean circles and circular motions dominate, exemplified by an overhead shot of the series of crude alternating blades that chop up the cane. [fig 1.7] The zombies walk around a bin containing the blades into which they empty their baskets of sugarcane. [fig 1.8] The camera tracks one of them as it stumbles, loses its and falls into the bin. The camera replicates his downward trajectory with a tilt to show us the zombies underneath powering the blades through a continual circular march. These movements—camera, blades, zombies—all maintain the mechanical flow of the factory—workers, gears, and framing – all equated; even the "error" of the stumble is incorporated into these synchronized movements. [fig 1.9] The soundtrack increases slightly to accentuate the grinding sound which now implicitly includes a zombie-worker body in with the cane. No one except Beaumont registers the event, and there is no pause in the processing of the cane. Beaumont is appalled, though not enough for him to end his relationship with Legendre. [fig 1.10-13] He, unlike *Metropolis*'*s* Freder, knows there is nothing to be gained here for the bourgeoisie. Much like Beaumont, the narrative, too, will leave this moment behind. *White Zombie* does not return to the factory or to its implications.

Yet the zombie factory, the factory as zombie workhouse, will haunt the rest of the film through the character of Murder Legendre. Legendre's role as the industrialist seems to devolve into that of the absolute ruler, a tyrant even. Legendre appears to embody the absolute power of the classic sovereign, the one who can "take life or let live." But as zombie maker and master he also embodies a new kind of sovereign. At one level he controls bodies, disciplining them, his omnipresent eyes keeping them under surveillance, like the slave master and the factory manager. Even for zombies, "visibility is a trap."[94] Here Legendre stands in for the classic techniques and technologies of disciplinary power. Yet at another level he does not control or concern himself with any particular body but with a field of power that generates and regulates bodies in mass. His, then, is a sovereign power coterminous with the biopolitical—a biopower. Foucault notes the changing nature of sovereignty with the ascension of biopower:

> I wouldn't say exactly that the sovereignty's old right—to take life or let live—was replaced, but it came to be complemented by a new right which does not erase the old right but which does penetrate it, permeate it. This is the right, or rather precisely the opposite right. It is the power to 'make' live and 'let' die.[95]

To make live or let die is also the definition of the zombie master.

Yet the factory, William Blake's dark satanic mill, is even more anathema to the bourgeois subject than the battlefield and the narrative quickly retreats to more individual concerns. Subsequently, *White Zombie* no longer presents zombies as simply factory workers but as factotums, trophies, and objects of desire. In this, the film follows *The Cabinet of Dr. Caligari,* where control of others is, ostensibly, shown to be undertaken for subjective, irrational reasons. In this, both films to some extent deflect the problem of power away from both its traditional *and* emerging apparatuses and institutions and onto individuals. Yet in both instances power does not escape completely into the interior. In *White Zombie*, like *The Cabinet of Dr. Caligari*, the project of control is linked to a scientific worldview. In the third act of the film Legendre doses Beaumont, who had been his accomplice up until this point. The ostensible

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[94] Foucault, *Discipline & Punish*, 200.
[95] Foucault, *Society Must Be Defended*, 241.

reason is they are both enamored with the same woman, yet as the drug begins to take effect, Murder Legendre sits down at a table with the suffering Beaumont and observes him. [fig 1.14-15] He is interested in the zombification process in itself as a biological and psychological phenomenon. He queries Beaumont, "Can you still hear me? It is unfortunate that you are no longer able to speak; I should be interested to hear you describe your symptoms. You see, you are the first man to know what is happening." Legendre's irrational desire for the woman (his explicit motive) does not preclude or exclude his scientific curiosity and rational desire for experimental knowledge.

If in the above scene zombification comes from a toxin, the scene preceding it shows Murder Legendre as quasi-fantastic master of hypnosis, like Dracula, paralyzing Beaumont's servant with his gaze. And later, control of the zombies is rendered as entirely a matter of conscious will. The very indeterminacy of the agent(s) of zombification mirrors the vacillation between forms of power. *White Zombie* is quite obscure when it comes to the actual "how" of making and controlling zombies. Poisons, fetishes, sympathetic magic, hypnosis, telepathy are all in play at various moments throughout the film. But the necessary and sufficient conditions for zombification remain occluded. This is because, unlike the external (mimetic) practices of magic or folk medicine, the zombie concept is based on an internal quality of human beings. In this, these zombies are the same as the inhabitants of the asylum or the phantasmatic Cesare. Zombies happen because they are deducible from modernity's understanding of the human. If human body is an automaton waiting to receive orders from an Ego, why not from an Ego located elsewhere than the body (e.g., the will of an industrialist or psychoanalyst)?

White Zombie repeatedly references this disembodied Ego through extreme close-ups of Legendre's eyes, often superimposed upon the actions he is influencing. This omniscience and omnipotence aligns him, as we have seen, with both the absolute sovereign of old and the new disciplinary power but also with an ego-centered subject exerting influence over other ego-centered subjects. In this, he is divorced from his initial role as industrialist, as the film reconfigures the conflict as that between individual wills. If this did not occur, one would imagine the film forced to end in a workers' revolution. Instead, in its place we find a tyrant who only needs to be overthrown for things to be put right. Through these various machinations of zombification and control, *White Zombie* diffused its initial proposition of zombies as an institutional imperative of industrialism, that is, as a modern phenomenon, much as *The Cabinet of Dr. Caligari* tried to alleviate the abuse of power it revealed. But in the process, it has unmoored zombification from any specific site, setting its potential free into the world.

What Makes a Zombie

Despite its origins in West Africa, the cinematic zombie is a creature that belongs to and is about the West. Just prior to *White Zombie's* production and release, the Haitian-Vodou zombie had made its initial American appearances in a popular travelogue, *The Magic Island* (1929) by William B. Seabrook, and a not-so-popular play, *Zombie* (1932).[96] It was only with Seabrook's book that the term zombie was first used in English to denote the living dead (a 'fact' Seabrook will lay claim to).[97] The idea circulated quickly thanks in part to extracts published in

[96] Rhodes, *White Zombie*, 30–34, 70–88.
[97] Rhodes, 183; Kyle Bishop, "Raising the Dead," *Journal of Popular Film and Television* 33, no. 4 (2006): 3.

major newspapers, not to mention its inherent sensationalism. "Haitian Sorcery Denies Dead Grave's Solace: 'Zombies,' Living Corpses, Believed in by Superstitious Folk of Black Republic," proclaimed the *Los Angeles Times* headline: ". . . go to a fresh grave, dig up the body before it has had time to rot, galvanize it into movement and then make it a servant or slave."[98]

The exoticism and novelty of the term remained for years. When the producers of *White Zombie* began an ostensible sequel, *Revolt of the Zombies*, they were successfully sued by the backers of the first film for trademark infringement for the use of the word zombie.[99] If the zombie seemed, at least to some, as an obviously specific term in 1930s, the history of the zombie has shown that to be definitively not the case. In its more than 80 years of existence, the zombie has taken on a variety of forms, many of which show little to no relation to its origins in Haiti and Vodou. The cinematic zombie revealed itself to be a very curious and resonant creature. Though zombies are typically understood as Seabrook initially described them, animated corpses, many cinematic zombies are not dead at all. Even the zombies of the 1930s and 40s, though so close to Seabrook's description, are no different; there is no single name, cause, or essence to the zombie, sometimes even within a single film.

On the screen, zombies are just as likely to be drugged, hypnotized, irradiated, or infected by an exotic virus as to be the dead returned to life, the undead. Zombies can be the result of a myriad of causes both supernatural and scientific—magic curses, poisons, electricity, radiation, sonic waves, et cetera. The zombie on film is often not called a zombie at all. *Night of the Living Dead* (Romero, 1968)—the most important and influential zombie film, or zombie cultural product of any stripe for that matter—never once uses the term, and the film is far from an anomaly in this respect. There is almost a point of pride in not using the term: called instead vampires in *The Last Man on Earth* (Ragona and Salkow,1964) the infected in *28 Days Later* (Boyle, 2002), walkers (among many other terms) on *The Walking Dead* (AMC, 2010-present), wights on *Game of Thrones* (HBO, 2011-present), zekes in *World War Z* (Forster, 2013). The fluidity of the figure of the zombie to take on different names and qualities yet still be recognizably a "zombie" speaks to its conditions of possibility in the broad, diffuse structures and tendencies of modernity.

The era of the early zombie films is one in which the figure of the zombie is continually changing and transforming, its ontology and mythology so inchoate as to be unstable within individual films, let alone across films. But these disparate forms are part of what make these films the exemplary point of entry for an analysis. The ill-defined, complex nature of the zombie at this early juncture, how it is made, what it is used for, even what it is, comes about precisely because the cinematic zombie is an attempt to figure a phenomenon that was itself ill-defined and complex at the time: biopower and the way power took biology as its object. There is a kind of necessity to these early films' incoherence. The vague anxiety being articulated was of something both ubiquitous and exotic, immanent and alien, of phenomena both helpful and harmful, valorized and rejected. We find the zombie elaborated as the subjectless body that biopower works on and through, the body as productive resource, and perhaps most importantly, we see that the zombie as immanent in the bourgeois subject, that it is even a goal of modernity –

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[98] W. B. Seabrook, "Haitian Sorcery Denies Dead Grave's Solace: 'Zombies,' Living Corpses, Believed in by Superstitious Folk of Black Republic," *Los Angeles Times (1923-Current File)*, March 27, 1928.

[99] Rhodes, *White Zombie*, 172–74.

the coordination of automatons. It should come as no surprise that it is the cinema, itself a kind of coordination of automatons, that is the carrier of this vision of modernity.

See the Dead Walk

Gary D. Rhodes notes, "it was not print and Seabrook which truly cemented the word zombie in American culture; it was the cinema and *White Zombie*."[100] Kyle Bishop stresses the point, "The zombie genre does not exist prior to the film age because of its essentially visual nature; zombies do not think or speak—they simply act, relying on purely physical manifestations of terror."[101] The zombie moves with an uncanny combination of stiff and loose, rigid like a caricature of the hypnotized but ready to fall apart the moment that hyperbolic tension relaxes. The zombie has something visible wrong with it, this can be as subtle as unblinking eyes or as extreme as advanced decomposition. And regardless of its condition, it continues to move. The zombie is uncanny not simply because it is dead (inanimate) yet 'alive' (animate), but also because it is broken yet works. And most importantly, it has a human body, wears a human face, yet has no humanity, no thoughts, no reason, no words. A human creature outside of language, it took the cinema to truly represent the zombie, because as Friedrich Kittler noted, "writing only stored writing."[102] Furthermore, "Words could not store bodies. The soul, the inner self, the individual: they were all only effects of an illusion" brought on through literacy and reading, but "when it came to storing bodies—to the point of individual generality, but no further."[103] The novel is a medium of the mind, the disembodied self; It is not only "in language" but about language users. Mind and soul, these are the participants in the novel. This was similar and at times identical with the "modern soul" Foucault shows was the target of modern penology (among other discourses).

> This real, non-corporal soul is not a substance; it is the element in which are articulated effects of a certain type of power and the reference of a certain type of knowledge, the machinery by which the power relations give rise to a possible corpus of knowledge, and knowledge extends and reinforces the effects of this power.[104]

Neither the immortal soul of Christianity nor a Cartesian Ego, the "modern soul" is instead an immaterial quality of the human, one that could be worked on through the body, even generated through that work but was not, on its surface, coterminous with it. It was the same subject of Marcuse's affirmative culture. Something seemingly further and further removed from any physical corporality, yet subjugated by its material conditions, that is, through its body.

The body as an object of knowledge is a body as an object of vision, the subject of the cinema camera.[105] In opposition to the cinema, literature would always tend towards affirmative culture, towards the disembodied interiority distanced from materiality. The dichotomous

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[100] Rhodes, 183.
[101] Kyle Bishop (2006) "Raising the Dead: Unearthing the Nonliterary Origins of Zombie Cinema," *Journal of Popular Film and Television* 33 (4), pp. 196-205. 197.
[102] Friedrich Kittler, *Gramophone, Film, Typewriter*, trans. Geoffrey Winthrop-Young and Michael Wutz, 1st ed. (Stanford University Press, 1999), 7.
[103] Kittler, 151.
[104] Foucault, *Discipline & Punish*, 29.
[105] See Brian Winston, "The Documentary Film as Scientific Inscription," in *Theorizing Documentary*, ed. Michael Renov (New York: Routledge, 1993), 37–57.

conflicts that animate the other classic monsters – temptation and repression (Dracula), animal and man (Wolfman) civilization and barbarity (Dr. Jekyll and Mr. Hyde)—are all interior conflicts exteriorized. And all started as novels. The zombie, a being founded on the absence of interiority, has no novel source. The zombie is all surface and it is only the surface which the film camera has access to. Strange things start to happen when technical media reduce language and language users from agents to mere objects. There is lurking just behind the performances on screen automatons, unthinking creatures endlessly and without choice, repeating actions, uncanny creatures of an uncanny technology.

Seabrook had even used the word automaton in his initial description of zombies: "My first impression of the three supposed *zombies,* who continued dumbly at work, was that there was something about them unnatural and strange. They were plodding like brutes, like automatons."[106] If the zombie seems ready-to-hand to take up the crisis of the subject in modernity, this is because the West had already established its conditions of possibility—automatism, one of the templates for biopower's course through the body, and slavery. Zombies in the West are a forceful, if seemingly fantastic argument in favor of the theory of total human automatism, but one that had instrumental ends (humans as slave-like automatic machines).

The fear of becoming a subjectless body precedes the zombie film. However, before the zombie, this subjectlessness was almost always presented as a transitory state. Mesmerism and hypnotism already seemed to posit the human as immanently zombifiable, at least for short periods. "Mesmerists convinced their victims that they were slaves by turning them into real automata under the power of imagination."[107] The image of the diabolical master hypnotist, epitomized by Svengali, is certainly a prototype for the zombie master and an early registration of the fear of losing one's subjectivity. Moreover, John Barrymore's portrayal of the master hypnotist in the 1931 film *Svengali* is an obvious influence on the presentation of Lugosi's Murder Legendre (staring straight on, focus on the eyes, a bar of light to bring them out). This is not to forget Caligari but also Fritz Lang's Mabuse (first seen in *Doctor Mabuse: The Gambler* in 1922) as diabolical and visually striking precursors to the zombie master. If the zombie did not exist, the West would have invented it.[108] But what was appealing about the Haitian zombie for the West, at least in its broad strokes, was that anxieties over power and subjectivity could be both articulated to a hitherto unprecedented degree and simultaneously projected away from the West—e.g., the bourgeoisie, America, whites—and thus effectively projected onto the primitive, pejorative past in the mythos of Progress. There, the past entails not only a place in time but also in space (Haiti, Cambodia), in physical form (lower races, classes, nationalities), and in thought (irrational magic and superstition but also feudal and monarchical power). Thus, anxieties over

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[106] William Seabrook, *The Magic Island* (Courier Dover Publications, 1929), 101.

[107] Schaffer, "Enlightened Automata," 158. See also, Robert Darnton, *Mesmerism and the End of the Enlightenment in France* (Harvard University Press, 1968).

[108] And perhaps it did just that in Haiti, through the institutions of colonialism, capitalism and especially slavery and the creation of the "socially dead"– where "[the slave] is desocialized and depersonalized," made into a non-being, the living dead (Patterson, 1982: 38). "Corpses taken from their graves and made to work the sugar mills and fields" is just a simple transformation away from people taken from their homeland and forced into slavery. For a view of contemporary capitalist zombies in Africa see above, Thornton, "Marginal Utilities, Time, and Zombies," and Jean Comaroff and John L. Comaroff, "Alien-Nation: Zombies, Immigrants, and Millennial Capitalism," *The South Atlantic Quarterly* 101, no. 4 (2002): 779–805.

modernity are already assuaged to a certain degree as they are articulated in archaic, anti-modern terms. The zombie appears to be the return of some pre-modern being, something that modernity has repressed (its other), but in fact the zombie is a wholly modern phenomenon. The zombie's temporal uncanniness is not that it is a past in the present, but that what appears to be the past is actually the present.

After the War, Before the War

As we saw, it was the freedom from any explicit definition of zombies and their causes that *Revolt of the Zombies* exploited, but like its predecessor *White Zombie*, *Revolt* too retreats from the critical implications of its first act. After its delirious opening, in many ways a radical break both with zombie folklore and the mythology of *White Zombie*, the film, in a blatantly incoherent manner, reverts back to the narrative schema of *The Cabinet of Dr. Caligari* and *White Zombie*. The characters that were soldiers are recast as scientists and scholars with no mention of the war. A rather clumsy love triangle ensues with Armand Louque losing out and consequently seeking the secret of the zombies to make his will literally law. In contrast with its beginning, by the second half of the film the zombies are now living; their state only temporary. Repeating *White Zombie*'s own vacillation, by the end of the film, once the telepathic concentration of Armand Louque is broken, all those under Armand's thrall are returned to normal. As in *White Zombie*, the secret of zombification is never actually clear, all the sources of zombification we encounter are, apparently, not *the* agent. Zombies are first generated by an esoteric smoke, but then controlled by a kind of direct willpower-hypnosis; later all it takes is mass telepathy. This profusion of methods parallels the film's early profusion of definitions and terms. Again, this finds its justification in the quality of the subject and its body—docility. Much as the docile body is made to perform through myriad techniques and under various conditions, so, too, the zombie.

Armand's ambition, his acquiescence to his own selfishness ("ego") leads him to control a whole nation, a "primitive" one. He becomes a tyrant per Kracauer's characterizations of those masters of hypnosis, doctors Caligari and Mabuse. Like Caligari, Armand repeats and is trapped in a mythic narrative: he has become the priest-king mentioned at the beginning of the film whose tale, which is a maudlin one of unrequited love, is repeated at several points. As in *White Zombie*, the zombie master becomes the self-centered subject gone awry, but now his role as sovereign is explicit. The film is a renunciation of the ideal of the sovereign. In a curious reversal of the history of modern power, it is sovereign power instead of the biopower that supersedes it that brings forth zombies. In both films, there is a displacement of the anxiety over the changed nature of sovereignty and power unto archaic forms, but by using the figure of the zombie the very biopolitical situation that has in a sense caused the anxiety, the truly modern mode of power, is disavowed as something that modernity attempts to surpass. The films enact a similar move with the subject, where the villain is the truly modern subject—the self-interested individual that adheres only to instrumental reason—but linked with a pre-modern form of sovereignty; that is to say, the villains are both anachronistic and avant-garde. The protagonists are the collective subject of a modern form of dispersed and impersonal power, but shown as tradition bound and group oriented, both progressive and static. Ultimately both films are staged around a fundamental anxiety over a form of modernity in tension about its origins and possible future.

That future is one progressively filled more and more with zombies. By World War II, the cinematic zombie and its zombie master are both under the control of an impersonal ideology, almost always National Socialism (*King of the Zombies* [Yarbrough, 1941], *Revenge of the Zombies* [Sekely, 1943] but also 1939's *Buck Rogers* [Ford Beebe] serial, where a dictator controls "bodies without minds"). Unfortunately, there was an horrific sense to equating zombies with the goals of National Socialism, for the reality of concentration and death camps exceeded the comparatively tame nightmare embodied by zombie cinema. Far worse, in the camps the de-individuating, objectifying logic underwriting the zombie reached an unimaginable apogee.[109] Reality had outstripped the fantastic. In 1999 *Remnants of Auschwitz* (part of a series of investigations on the biopolitical condition of modernity), Giorgio Agamben quotes from survivors' testimonies about the figure of "the *Muselmann* of Auschwitz [one who is] defined by a loss of all will and consciousness."[110] Emaciated "creatures" are described as "walking corpses," "living dead," "mummy-men," or in Agamben's own terms, "a kind of absolute biopolitical substance" that biopower sought to produce.[111] But even in 1945, well before the concept of biopower, Leo Lowenthal in "Terror's Atomization of Man" (second in a series on "the crisis of the individual") had understood the camps in a similar way. "Terror" (totalitarianism) had reduced people to "natural material" and the individual "into a unit of atomized reactions […] a mere object, a bundle of conditioned reflexes."[112] The camp functions like a factory or a department store, "human beings as surplus or commodities or means."[113] Moreover, the guards themselves do not escape this same terrible logic, transformed into "automata" controlled by forces and imperatives at a far remove. For Lowenthal, the methods of capitalism and extreme nationalism are not a difference in kind but of degree, the camp and its zombie-like inhabitants an immanent potential of modernity.[114]

It is little wonder then that after the war the zombie seems to recede, absorbed and attenuated by the sci-fi boom of the 1950s, and that the controlling power becomes even more dehumanized, becoming literally alien (e.g., *Invisible Invaders* (Cahn, 1959)). Though often read as figuring the threat of communism, taken together the films of this period are far more ambiguous. It is not so much a specific ideology that is the problem but ideology in general. Whatever moral claims it may make, the power exerted by ideology is desubjectifying, at least as far as the West's liberal-humanist tradition has construed the subject. Moreover, in these films it is a hyperbolic science that accomplishes this. The coupling of zombies with ideology and science establishes the new poles around which the post-war films will be organized, until *Night of the Living Dead* At which point even ideology disappears. Nature and power overlap, and science becomes as dumb and meaningless as the reality it posited, the nullity of things.

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[109] Zygmunt Bauman, *Modernity and the Holocaust* (Ithaca, N.Y: Cornell University Press, 2001).

[110] Giorgio Agamben, *Remnants of Auschwitz: The Witness and the Archive*, trans. Daniel Heller-Roazen, Reprint edition (New York: Zone Books, 2002), 45.

[111] Agamben, 54, 156.

[112] Leo Lowenthal, "Terror's Atomization of Man.," *Commentary*, The Crisis of the Individual, 1 (1945): 3.

[113] Lowenthal, 8.

[114] In chapter three I show the camps in a different light, as a site where science, specifically medical science, reveals its antihumanism.

I return to the zombie and the films of the 1950s and 60s in the final chapter. There I examine how the zombie becomes *the* monster of biopower, divorced from all notions of sovereignty and even productivity. But first, in chapter two I examine the collapse of the other pole of humanism's negative definition, the animal. The humanist individual was situated as free, in opposition to the mechanical materialism on the one hand (represented by the zombie), and rational, in opposition to the irrationality of animals (represented by apes), on the other. The 1930s saw these poles collapse back in on the human. We have examined the mechanical in this chapter, with the next we turn to the animal.

Figure 1.1 Coming out of the darkness.

Figure 1.2 Ethnic postures.

Figure 1.3 The panoptic zombie master.

Figure 1.4 Flattened attack.

Figure 1.5 Industry dwarfs the human.

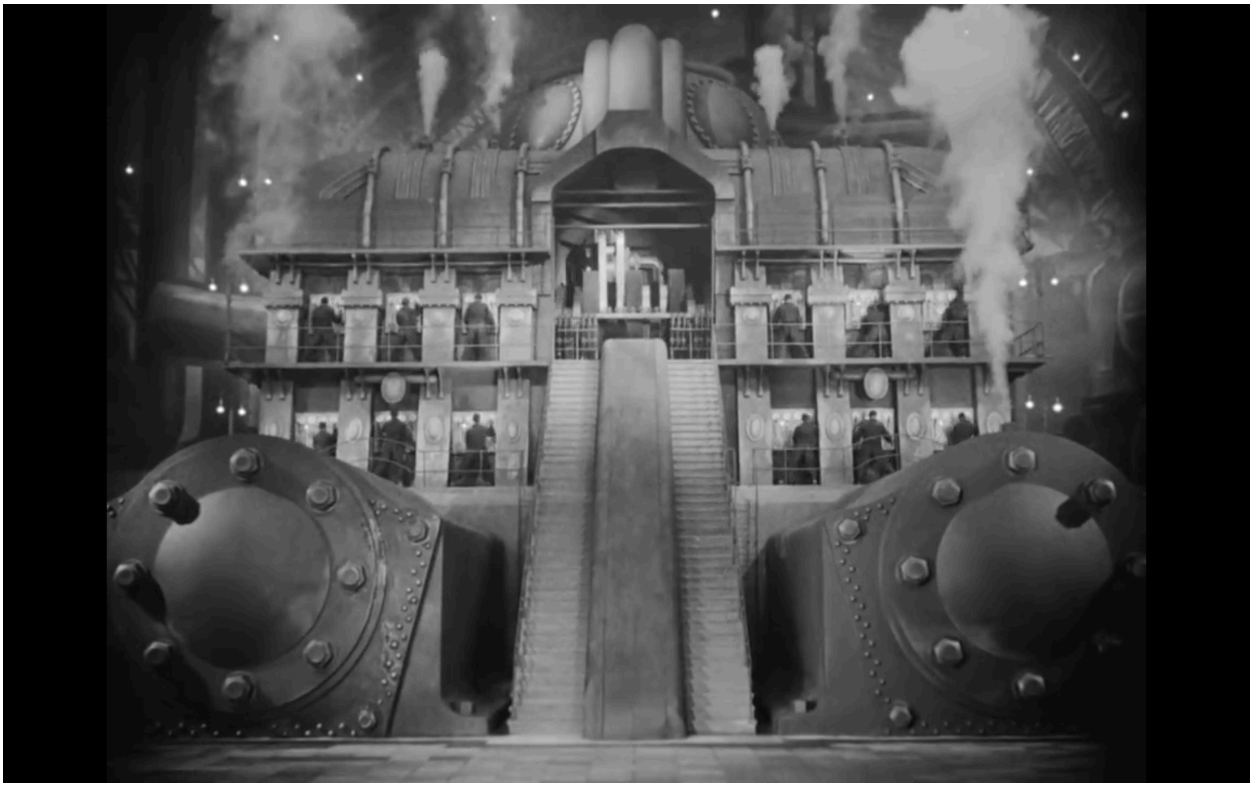

Figure 1.6 Industry incorporates the human.

Figure 1.7 Pre-industrial industry.

Figure 1.8 Humans as simple machines.

Figure 1.9 Circles of destruction.

Figure 1.10 To see.

Figure 1.11 To witness.

Figure 1.12 To reject.

Figure 1.13 Business must proceed.

Figure 1.14 Scientific observation.

Figure 1.15 The dispassionate gaze of science.

CHAPTER 2: SEXY BEASTS

Two Technical Spheres

Two technical spheres had a profound impact on the early sf-horror films of the 1930s. One is readily apparent: the radical transformation of human figures through make-up, special effects, editing, and other techniques pioneered in the silent era. The other sphere, while less obvious, is in no way obscure. This was the 'disciplining of sex,' a panoply of discourses and techniques that served a variety of societal functions both at the individual level and that of populations (for example, eugenics).[115] These two spheres intersected most spectacularly in sf-horror films in the literal and figurative bodies of apes. The films of 1930s are filled with a variety of anthropoid creatures beyond apes, especially human-animal hybrids; these creatures, though, often visually evoke or are modeled after apes. The "ape" was not only an image of atavistic man in popular culture but also central to the study and disciplining of sex at the institutional level. The ape was a protean symbol and object that genre cinema exploited to its fullest ability, using its most cutting-edge technical powers. *King Kong* (Cooper and Schoedsack, 1933) exemplifies—in fact, hyperbolizes—this conception of the ape. Though the special effects in *King Kong* tend to overpower the concerns over sex, both technical spheres are undeniably present.[116]

That said, building off the work of Tom Gunning on cine-genre, Robert Spadoni leads us into the horror film cycle of the 1930s via an apparently different technical sphere—that of sync-sound.[117] Spadoni argues that the introduction of sound changed the nature of cinematic horror and the monsters that delivered it. In particular, the uncanny aspect of sound films was qualitatively different than that of the silent era. He argues, in part, that the added dimension of sound re-ignited the uncanny quality of film. "The mechanical marvel that astonished and disturbed viewers at the start of cinema history astonished and disturbed them again thirty years later, and it continued to do so until Hollywood and its audiences learned to adjust to the new films."[118] Up on the screen the past became present, the inanimate became animate, the dead

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[115] Adele E. Clarke, *Disciplining Reproduction: Modernity, American Life Sciences, and "the Problems of Sex"* (Berkeley: University of California Press, 1998); Foucault, *The History of Sexuality, Vol. 1*.

[116] It is in part because of this imbalance that I don't examine the film, which reduces apes to technology, artifice. As we will see in the films below, the actual bodies of primates are key to their potential monstrosity and to primates as sites of sexual discipline.

[117] Tom Gunning himself had appropriated "cine-genre" from the Russian Formalists.

[118] Robert Spadoni, *Uncanny Bodies: The Coming of Sound Film and the Origins of the Horror Genre*, 1 edition (Berkeley: University of California Press, 2007), 6.

came to life, not to mention technical reproduction's signature quality, repetition. All these phenomena could and did occur with recorded sound as well. Of course, cinema's novelty quickly faded.[119] But its uncanny essence remained, regardless of the fact that audiences were now "at home" with it. Spadoni urges us to understand the initial success of the 1930s-horror cycle as at least in part the result of the introduction of sound and the reactivating of the uncanny it caused, particularly in relation to the human figure. Last chapter we saw how the zombie, a mute creature, arrived only after sound had taken advantage of what Spadoni called "the uncanniness of the recently extinguished silent cinema."[120]

The zombie's uncanny quality derives not merely from its being something dead that is living but also from its *mechanical* quality that I highlighted in chapter one. In his "On the Psychology of the Uncanny," Ernst Jentsch describes how one is struck by the uncanniness of an epileptic fit because it reveals "that mechanical processes are taking place in that which he was previously used to regarding as a unified psyche."[121] An inhuman mechanicism confronts "man's traditional view" of the body and humanity. "The epileptic attack of spasms reveals the human body to the viewer—the body that under normal conditions is so meaningful, expedient, and unitary, functioning according to the directions of his consciousness—as an immensely complicated and delicate mechanism."[122] The uncanny reveals a hidden contradiction to appearance. But Jentsch, in contrast to Freud's more famous characterization of the uncanny, does not take these hidden qualities as something necessarily hidden or secret. They are unsettling because they go against our everyday experience of the world, but for the "expert"—psychologists, surgeons, nurses, etcetera—these are everyday experiences. For Jentsch, novelty, acclimation, and explanatory context all play a part as to whether and how long something is experienced as uncanny. The zombie was uncanny as much for its novelty (and its novel revelation of mechanicism) as for its being a creature both living and dead.

The monster 'boom' of the early sound era, though, was *not* characterized by the introduction and creation of 'new' creatures like the zombie; they were the anomaly. Rather, what marked the era was the transformation and evolution of older, more familiar creatures. Spadoni examines Dracula and Frankenstein's monster as creatures of this new sonic uncanny as much as an older (for cinema) visual uncanny. These creatures, though, were already deeply present in popular consciousness, perennial figures of the uncanny, as it were. Other creatures were transformed not so much by technological change, which as Spadoni notes, had its greatest impact for only a brief moment, but by broader cultural-historical changes.[123] Enter the aforementioned ape. The ape had for centuries been a creature trope, deployed at myriad sites of

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[119] Gunning argues for this residual novelty in his Tom Gunning, "'Those Drawn with a Very Fine Camel's Hair Brush': The Origins of Film Genres," *IRIS-PARIS*- 20 (1995): 49–62.Novelty was an important component of the uncanny for Ernst Jentsch in his foundational discussion of the phenomenon. See, Ernst Jentsch, "On the Psychology of the Uncanny (1906)," *Angelaki: Journal of the Theoretical Humanities* 2, no. 1 (1997): 7–16.

[120] Spadoni, *Uncanny Bodies*, 7. See his discussion of *White Zombie*, 122-124.

[121] Jentsch, "On the Psychology of the Uncanny (1906)," 14.

[122] Jentsch, 14.

[123] See the "Introduction" and especially chapter 1 "The Uncanny Body of Early Sound Cinema" in Spadoni, *Uncanny Bodies*. Gunning also mentions the half-life of the uncanny, Gunning, " Those Drawn with a Very Fine Camel's Hair Brush," 58–60. Again, building off Jentsch, "On the Psychology of the Uncanny (1906)," 15.

cultural anxiety and conflict.[124] But by the 1930s the ape was a profoundly different creature from what it had been previously. This new configuration of the ape imaginary owes its thanks to a variety of phenomena, such as the impact of Darwin's work on evolution—especially as it manifested itself in the Scopes trial—and the rise of primatology. While the ape on the cinema screen still contained "the illicit thrill of gazing upon beasts that were simultaneously familiar and exotic,"[125] the ape was now a creature that in many ways was different from humans only by degree and not by kind: an uncanny creature. Biology, medicine, and psychology were studying apes not merely to understand them but to understand humans. Primate studies, which grouped apes and humans together, flourished and established itself because of its ability to understand the most important primate, the human, through the simian. The category of primate in experimental practice blurred and, at times, out right denied the hard boundaries that separated humans from ape and thus humans from the animal kingdom.

Human-ape equivalency had arrived, a kind of abstract uncanny idea, an uncertainty about category placement and the boundaries between them. This was a threat not just to humanism's anthropocentrism, but also to common sense and every-day or folk categories. And if as Spadoni claims, the film industry seeks to tame and neutralize the uncanny while simultaneously exploiting it, it is not surprising that Hollywood tackled the dilemma of human-ape equivalency both as a recognizable figure for horror or thrills but also as a compelling anxiety, an imperative delivered from the culture at large. The film industry's demand for more thrillers took up this perennial creature and its new, unavoidable baggage without hesitation. Yet the changed nature of the ape appears most prominently in the early adaptations of older texts, texts in which the ape is still grounded in older conceptions of simians and their relation to the human. This palimpsest-like rewriting is a generic tactic per excellence, using the known and constrained to engage the unwieldy novel.

Love and Death and the Apeman

In this chapter I examine three films from the beginning of the sound era *Dr. Jekyll and Mr. Hyde* (Mamoulian, 1931/32), *Murders in the Rue Morgue* (Florey, 1932) and *Island of Lost Souls* (Kenton, 1932/33). All three are adaptations of famous texts (like the film adaptations of *Dracula* [Browning, 1931] and *Frankenstein* [Whale, 1931] before them) but transformed by this new conception of the simian. I briefly chart how the new ape influenced *Dr. Jekyll and Mr. Hyde* while the the narrative still retains an identifiable fidelity to its source text, in this case not Robert Louis Stevenson's novella but Thomas Russell Sullivan's stage adaptation;[126] yet its differences are telling, coming to a head in the simian nature of Hyde and the central role played by sex. Subtle alterations are not the case with *Murders in the Rue Morgue*, wherein the differences are to an extreme. With *Murders in the Rue Morgue,* the new ape paradigm has completely transformed the narrative almost to the point of incomprehension, a quality that spills

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[124] Georgina M. Montgomery, *Primates in the Real World: Escaping Primate Folklore and Creating Primate Science* (Charlottesville: University of Virginia Press, 2015).
[125] Montgomery, 5.
[126] For a history of the text and an overview of the changes and their influence see chapter 3, "From Allegory to Domestic Melodrama, 1887 to 1920" in Brian A. Rose, *Jekyll and Hyde Adapted: Dramatizations of Cultural Anxiety*, Contributions in Drama and Theatre Studies, no. 66 (Westport, Conn: Greenwood Press, 1996), 37–77.

over into the formal qualities of the film. For this reason and others, *Murders in the Rue Morgue* commands the majority of the chapter as many of the events and ideas around human-ape equivalency appear in the film: experiments in human-ape serology, gland transplants and hybridity, the Scopes trial, Evolutionary theory, the effect on racial categories, etcetera. Finally, with *Island of Lost Souls* the human-ape equivalency inexorably alters the source material but still leaves a relatively faithful to the original adaptation. In *Island of Lost Souls,* inter-species sex is fully articulated (much to the chagrin of the original novel's author H. G. Wells), and with it the threat of the collapse of all boundaries between humans and animals, a threat founded on and carried out in the name of science. Here, the ape becomes more of a monster-qua-boundary breaker than ever before. Subsequent to these films, human-ape equivalency took its place as an established axis around which apemen movies (and comics, etc.) are organized; no longer novel, no longer uncanny, they were seemingly endlessly produced.[127] On one hand, much of human-ape equivalency's power was denuded by predictability and familiarity. On the other, human-ape equivalency was now a given in the broader culture, even as its more troubling implications were repressed.

Dr. Jekyll and Mr. Hyde of course has no apes in it. Yet the influence of the image of the ape as a symbol of primal, uncivilized man is central. This image though had been undergoing radical changes in the years preceding the film's production. Primate studies came into being in the 1920s. While still beginning to become a distinct and professional discipline, it was nonetheless a serious, scientific proposition. At the same time, ape imagery flourished and the 1930s would be the height of the image of the violent ape, particularly gorilla imagery.[128] These changes and increased visibilities of the ape would make themselves felt on the 1931 version of *Dr. Jekyll and Mr. Hyde*, most tellingly in the visual presentation of Hyde. In sharp contrast to the celebrated 1920 version starring John Barrymore, the 1931 version modeled Mr. Hyde after an ape (as well as racist caricatures that cast Africans as ape like).

The 1920 version, like the 1931 and most subsequent versions, follows Sullivan's stage adaptation, which had introduced a love interest for Jekyll and a linear narrative, among other elements.[129] The 1920 film adds yet another love interest, this time for Hyde. The progression away from Stevenson's novella to the stage play and subsequent film versions sees an increasing of the romantic and, ergo, sexual component of the narrative, something completely absent from the novella. In Stevenson's story Hyde is marked primarily by his callous violence, without a hint of sexual licentiousness. His most shocking act in the novella is the brutal beating of a child. By 1920 Hyde is now after Jekyll's fiancée and beats her father to death for threatening to impede his romantic advances. Interestingly, the father is the one who initially introduces Jekyll to the world of licentiousness, the father being the one who argues for the release of forbidden desires.

Hyde runs headlong into this world of forbidden desires, the underworld, his grotesquerie at one with the environment. Watching John Barrymore's Hyde, what strikes the contemporary viewer is how he seems to exist at a midway point between Shylock and Nosferatu. Regardless of whether the former influenced it or the latter was influenced by it, Barrymore's appearance

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[127] See for example, Blair Davis, "Of Apes and Men (and Monsters and Girls)," *Recovering 1940s Horror Cinema: Traces of a Lost Decade*, 2014, 275.
[128] Montgomery, *Primates in the Real World*.
[129] See note 5, above, but also chapter 6 "The Activity of Serial Adaptation" in Rose, *Jekyll and Hyde Adapted*.

does not break as radically with his Jekyll persona as Frederick March's portrayal will in the 1931 version. Barrymore's hair is down, prominent nose on display. He slouches like a hunchback or an old man, and later, we see he has a pinhead. [fig 2.1] His most spectacular features are his hands, elongated fingers with long, chipped nails, again, reminding one of Nosferatu. [fig 2.2] In fact, on more than one occasion Barrymore's Hyde goes for his opponent's neck like a vampire when fighting. We see this first at the opium den, drugs and alcohol being two of Hyde's vices, and when he kills Sir George Curhew, father of Jekyll's fiancée. Even when he murders the father, leaping upon him, biting his neck, and beating him with a cane, Barrymore moves like a human not an animal.

This absence of the animal coincides with the moral issues of the film. We are informed from the opening intertitle that what is at stake is a struggle between "good and evil" a struggle we have a "choice" in. While there are a couple of gestures to Hyde and his acts being connected to the primal, this primality is not nature as moral neutrality. The primal is a way to characterize the nature of the evil in Hyde, which is an evil of and *from* nature—the same field in which science works. The film's cautionary moral is spelled out for us when Jekyll declares "We haven't begun to discover what science can do with the body and mind of man." As Brian A. Rose notes about the post-Sullivan adaptations, "the effectiveness of science in releasing evil dominates the remodeled story, and in fact the recasting of the story as a melodrama empowers the adaptations to concentrate in a more unimpeded fashion on such issues as the typology of evil and the role of science."[130] The 1920 film presents science as the activator of evil, instead of leaving it in nature where it is ostensibly inert.

Rouben Mamoulian's 1931 adaptation continues the focus on science's ability to unleash evil even as this version presents a radically different vision of Mr. Hyde. In part, this new Hyde is the result of the stronger influence on special effects in presenting the figure. In the 1931 film, after Dr. Jekyll's transformation into Hyde, he is stooped and hairy, having darker skin, simian brow, and jutting teeth. [fig 2.3] But most telling is the way he moves. Hunched over, arms swinging by his sides, he leaps from stairway to landing and over all other obstacles in a manner modeled after apes. [fig 2.4] He snaps and recoils like an animal. Hyde is now animal as Id. Throughout the film, Hyde is characterized as violent and, especially, hypersexual. In fact, in this version the impetus behind the transformation is sexual repression, and Dr. Jekyll's desire to free himself from unrequited lust. As Kristen Whissel puts it, "to transcend the 'prescribed norms of nomenclature, form and behavior' that obtain in the upper-class world of Victorian London."[131] His first transformation makes this explicit as a montage of superimpositions referencing his desires and their blockages swirls around him as he completes his transition into Hyde.

This new Hyde is an overly-sexed figure, dark skinned and curly haired, swarthy and limber. He moves where and how he likes and either demands or takes what he wants. He evokes not just a rebuke to upper-class composure but also a rebuke that takes the form of a lower race. However, though a racist undercurrent is undeniable—Hyde taps a prime source of

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[130] Rose, 16, 34.

[131] Kristen Whissel, *Spectacular Digital Effects: CGI and Contemporary Cinema* (Durham: Duke University Press Books, 2014), 139. Whissel shows that the visual, literal transformations found in cinema from *Dr. Jekyll and Mr. Hyde* through more recent CGI based metamorphosis are also figurative breakages, expressions of a desire for a "dynamic freedom." These are instances where that which was previously seen as stable, solid, and contained becomes plastic and protean, breaking its bounds and form

lower class and racial stereotypes in his simian appearance—he is most assuredly not marked as lower class. If anything, his behavior strikes us as brazenly aristocratic and in marked contrast to the constrained behavior and mores of the bourgeoisie. He is thus a doubly atavistic figure, gesturing back not only to some primitive animal past but a more recent, superseded past – both pasts antisocial. The film implies that both pasts still lie ready to hand if vigilance fails. This is not too dissimilar to what we witnessed in the previous chapter with the projection of contemporary anxieties away, on to the "past" and exotic locales.

But more importantly, Hyde's behavior primarily expresses the impetus for the transformation, the wish to be free of sexual constraints be they those "that regiment time and delay sexual gratification (his "Marry me now!" versus Carew's "It isn't done!"), circumscribe behavior (Lanyon's "Your conduct was disgusting!") and restrain impulse ("Can a man dying of thirst forget water?")."[132] Hyde in this iteration demonstrates what Foucault called the "repressive hypothesis." There is a natural and authentic sexuality that Victorian morals and mores is repressing. If only we can free ourselves from these strictures we will be healthier, happier, more our true selves.[133] Repression leads Jekyll to become Hyde, but we are shown Hyde as also a deviation from natural sexuality. As we will see throughout this chapter, the film raises a complicated, abstract problem and gives it a simple concrete form that can be resolved, yet leaving the original problem unresolved.[134] For, while repression is shown to be wrong, Jekyll's solution seems to justify it. For Hyde is sex run riot, sex as irrational animal. The film partakes in a discourse of aggressive, oversexed simians, one that was reaching its apex at the time.

The Decade of the Ape

The 1930s saw apes, specifically gorillas, at their most exaggerated (and also gigantic, with the figure of King Kong): the embodiment of violence and sexual aggression.[135] These were not new attributions for large simians. One of the most infamous propaganda images of the First World War was of a roaring gorilla, carrying a club in one hand (with "Kultur" scrawled across it) and a near naked young woman in the other, a German helmet upon his head. [fig 2.5] This history of violent ape imagery stretched back many decades, centuries even.[136] But in the early twentieth century not only was there an ever-increasing circulation of images like the above but they were also spurred on by and dovetailed with Darwin and evolutionary theory's public presence. Joining these ongoing discourses, primate studies began in the 1920s, taking its first steps toward being an established scientific discipline and contributing to the experimental-scientific discourse around primates that was also on the rise. This discourse, too, was often couched in sexual terms, when not explicitly directed towards sex as its topic. Out of Harvard, Robert Yerkes was a founding father of primate studies and a member of the Committee for

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[132] Whissel, 140.
[133] Foucault, *The History of Sexuality, Vol. 1*, 3–49.
[134] And as Foucault continually reminds us, the problem/solution model of sexuality is of a piece, i.e., part of one discourse, not discourse versus nature or two competing discourses.
[135] Montgomery, *Primates in the Real World*, 25.
[136] Montgomery, *Primates in the Real World,* 17-19.

Research on Problems of Sex (CRPS).[137] The CRPS would in its turn help fund primate research, including Yerkes' Yale Laboratory of Primate Biology.[138] Primate studies began, then, bound to a nascent science of reproduction, the latter using primate studies to distance itself from sexology and other social science approaches to sex.[139] If, as Foucault posited, the Victorian era had a marked obsession with all things sexual, the beginning of sex as a problem to be solved, then it is clear that primate studies benefited, and arguably was birthed, from this tendency.

But the strangest intersection of the study of sex and primates occurred at the end of the 1920s and wove together threads that connected the American Ivy League, federally funded research, a Cuban eccentric's private primate collection, and a less-dubious-than-it-sounds "rejuvenation" process involving monkey glands, that all come together in a multi-year Soviet plan to finally refute religion. The punctuation to this strange tale is that it gets refracted in the most despised film of the classic Universal Horror cycle, *Murders in the Rue Morgue*. Released in February of 1932, *Murders in the Rue Morgue*, directed by Robert Florey, was the third entry in Universal Studios famous horror cycle.[140] Like *Dracula* and *Frankenstein* (both 1931) before it the film was an adaptation of a known literary property. But in comparison to the latter films, which themselves had notable divergences and excisions from their source materials, the film version of *Murders in the Rue Morgue* bore little resemblance to Edgar Allen Poe's short story of the same name (from 1841-1843).

From Poe to Lugosi

Poe's story marks the originary moment of the scientific detective genre and a template for innumerable murder mysteries to follow. Taking place in Paris in the 1840s, two women are found brutally and inhumanly murdered, an apparently motiveless crime by an assailant who seems to vanish from the scene of the horror. The bizarre and inexplicable locked-room murder, one that confounds the "authorities," is solved through the ratiocination of a brilliant amateur, C. Auguste Dupin, model for an endless stream of fictional detectives, not the least of which is Sherlock Holmes. Thanks to Dupin, the incident itself is revealed to not even have been a murder *per se* but the violent end result of an orangutan, brought from Borneo by a sailor, escaping its master. In short, a tragic accident is mistakenly read as a murder, the complexities of a newly modern world obscuring that world's true nature. That is, until a modern rationalist, and master of semiotics, steps in to untangle the mess. Dupin the rationalist tames contingency and reveals an underlying order to the universe that lies beneath the chaos and babel of urban modernity in Poe's story, a babel represented by all sorts of races, languages, and species interacting and making a cacophony together.

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[137] Clarke, *Disciplining Reproduction*, 80–119. For more recent work on CRPS see Peter Hegarty, "Beyond Kinsey: The Committee for Research on Problems of Sex and American Psychology," *History of Psychology* 15, no. 3 (August 2012): 197–200; Alexandra Rutherford, "Problems of Sex and the Problem with Nature: A Commentary on 'Beyond Kinsey,'" *History of Psychology* 15, no. 3 (August 2012): 228–32.

[138] Donna Jeanne Haraway, *Primate Visions: Gender, Race, and Nature in the World of Modern Science* (New York: Routledge, 1989), 59–83.

[139] The case against "the human side" of the study of sex was initially won, thanks in part to Yerkes, and the CRPS. See Clarke, *Disciplining Reproduction*, 80–119.

[140] Michael Brunas, John Brunas, and Tom Weaver, *Universal Horrors: The Studio's Classic Films, 1931-1946* (McFarland & Company Incorporated Pub, 1990).

The 1932 film adaptation, by contrast, is not so much rational as absurd, becoming more irrational, not less as in Poe's tale, as the narrative progresses. The film itself owes far more to Robert Wiene's expressionistic masterpiece *The Cabinet of Dr. Caligari* (1920) than to Poe or the detective genre.[141] This was perhaps inspired by the *New York Times* ad for for the German film which sat above a large ad for The Ringling Brothers and Barnum & Baily circus, an add centered around the image of a gorilla ("positively the Only Gorilla in Captivity").[142] [fig 2.6] An unabashed horror-thriller, *Murders in the Rue Morgue* involves not a singular incident but an ongoing series of murders performed in the service of an outlandish and histrionic experiment, one undertaken by a classic mad scientist, played by Bela Lugosi. The goal of the experiment is to prove the theory of evolution through the "mixing of blood" of a male gorilla and a human female, a goal he proclaims at his carnival sideshow.[143] The mad scientist, Doctor Mirakle, conducts brutal experiments that fail to prove his theory and kill the unwilling women he uses as test subjects (all prostitutes abducted from the streets). Then, like Dr. Caligari with his somnambulant henchman, Cesare, Mirakle sends his gorilla Erik out to capture the beautiful girl, Camille L'Espanaye, who he hopes is the perfect specimen to prove his theory.[144] She is the fiancée of a young doctor, Pierre Dupin, who suspects Mirakle for the series of prostitute killings but is also himself a believer in evolution. Wedged into this scientific horror scenario is a love story between the young doctor and the beautiful girl. Both narratives (the thriller A story and the romance B story) come to a halt when the film recreates the witness interviews from Poe's story in an attempt at comedic relief.[145] In the film, the girl's abduction by the gorilla results in the death of her mother (as part of the section that is the adaptation's only concession to Poe's original text). But, having finally acquired his perfect test subject, Mirakle's gorilla (like Cesare) turns on his master. Erik the Gorilla kills Mirakle just as the authorities break in to their secret laboratory. The gorilla tries to abscond with the woman across the Paris rooftops, much as Cesare fled with Jane in *Caligari*, but he too is killed. There is no mystery to be solved in the film—we know Mirakle is guilty before the characters know there is a crime—only a threat to be neutralized.

The film careens from tragedy, horror, and pathos to black humor and slapstick, at times within the same scenes. Individual scenes are at times beautifully and inventively shot, while other scenes and performances seem to come from a different film. The generic demands of horror-thriller, romance, and literary adaptation tend to work against each other, almost pulling the film apart. The film is not merely a mess of an adaptation; it is hysterical. Somehow evolution can be proven by mixing the blood of humans and apes (a figuration for interbreeding), and for some reason this drives Mirakle to the most evil of deeds. It is a quasi-scientific premise according to which science is obscure, mysterious and threatening. We can see the attitude of the

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[141] Tino Balio is one of the few to note this fact, *Grand Design: Hollywood as a Modern Business Enterprise, 1930-1939*, Revised ed. edition (Berkeley: University of California Press, 1996), 330.

[142] "Display Ad 308 -- No Title," *New York Times*, 1921, sec. Drama, Music.

[143] Like the book, the film takes place in Paris in the 1840s, before the 1859 publication of Charles Darwin's *On the Origin of Species.*

[144] Similar to *The Cabinet of Dr. Caligari*, it is Mirakle's sideshow attraction that brings the girl into his orbit.

[145] For Hollywood's standard operating procedure of genre mixing, especially the inclusion of romance B stories see Staiger, "Hybrid or Inbred."

layman here: the confusion over the processes and motivations around scientific inquiry, a vision of science and scientists most often seen in adaptations of *Frankenstein*. (Its logic works something like this: The question of why one would run electricity through a dead frog is answered with the quest to electrify a dead body back to life). The presentation of Mirakle is excessive, spectacular, his laboratory a massive chamber (a torture chamber?), emblem of his single-minded focus on his work and its outsized reach. Yet Mirakle also performs an elaborate sideshow on the local midway, with a detailed tapestry illustrating evolution always in the background, surrounding him, or perhaps emanating from him. [fig 2.7]

On one hand, in Poe's tale, rationalism masters nature, the contingent, and the irrational. The short story is concerned with maintaining boundaries in the face of modernity and of resolving the discord engendered by the contracted and condensed world of modern urbanity. Classes, nationalities, ethnicities, races, species all come into contact with each other, threatening traditional orders and hierarchies. Dupin restores order by in fact demonstrating how order was already present, merely concealed by the cacophony of modernity. Poe's tale is, in the end, a reassuring one. On the other hand, the film seems to be attempting to shore-up and rebuild lines of demarcation that have already collapsed, to perhaps even map out new boundary lines. I say *seems* because as a "thriller" its function, as it were, is not to instantiate a coherent ideology, that is, not to restore order but to excite its audience. The eighty some years between Poe's story and its film adaptation had seen urban and technological modernity increase exponentially. Ben Singer in his *Melodrama and Modernity* shows how popular culture at the end of the 19th century took on this "sense of a radically altered public space, one defined by chance, peril, and shocking impressions rather than by traditional conception of continuity and self-controlled destiny."[146] Where Poe's tale set out to counter modernity's disruption, the film runs parallel to it. "The new prevalence and power of immediate, gripping sensation defined a fundamentally different epoch in popular entertainment. Modernity ushered in a commerce in sensory shocks. The thrill emerged as the keynote of modern diversion."[147] This thrilling aspect of the film is perfectly articulated in a contemporary promotion for it, offering a "faint check," a variation on the idea of a rain check by providing the opportunity for audience members to re-view the film and see what they may have missed from fainting due to "too many concentrated shocks."[148] Generic and industry protocols demand the threat be both thrilling and shocking and that it then be neutralized. Catharsis may occur but reassurance is not in the books. If by the ending the semblance of order has been restored, the pernicious ideas that are the source of these thrills linger on afterwards. For these ideas are such a diffuse cluster of disparate concepts and discourses, that they resist resolution through the generic forms available.

This disjointed quality extends to the formal level as well. The film uses a strikingly expressionistic visual style, thanks in part to the famous German emigre cinematographer Karl Freund (who had photographed Lugosi the year before in *Dracula*), but a style mobilized around an often hackneyed and ineffectual narrative.[149] For example, coming after a brightly lit romantic scene shot in medium and medium close-ups of Dupin and Camille on a balcony, comes a long

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[146] Singer, *Melodrama and Modernity*, 70.
[147] Singer, 90–91.
[148] "New Thriller Necessitates 'Faint Check,'" *The Washington Post (1923-1954); Washington, D.C.*, February 21, 1932., A1.
[149] In Germany Freund was cinematographer on many classic expressionistic films such as *The Golem* (Boese, Wegener, 1920) *The Last Laugh* (Murnau, 1924), and *Metropolis* (Lang, 1927).

otherworldly scene on the Paris streets. Mirakle is riding in his carriage down foggy streets, with the buildings seeming to bend in on him.[150] [fig 2.8] There is a scream, and we see an isolated street lamp shatter as the camera pans down to a screaming woman. The space is filled with so much fog as to be almost abstract. There are no buildings or any other frames of reference. The camera pans over and we see two men fighting in the fog, their clothes torn. We can see some grass and ground, signs of nature but none of the city. A longer shot reveals them to be at the edge of a man-made cliff, a stone wall beneath them, knives in hand. [fig 2.9] Mirakle and his henchman watch from their carriage, which, except a lone lamppost, seems to exist in empty space, with shadows and fog giving them a grotesque appearance. When the fight ends with the death of both men, each convulsing in an exaggerated and stilted manner, Mirakle leaves the carriage and walks straight towards the camera, becoming more and more a shadow-filled silhouette that finally overtakes the image, rendering it an abstract blur. This jarring juxtaposition of scenes represents of the film's mode of crashing various genres and styles up against each other in a whiplash-like fashion.

This ungainly combining and the bewilderment it engenders gets its oddest expression in a romantic picnic scene (one of the tonal ruptures in the film) where Camille is on a swing. The camera is mounted on the swing, and as Dupin and Camille have a conversation of sweet nothings, the image vertiginously swings forward and back, up and down, in a manner that seems entirely divorced from the narrative content of the scene, a "cinematic attraction" and an instance of a self-contained "thrill" a la an amusement ride. [fig 2.10-12] As Singer notes, early thrillers aimed to "generate sensations of visceral agitation and awe" through *both* content (e.g., violence, chases, last minute rescues) and formal qualities (e.g., crosscutting). Early cinema functioned in manner corresponding with amusement park rides. The first scene of the film, which takes place at a carnival, opens on swings and then proceeds to other types of attractions. But of course, *Murders in the Rue Morgue* is not early cinema and the effect in the film is often not sensation but confusion.

Ultimately both these tendencies of thematic and formalistic jumbling come together in the figure and representation of Erik the gorilla, who is literally both human and animal. Erik is portrayed by Filipino Charles Gemora, "King of the Gorilla Men," perhaps the most famous actor in Hollywood when it came to ape suits, and also by a real chimpanzee.[151] The visual and species incompatibility of these two becomes an allegory for the film's other juxtapositions and conjoinings and vice-versa. The strictly formal union of man and chimpanzee through editing echoes the perfunctory resolution of the problem of evolution through a narrative contrivance that *resolves* nothing. *Dr. Jekyll and Mr. Hyde* located its monstrosity overtly around ideas of duality (e.g., there is an animal and human quality in the human being), but in *Murders in the Rue Morgue,* the monstrosity is best understood as the slippery slope of evolution's continuum. Human-ape equivalency *is* uncanny in and of itself. But its expression in the film is befuddling, even a bit like a deconstruction. For Jentsch, a signal quality of the uncanny is the uncertainty as to what category something belongs to. The man in the ape suit should be uncanny, or at the least express the idea, because one cannot be certain if he is man or ape. While the ape suit could, with

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[150] The claustrophobic cityscape again reminding one of *The Cabinet of Dr. Caligari*.

[151] Special to The New York Times, "Charlie Gemora, 58, Had King Kong Role," *New York Times*, 1961. Gemora would even reprise this role, sans chimpanzee, in the 1954 version of film, *Phantom of the Rue Morgue* (directed by Roy Del Ruth), which has more in common with its 1932 predecessor than with the Poe tale.

a suspension of disbelief, be seen this way, the film keeps cutting it together with an actual ape, turning an emotional, psychological effect into a failed intellectual one. The real ape reminds us how un-simian like the ape suited Erik is. Human-ape equivalency is and is not.

Sideshows and Show Trials

Murders in the Rue Morgue works through a series of juxtapositions—thematic, generic, stylistic, ontological—that try to get at the uncanny collapsing of boundaries human-ape equivalency posits. The film stages its first juxtaposition at its beginning, replaying a portion (again) of *The Cabinet of Dr. Caligari.* In that film, early in the framed tale the hero, protagonist Francis, and his friend, Alan, go to the fair and find themselves in front of Dr. Caligari's sideshow, where Caligari presents Cesare as a fortune telling somnambulist-cum-automaton. Cesare predicts Alan's death and murders him that night, continuing a string of murders. Later, Jane, beloved by both Francis and Alan, goes to Caligari's sideshow looking for her father. Subsequently Caligari sends Cesare out to murder her. *Murders in the Rue Morgue* follows a similar pattern. The film opens in Paris in 1845 on "carnival night." We see a variety of ethnic themed sideshows, and in the process, we are shown a descending hierarchy of the races—first the white, civilized Parisians with their removed and somewhat ironic distance from nature, then the feminine and sexualized Arabs followed by the savage Indians of America and finally, the primordial Erik the gorilla. Each specimen is contained and contextualized, physically and intellectually kept at a distance. That is, until the narrative goes behind the curtain and into Mirakle's tent.

Our introduction to Dr. Mirakle is his introduction of Erik. Standing in front of a tapestry illustrating the evolutionary progression from amoeba to man, Mirakle frames Erik as man's closest ancestor, "the first man." This scene presents two different ontologies of man. The first is what I will characterize as a pre-Darwinian, racialized order, with its distinct, hierarchically organized categories—the white European, the oriental, the savage, and the lower beasts. The performative or constructed nature of these categories was signaled earlier in the scene by a character's query as to whether the Arab women are "really that brown" or just painted to look that way. This chain of being a quasi-Lamarckian order, with its conspicuous and extravagant rhetoric is challenged by the far more fluid continuum of evolution. The boundaries of the stage, dress, culture, and skin color are jeopardized by Dr. Mirakle (in a commanding performance by Lugosi) and his adherence to the theory of evolution, the second ontology. For Mirakle the ape literally flows into the civilized man. When an audience member—a slight, old man with a pinched face, looking something of a puritan and shot from a high angle—charges Mirakle with heresy for positing the gorilla as the first man, the doctor derides him contemptuously. Mirakle declares his true calling to be his experiment to prove evolution through the mixing, the flowing into each other, of human and ape blood. In the name of science, Mirakle rejects all cosmological and theological boundaries.

The accusation of heresy makes an unmistakable reference to contemporary debates about evolution, specifically the Scopes "monkey trial." The trial, which took place in 1925 in Tennessee over the teaching of evolution in public schools, was the first major public confrontation between Christian anti-evolutionists and those supporting Darwin's theory and

famously a major media event.[152] The attorney for the prosecution was William Jennings Bryan - prominent as both a devout and fundamentalist Christian and a reform democrat who had run for president three times.[153] Bryan was himself oddly representative of the various ideologies arrayed against evolution at the time. He was a pacifist and as such saw Darwinian survival of the fittest as a justification for war, particularly the First World War, which was blamed on a Darwin-embracing Germany. As a social progressive, he was against social Darwinism and the eugenics movements that argued against giving any aid to the needy. And most importantly, as a Christian he saw evolution as undermining God and the bible's authority, ushering in nihilism and the end of a moral civilization. Though he technically won the trial, his broader public image suffered irrevocably. As Jeffrey P Moran succinctly puts it, "he began the trial with a reputation as one of the nation's great reformers but by the end found himself branded an ignorant bigot."[154]

The latter judgment is restaged in the comical ineffectiveness of the anonymous audience member's religious protestation and Lugosi's deliciously dismissive reply, "Heresy? Heresy! Do they still burn men for heresy? Then burn me monsieur; light the fire. Do you think your little candle will outshine the flame of truth?" The high-angle long shot of the accuser against the low-angle, medium close-up of Mirakle furthers the position that we take Mirakle seriously and join him in dismissing this ignorant layman in a comically large hat. [fig 2.13-14] For here, Mirakle stands for reason against unthinking superstition, progress versus reactionary conservatism. Their costumes reinforce this reading: Mirakle's outfit may evoke the 19th century but it is still stylish, while the audience member appears resolutely old-fashioned even for the 19th century, a throwback. As in Poe's short story, we are to align with reason and rationality, here attached to the theory of evolution, against a less rigorous and more ignorant position (expert versus layman). In this rejection of the commonplace religious counterargument to evolution, reducing it to a dogmatic reflex, the film grants evolution its initial moment of validity.

But why has the film made this move? In the rest of the film evolution is equated with mad scientists and their equally mad experiments. Moreover, the film here appears to embrace some kind of human-ape equivalency, even if it does not fully elaborate what it entails. And that may be the answer. For by 1932, a certain *sense* of human-ape equivalency was getting harder and harder to avoid let alone deny. The American public was attuned to varying degrees to the problem of a quickly disintegrating line dividing humans and apes. And horror films proved no exception.[155] One otherwise dismissive contemporary review of *Murders in the Rue Morgue* in the *Los Angeles Times* noted that it could still have appeal "in the 'sticks' where spectators may

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[152] Paul Keith Conkin, *When All the Gods Trembled: Darwinism, Scopes, and American Intellectuals*, American Intellectual Culture (Lanham, Md: Rowman & Littlefield Publishers, 1998); Anne Johnson, *The Scopes "Monkey Trial,"* Defining Moments (Detroit, MI: Omnigraphics, 2007).

[153] The discussion of Bryan is based on Jeffrey P. Moran, *The Scopes Trial: A Brief History with Documents*, The Bedford Series in History and Culture (Boston: Bedford/St. Martin's, 2002), 13–20.

[154] Moran, 2.

[155] As we will see later in this chapter with *Island of Lost Souls* (Kenton, 1932) in which the problematic location of the line between animals and man is explicitly addressed by none other than Bela Lugosi's character, the animal-human The Sayer of the Law – "Are we not men?"

still be gorilla-conscious."[156] The *LA Times* sentiment echoes that of Doctor Mirakle vis-à-vis the affronted audience member, here transposed to an urban context versus a rural one. The valuation remains the same though. The educated and the sophisticate are not completely unmoored by human-ape equivalency, yet it is hard to tell just how they are affected by this fact.

Primates Everywhere

The 1920s had seen the ascendency of primate studies (later primatology), a discipline that grouped monkeys, apes, and humans together and based on the compatibility and the equivalency of them. Both apes and monkeys were studied not only for what they could reveal about human biology but also human behavior (sexual, criminal, and so forth). As Donna Haraway notes, "in the United States before mid-century, primatology was also a psychobiological discipline. The tie to medicine and to social interventions, considered as a social therapeutics, grounded primate studies both technically and ideologically."[157] And just as importantly, this was how the public perceived primate studies, if perhaps in a more simplified form. A 1928 *New York Times* headline amply demonstrates this, proclaiming, "Apes to Be Tested in Study of Crime: Effect of Tobacco, Liquor and Drugs on Pre-Natal Blighting of Brain to Be Noted."[158] Apes were studied not so much for what could be learned about them, though that too, but for the help the knowledge generated would have for understanding and controlling humans.

The popular press was a great contributor to this atmosphere of simian proliferation, gravitating towards stories that both anthropomorphized apes and simianized humans. The editor of *Harper's* sardonically speculated that maybe recent ape studies could give us some insight into the panic on the stock market; "certainly that panic was an example of monkeying with a buzz saw."[159] And there were reports of a "race riot" aboard a freighter between chimpanzees and monkeys (just one of many instances where different species of simians were pegged to different 'races' of humans).[160] But one could also read reports of Rhesus monkeys being used to study yellow fever in West Africa,[161] and subsequently, of one of the doctors declaring that his chimpanzee was smarter than a human Liberian as he attempted to get her a Liberian passport.[162] While more soberly, private primate 'collector' and amateur scientist Rosalia Abreu of Cuba had her simian charges described in the popular press in human familial terms (e.g., husbands and

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[156] Norbert Lusk, "Critic Rates New York Films of Week Mostly Unworthy of Broadway Showings," *Los Angeles Times*, February 21, 1932, B14.
[157] Haraway, *Primate Visions*, 23.
[158] "Apes to Be Tested in Study of Crime," *New York Times*, 1928, sec. Second News Section. 29.
[159] Edward S. Martin, "Editor's Easy Chair: Ape Study and the Crash in Stocks," *Harper's Monthly Magazine*, January 1, 1930, 257.
[160] "175 Simians Stage Bloody Race Fight on a Floating Zoo," *Chicago Daily Tribune*, May 13, 1931, 3.
[161] "Monkeys Aid in Study of Fever," *Los Angeles Times*, March 31, 1928, 5. See also, Pedro Galindo, "Monkeys and Yellow Fever," *Nonhuman Primates and Medical Research*, 1971, 1–15.
[162] "Doctor Rates Chimpanzee Above Liberian Mentality," *The Washington Post (1923-1954); Washington, D.C.*, January 13, 1931, 1.

wives).[163] "By the turn of the century Abreu had amassed the world's most extensive and healthy captive primate colony, which she housed on her estate, Quinta Palatino, in Havana."[164] The first chimpanzee born in captivity occurred at Quinta Palatino, one of the reasons Robert Yerkes visited Abreu and subsequently wrote a book about her and her simians, *Almost Human* (1925).[165] Yerkes too used the same familial terms as Abreu and the press.[166] According to Haraway, "Yerkes stunning description of Abreu's estate and practices with her animals is a perfect portrait of the intersecting construction of nonhuman primates as pets, surrogate children, endangered species, research animals, colonial subjects, and wild animals. In all these aspects Abreu's animals were, in Yerkes's words, 'almost human.'"[167]

What is occurring here is not just a cultural trend of anthropomorphizing apes and monkeys in a figurative sense but that apes and monkeys are coming to be seen as ontologically anthropomorphic. As Haraway's earlier quote about primate studies notes, the biological equivalences between primates quickly becomes a foundation for psychobiological equivalences, a trend we see manifest in Abreu's and Yerkes' assimilation of simians into the language of human families. Family, as Haraway emphasizes, was a key concept for managing the "biological resources" of Western society, "the scientific construction of 'the family' and its defining function of the cultural regulation of biological resource. Ordered by marriage, the heterosexual pair bond grounded the human nuclear family, and so averted sexual chaos."[168] The human-ape equivalency marshalled for this task of chaos control in the scientific, technical, and political sphere had the opposite effect as it moved through the popular sphere, ultimately generating an anxious confusion as to where these equivalencies end and when and where difference begins.

A hint of what this confusion licensed comes from an exceedingly odd newspaper story from 1928. On June 7th, the *Los Angeles Times* printed a provocatively titled article, "Monkey Man Peril Scoffed: Transmission of Simian Traits Denied by Rejuvenator."[169] The news item presented a statement from a Parisian doctor, the Russian born Serge Voronoff, also known as the Rejuvenator, who performed cross-species organ transplants between humans and chimpanzees. In his statement, he vehemently denied that he was doing anything sacrilegious, merely improving the "material body" God created. More important was his even stronger denial that simian *traits* had or ever could be transmitted with the simian organs.[170] Not mentioned in the article is the nature of Voronoff's method: transgrafting testicles and ovaries of chimpanzees onto humans in order to "rejuvenate" them, to bring youth and virility, the so-called monkey

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[163] Emily Hahn, *Eve and the Apes* (New York: Weidenfeld & Nicolson, 1988), 25–40.
[164] Montgomery, *Primates in the Real World*, 35.
[165] Robert M. Yerkes, *Almost Human* (New York, London: The Century Co, 1925).
[166] Ransome Sutton, "Simian Family Life," *Los Angeles Times (1923-Current File); Los Angeles, Calif.*, January 17, 1927, A4.
[167] Haraway, *Primate Visions*, 23.
[168] Haraway, 23.
[169] "Monkey Man Peril Scoffed: Transmission of Simian Traits Denied by Rejuvenator," *Los Angeles Times (1923-Current File); Los Angeles, Calif.*, June 7, 1928, 4.
[170] The success of Voronoff's process had been denied in an article earlier that year, "Test Shows Failure of Gland Idea: Rejuvenating Method of Dr. Serge Voronoff Held to Be Impracticable," *Los Angeles Times (1923-Current File); Los Angeles, Calif.*, January 3, 1928, 2.

gland affair.[171] The use of simian, i.e., chimpanzee, testes in 'rejuvenation' treatment for humans was a new iteration of an old idea of testicular therapy in pursuit of longevity. But of course, it was not just a quest for youth, virility and sexual rejuvenation being one of the main, if unspoken, aims of these treatments (and historical testis treatments as well).[172] What was new here was that instead of ingesting part of an animal (eating an organ or part of a creature thought to be potent in its essence) or injecting a secretion (say of testosterone or adrenalin from another human or animal), Voronoff would graft the testes of a simian to a man, treating simians as a source of spare parts for humans.

In one sense then, the very goal of the rejuvenation transplants *was* to transmit "simian" traits to man from chimpanzee. But ironically those traits were now seen not as simian per se but as primate-cum-human traits. The practical application of grouping humans and simians together as primates meant that differences were downplayed if not outright denied. The limits of human-ape equivalency and the location and nature of the boundaries between them may have been contested but that there was some core truth to the equivalency had become a troubling given. And this core truth, moreover, was itself founded on the equally troubling concept of evolutionary theory. "The perceived relevance of monkeys and apes to questions of human evolution was another major basis of primate investigation."[173] While in practice this entailed "comparative anatomy and phylogeny," the broader cultural repercussions of primate studies joined to evolutionary theory was an increase of uncertainty and anxiety.

Thus, Mirakle's experiment appears in this context as a fantastic, hyperbolic figuration of the anxiety over human-ape equivalency and of the sometimes too fluid exchange between the two: a threat to both the cultural and cosmological order. But we would perhaps be more wrong than right in this claim. That is to say, the horror genre's use of excess and the grotesque may lead us to believe that the fictional experiment is merely histrionic vis-à-vis primate studies when the situation was in fact quite the opposite. For if anything, Mirakle's experiments with blood transfusions are a sanitized version of an excessive, grotesque, and very real research project undertaken in the 1920s that sought to erase the biological boundary between man and ape. The implied interspecies miscegenation of the fictional narrative was an explicit scientific goal in the historical world. By turning institutional programs into individual crimes (and of course, displacing them onto the past) the film can sidestep resolving the vague, general anxiety over boundaries by transferring it onto the more obvious and singular criminal transgression. Not so much a hysterical adaptation of reality, instead *Murders in the Rue Morgue* exemplifies genre's ability to tackle and domesticate disturbing novelty.

Soviet Ape-man Scandal

Beginning in 1926, Soviet scientist Ilya Ivanovich Ivanov attempted to create a human-ape hybrid through artificial insemination.[174] Artificial insemination was important for Soviet modernization, and Ivanov was already a world authority on artificial insemination of farm

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[171] David Hamilton, *The Monkey Gland Affair*, First edition (London: Chatto & Windus, 1986).
[172] Hamilton, 12–19.
[173] Haraway, *Primate Visions*, 22.
[174] The discussion of Ivanov is based on Kirill Rossiianov, "Beyond Species: Il'ya Ivanov and His Experiments on Cross-Breeding Humans with Anthropoid Apes," *Science in Context* 15, no. 2 (June 2002): 277–316.

animals and an expert on mammal hybridization before embarking on primate hybridization. His project began first in Africa (two trips) and later moved to a research facility in the southern Soviet Union. On his first trip to Africa, he tried to artificially inseminate chimpanzees and hoped to attempt inter-ape hybridization, but was forced to leave after little over a month. After this initial departure from Africa, he went to Europe where he assisted Voronoff in Paris with his rejuvenation treatments in the hope of gaining further experience with chimpanzees and perhaps access to test subjects. But he found the partnership ultimately unfruitful. Subsequently, he was in contact with Mme. Abreu in Cuba about the possibility of doing his research there with her chimpanzees. None of these avenues yielded positive results, in part due to the undeniably controversial substance of his project. It was seen as just too transgressive to risk the local populations finding out. But it was for this very reason that Ivanov's search for funding and a suitable location to conduct his experiments drew the attention of American evolutionists, particularly, Edwin S. Slosson.

In 1926 Slosson—who had himself been involved in the Scopes trial, was a popularizer of science, and an opponent of the fundamentalist movement—circulated the story of Ivanov's planned experiments in the hopes of finding additional financial support for the Russian.[175] The headline "Hybridization of Man and Ape to Be Attempted in Africa" appeared in such media outlets as the *Science News-Letter* and the *Des Moines Sunday Register*.[176] Like many pro-evolution atheists in America, Slosson saw the hybridization of apes and humans as a definitive proof of evolution and an undeniable retort to the burgeoning Christian Fundamentalist movement. Thus, it is not surprising that Ivanov received the nominal support of the American Association for the Advancement of Atheism. At this point, Ivanov's cultural standing moves from Des Moines to New York. On June 17th 1926, the *New York Times* announced "Soviet Backs Plan to Test Evolution."[177] The program as detailed by Charles Smith, president of the atheist association, though, deviated radically from the research project Ivanov was trying to undertake. Smith's version consisted of interbreeding different species of apes with the different races of man—orangutans with the yellow race, gorillas with the black race, and chimpanzees with the white race. This was founded on the idea that the different races had evolved separately from different species of apes. Their subsequent interbreeding would prove both evolution and the fundamental differences between the races. Each race, like each species, embodied different and incommensurable traits. This was a form of scientific racism that maintained the distinctions between the races by positing multiple evolutionary streams, a racism which, Smith believed, could be proved through hybridization.

Less progressive segments of the American populace, including racists of a different stripe, were not so supportive. Yet, this did not in any way deter Ivanov, quite the opposite.

> In his final report about the expedition, he did not forget to mention the abusive letter from the American Ku-Klux-Klan, which, as he claimed, he had got during his stay in

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[175] Rossiianov, 294.

[176] "Hybridization of Man And Ape To Be Attempted in Africa," *Science News-Letter*, 8 no. 248 (January 1926): 6, and "Savant to Try Hybridization of Man and Ape: Plans Complete for Experiment in Africa," *Des Moines Sunday Register*, 3 January 1926, both cited in Rossiianov, "Beyond Species."

[177] "Soviet Backs Plan to Test Evolution: Experiments to Be Carried Out at Pasteur Institute in Kindia, Africa. Support Here Is Alleged Lawyer for the American Atheistic Society Tells of Project and Will Go to Observe It.," *New York Times*, 1926, 2.

> Paris: 'In America, . . . these news [stories] [about experiments on hybridization] aroused sympathy in progressive newspapers and even the desire to provide us financial support. At the same time, our research caused a burst of indignation, a shower of abuse and threats to me from fascists led by the Ku-Klux-Klan. This only confirms that our work has not only an exceptional scientific, but also a social [or public – obshchestvennoe] significance.'

Ultimately, though, Ivanov received all his support from the Soviet Union and there seems little possibility he could have received any funding from any other source, which would have been unacceptable to the Soviet government. With his government's support, he returned to Africa. During this second trip, he attempted to impregnate female chimpanzees with human sperm. Though, he had previously considered the idea of inseminating human females with chimpanzee sperm and would entertain it again when the first attempts failed. "He apparently wanted to do this without the women's knowledge or consent and hoped to secure better cooperation from women in a hospital than from chimpanzees."[178] His continued failure and the limited resources and funding necessitated returning to the Soviet Union in late 1927. He was able to continue his experiments with full governmental support (a Commission on Interspecific Hybridization of Primates) in 1929 at facilities in Sukhum, which has as close to a 'tropical' climate as the U.S.S.R. could claim.[179]

It was at Sukum that Ivanov tried using orangutan sperm to impregnate humans. He was again not successful. And this was to prove the end of his research in the area. For with Stalinization, Ivanov, who was from the *old* establishment, fell out of favor and was imprisoned. The Soviet Union had initially backed Ivanov largely for anti-religious reasons.[180] Like the Christians in America they saw Darwinism as an important ideological tool for atheism. And like Dr. Mirakle they understood the hybridization of man and ape to be an irrefutable symbol of evolution's truth (and thus science's truth) over that of religion.

Pure Blood

Situated within this historical context of human-ape experimentation, Mirakle's research program reveals itself to be a simplified and, in a strange way, tamed version of Ivanov's (and even Voronoff's) endeavors. It makes them almost palatable for the mainstream, neutering their more shockingly transgressive qualities. But if Mirakle's fictional research sublimated the explicit sexual content of real human-ape hybridization projects, it nevertheless compensated for this absence by transposing some of it onto a different, related anxiety over purity. We see this in the first scene in Mirakle's laboratory. When we witness for the first time Mirakle's experiments

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[178] See Rossiianov, "Beyond Species," 299.

[179] Soviet primate research ran in tandem with American and European research. See Haraway, *Primate Visions*, 21–22.

[180] This was, of course, not the only reason. Scientistic ideology also held a powerful sway, particularly among biologists, "a predisposition towards scientific control of life and active human interference into biological evolution," Rossiianov, "Beyond Species," 304. See also, Alexander Etkind, "Beyond Eugenics: The Forgotten Scandal of Hybridizing Humans and Apes," *Studies in History and Philosophy of Science Part C: Studies in History and Philosophy of Biological and Biomedical Sciences* 39, no. 2 (2008): 205–210. Etkind examines all the various ideological interests involved in the case both in the Soviet Union and America.

and their failure (killing his test subject), discourses and categories become irreparably confused. The prostitute Mirakle had captured earlier during the knife-fight scene is the test subject, and Mirakle has her strapped upright and spread eagle to a ten-foot-high wooden X. This does not look like science so much as medieval torture. The scene opens on the shadow cast by the woman and the cross, the ends of the ropes binding her dangling to the sides. Then Mirakle's shadow approaches her, his first words—"Be patient." The prostitute writhes and screams in pain. "Are you in pain, Mademoiselle? It will only last a little longer." Is this torture? [fig 2.15] And with that Mirakle's shadow merges with hers and the camera pans to the left to frame the two of them as Mirakle brutally extracts some blood.

The room is cavernous, crumbling, with only a single table filled with chemistry (or alchemy!) equipment. Most of the space is empty, bare plaster walls, but with some junk, like in a basement, against a couple of the walls. [fig 2.16-17] It resembles less a laboratory than a dungeon, visually far removed from Dr. Frankenstein's lab or that of Dr. Jekyll's. In those locations technology and texts accentuated the modern, scientific aspect of what transpired there. In Mirakle's lab, the absence of those signifiers has the opposite effect. There is a sense of the scientific being dragged back to quests and goals that preceded it, similar to how *White Zombie* combined atavistic 'magic' with a detached scientific curiosity. If science understood itself as 'disenchanting the world,' for lay culture it easily slipped back into enchantment. Ernst Bloch, writing at the time of the film's release, noted that the contemporary era was too often taken as temporally uniform, that everyone in the West inhabited the same contemporaneity of progressive modernity. This was not so, he argued. The West was run through with the nonsynchronous.[181]

These temporal and ideological conflations continue as the scene progresses. Upon examination Mirakle finds the woman's blood to be corrupt—"Rotten! Rotten!". Enraged, he harangues her for the experiment's failure. "Your blood is rotten, black like your sins! You've cheated me. Your beauty was a lie." She expires during his tirade, and upon realizing this he suddenly appears shocked and even saddened as if he can't quite believe it. Mirakle starts to kneel, his hands coming together, and the film cuts to a close-up of her in his POV. She is framed symmetrically, head bowed, a cross now visible around her neck. [fig 2.18] The film cuts back to Mirakle who is now on his knees, praying to her and sobbing. And then we see the laboratory tableau in a long shot as he rises and composes himself, calling Janos, his assistant to help dispose of the body, which they do in a dispassionate manner—"Get rid of it. Get it away."—dumping it into the Siene through a trap door. The camera then slowly pulls out. The shadows and angles of the laboratory gives the composition an expressionistic cast as Mirakle slowly intones, "Will my search never end?" [fig 2.19]

Yet again, the figural aspect is also a literal appropriation. The earliest experiments within a human-ape equivalency paradigm, were serological ones. The studies of human and simian blood, including mixing, had been ongoing research projects for decades.[182] Eventually

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[181] Ernst Bloch, "Nonsynchronism and the Obligation to Its Dialectics," *New German Critique*, no. 11 (1977): 22–38; Ernst Bloch, *The Heritage of Our Times*, 1st ed. (Polity, 2009). Bloch's specific concern was Germany and the rise of National Socialism, analyzed from a Western Marxist perspective, but his general claims were directed towards the capitalist West.

[182] For example, K. Landsteiner and C. Philip Miller, "Serological Studies on the Blood of The Primates," *The Journal of Experimental Medicine* 42, no. 6 (November 30, 1925): 853–62.For a

abandoned, it never the less helped signal the inevitability of primate studies and the unstoppable momentum of the concept of human-ape equivalency. Mirakle's own serological experiment here is ruined because of "bad blood," because, in essence, she was a prostitute. This approach to blood was in essence *pre*-modern science. Foucault draws out the political importance of blood for the era before biopolitics, "where power spoke *through* blood."

> It owed its high value at the same time to its instrumental role (the ability to shed blood), to the way it functioned in the order of signs (to have a certain blood, to be of the same blood, to be prepared to risk one's blood), and also to its precariousness (easily spilled, subject to drying up, *too readily mixed, capable of being quickly corrupted*)." [my emphasis][183]

Blood was a political medium in which the moral and the biological interact. Blood will tell. It will reveal not only racial and sexual corruption but also a more general biological corruption or deficiency. And there is here the implication that all three of these categories (race, sex, biology) are interrelated.

On one hand, this resonates with the negative eugenics movement, for whom the moral and the biological are fused. The health and purity of the 'race' is to be maintained by the elimination of degenerate races, hereditary criminals, and genetic contagions. In 1931 Margaret Sanger, famous as both an early-feminist, birth control advocate, and a negative eugenicist, provided a litany of 'specimens' to be barred from the gene pool, "Keep the doors of immigration closed to the entrance of certain aliens whose condition is known to be detrimental to the stamina of the race, such as the feebleminded, idiots, morons, insane, syphilitic, epileptic, criminal, [and] professional prostitutes."[184] Mirakle is learning the fact of these candidates' unsuitability. According to the film, science like society needs pure specimens if it is to achieve its full potential. On the other hand, Ivanov himself had sought out "pure" candidates for his experiments in the Soviet Union, women dedicated to the causes of science and communism and with the moral fortitude to abstain from sex outside of the experiments, Ivanov believing these moral qualities were signs of interior, biological qualities.[185] But the popular belief, including among Ivanov's peers when he was in Africa, was that the lower, darker races would be a better match as they were "closer" to the apes. *Murders in the Rue Morgue* takes bits and pieces from each of these discourses. Mirakle's beliefs in the film appear to be a combination, then, of both Sanger's negative views—moral corruption equals physical corruption, thus remove the unfit—and Ivanov's positive views—the ethically exemplary is also the physically exemplary, thus add the better. However, the film gives both positions a gothic cast, one that belies their positivistic qualities, further distancing them from their scientific roots, questionable as those may be.

What the film adds, I would say strangely but at this juncture the incongruous is to be expected, is a bizarre (nonsynchronous) religious component to the issue of purity, which

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historical perspective see Jonathan Marks, "The Legacy of Serological Studies in American Physical Anthropology," *History and Philosophy of the Life Sciences* 18, no. 3 (1996): 345–62.

[183] Foucault, *The History of Sexuality, Vol. 1*, 147.

[184] Margaret Sanger, "My Plan for Peace," Summary of a talk delivered by Sanger before the New History Society, Park Lane Hotel, January 17, 1931. Accessed at *The Public Papers of Margaret Sanger: Web Edition,* http://www.nyu.edu/projects/sanger/webedition/app/documents/show.php?sangerDoc=129036.xml retrieved May 15th, 2010.

[185] Rossiianov, "Beyond Species," 304–5.

troubles the moral-biological symbolic equation and moves away (i.e., backwards) from the relatively mundane concerns of actual blood mixing experiments. In the film, the prostitute's blood is rotten *from* sin, not that she was led to sin by bad blood, and this religious tone continues upon her death as Mirakle seems to pray to a holy martyr crucified, a cross suddenly conspicuous around her neck. Though her blood was corrupt, she is still spiritually worthy, a sinner redeemed. The religious allusion of the latter moment of martyrdom highlights the religious content of the former one of sin; they reinforce each other. That is, though resonant with eugenics, the film at this point goes against it, countering a hereditary *a priori* corruption with a fallen, sinful life. The film also echoes Voronoff's claim of human-ape hybridization (granted, in its limited, transgrafting iteration) as being religiously sound. And, moreover, we see in this moment a counter to the eugenics movements' attention to outer appearance as signifying inner, genetic worth, its recourse to caricature and physiognomic typology. The film takes up these tropes and turns them. Mirakle has been seeking and choosing his test subjects based on their beauty, which was supposed to vouchsafe for their purity. But he is instead repeatedly deceived; their exteriors refuse to signify an interior moral or biological state.

The problem of appearance, of a surface level signification, one in conflict with interiority is at the heart of the anxiety not just over human-ape equivalency, but also race. And the threat of the former equivalency interacts with the anxiety over the latter both in the film and out. The laboratory scene discussed above is the first scene to give prominence to Janos (Noble Johnson). He is referred to in the credits as "Janos, the black one," perhaps in an attempt to clarify his racial status. And there is some need for this clarification for in the film the African-American Johnson is performing in whiteface.[186] His ethnic and racial classification is indeterminate in the film. This echoes Bela Lugosi's character, whose accent is commented on as being unknown—"I wonder where he comes from; I've never heard an accent like that," says Dupin at the sideshow. Mirakle and Janos are both ethnically unidentifiable yet undeniably alien, a quality Lugosi and Johnson would repeatedly be cast for. Noble Johnson in particular would play many "other" races throughout his career, from Cossacks to Native Americans. In *Murders in the Rue Morgue*, as a silent, menacing figure of an undefined racial heritage, he acts as sign for the radical miscegenation of Mirakle's experiment. His appearance recalls Fredric March's Mr. Hyde from the previous year's *Dr. Jekyll and Mr. Hyde*, in both instances conjuring up the sense of an indeterminate space where man and animal meet and entwine in a manner that invokes racial mixing as well. Janos, though, is a very different character from Hyde, silent and menacing, but in control and not imperious. He is a servant of rationalism not a byproduct of it.

Murders in the Rue Morgue was not the only film of the 1930s to appropriate the racial charged trope of human and ape comingling. Most infamously, there was the 1930 film *Ingagi* (Campbell), again, with Charles Gemora in the gorilla suit. The film was publicized as a documentary, an authentic document of a safari depicting "native" African women who intermarry with gorillas. The film was a popular and controversial success.[187] But the controversy was not explicitly over its grotesque racism or its sexual transgression per se but

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[186] Brunas, Brunas, and Weaver, *Universal Horrors*, 34, is only one of many instances where Johnson's makeup is highlighted – "white-face(!)" – but with no meaning or reason given.
[187] For example, "Ban 'Ingagi' After Race Citizens Protest," *The Chicago Defender (National Edition) (1921-1967); Chicago, Ill.*, July 12, 1930. For analysis of the film and its contexts see Eric Schaefer, *"Bold! Daring! Shocking! True!": A History of Exploitation Films, 1919-1959* (Durham, NC: Duke University Press, 1999), 63–64, 266–78.

over its claim to authenticity.[188] In particular, Gemora was singled out for having been, contrary to the publicity, the gorilla. He denied this until summoned to appear before the Hayes office who forced him to publically admit his participation.[189] I mention *Ingagi* for a few reasons. First, the film uses the older hierarchy of races as the source of and thus a limitation on human-ape equivalency. Black Africans, depicted as being primitive and savage, appear to flow naturally into their gorilla neighbors; in contrast, whites, who appear to be cultured and civilized, do not. Eric Schaffer notes that in *Ingagi* and other "exotics" of the 1930s that implied or depicted human-ape relations, the dangers of this biological continuum are also the dangers of miscegenation. "Miscegenation…was a threat to bourgeois productivity. In the exotics, blacks were degraded by their sexual liaisons with apes, and, by association, whites who engaged in sexual relations with blacks were also debased."[190] Yet, if *Ingagi* is a warning about miscegenation, this proposition is itself irrevocably complicated by being enacted by white actresses in blackface and a man in a gorilla suit. This is further complicated by the fact that at least someone believed that Gemora in his gorilla suit could be honestly mistaken for a real gorilla (a fact that will be refuted with *Murders in the Rue Morgue* to curious effect).

The tensions at play in *Murders in the Rue Morgue* reach an extreme with Mirakle's failed experiment, their inability to be resolved or even fully articulated baldly on display. The dual anxieties of human-ape equivalency and a biopolitical disciplining of sexuality, to which it was bound, are condensed, transformed into an older order, an older symbolic system. "Blood was *a reality with a symbolic function,"* Foucault noted. The problem of sex, of sexuality was not symbolic. The institutions and discourses of the early 20th century addressing "the problem of sex," with which Yerkes and CRPS and Ivanov belonged, were not dealing in or through symbols. "Through the themes of health, progeny, race, the future of the species, the vitality of the social body, power spoke of sexuality and to sexuality; the latter was not a mark or a symbol, it was an object and a target."[191] *Murders in the Rue Morgue*'s nonsynchronous transformation of contemporary phenomena functions as a contradiction to the Now, as Bloch would put it. Bloch points out that the nonsynchronous, especially of the middle classes, is organized "against 'rationalization.'"[192] The alienation and nihilism of capitalist modernity *preserves* a magical "nature."[193] And while the film could be said to marshal these nonsynchronous forces of contradiction, the cultural tensions that converge in the image of human-ape interbreeding are too strong to be neutralized.

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[188] "Mammalogists Disapprove 'Ingagi,'" *The Science News-Letter* 17, no. 478 (1930): 357–357.
[189] "Call 'Ingagi' a Fake Movie: Actor Who Played Role of Gorilla Tells Story," *The Chicago Defender (National Edition) (1921-1967); Chicago, Ill.*, June 21, 1930. See Rhona J. Berenstein, "White Heroines and Hearts of Darkness: Race, Gender and Disguise in 1930s Jungle Films," *Film History* 6, no. 3 (1994): 314–39 particularly footnotes 1 and 2. See also *Charles Gemora – Hollywood Gorilla Man: a presentation of GroillaMen.com* (http://members.shaw.ca/gorillagallery2/gorillamenclassic/cg_word_from_gmen.htm) which contains reproductions (in jpg) of a contemporary *Motion Picture* article on the controversy, found in the "Forgotten Horrors of *Ingagi"* section.
[190] Schaefer, *Bold! Daring! Shocking! True!*, 281.
[191] Foucault, *The History of Sexuality, Vol. 1*, 147.
[192] Bloch, "Nonsynchronism and the Obligation to Its Dialectics," 27.
[193] Bloch, 30.

Are We Not Men?

It would be in *Island of Lost Souls* (directed by Erle C. Kenton), released at the end of 1932, that fantasies addressing sex across the human-animal boundary would reach their apotheosis. Based on H. G. Wells novel *The Island of Doctor Moreau*, the film remains relatively faithful to the original text in comparison *to Murders in the Rue Morgue*. The deviations and additions, though, were enough for Wells to rail against it.[194] The major change and point of contention was with the inclusion of romance and, most troubling, sex. The adaptation choices are, in their rough contours, not that far removed from those *Dr. Jekyll and Mr. Hyde* went through. Of course, *Murders in the Rue Morgue,* too, added elements like romantic interest and love story. This is to be expected of Hollywood films with their multi-storied form, one of which is always a love story.[195] Except in all three cases, sex becomes central to the antagonist/scientist's project. *Island of Lost Souls* does not merely insert sex into Wells' tale but makes sex, in the form of animal-human interbreeding, the key point around which the narrative moves. And like the other adaptations, the problem of violence in the source material is subordinated to the problem of sex, and at the same time, this problem of sex, extends the concerns beyond singular situations to larger social and ideological concerns.

The film follows the basic structure of Wells' novel. The protagonist, Edward Parker (Prendick in the novel), is found drifting at sea after a shipwreck. He is picked up by a ship bringing animals to Dr. Moreau's island; it is on this ship that Parker meets Dr. Montgomery, Moreau's assistant. Parker winds up stranded on Moreau's island, at first made a guest, but later becoming Moreau's nemesis as the nature of the doctor's endeavor is revealed. Moreau perishes at the hand of his creatures, and Parker returns to England. The biggest changes happen relatively early on. The film introduces two female characters. One is Ruth, Parker's fiancée back at port who is seeking his safe return; the other is a resident of the island, Lota, the panther girl, though Moreau tells Parker she is a 'Polynesian' woman. This new, female character Lota is the axis upon which the film's plot rotates. Moreau keeps Parker on the island in order to orchestrate an intimate encounter between Parker and Lota, which Moreau hopes will lead to the two of them having sex. Unlike Ivanov, Moreau never indicates whether he desires offspring from this encounter. It suffices for him that Lota is enough a human woman to want to have sex with Parker, and that Parker sees her as enough of a human woman to have sex with her. In all this, Moreau is completely dispassionate. Sex for Moreau is another milieu open to experimental practices, and has no moral component. Sex is not a threat, as in *Dr. Jekyll and Mr. Hyde*, but a part of nature to be managed, controlled, exploited, much like the "human engineering" approach to sex held by Yerkes.[196] For Moreau, it is not unlike the weather, intractable but mundane. When Parker balks at Moreau's plans, the doctor is not overly concerned. He informs his assistant Montgomery, that he just needs to keep them together—"time and monotony will do the rest."

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[194] Thomas C. Renzi, *H.G. Wells: Six Scientific Romances Adapted for Film*, 2nd ed (Lanham, Md: Scarecrow Press, 2004), viii.
[195] Staiger, "Hybrid or Inbred." David Bordwell, Janet Staiger, and Kristin Thompson, *The Classical Hollywood Cinema: Film Style & Mode of Production to 1960*, Reprint edition (New York: Columbia University Press, 1985).
[196] Haraway, *Primate Visions*, 64–66.

Sex, though, has an odd location in *Island of Lost Souls'* cosmic order. It is in many ways presented as blatantly animalistic. Lota acts feral, wild eyed, her movements oscillating between timid and sudden. Visually, she wears "primitive" clothing—a short, tight skirt, a bikini like top exposing as much flesh as possible—her hair wild and frizzy but most tellingly, she has claws. [fig 2.20] The claws are not too dissimilar to those of Barrymore's Hyde, but whereas those signaled violence and avarice, these are wholly sexual in nature. The claws don't appear until she is kissing Parker. During the embrace, we see her clawing his back in an unambiguously sexual manner. [fig 2.21-22] The claws visually serve to express the hypersexual nature of Lota, of women, and of the encounter. But in the narrative, they are also a reversion to the animal, an atavism. "The stubborn beast flesh, creeping back," as Moreau puts it. We are made to understand that all Moreau's creatures revert back to some degree. And often violence is the marker for this. But not with Lota, for her it is always sex. Even at the end of the film, when Lota sacrifices herself to save Parker and Ruth, her claws, though primarily her weapons and thus linked to violence, figure prominently, their deployment motivated by her feelings and desire for Parker.

Sexuality as animality is repeated in the character of Ouran, an apish man creature, and one of a handful of Moreau's creatures who traverses jungle and house. When Ruth first arrives on the island, Ouran is captivated by her. This doesn't go unnoticed by Dr. Moreau. Much like Ivanov, when one animal-gender pairing fails, that is, human male to animal female, Moreau shifts to the other combination, animal male to human female. The Ouran-Ruth pairing also makes explicit the racial undertones at work. Lota's dark, curly unkempt hair and "Polynesian disguise" had already marked her as Other from ostensibly civilized northern Europeans like Parker et al. With Ouran, we get the image of a black man. Once Moreau has set him on the path to raping Ruth, an overhead shot shows him appearing darker than he ever has (or will again). No longer does he appear merely swarthy, now he is unambiguously black. He leers up at Ruth's window, clad only in torn trousers. [fig 2.23] To make sure the contrast is not lost on us, Ruth is a pale blond, and at this moment wearing a diaphanous white gown.[197] [fig 2.24] Ruth is like Ivanov's model participants and Mirakle's ideal subjects, physically and 'morally' perfect.

In both of Moreau's experimental attempts at interspecies intercourse, successful insemination is not the stated goal. And it is hard to tell if it is a factor at all for Moreau, who has been working at the level of phenotype. He does talk of "manipulating the germ plasm," but much like his vivisectionist surgeries, this appears to be a purely *mechanical* process (and of course, the mechanics of DNA was not known at the time, see chapter 4). He is engaged in a mechanical acceleration of evolution. This last term, "evolution" while informing Wells' novel, is not present as such there. In contrast, evolution is explicitly foundational for the Dr. Moreau of *Island of Lost Souls*. As he explains his project to Parker, he shows him his earliest experimental successes, walking him through a kind of gallery of his previous experiments, giant orchids and the like. They are, he says, what the orchid will be like "100,000 years from now." Here he talks of making a "slight change in a single unit" (the germ plasm), and he gestures to a gigantic asparagus, an early form of GMO. [fig 2.25] But unlike GMOs, Moreau sees his practice as purely *acceleration*, evolution conceived as teleological and linear. Evolution becomes consonant with modernity, both pushing forward and overturning previously stable entities, both following the dictates of a rational pragmatism devoid of the quaint values of religion, tradition, or society. And perhaps most importantly, both seem directed towards the elimination of all

[197] The pair here an echo of the propaganda image of German gorilla caring off a white woman.

boundaries, be they between races, ethnicities, nations, or species.[198] It is this teleology that underwrites Moreau's project, as he tells Parker that "All animal life is tending towards the human form," the immanent equivalency of all things.

"What is the Law?"

Once again, we have a human-animal equivalency, and again it converges on sex. But Moreau is in accord with early primatology in more arenas than just the sexual. When he discusses with Parker the methods he's used he states, "plastic surgery, *blood transfusions, gland extractions*, with ray baths" (my emphasis). Here he discusses using the same techniques undertaken by contemporary, "legitimate" science.[199] It is not just that Moreau aligns his practices with the real world, but that he is in effect delivering a lecture as he walks Parker through his laboratory and operating room. Earlier, Parker had burst in on Moreau's operations, which was akin to a horror show, consisting of an angry yelling Moreau, a faceless Montgomery, and a wailing animal-man. [fig 2.26] In retrospect, this operation is denuded of its uncanny qualities and returned to the everyday world, that is, the everyday world of modern science. The procedure may still be cruel and barbaric, but it is no longer strange**,** as it has been retroactively normalized as science. Parker was not so much seeing something he should not but merely interrupting. For Moreau's lab is open to the public, a site of knowledge. Contrast this with Dr. Jekyll's lab, sequestered off from his house, where he too can sequester his experiments so they are seen by no one. In fact, the very beginning of *Dr. Jekyll and Mr. Hyde*, through the use of a long-take POV shot, dramatizes the distance between his personal space wherein his experiments take place and the public space of the lecture hall, where knowledge is presented and disseminated and where debate and oversight are possible. Even Mirakle is more public than Jekyll, laying out his experimental goals in public, albeit the seedy forum of the carnival (his lab is also shared with an assistant, like Moreau). But Moreau goes further than either when he brings Parker in on his project, Parker who only somewhat reluctantly accepts what is going on (Moreau's plans for him and Lota will be his breaking point).

Parker stands in for those other progressive thinkers who supported Ivanov or like Dupin and accepted evolutionary theory. And much as Ivanov was ultimately seen as beyond the pale, so is Moreau's project presented. Like in *Murders in the Rue Morgue*, *Island of Lost Souls* argues that evolution is probably correct, in some abstract way. But what Moreau is doing is not "correct." It is unethical, abominable. What he is doing, we are told, is literally unlawful. Not merely the laws of England, which forced him onto the island in the first place, but the Laws of nature. And again, as in *Murders*, it is the positing of a strong equivalency between humans and animals, the breaking of the boundaries between them, that is the crime. Around this point, all other laws collapse. In the film, any and all transgressions can radiate out from this original sin. We see Moreau unhesitatingly initiate a murder in service to his cause. This decision not only breaks the laws of England and of Nature but Moreau's own laws, which he has drilled into his animal subjects. This is the film's climatic transgression, one that begins a purging through violence to restore order.

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[198] The drive towards ultimate equality discussed in Max Horkheimer and Theodor W. Adorno, *Dialectic of Enlightenment*, New edition (New York: Continuum, 1969).

[199] David Hamilton argues that Voronoff's and other glandular practices were more scientific than their subsequent place in history granted. Hamilton, *The Monkey Gland Affair*.

This last breakdown of Law begins when Captain Donahue, the man helping Ruth find and return Parker, plans to return to his ship to get help after hearing about Ouran's "interest" in Ruth. Moreau notices and sends Ouran after Donahue to kill him. Bela Lugosi's lawgiver, another animal-man, after hearing how Moreau had Ouran kill the Captain, asks rhetorically, "Law no more?" At first, we are to take this as a breaking of the commandments Moreau had handed down, Moreau who has said he felt like God: laws against killing, walking on all fours, eating meat. But as order breaks down, and "law no more" goes from question to statement, the phrase starts to refer to the Laws of nature. Lugosi accuses Moreau, "You made us . . . things. Part man. Part Beast. Things." The boundaries that maintained distinct categories are the foundation for being. They can no longer be one or the other, they are unplaceble things, monsters. All the animal-men take up the accusations, and chant them out, each one rushing towards the camera, so we can view their "thingness," all creatures of mixed human and animal traits. We even see one with one human leg and one cloven hoofed leg. Yet, they are not so much uncanny as ugly and disfigured, more grotesque than animal.

Diegetically, these monsters, these things, are ultimately, animals. Moreau's experiments have been on the surface, phenotype effecting theoretically genotype. Though whether that succeeded or failed is hard to gather. In retribution, the animal-men take Moreau to the House of Pain, the name of his operating theatre, to do to him what was done to them, a very human act of revenge and reparation. And Moreau's statements about Lota, imply that they will revert back to animal forms (as happens to his experiments in the novel). But extra-diegetically, these are all actors wearing modest amounts of make-up. Unlike an unhuman creature like King Kong ("neither beast nor man!"), the actors are always just below the surface. Lugosi is still and always recognizable as Lugosi only now buried under theatrical facial hair. While he, along with most of the other animal-men actors, have a certain animal cast to their appearance, they could just as likely be mountain men or the ethnic urban poor. Most are swarthy figures with hairy backs who shuffle about in a vaguely animal fashion, yet March's Mr. Hyde projected more explicitly animal qualities. Their difference and monstrosity, then, is more often in relation to the WASPish "human" characters than to animals.

Much as the actors will remove their make-up and revert back to humans, the phenotypical, the surface transformation is transient. The Law wills out in the end. This Law is not that of primate studies, not the law of human-ape equivalency, which *is* present in *Island of Lost Souls*, the make-up and costumes of human animals making them appear first and foremost like apes. This is the Law of appearances, things that look different are different, radically so. Science, be it the theory of evolution or primate studies, which tries to find invisible similarities across these differences, breaks the law and unleashes chaos and disorder. Accepted standards of scientific inquiry and professional ethics lie outside of science (and as I'll show in chapter three, completely extraneous to it).

Unstable image, unstable ontology

This is not the case in *Murders in the Rue Morgue* which is both more complex and clumsier in its tactics in presenting human-animal equivalency and its repercussions. At its heart lies the gorilla Erik, the boundary transgressor, one portrayed by both a human and an ape. He is visually more discrete, singular than the human-animals in either *Dr. Jekyll* or *Island of Lost Souls*, being an undiluted simian. Yet, the human and animal also merged to a far greater extent than either of the two latter films. *Murders in the Rue Morgue* uses performance from both kingdoms for a single character. The intercutting of animal and human weds them together

intellectually, something make-up and costumes could not achieve alone. This intercutting both draws one's attention to the fakeness, the imposture of a man in a gorilla suit, but also the soothing power the film gains through one's realization that there is a man underneath the suit.

Several reviewers make a point of Gemora's gorilla suit's failure at mimicry in the 1932 film; for example, the Washington Post called it "the most gosh-awful gorilla you have ever seen."[200] Gemora made his own suits and continually improved upon them during his many years in film. The suit in *Murders in the Rue Morgue* would either be the same as in *Ingagi* or one which was technically superior. But whereas in *Ingagi*, the suit was seemingly so authentic looking as to require a court case to settle the matter, in *Murders in the Rue Morgue* it is "gosh-awful." So, what has happened in the intervening two years? Has the public been trained (or shamed) by the *Ingagi* controversy to recognize a man in an ape suit? That is, if they really were fooled by that film and not merely offended. But perhaps nothing had changed, for unlike every other gorilla performance by Gemora (not to mention most other gorilla men), his scenes in *Murders in the Rue Morgue* have close-ups of a chimpanzee cut into them.[201] The chimpanzee, of course, looks nothing like Gemora in his gorilla costume. When we first encounter Erik in Mirakle's tent, he is in a cage. The cage helps conflate the two performances when cut together, constraining their visual differences (chimpanzee, too, shot from inside a cage). Continuity editing is used here for something similar to Kuleshov's creative geography: two distinct creatures edited into one. We cut from an extreme long shot of Gemora in the cage at the side of the stage to a close-up of the chimpanzee screeching between the bars. The lighting is mildly chiaroscuro (though not to the extremes of expressionism or film noir) and that and the cage smooth over the discrepancies between the two "performers." This tactic is repeated throughout the scene, often going from extreme long shot to close-up, keeping Gemora in shadow in the long shot. Or alternately, Gemora is seen from behind, over the shoulder in long and medium shots, but all the close-ups remain on the chimp. Yet even in these shadowy long shots, we can plainly see that the chimpanzee and the gorilla costume do not match. Still, continuity has been broadly maintained. But, as the film progresses, this becomes less and less the case, in part, because the more we see of Gemora and his ape suit (though still from a distance and in shadow), the more obvious the mismatch between him and the chimpanzee becomes. Near the end of the film, during Mirakle's murder by Erik, shots of the two, Gemora and the chimp, generally do not match, sometimes appearing to be happening in completely different spaces, and even screen direction gets flipped. Finally, during the rooftop climax Gemora will be holding the girl in long shot, and the chimp will be unencumbered in the close-ups.

These insert shots of the chimpanzee reveal a gap between animals and human but also an undeniable bond between them. The synthesizing ability of editing turns differences of kind (human against ape) into differences in degree (from ape to human), first through treating them as equivalent within the logic of continuity editing and then by breaking those laws, showing us two entities that are distinct yet still equivalent. But what is this equivalency? Editing has posited an equivalency that vision and image deny. If human-ape equivalency is uncanny, there is nothing uncanny here. We should see these mixtures of shots as yet a further instance of the film's (and the culture's) inability to truly come to terms with the problem of evolution, of human and ape equivalency, indecisive as to a distinction between man and beast or to their

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[200] Nelson B. Bell, "About the Showshops With Nelson B. Bell," *The Washington Post (1923-1954)*, February 9, 1932, 10.

[201] Apocryphally, put in by producer Carl Laemmle Jr.

continuity. We know they are distinct, yet we also know they are deeply connected, and we can only think of it as paradox, one left unresolved. *Murders in the Rue Morgue* cannot find a solution to this problem. But the editing provides us with a possible source for the problem: technoscience in the form of film technology. The same mixing of categories to demonstrate equivalence that Mirakle's blood transfusion experiments sought to achieve, is strangely realized through montage. The result is forced, almost unacceptable, and yet, there it is. The film camera, preeminent public tool for seeing the human as an object of vision, the human at one with "nature" as seen by science, uses the techniques available to it—indexical representation and montage—and turns differences into equivalencies just as primate studies had done across species. These equivalencies are both a demonstration of technoscience's power to reorder the world, to break the Law of difference, and its power to open that world up at any level—be it global or intimate. And yet, the equivalency in its concrete form seems in some sense ridiculous. One could never confuse the chimpanzee for the man in the ape suit. These montages combining the two wind up as both an avowal and a denial of human-ape equivalency. *Murders in the Rue Morgue* ultimately neutralizes the uncanny quality of the apeman.

In the films I have analyzed in this chapter, figuration is at the level of "infrahuman sexual psychobiology" and the human engineering that was its goal.[202] The radical distinctness of the human in relation to the animal world was refuted with the aim of disciplining human sexuality. We can understand this as a further biologizing of the human, bringing more of the human under the purview of the sciences but also making more of the human available to institutional and technical interventions, both disciplinary and regulatory. And, each time, the cultural-historical questions that give rise to the films are given equivocating answers: yes and no. Most importantly, these questions—abstract, obscure, complex—are given a simple, visual form, one that can be, if not fully understood, at least neutralized. Visual difference is reasserted as adequate and accurate. The limits of visual effects analogous to the limits of scientific reach, but the limits of neutralization do not extend beyond the hyperbolic extremes of the films. The concept of evolution is not neutralized. Primate studies is not neutralized. Moreover, the disciplining of sex is reaffirmed, even as it sneaks in a further reduction of the human into a scientific object.

Chapter one showed the human quantified and reduced to mechanics as part of disciplinary practices. The zombie expressed a long history of automatons but also a more recent one of slavery and industrial labor. The apeman and his analogues also have a long history, but in the films treated in this chapter it is a much more recent phenomenon which they ultimately figure. The disciplining of sex in the 20th century is in part a biopolitical task, concerned with managing populations and, though not limited to this, their "healthy" reproduction. "Health" is a charged term. As Haraway noted above, sexual health had a specific, political cast to it, with the nuclear family at its center. And while eugenics was controversial, primate studies and related institutional projects like CRPS worked outside of the limelight. The apeman films of the 1930s could only hint at this larger biopolitical project with which human-ape equivalency was a part. They could only assuage the more extreme anxieties around the reduction of the human to an animal, while ultimately acknowledging the fact. In the films in this chapter, the acknowledged problem of sex, *sneaks in* a more biologized human, one less humanist and self-possessed but also more susceptible to biopolitical manipulation. In chapter three, I will show this human as

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[202] Haraway, *Primate Visions*, 71.

more susceptible to individual medical intervention and more subject to the aleatory qualities of both the natural and the human world.

Figure 2.1 The pinhead.

Figure 2.2 Nosferatu?

Figure 2.3 The simian.

Figure 2.4 Moves like an ape.

Figure 2.5 The height of gorilla propaganda.

Figure 2.6 Two great attractions.

Figure 2.7 The history of evolution as power.

Figure 2.8 Expressionistic Paris.

Figure 2.9 The edge of a knife.

Figure 2.10 Camera swings up.

Figure 2.11 The camera swings down.

Figure 2.12 Then the camera swings back.

Figure 2.13 Laughable objections.

Figure 2.14 The dominant view.

Figure 2.15 Shadow of the torturer.

Figure 2.16 Failed experiments.

Figure 2.17 Race unlocatable.

Figure 2.18 Religious transformation.

Figure 2.19 The lab as basement.

Figure 2.20 Sex comes to Moreau's island.

Figure 2.21 Animal pleasures.

Figure 2.22 Animal pains.

Figure 2.23 The racialized animal.

Figure 2.2 And his taboo desires.

Figure 2.25 Asparagus of the future.

Figure 2.26 Messy science.

CHAPTER 3: "NOW THEY KNOW IT'S POSSIBLE"

The interim years and a new era, the 1940s to the mid-50s

The "horror boom" of the 1930s continued into the 1940s until just after the end of World War II. Universal Studio's last film of its "classic" period was *She-Wolf of London* (Yarbrough), released in May of 1946.[203] Retroactively grouped with Universal's sequence of werewolf films, *She-Wolf of London* is in fact a psychological thriller with no supernatural elements, the latter quality one it shares with most of the genre films of the post-war years.[204] 1946 to 1956 is a "lost decade" for the horror film.[205] While horror films had been popular during World War II, as Alexander Nemerov notes, "when the war ended, the market for horror movies sharply declined. . . the 'mysterious demand' for fright that the *New Republic* film critic Manny Farber noted in 1944 ended with the hostilities."[206] Famously, science fiction films became the dominant fantastic genre (as well as the prime location for fright in the era) until 1956/1957.[207]

> What began as a drift away from science fiction rapidly became a full-scale horror revival. 1957 was the *annus mirabile* of horror. If 1931 (the year in which Universal

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[203] For one example of this periodization see the title of Brunas, Brunas, and Weaver, *Universal Horrors*.

[204] *She-Wolf of London* is included in the various iterations of Universal's home video *The Wolf Man* Legacy Collections.

[205] Ian Olney argues for the decade being "a lively period in the history of horror cinema," yet ultimately fails. The majority of the films he discusses are not categorized as horror films by anyone else, but are recognized as mysteries, noirs, and/or psychological thrillers. He even includes the science fiction film *Gog* (Strock, 1954), about the remote hacking of a computer network and robots. Ian Olney, "Dead Zone: Genre, Gender, and the 'Lost Decade' of Horror Cinema, 1946-1956.," in *Recovering 1940s Horror Cinema: Traces of a Lost Decade*, 2014, 47.

[206] Nemerov, *Icons of Grief*, 1.

[207] I am leaving aside the fact that many classic horror films were *also* science fiction and many science fiction films were *also* horror. More important in this instance is the discourse around the genres. I will say that I take for science fiction any fantastic narrative that grounds its fantastic elements in the appearance of rational, materialist explanations consonant with modern science. For discussions of the definition of science fiction, its history and its inadequacies see the essays in Mark Bould and China Miéville, eds., *Red Planets: Marxism and Science Fiction* (Middletown, Conn: Wesleyan University Press, 2009).

unleashed both *Dracula* and *Frankenstein*) saw the creation of the horror genre, 1957 saw the creation of the modern horror film.[208]

In 1946, though, this all lies in the future. 1945 had been a "miraculous year" in a very different way, with a total victory for America but one that changed everything.

It is not surprising, then, that the old forms the horror boom represented are abandoned at the dawning of a new era. The years from the end of the war to the mid-1950s were, as Michael Scheibach describes them, "complex and contradictory times [filled with] messages of impending doom and the absolute necessity to protect democracy against world-threatening totalitarianism, as well as messages about the unlimited potential of the atom in science, medicine, agriculture, and industry."[209] America went into the war in the midst of almost a decade of economic depression and recession. The nation came out of it the dominant economic and military power in the world. Moreover, the post-war years saw the rise of suburban America, an attendance boom in higher education, and the rapid advancements of science and technology, continuing a trend begun during the war. But the era also lived in the shadow of the greatest human catastrophe the world had ever seen. The casualties from the war not only included the tens of millions killed in the fighting but the millions who died in the Nazi concentration and death camps, and the Japanese who died in the flash of an instant in Hiroshima and Nagasaki. The atomic bomb had caused an "explosion in men's minds" leading to: "visions of atomic devastation, the earnest efforts to rouse people to resist such a fate, the voices seeking to soothe or deflect these fears, the insistence that security lay in greater technical expertise and in more and bigger weaponry."[210] The onset of the Cold War meant that nuclear fear and anxiety were ever present, but the Nazi atrocities, as well, remained active in the public sphere. The Nuremberg Trials (including the Nuremberg Judges' trial and especially the Doctors' Trial, see below) extended and filled in knowledge of the horrors perpetuated by the Nazis in the name of race and nation, but also science and law. Simultaneously, and unbeknownst to the public, the United States government was secretly recruiting Nazi scientists and engineers to help with its Cold War efforts.[211] Mid-1950s America was more prosperous and rational than ever before, yet pervaded with dread as technoscience and history seemed to race towards cataclysms both individual and general.

Man's domination over himself, which grounds his selfhood, is almost always the destruction of the subject in whose service it is undertaken.

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[208] Phil Hardy, ed., *The Overlook Film Encyclopedia: Horror*, Reprint edition (Woodstock, N.Y.: Overlook Books, 1995), 98.

[209] Michael Scheibach, *Atomic Narratives and American Youth: Coming of Age with the Atom, 1945 - 1955* (Jefferson, N.C: McFarland & Company, 2003), 8.

[210] Paul Boyer, *By the Bomb's Early Light: American Thought and Culture at the Dawn of the Atomic Age*, 1st edition (Chapel Hill: The University of North Carolina Press, 1994), xix. Boyer contends that these reactions were almost instantaneous, happening "within days of Hiroshima."

[211] Annie Jacobsen, *Operation Paperclip: The Secret Intelligence Program That Brought Nazi Scientists to America*, Reprint edition (New York, NY: Back Bay Books, 2015); Christopher Simpson, *Blowback: America's Recruitment of Nazis and Its Effects on the Cold War*, 1 edition (New York: Weidenfeld & Nicolson, 1988).

Adorno and Horkheimer

Medicine, Melodrama, Horror.

In a suburban home in the American heartland, the father of an exemplary nuclear family is transformed into a psychotic tyrant thanks to a radical scientific intervention. But not by mad science, or mad scientists, nor against his will. As a Hollywood film, Nicholas Ray's *Bigger Than Life* (1956) sits at the edges of the sf-horror genre, ostensibly employing its tactics to tell a family melodrama, a family melodrama that keeps erupting into expressionistic horror. The cause of this horror is a mismanaged dosage of cortisone, prescribed by the multiple doctors treating Ed Avery (James Mason) for polyarteritis nodosa (a potentially terminal inflammation of arties). The film presents the dosage mismanagement as Ed's own fault. At the top of a poster for *Bigger Than Life* is an illustration in medium close-up of a doctor wearing a surgical mask with the quote "I prescribed it . . . he misused it!" [ellipses in original].[212] [fig 3.1] Yet the experimental nature of his treatment and the unavoidable danger it involves is signaled from the start. Patient Ed Avery is given sole responsibility for managing his intake of a drug that will impair his ability to manage responsibly.

Bigger Than Life shows the 50s family as caught in a catch-22 like existence, fragile and threatened, economically precarious, susceptible to the whims of the larger systems of the modern world (the institutions of public education, modern medicine, and capitalist labor), which, after WWII, are ever more totalizing. At the same time, the couple, Ed and Lou Avery (Barbara Rush) are encouraged to desire trips to Europe and other "exotic" locales, represented by the myriad posters and maps that decorate their home. These images appear in the background of most of the scenes in their home, always on view, always surrounding them. [fig 3.3-5] These places while tantalizingly close are just out of reach, much as the luxury consumer goods they see in their own town are also out of reach. Everywhere they turn they are reminded of what they lack. The plentitude which modernity brings with it—of places, goods, and knowledge—is also a trap. This plentitude includes the medicine and medical techniques developed to treat the frail human body, one that has been modernized as well.

Bigger Than Life presents post-WWII medicine as an extension of that charted by Michel Foucault in *The Birth of the Clinic: An Archaeology of Medical Perception*, the patient equally powerless in the face of disease *and* the medical institutions and discourses in place to combat it.[213] The medical establishment and disease do battle on and through the patient's body, while the patient stands dumb, battered back and forth. The "medical gaze" that arrives in the 18th and 19th centuries erases the patient in order to reveal the disease. "In order to know the truth of the pathological fact, the doctor must abstract the patient."[214] This new semiotics of disease is only available to the medical gaze and the clinical structure wherein it arises. "This new structure is indicated by the minute but decisive change, whereby the question: 'What is the matter with you?', with which the eighteenth-century dialogue between doctor and patient began, was replaced by that other question: 'Where does it hurt?', in which we recognize the operation of the

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[212] Another poster increases the size of the doctor illustration and decreases Mason's image. This poster proclaims, "I warned him: ONE PILL TOO MANY AND YOU CAN'T STOP!" [fig 3.2]
[213] Foucault examines the transformation of medicine in the 18th and into the 19th century.
[214] Michel Foucault, *The Birth of the Clinic: An Archaeology of Medical Perception* (New York: Vintage, 1994), 8.

clinic and the principle of its entire discourse."[215] Where *Bigger Than Life* goes further than Foucault's analysis is in its presentation of the pathological body integrated into techno-rational systems, that is, technoscience. Foucault showed how doctors became translating eyes. The medical gaze approaches the patient as a semiotic site, and then the doctor apprehends the signs and consciously transforms them into the meaningful language of medicine. Only to the medical (or clinical) gaze is the invisible, the disease, visible. The technology on display in *Bigger Than Life* eliminates the doctor's conscious act of translation. Tools, charts, machines, and screens all help to transform the doctor from translator into reader.[216]

During the first part of the film we see schoolteacher Ed Avery suffer intermittent symptoms, flashes of intense pain and fainting spells, all of which he hides. After Avery's symptoms have become so extreme as to necessitate emergency hospitalization, the disease itself is still hidden, though the symptoms may be out in the open. He must be subjected to the medical gaze, now as much a technological product as a discursive one, and moreover, a gaze we are invited to participate in. The diagnostic procedures he undergoes turn him into a passive object, deconstructing him in the process. We see James Mason visually dismembered and reconfigured into a patchwork of machine, screens, and flesh. The diagnosis scene opens in monochromatic red, like a tinted horror film from the 1920s, a long shot of an x-ray room, the barely distinct shape of a doctor boxing in Mason's character to a machine, Mason's head the only thing even partially visible, itself just a silhouette. [fig 3.6] There is a nurse screen right and a curtain screen left, out from behind which another nurse will arrive, and a light source for each side. But the Mason-machine figure is in shadow. This is not a place for him but a place for technicians, multiple, unnamed operators of esoteric machinery.

The lights are briefly turned on, and we see Mason's head and face but the rest of him is encased in an apparatus, a screen where his chest should be. [fig 3.7] The head as subject is now detached from the body, a body converted into a discursive machine, a screen from which disease can be read. Sitting in front of this screen is a doctor, his back to the viewer and wearing goggles and heavy gloves. Mason is handed a glass of barium and the lights go off again. The red tint returns and then changes to darkness, punctuated by the black and white glow of Mason's chest in x-ray; above this boxed off view of his torso floats Mason's head, a fill light on his face and in full color. [fig 3.8] We watch as the barium passes through 'him,' the x-ray screen making one "invisible"—Mason's interior—visible but still leaving another, the disease, invisible to us, the layman. Our fellow layman, Mason asks, "How's the view down there?" The doctor replies with a non-informational "Hm-mm."

In the scenes that follow more doctors examine and discuss Mason's symptoms, but without including him in the discussion. [fig 3.9] At one point, they break off their discussion with each other to ask him to "put your finger on one of the spots where the pain occurs," that most clinical of questions. The spot he picks is deemed inappropriate (they want to take a biopsy, though they didn't tell him that was why), and once he points out a spot on his leg, they again ignore him as they examine and discuss the location. Mason is occasionally told to turn over or that some procedure will be performed, sometimes not even that much. We see a high angle shot of him in bed, a machine hooked up to his chest by electrodes, and a doctor and nurse examining the read out. [fig 3.10] The film cuts in for a close-up of the read-out streaming forth from the

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[215] Foucault, xviii.

[216] Not that medical equipment was not already an important component for the medical gaze in Foucault's telling, see Foucault, 163–64.

machine, but like for Mason, whatever data it is generating is meaningless to us, merely jagged, peaking lines. [fig 3.11]

An external agent, barium, is sent through a system, sounds are made into signs, and tissue is extracted all to generate data. Later, after diagnosis, his body is reconceived as a chemical system, which is then manipulated through cortisone. This process of manipulation, though, doesn't only effect a chemical system, but the self, which is also manipulated into a state other than it was. James Mason's character is at first powerless in the face of his illness, then in the face of the medical establishment, and finally in the face of his new bio-chemical state of affairs, including psychosis, brought on by the second to 'cure' the first. He is constantly worked on by forces outside 'himself,' in the process questioning just what his "self" actually is, certainly not the bourgeois-humanist subject full of self-interest and self-awareness, one who is self-possessed.

Experiments without Boundaries

> *The sciences, each straining in its own direction, have hitherto harmed us little; but some day the piecing together of dissociated knowledge will open up such terrifying vistas of reality, and of our frightful position therein, that we shall either go mad from the revelation or flee from the deadly light into the peace and safety of a new dark age.*
>
> *H. P. Lovecraft, 1926*

In the preceding chapters, I considered how genre films responded to the sciences integrating the human body (the human) into nature but not just any nature, an Enlightenment nature, a modern nature, the nature that modern science masters, controls, exploits, and manipulates but also one it calls into being, charts, and shapes. Theodor W. Adorno and Max Horkheimer described the movement from the mythic (pre-Enlightenment) nature to modern nature in the terms of power. "Myth turns into Enlightenment, and nature into mere objectivity. Men pay for the increase of their power with alienation from that over which they exercise their power. Enlightenment behaves toward things as a dictator toward men. He knows them in so far as he can manipulate them. The man of science knows things in so far as he can make them."[217] Here is Max Weber's (appropriated from Schiller) "disenchantment of the world," where "rational, empirical knowledge" has transformed the world "into a causal mechanism."[218] Mystical and religious explanations of the world are rejected, deemed irrational. The world is revealed as meaningless. More importantly, as the Frankfurt School argued, the world is disenchanted all the better to be kept under heel. Earlier I argued that both the zombie and the ape/man were instances of humanity's entrapment in Weber's "iron cage of reason." Weber paid particular attention to bureaucracy as the rational, social tool par excellence, and I showed that bureaucratic reason was integrally at work in the conception and representations of creatures like zombies and ape/men but even more so in their 'real world' antecedents. The slave and factory worker were both some of the original human data worked on and managed by bureaucracy. Primate studies, as a modern, institutional practice was born out of the bureaucratic milieu that nurturers *all* modern institutions and that takes up broader concerns of biopolitical control, like

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[217] Horkheimer and Adorno, *Dialectic of Enlightenment*, 9.

[218] Max Weber, *From Max Weber: Essays in Sociology*, ed. H. H. Gerth and C. Wright Mills (Princeton, N.J.: Oxford University Press, 1958), 50, 350.

'the problem of sex.' The human as body was integrated into nature, made entirely biological, then subjected to manipulation, prediction, and control.

In the films of the 1950s there is a new concern, or more precisely one brought to the foreground: science working on the body itself. The Baconian tradition privileged the artificial experiment for the generation of new knowledge and the confirmation or discrediting of old. The repeated experiment, engaged critically as a way to free knowledge from "the idols of the mind." Logically this leads the human sciences to take the body as a site of experimental practice and a concomitant technoscientific practice. Certainly, the body had long been a source of physical material for knowledge, e.g., via dissection, though not without controversy. These practices became only more prevalent in the 19th century, think of anatomists and bodysnatching, with their own history of popular culture representation.[219] By the mid-twentieth century, the situation was far less melodramatic. The films covered in this chapter deal with manipulating and transforming the body, and in ways more subtle and complex than the relatively simple surgical interventions Doctor Moreau performed, discussed last chapter. Note, that Moreau initially worked only on animals, even though the dividing line between animals and humans was the question at stake, a question answered in the negative. The plot of *Island of Lost Souls* begins in effect when capital-H humans, in the form of Parker, are introduced into Moreau's experiments, though not as the subjects of the experiments but as tools. On Moreau's island the body reveals itself as something plastic, something that is too easily radically altered. There, science has slipped into horror.

While a melodrama, *Bigger Than Life* is also a horror film, one whose horrors are rooted in the precarious place of the new post-war middle class and its nuclear family, that precariousness rendered in entirely modern terms. Scenes of Mason's Avery at his job as a teacher focus on the institutional aspects of mass education; in contrast, the poetics of pedagogy and the compassion of mentoring appear only to characterize Avery and reveal his (and their) minimal value in the market place. The older, humanist values of education are undervalued at every turn, most explicitly in Avery's inability to support his family as a teacher. This state of affairs has led him to take a second job as a taxi dispatcher, a modern, technical, networked profession and a sharp contrast to the archaic, old world values of liberal education. This second job is also a reminder of the material inaccessibility of both the modern and the old worlds for the Avery family. Ed Avery labors away, immersed in a world of travel of which he cannot partake, much like the posters that haunt the walls of his home. James Mason's accent and old-world bearings a constant reminder of where he is not.

If *Bigger Than Life* is primarily a family melodrama about economics, albeit one that takes melodramatic expressionism to horrific heights, the scenes of Avery's diagnosis and treatment are not. Though taking up only a brief amount of the film's running time, their visual distinctness and eerie dispassion punctuate the entire narrative. His body is initially dismantled and analyzed (the barium sequence mentioned above) through a variety of technologies

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[219] A perennial subject in films such as *The Body Snatcher* (Wise, 1945) starring Boris Karloff, *The Flesh and the Fiends* (Gilling, 1960) starring Peter Cushing, and *The Doctor and the Devils* (Francis, 1985) starring Timothy Dalton, all based on the Burke and Hare murders. [*The Doctor and the Devils* was originally to be filmed in 1965 by Nicholas Ray.] For Burke and Hare in particular, and the use of corpses for study in Nineteenth-century England in general, see chapter 6 "Trading Assassins," for the former, and the entirety of Ruth Richardson, *Death, Dissection and the Destitute*, 1 edition (Chicago: University Of Chicago Press, 2001) for the latter.

(mechanical, chemical, electro-magnetic). Then he is integrated, literally, into charts and tables, in a horror show process, the film's equivalent of a transformation scene a la the Wolfman or Jekyll and Hyde. [fig 3.12-14] For arising out of this process is not merely a healthier man, but a more irrational one. Much like Hyde, scientific intervention in the name of taming nature, of rendering it harmless, has created something more destructive in its place.

But the big shift from *Dr. Jekyll and Mr. Hyde* and other older tales of scientifically created monsters, is that in *Bigger Than Life* the scientific intervention, the monster creation is firmly within—and sanctioned by—a modern institution. It is practically forced onto the protagonist, even as the doctors are shown to have little understanding of the side effects of their medication. Ed Avery's body is not merely a site of medical intervention but of medical experimentation. A parade of indistinguishable authorities vouches for and monitors, to a limited extent, the whole endeavor. In contrast, Jekyll, Moreau, Mirakle, and even Murder performed their experiments outside of the public sphere: Jekyll worked on himself; Moreau on animals; and both Mirakle and Murder at the edges of society (their downfall is, in fact, ignited by moving too close to its center). Avery is worked on within the normative dictates of post-war American modernity. And in a sharp contrast to the 1930s experimental subjects (Jekyll aside), he is also consenting, though to a tellingly limited extent: He can only consent.

This chapter analyzes how in the sf-horror films of the mid-50s the individual human body appears as the site not only of experimental medical science, but as the location where all the dangers and catastrophes of modern science converge and express themselves. The human monsters created by modern science and its experimental practices become a way to instantiate a complicated and abstract idea best described by the Frankfurt School's concept of the dialectic of the Enlightenment. In these films, the scientific practices and interventions grounded in the mainstream of the Enlightenment tradition—one that aims to alleviate suffering, liberate man from nature's tyranny, a nature cast as both dangerously unknowable and materially threatening—are themselves monstrous. The monsters they create are atavistic, mythic creatures that run counter to the progressive ideology of modernity and the Enlightenment. They give a shape and image to the sense that not only were science and medicine dangerous to an unprecedented, unacknowledged degree, but that progress itself was dangerous. Yet this sense takes the form of much older fears, precisely the kind of fears progressive science was to assuage. The disenchantment of the world leads to a new world, a reenchanted world where danger can erupt from within and without.

The remainder of this chapter focuses on two strikingly bleak genre films, where contingency and science collude to create victim-monsters: 1958's *The Colossus of New York* (Lourie), and the central text of this chapter, 1956's *The Werewolf* (Sears). Both films harken back to older, canonical horror texts, *The Colossus of New York* to the many iterations of Frankenstein and The Golem, and *The Werewolf* to the long tradition of werewolves and wolfmen. Yet both films represent a thorough updating of this material and sf-horror. They accentuate the former term in order to increase the impact of the latter. They are both products of a post-World War II, Cold War world, one qualitatively removed from the archaic world(s) of their source material.

Of the Enlightenment and Werewolves

Like any existing creed, science can be used to serve the most diabolical social forces.
Max Horkheimer, 1947

The werewolf is a creature that marks the point where the human world (culture, society, history, even technology) and its opposite (the animal or natural) violently meet and commingle. It represents the threat presented by nature to the stability of the human world, but a threat already present in the human world. The werewolf's symbolic power comes from its ability to cross the boundaries between nature and the human but also to blur those boundaries to an extent that reveals their fragility, arbitrariness, and ultimate contingency. The werewolf lives at the stress points of contact between the two worlds, points were the natural world threatens to break its bounds and corrupt the human world. The myth of the werewolf, its eruption and suppression, argues for the necessity of eternal vigilance in controlling the destructive *nature* lurking within the human. Culture and society must set themselves in opposition to the wolves immanent within them. Giorgio Agamben notes how pre-modern Europe used the figure of werewolf to characterize bandits, creatures originally of the city but for the city's own protection have been cast out into the forest. They exist in a liminal state, at the intersection of forest and city, nature and society.

> The life of the bandit, like that of the sacred man, is not a piece of animal nature without any relation to law and the city. It is, rather, a threshold of indistinction and of passage between animal and man, *physis* and *nomos,* exclusion and inclusion: the life of the bandit is the life of the *loup garou*, the werewolf, who is precisely *neither man nor beast*, and who dwells paradoxically within both while belonging to neither.[220]

With the coming of the modern world the werewolf's presence is still felt. If now tamed, its potential to erupt in anti-social violence remains. One finds this characterization in the foundational figure of modern political philosophy, Thomas Hobbes.[221] Carl Schmitt notes, "For Hobbes, the state of nature is a domain of werewolves, in which man is nothing but a wolf among other men, just as 'beyond the line' man confronts other men as a wild animal."[222] Thus, in Hobbes originary project of society is as an attempt to nullify the inherent lycanthropy of man. The werewolf is no longer something that can be expelled but is a creature, a state that must be prevented, defused, and contained. In this light, the werewolf has a particular resonance with the Enlightenment. Metonymically the werewolf is mythic, threatening, uncontrollable nature, the dark and dangerous world the Enlightenment seeks to illuminate and control. While as a monster,

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[220] Giorgio Agamben, *Homo Sacer: Sovereign Power and Bare Life*, trans. Daniel Heller-Roazen, 1 edition (Stanford, Calif: Stanford University Press, 1998), 105.

[221] "At this time he [Hobbes] and he only posed the fundamental question of man's right life and of the right ordering of society. This moment was decisive for the whole age to come; in it the foundation was laid, on which the modern development of political philosophy is wholly based, and it is the point from which every attempt at a thorough understanding of modern thought must start." Leo Strauss, *Political Philosophy of Hobbes*, trans. E. M. Sinclair (Chicago: University of Chicago Press, 1942), 5.

[222] To the European sensibilities of the 16th and 17th centuries, "Beyond the line" means the New World and its open spaces, areas of violent freedom where a state of nature reigns distinct from the civilized, legal spaces of the Old World. Schmitt continues, "The axiom *homo homini lupus* [man is wolf to man] has a long history, which, with the land-occupation of a new world, suddenly became intense and virulent." Carl Schmitt, *The Nomos of the Earth in the International Law of Jus Publicum Europaeum*, trans. G. L. Ulmen (New York: Telos Press Publishing, 2006), 95.

as a literally fantastic being, the werewolf is something to be categorically denied, rendered impossible. It is a site for the Enlightenment's demythologizing project, to inaugurate a disenchanted world. After the Enlightenment, the natural world (and therefore the werewolf as well) is not to be kept at bay but a resource to be dominated and exploited.

> In the most general sense of progressive thought, the Enlightenment has always aimed at liberating men from fear and establishing their sovereignty . . . The program of the Enlightenment was the disenchantment of the world; the dissolution of myths and the substitution of knowledge for fancy.[223]

Theodor W. Adorno and Max Horkheimer's formulation of the Enlightenment project in their *Dialectic of Enlightenment* (from 1944/47) owes an explicit debt to the work of Max Weber. Weber spoke of how the ever-increasing rationalization of reality brings about the "disenchantment of the world," a process which expels the supernatural in all its various guises—e.g., superstition, magic, mysticism, religion. In their place, the world is grasped conceptually and technically as a causal mechanism. Inexplicable phenomena and the unknown are no longer cloaked in the fantastic forms of mythical creatures or esoteric forces but begin to be understood in empirical, quantifiable terms. "[Disenchantment] means," says Weber, "that principally there are no mysterious incalculable forces that come into play, but rather that one can, in principle, master all things by calculation."[224] What happens in the natural world is an impersonal affair; it is a world that is understandable through the application of reason. In the disenchanted world, the unique and the miraculous are shown to be neither of these things but in fact the results of understandable and repeatable processes.

What place then does the werewolf have in the disenchanted post-Enlightenment world? Certainly, the Enlightenment should aim at the werewolf's eradication in both its literal (a magical and therefore impossible creature) and figurative (man in an unenlightened state of nature) forms. Yet the werewolf persists. If anything, 20th century popular culture has only increased the werewolf's presence.[225] The werewolf's most well-known appearances on film before the 1950s, the Universal Studios' 1935 *Werewolf of London* (Walker) and especially the studio's series of films beginning with the 1941 *Wolfman* (Waggner) that starred Lon Chaney Jr. in the title role, both situate the creature at the intersection of modern science and archaic cultures.[226] The werewolf of London is himself a scientist, a botanist. Played by Henry Hull, the character of Wilfred Glendon harks back to *Dr. Jekyll and Mr. Hyde* (Mamoulian, 1931). Like

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[223] Horkheimer and Adorno, *Dialectic of Enlightenment*, 3.

[224] Weber, *From Max Weber*, 139.

[225] Not to diminish the werewolf's popularity in the 19th century. See for example, George W.M. Reynolds, *Wagner, the Wehr Wolf*, [George W. M. Reynolds, *Wagner the Werewolf*, ed. Dick Collins (Ware, Hertfordshire: Wordsworth Editions, 2006).] or for how carried over into the 20th, Montague Summers, *The Werewolf* (London: K. Paul, Trench, Trubner, 1933).

[226] Chaney would reprise his Larry Talbot/Wolfman role in *Frankenstein Meets the Wolfman* (Neill, 1943), *House of Frankenstein* (1944) and *House of Dracula* 1945) both directed by *Island of Lost Souls'* Erle C. Kenton, and *Abbott and Costello Meet Frankenstein* (Barton, 1948). Chaney returned to the Wolfman character in the 1960s in an episode of the TV series *Route 66,* where he plays himself. His final appearance as a werewolf was in the low-budget film *Face of the Screaming Werewolf* from 1964, made up of footage from two Mexican horror films as well as some original footage.

Jekyll, Glendon is shown as an almost isolated scientist, with a private laboratory connected to his house to which no one is allowed access. Yet, like Dr. Jekyll he also partakes in controlled public spectacles. Where Jekyll had his scandalous public talks, Glendon has a public exhibition of exotic and carnivorous plants in his vast conservatory-cum-botanical garden, complete with Latin names. [fig 3.15] A society event, the exhibition's audience mills around alternating titillation and horror. [fig 3.16-17] The center piece of the exhibit is a giant tentacled plant (the Madagascar Carnalia) that eats frogs (perhaps little boys if they get too close).[227] [fig 3.18-19] His botany is not that of an English garden but of distant, primal locations, places at or beyond the edges of the civilized world, populated with plants from the forest, not the city.[228]

Carnivorous plants are themselves boundary breakers in this context. "It makes one wonder where the plant world leaves off and the animal world begins," one character comments at the exhibition. The plants seem like monsters, disrupting the order of nature. The plants are part animal, part vegetable but also something dangerous that a priori categories say should not exist. They have an uncanny sentience, waiting to strike. The plants on display here are also fantastically big, the whole exhibition reminding us of Moreau's impromptu lecture to Parker about his own "monstrous" plants. Glendon's plants' carnivorous aspect is both a physical threat and a metaphysical one, rending both flesh and the laws of nature, opening up the possibility of a werewolf in the process. Yet these monstrous plants are tamed, contained, kept behind glass and ropes, to be observed but never to interact with the human world. That is a task left to the werewolf.

Hull's scientist is a distant character like Dr. Jekyll, both of whom move through upper crust society at a remove from their peers, maintain private laboratories, and closely manage their public personas as scientists. And like Hyde, Hull's werewolf is an identifiably human-monster. It is the first time on film the werewolf was presented as such a hybrid, and in fact, he appears far less wolf-like than almost all subsequent presentations. Not surprisingly Hull's werewolf is visually similar to Hyde as well, dressing up (with coat and scarf) to go out while a wolfman. (He even wears a cap, a complement to Hyde's top hat.) Like Mr. Hyde, Hull's monster maintains his class clothing—if hidden somewhat beneath his less class distinct cloak—and upper-class viciousness. March's Hyde and Hull's werewolf were not alone in the early thirties in portraying their monsters as monstrous in part through upper-class savagery. Recall the invisible man, who is not only likewise bundled up in fine clothing to hide his monstrosity but who's monstrousness first expresses itself through class-based presumptions and demands. And like the invisible man and Mr. Hyde, but unlike most other iterations of the werewolf, Wilfred Glendon is a self-made monster. These monster-scientists contrast with the monstrous scientists of Doctors Frankenstein and Moreau—monster creators—and their unconsenting subjects (zombie masters and zombies fit easily into this category as well). But the monster-scientist's willing participation in their own monstrous becoming, contrasts as well with the 1950s' innocents made into monsters, through science and often as not "consenting," victim-monsters denied knowledge of exactly what they are consenting to.

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[227] The scene of the boy being attacked by the plant was shot but cut before release. In the final film we can still see his mother and Dr. Glendon consoling him. [fig.20]. Brunas, Brunas, and Weaver, *Universal Horrors*, 130.

[228] And perhaps that of the closeted homosexual, see Robert Spadoni, "Strange Botany in Werewolf of London," *Horror Studies* 1, no. 1 (January 1, 2010): 49–71. Spadoni also gives a detailed analysis of the Madagascar plant and the cut scene of its attack.

The Werewolf of London is, moreover, a monster of the rational world. The film presents lycanthropy as having a mechanics of transmission and a chemical suppressant, and as being a site for scientific investigation. In this too, it is like *Dr. Jekyll and Mr. Hyde*, but unlike that film it was not a hit for Universal (perhaps because it was too similar to the earlier film). Yet, six years later the studio returned to the subject of lycanthropy with *The Wolf Man,* starring Lon Chaney Jr. Gone from the 1941 film was science and the scientific milieu and in particular the distant, upper class, English scientist protagonist. In his place we find a sympathetic American and skilled craftsman, Larry Talbot (Chaney). Talbot returns from America to his ancestral home in (the fictional) Llawelly, Wales, an anachronistic village. While the film is definitely in the early 20th century, the presence of a few old cars the main sign of this, the village with its horse drawn carriages seems straight out of the 19th century or earlier.[229] Larry's father even says upon his son's arrival, "we are a backward people." The closest the film comes to science and the scientist is the aristocratic Talbot patriarch Sir John Talbot (Claude Rains), an amateur astronomer. His telescope, a part of which arrives simultaneously with Larry, is the most modern and the most rational element in the film. Yet the telescope and Sir John's astronomy are just barely rational, astronomy having only just separated from astrology with the Enlightenment. The telescope is in fact used by Larry, to view not the stars but the village and its people, and ultimately to see and spy on the attractive love interest. The telescope serves, on the one hand, the interests of the irrational, to gaze and desire; and, on the other, its irised POV shots of the town mirror the film's position itself, a technologically-based peering back in time. The telescope places the town, and the narrative, far away and in the past. The telescope and the film camera, modernity and Hollywood, all project the horror of the Enlightenment's failure "away" in time and space, in effect, turning that failure into the image of success.

The Wolf Man presents a world tenuously located in modernity, one on the edge of atavism. The very beginning of the film is the opening up of an encyclopedia volume to the entry on lycanthropy. It reads,

> "LYCANTHROPY (werewolfism) A disease of the mind in which human beings imagine they are wolf-men. According to an old LEGEND which persists in certain localities, the victims actually assume the physical characteristics of the animal. There is a small village near TALBOT CASTLE which still claims to have had gruesome experiences with this supernatural creature."

The first line spoken in the film is from the driver taking Larry to his father's: "Talbot Castle, Mr. Larry." Like the encyclopedia entry, the viewer and the film start from a vaguely modern perspective but quickly leave it behind. Like *Werewolf of London*, one must leave civilization and go into the past, the primitive world "beyond the line"; but whereas the 1931 film brought back a sliver of the archaic thanks to science, in *The Wolf Man* it is Gypsies (a perennially "backward people") who literally bring the "curse" to the town. In *The Wolf Man* (and many of the werewolf films that followed), the werewolf can only exist in that space between city and forest, whether that space is literal or figural does not matter so much as its depiction as a world where rational explanations and solutions can gain little purchase. Throughout *The Wolf Man* various psychological explanations of the shocking events unfolding are given only to be refuted. The werewolf is a pre-modern evil not subject to science, existing in the realm of the mythic (or

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[229] Some of the set from the 1923 *Hunchback of Norte Dame* was used in the film. Brunas, Brunas, and Weaver, *Universal Horrors*, 268.

at least, the 19th century). Where then can the werewolf exist in the scientifically saturated world of the mid-twentieth century?

The sequels to *The Wolf Man—Frankenstein Meets the Wolf Man* (1943), *House of Frankenstein* (1944), and *House of Dracula* (1945)—steadily bring the Wolf Man closer to science and the contemporary world. In each film, Larry Talbot petitions scientists to cure him of his lycanthropy. Unfortunately, the scientists in the first two sequels become sidetracked by the scientific marvel that is Frankenstein's monster. But by *House of Dracula,* a cure in the form of an operation that relieves "pressure on the brain" is performed, and Talbot is freed of his "curse." A rational, mechanical explanation is given for lycanthropy and a rational, mechanical procedure cures it. The break with rationality in *The Wolf Man* in relation to *The Werewolf of London* was at last mended. The werewolf could exist in the modern world again, but by the 1950s, this was a world brutally disenchanted by World War II.

The post-Holocaust, post-Hiroshima, post-Enlightenment World of *The Werewolf*

The 1956 film *The Werewolf* answers the question of the werewolf's role in the mid-twentieth century, for the concept of disenchantment and its repercussions are at the film's heart. Produced by Sam Katzman (a so-called Katzman quickie) and directed by Fred F. Sears (best known for helming *The Earth vs. The Flying Saucers*), the film is a reworking of the werewolf trope within the scientific-rationalism of the atomic age. Gone are family curses and demonic contagions, traveling Gypsies and ancient warnings, and in their place are experiments with radiation poisoning and the potentials of nuclear fallout. In following the trends of the 1950s, the film is unashamedly a horror tale recast as contemporary science fiction. Janet Staiger has shown that Hollywood has always mixed genres and thus urges critics not to casually declare Hollywood films where multiple genres are found to be hybrids, as there were no pure genres to cross-breed in the first place.[230] That said, there certainly are recognizable patterns (as Staiger agrees) and cycles. Fantastic genre films in the 50s were particularly fluid in their classifications. Rick Altman discusses the exemplary case of *The Creature from the Black Lagoon* (Arnold, 1954), a film recognized and sold as science fiction and as horror depending on which cycle dominated at the time.[231] Moreover, *The Creature from the Black Lagoon* as a "science fiction creature" film was used by Universal to help reclassify in the mid-50s its horror back catalogue, especially its 1930s films, as science fiction films.[232] But even beyond this fluidity, and Hollywood's lack of purity, as we saw in the previous chapters, science fiction and horror have been mixed since at least *Frankenstein* (Whale, 1931). *Dr. Jekyll and Mr. Hyde* (Mamoulian, 1931), *Island of Lost Souls* (Kenton, 1932), and *The Invisible Man* (Whale, 1933) are all explicitly about science, their horrors not supernatural but scientific. The creature from the black lagoon is himself a scientific phenomenon, a pre-historic holdover. Geologists and ichthyologists explain the creature, a very different source of knowledge from the folktales and ancient texts

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[230] Staiger, "Hybrid or Inbred." She sees this a particular problem when scholars and critics engage post-classical or "post-Fordist" films.

[231] And, of course, as a 3D film much as the most important, and one of the only, horror films of the early-50s, *House of Wax* (DeToth, 1953). On the importance of both films as 1950s horror and 3D films see Kevin Heffernan, *Ghouls, Gimmicks, and Gold: Horror Films and the American Movie Business, 1953–1968* (Durham: Duke University Press Books, 2004), 16–42.

[232] Altman, *Film/Genre*, 78–79.

that tend to explain supernatural monsters. The werewolf, though, is a creature with supernatural roots (brain pressure be damned!). There is, then, an unavoidable residue of irrationality even when the figure is rationalized.

The horrors and fears *The Werewolf* conjures up are explicitly the result of the scientific world and the rationalism that underwrites it; that is, the horror is a result of the modern, enlightened world. Prior to this, the werewolf was an image of man's animality breaking the bonds of reason and running amok. The wolfman represents the violent and irrational, out of control *nature* of man that rational and civilizing projects such as the Enlightenment were attempting to dispel and repress. But here, the werewolf is the result of those very same projects. This werewolf is created by a confluence of scientific practices and discoveries. It is a living testament to science's ability not only to dominate nature but also to expand it, to create new 'natural' phenomena that are in turn exploited by science.

The film itself is surprisingly thoughtful and well-crafted for a low-budget B-picture. Historically, however, what little mention the film has received tended to focus almost exclusively on its hybrid quality as a sf-horror film. *The Werewolf* was often reduced to being of interest solely for the generic and economic pressures it represented. One of the only academic discussions of both Sears and Katzman, in Wheeler Winston Dixon's *Lost in the Fifties: Recovering Phantom Hollywood,* only mentions the film three times, twice in passing and once to comment on the economics of its location shooting.[233] The trend is typified by the perfunctory remarks given the film in both the *Horror* and the *Science Fiction* volumes of the *Overlook Film Encyclopedia*. There, in good teleological fashion, the film is essentially a signal for the imminent revival of the horror film that came in the late fifties. "A routine quickie...Its only interest is in the very obvious marriage of genres at a time when horror movies were about to come back into favour after the science fiction boom of the early fifties."[234] The editors speak of the film as an uneasy mix of scientific and gothic universes. The latter justified primarily by the film's use of expressionistic visuals. Yet, the expressionistic visual qualities on display are not simply a throwback to the 1930s-horror cycle but also a reference to the more contemporary noir films. And like many noirs, the world of *The Werewolf* is a nihilistic one, where one's fate is unknowable and undeserved, where accidents trump planning, and where the self is a fragile and ultimately inconsequential concept.

The noir tone is established at the film's beginning. A disheveled, disorientated man stumbles down a dark sign-strewn street and into a bar.[235] [fig 3.21-22] We quickly learn that he is a stranger in town and that he is in a state of shock accompanied with amnesia, and, while appearing to be a vagrant, he has plenty of money. Upon leaving the bar, he is followed by a local who attempts to mug him. During the ensuing struggle the stranger transforms into a werewolf and kills his assailant in an alley. He flees to the mountains abutting the town, called, appropriately enough, Mountaincrest. Then begins a series of pursuits and revelations as the townspeople slowly realize first that they are hunting a werewolf, then that he is an innocent victim – not a drifter as first implied but a family man named Duncan Marsh, the victim of an

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[233] Wheeler W. Dixon, *Lost in the Fifties: Recovering Phantom Hollywood* (Carbondale: Southern Illinois University Press, 2005), 55, 96, 101.
[234] Hardy, *The Overlook Film Encyclopedia*, 106.
[235] Because there are also various visual tropes taken from the Western, this opening sequence itself could be justifiably aligned with that genre as well. The film then can be seen as an amalgamation of four genres: science fiction, horror, noir, and the western. [fig.21]

unethical experiment performed on him without his knowledge. We learn that two doctors conducting their own experiments on the survivability of nuclear fallout have injected him with a radioactive serum. With each revelation, Marsh becomes more sympathetic to the townsfolk, and hunting him becomes an increasingly conflicted affair. The nefarious doctors, too, will join in on the werewolf hunt, but in order to kill Marsh and avoid being incriminated for their part in his transformation. Marsh is eventually captured, which instead of bringing relief to the town makes its inhabitants even more despondent, his very existence a source of anxiety. The doctors take advantage of this mood and attempt to kill the captive Marsh, but he transforms and kills them. He escapes only to be killed by the conscience-stricken sheriff and his posse, in a resolutely downbeat ending.

In taking up the werewolf figure, the film is literally staged at the intersection of city and forest, a small town on the side of a mountain. The natural environment of the mountainside is dangerous; we are told an unprotected human will freeze to death if they remain there overnight. The werewolf, per Agamben, is the only being who can survive in both places but belongs to neither; in town and mountain he finds the spaces of survival. One of the doctors remarks in regards to hunting the werewolf that "if there is a hidden spot in the forest an animal will find it." But even then, we do not see Marsh in the forest. The locations we see the werewolf inhabiting are tentative, human encroachments into an alien, hostile nature—a concrete nook in the side of a hill, an old mine entrance, and finally a dam where he will at last be killed, all locations that seem to erupt out of the natural landscape. Each of these locations is a progressively larger site of exploitation and domination of nature. The werewolf is not only a figure of indistinction between man and beast but also an inhabitant of those points of indistinction between the human and the natural. The town itself can be seen as one of these points, not a metropolis or a suburb but an isolated village accessible by a single road, a space caught between the forest and the city. The nature of this location is brought out by the very image of the werewolf. Unlike the rest of the characters who wear rural clothing designed for hunting and farming, in Marsh's human form he is marked as cosmopolitan, ethnic in appearance, most prominently by black wavy hair and thick eyebrows, and wearing a grey flannel suit. This presentation further heightens the werewolf's liminal "location" as his suit remains intact throughout his transformations. The image he presents is one of the wilderness (wolf) bound up and alternating with the urban (suit), a hybrid of the two, both alien to the town.

This shifting and mixing of registers, natural and human, occurs across the film. It is given its most striking visual form in the final pursuit of the wolfman. Shots cut from the snow-covered ground of the threatening mountain world to the dry earth that spills out onto the highway as the posse close in on the werewolf. The shifts between geographical milieus have been quick throughout the film, generating a sense of hostile wilderness beating at the doors of the town one moment, and of settlement and safety the next. And the end of the opening scene, after the werewolf has killed his first victim, we see him run down a main street that, thanks to the shadows and day-for-night photography, merges into the woods. [fig 3.23] When next we see Marsh, he's human again and waking up, tucked into what appears to be a rectangular, cement culvert, the road it passes under not visible. [fig 3.24] The rear of the doctor's house opens onto the woods, another transit point for the Marsh. He later hides in an old mine, hewn into the side of the mountain. [fig 3.25] Throughout the film, the men hunting the werewolf transition from roads and town streets to the middle of the woods in single cuts. In the werewolf's final moments, he flees first across a bridge atop a dam and then leaps off, only to scurry along the top of the walls of a smaller reservoir, completely exposed to the gunfire of the pursuing posse. [fig

3.26-29] He is trapped by his own logic, forced to exist at the liminal points of nature and man. Each of these points reveals itself to be a trap, dangerous. These points of contact (like the werewolf himself) are the result of the disenchanting logic of modernity.

The Werewolf is the result not simply of the disenchanted worldview but of what that worldview entails in the 1950s, under the glow of the A-bomb and a sense of science run amuck. But the film also displays the more specific influence of the medical experiments undertaken in the Nazi concentration camps. What has become of the Enlightenment project once atomic and genocidal holocausts are historical facts? *The Werewolf* is predicated on a world where all these kinds of horrors are not only possible but inevitable. Further, what makes them possible is that same scientific rationalism that was supposed to banish fear and terror by giving man greater understanding and mastery over nature. Dr. Jekyll and Jack Griffin (the invisible man) harnessed science for mastery over nature and man. The problem with their endeavors was not science per se, but them, the irrational, human element.[236] But here, in the world of *The Werewolf*, it is precisely that understanding and mastery which engenders horrors, horrors more terrible than any lurking in myth.

In its own figurative way, the film elaborates a position analogous to Adorno and Horkheimer's Dialectic of Enlightenment thesis. They argue that the Enlightenment project has unfolded to become the hegemony of instrumental reason, a rationality that is pure instrumentality and has transformed the world into pure functionality. Reason had turned back on itself, destroying the very goals it had originally aimed for. "The human being in the process of his emancipation, shares the fate of the rest of the world. Domination of nature involves domination of man."[237] The scientific reason which denies a rational basis for meanings and values finds itself not outside of values and politics, as it claims, but completely at the mercy of irrational values and politics, at a loss. It finds itself unable to rationally refute the categorically irrational. Science and reason become the preeminent tools of domination and destruction. As Horkheimer and Adorno famously observed, "The fully enlightened world radiates disaster triumphant."[238] This world of disaster is the world of *The Werewolf*. This werewolf, then, is part of not a failed or incomplete project of Enlightenment but of a successful one. Where Adorno and Horkheimer were primarily concerned with the socio-historical results of the dialectic of Enlightenment, how its demythologization and domination of nature is deployed for socio-material gains, *The Werewolf* takes a more ontological or even cosmological approach. As nature is decoupled from the mythic and brought under the hegemony of science, it is literally transformed into something *more* destructive than it had ever been capable of being. Moreover, the destructive capabilities of disenchanted nature are definitively without meaning; the universe is revealed to be catastrophically nihilistic.

A Perfect Science

In *The Werewolf*, as in many SF films of the 1950s, the fear of the atomic age is foregrounded. Once the extent of the atomic bomb's destructive power became more widely

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[236] Recall, though, from the Introduction, that *The Invisible Man*'s screen adaptation already begins to question whether the fault lies with the man or with the science.
[237] Max Horkheimer, *Eclipse of Reason*, A Continuum Book (New York: Seabury Press, 1974), 92.
[238] Horkheimer and Adorno, *Dialectic of Enlightenment*, 3.

known, the American public's initial enthusiasm after the end of World War II became far more conflicted and anxious. The Federation of American Scientist's bestselling paperback *One World or None* and John Hershey's popular *Hiroshima,* first published in the *New Yorker* (August 1946) and then as a best-selling book the following year, helped instill a visceral awareness of the atom bomb's apocalyptic capabilities.[239] And with this new awareness came new fears and thus new narratives to tackle those fears. Michael Scheibach in his study of atomic narratives in the decade following Hiroshima-Nagasaki has shown how Hollywood enacted narratives across genres that tried to come to grips with the epochal change brought about by the atomic and hydrogen bombs. "What comes through in these films are the consistent themes of mass destruction; fear of the unknown; a sense of fatalism in an uncontrollable world; and the struggle for survival."[240] If anything, *The Werewolf* takes atomic fear to a reflexive level – for the same fear of nuclear holocaust that the audience feels is mirrored in the doctors' (the creators of the werewolf) own fears of atomic war. And it is their fear that is the catalyst of the narrative.

The first time we see the two doctors, Morgan Chambers and Emery Forrest, they circle through a lab filled with caged animals, the subjects of their experiments with radiation. The scene itself is an expository one in which they fill in the backstory and explain the origins of werewolf. Dr. Chambers is the more dominant and sinister of the two, gaunt and angular with a strong, authoritative enunciation. We first see him clad in a white lab coat, with shaded goggles obscuring his eyes.[241] He is contrasted with the round and pliant, timidly humanist Dr. Forest. Chambers is instantly cast as the commanding and proactive voice of reason to Forest's emotional and ethical passivity. As Forest voices concerns and qualms they are definitively refuted by Chambers' ratiocination. And it is Chambers who explains their rationale for experimenting on Marsh. In the very near future, atomic weapons will mutate the human race "into crawling inhuman things through fallout radiation." In the course of seeking a way to survive this future, they injected Marsh with a full dose of serum extracted from a mutant wolf which had died of radiation poisoning. Duncan Marsh had been brought to the doctors after a minor car accident, and they took this opportunity to incorporate Marsh into their research program. Marsh's lycanthropy proves their basic premise of fallout mutation, and they hope that by inoculating themselves with small doses of radiated "serum" they will acquire immunity. In the post-apocalyptic future, they and a select group of individuals with whom they will share their discovery – the only human survivors – will build a better world on the ruins of the old. Marsh is expendable in the name of the future of humanity, that is, for the coming master race. Chambers punctuates his description by declaring this future as a world "without hate," while jabbing a caged dog with a stick and directing his final word to its angry reaction.

In this brief moment, we are witness to a mini demonstration of the film's own dialectic. Science deliberately generates violence and then an even greater violence and destruction to counter it and declares the resultant wasteland progress. The lab is filled tight with cages, themselves packed tightly with confined animals (cats, dogs, guinea pigs, hamsters, and rats). In many ways, the lab looks like a converted garage, except for a strange irradiation chamber

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[239] See Boyer, *By the Bomb's Early Light*, 76–81. Scheibach, *Atomic Narratives and American Youth*, 157–59.

[240] Scheibach, *Atomic Narratives and American Youth*, 151.

[241] This may remind us of Dr. Montgomery, Moreau's assistant in *Island of Lost Souls,* when Parker bursts in on their operation or perhaps the unnamed doctor running Ed Avery's barium test in *Bigger Than Life.*

containing a corpse of a wolf. Before Chambers jabs the dog, he absent-mindedly feeds cats, while continuing his monologue. He doesn't notice or care when the food he presents to one of the cats drops to the floor instead. The cat desperately tries to reach for it, extending its paw through the bars in its cage, as Chambers prattles on in the foreground, unaware. Instead, he continues pontificating about the new science. In the name of science, the dog is put in a *hostile*, uncomfortable environment and treated *hostilely*, so that when he displays *hostile* reactions in response to this treatment, he can be declared *hostile*(!) and a problem to be solved, much like the radioactive future being prophesied.

The narrative is conveniently obscure about what the source of this radioactive future will be. This ultimate end-point described by Chambers resonates, of course, with the image of National Socialism but in an apocalyptic key. Moreover, Michel Foucault shows us how Nazi ideology already parallels Chambers apocalyptic vision. "Exposing the entire population to universal death was the only way [the Aryan race of National Socialism] could truly constitute itself as a superior race and bring about its definitive regeneration once other races had been either exterminated or enslaved forever."[242] In the film, instead of the violence being brought on by a god, race, nation, or individual it will occur due to an immanent possibility inherent in science. Doctor Chambers states that "they will make the hydrogen bomb more powerful then more powerful again." But it is unclear whether it is a nuclear war or merely the development and testing of these weapons that is the cause of this future nuclear apocalypse. It seems that the weapons' mere creation is enough to bring forth catastrophe. The only thing that is sure is that holocaust is inevitable and unavoidable. It is inevitable not because of politics or irrational emotions, as is so often the case in 1950s science fiction films, but because "the science of destruction always gains on us." And a few lines later, after detailing their post-apocalyptic future, Chambers declares in regards to this science of destruction, that it is "the perfect science, the one that ends all science."

The scene lays out the complex forces that go into the making of a werewolf, what it takes to turn humans into monsters – a science of destruction, a science that engenders the most unethical of behaviors, a "perfect" science. Science is presented as immanently inhuman and dehumanizing, a proposition we see figured in radioactivity (the result of science's avant-garde) and its transformation of humans into beasts. Science ironically puts all of humanity at risk. The two doctors' scientific methodology, in good Weberian fashion, effectively reduces individual human lives to mere quantities easily inserted into cost/benefit calculations. Moreover, we see that once human life is quantified, particular humans can more easily be evaluated against numerical norms, a standard deviation away from being deemed "lives not worth living." And this is what has happened to Duncan Marsh at each juncture. At the end of the doctors' conversation, Chambers concludes that Marsh must be killed. Over Dr. Forrest's protests he declares, "You think he wants to live after what he's become? It'll be an act of charity." A project for the survival of the human race has arrived at its inverse—imperative euthanasia.

Probing the Limits

These doctors and their scientific practices are not modeled after mad scientists of the Dr. Frankenstein and Rotwang sort. They are not overreaching Fausts but mid- (even low-) level 'technicians' in a vast complex of scientific practices. Their real-world inspiration then is not the

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[242] Foucault, *Society Must Be Defended*, 260.

scientists of the Manhattan project, but the equally contemporaneous historical figures of the Nazi doctors and their infamous concentration camp experiments. The Doctors' Trial at Nuremberg in 1946 brought systematic medical atrocities into the public consciousness. Americans read in their daily papers that 23 doctors were indicted for crimes against humanity involving a massive euthanasia program and "brutal medical experiments."[243] Doctors in pursuit of medical knowledge, that is, working within a scientific paradigm, treated humans like lab rats. In *The New York Times* the public would encounter much hyperbolic implication—"experiments so horrible that at first they seemed incredible"—but also disturbingly specific details of sterilization, bone and muscle transplants, experiments in freezing and poisoning, and the deliberate inoculation with diseases. Throughout this reportage, what happened in the camps is consistently referred to not as torture or punishment but as medical experiments. There is no claim that what the doctors did was not science. In November of 1945 in *Time Magazine*, the findings of these experiments are unabashedly taken as valid scientific knowledge and deployed as such. The article begins, "While collecting evidence against Hermann Goring, the war criminal, Allied investigators learned much about Goring the scientist." The article discusses the hypothermia experiments on political prisoners Goring initiated and the findings that came out of the experiments. These findings are legitimate, sanctioned by the American government. "The victims did not respond very well to cold compress, commonly used in cold-water immersion cases. More effective was hot water, which the investigators have recommended to U.S. lifeguard and rescue services."[244]

Nazi experiments became a recurring reference point throughout the late forties and early fifties, including in some very strange and unexpected places. An uproar in Seattle over fluoride in 1952 likened fluoridation to Nazi experimentation.[245] Also in 1952, the Chinese would accuse the UN of "performing Nazi-style medical experiments" on Chinese and Korean POWs. Perhaps most striking was a 1946 ad in *Newsweek* for the Scripps-Howard news service boldly declaring, "The power that stopped murder-by-medicine . . . can stop murder-by-war." The ad shows a caricature of a fiendish physician in the upper right-hand corner and a large image of Hitler center-left. [fig 3.30] Only a free press can protect us against these two modern scourges, the ad concludes. Here we see that medicine itself can be as evil as Nazism without necessarily being Nazi medicine. The ad seems to argue that we need equivalent protection from both doctors and Nazis. If medicine was now a potential evil thanks to the Nazis it was also pushed into the realm of the fantastic; the light cast on the medical experiments performed in the camp presented a vision of medicine and its milieu that existed beyond the pale, licensing the public imagination to do likewise. In February of 1951, *The New York Times* published a "believe it or not" style piece about a South Chicago woman who was found completely frozen yet alive. "'Even her eyeballs,' says Dr. Laufman, 'were crystal hard. They were like two glass beads.'"[246] The doctors were able to revive her though her temperature had been 64.4 degrees. The article mentions how this

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[243] *New York Times*, Dec 26, 1946.
[244] *Time Magazine*, "Scientist G," Nov.19, 1945. For a more recent analysis and debate over the Dachau hypothermia experiments see Section 3 "The Use of Information from Nazi 'Experiments': *The Case of Hypothermia"* in Arthur L. Caplan, ed., *When Medicine Went Mad: Bioethics and the Holocaust*, Contemporary Issues in Biomedicine, Ethics, and Society (Totowa, N.J: Humana Press, 1992), 95–172.
[245] *New York Times*, March 10, 1952.
[246] *New York Times*, Feb. 19, 1951.

exceeds the limits of exposure to low temperatures done in the concentration camps. The Nazi findings are unemphatically referenced, merely the best data available.[247] The legacy of Nazi medicine is found at the very limits of human experience. It is as if not only ethical and moral limits were transcended, making their transcendence immanently possible, but also the physical limits of human bodily existence as well.

Not surprisingly, this atmosphere affected horror films. Kevin Heffernan in his *Ghouls, Gimmicks and Gold* refers to a 1957 interview with Jimmy Sangster, screenwriter of the highly successful *Curse of Frankenstein* (Fisher) from 1957, the film that restarted the horror film cycle. Sangster asserts, "so many horrible things have happened" since the release of the 1930s Frankenstein films that one needs to be "really tough to get the desired reaction."[248] Heffernan notes that the Hammer Frankenstein films "made many of these parallels explicit, with the Josef Mengele-like Baron Frankenstein presiding over a free clinic, whose impoverished patients unwittingly provide parts for his experiments."[249] Two scenes from *The Revenge of Frankenstein* (Fisher, 1958), also written by Sangster, exemplify this new approach. In the first, Doctor Frankenstein (played by Peter Cushing) casually moves through the recovery ward of the clinic, examining patients in a seemingly mundane manner, until he comes across a man with an arm that attracts his interest (a tattoo on the arm visually marks it for us). The apparently healthy arm must be removed, he declares, and immediately. The full sinister import of this scene becomes clear when later we see Frankenstein's lab. Laid out in a row of glass cases are discrete body parts, a pair of eyes (nerves dripping away) and the aforementioned arm, networked through electrodes. Frankenstein brings a flame near the eyes, which follow its course. When he brings the flame close to the arm, the eyes still tracking it though in a separate jar, the arm tries to get away. The eyes have communicated to the arm via the makeshift, electro-mechanical nervous system Frankenstein has created. The young doctor for whom he is performing the demonstration is dutifully impressed. The brutality of what is done is not questioned by either doctor, nor are there any ethical concerns voiced by any doctor in the film over any of the experiments undertaken.

The iconic image of mad scientists is of men who cross forbidden boundaries due to personal obsessions and flaws, men who revel in their cruelty and power. This was a role Mengele was cast in to such a degree that he has become a singular emblem of ethical transgression as opposed to an individual within a larger institutional apparatus, a particular instance of endemic practices.[250] But the mad scientist is not a role to which the rather pedestrian doctors of *The Werewolf* are suited. Beyond a cold (if not ruthless) callousness, Doctors Forest and Chambers are generally shown to be simply working through the logic of their situation in good scientific fashion. Their scenes are typically focused on their reasoning process as they explicate their actions and rationales. They are presented as scientifically justified, that is, as

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[247] For more on the post-war history of the hypothermia experiments see the section "The Use of Information from Nazi 'Experiments' *The Case of Hypothermia*" in Caplan, *When Medicine Went Mad*, 95–170.

[248] Heffernan, *Ghouls, Gimmicks, and Gold*, 49.

[249] Heffernan, 50.

[250] The image of Mengele as monster is so strong as to preclude any consideration of him as a scientist. This is perhaps not accidental (see below). For a different approach to the Mengele question see Mario Biagioli, "Science, Modernity, and the 'Final Solution,'" *Probing the Limits of Representation*, 1992, 204.

eminently rational in their progression from experimenting on animals then on people and finally to the murder of a 'life not worth living.' There are no ontological boundaries—between good and evil or god and man—for them to cross, as the scientific worldview they and the film subscribe to has eliminated these metaphysical oppositions and limits. Now, certainly the doctors of *The Werewolf* are unethical, desperate, and criminal—none of which, though, is connected to their abilities as scientists or to their findings.

That their knowledge is not aberrant is made explicit when the town's doctor, the representative of the humanist tradition in the Enlightenment, says in response to the sheriff's question "Well, if it's beyond anything men know, how could somebody do it?" "It's a frightening thought that a single human being out of all the millions and millions could have attained that kind of knowledge." The power to turn people into werewolves is not then diabolical or arcane knowledge, something unnatural, but is, like nuclear weapons, a powerful (and frightening) fact to be discovered. The way the doctor states it, the discovery of new, apocalyptic knowledge is simply the effect of probability ("one out of all the millions"). The film brings us up against the fact that scientific knowledge, no matter how horrific we may find its application, cannot be evil, by definition, such knowledge only amounts to hitherto unknown facts. Thus, the town doctor—in his own way a practitioner of science—enumerates science's recent achievements such as synthetic diamonds and artificial hearts and concludes ominously, "Every day, science and medicine start up new roads." The sheriff completes the doctor's thought, "And you think Duncan Marsh is one of these new roads." Werewolves are just another scientific achievement—like artificial organs or hydrogen bombs.

The Dictates of Inhumanity

In presenting science as a rational, enlightened enterprise that is also in essence compatible with atrocity, the film registers an anxiety that was difficult to articulate and admit. If the inhumanity of nuclear weapons could be obscured in the quagmire of Cold War rhetoric, then the scientific aspect of Nazi medical experimentation had to be denied outright. The 1949 book *Doctors of Infamy* provides us with a signal example of this. The book is a collection of Nazi documents presented at the Nuremberg trials detailing the various experimental programs undertaken in the camps and their findings. The book opens with a series of statements from key American figures at the trials. In the first, Andrew C. Ivy M.D., medical scientific consultant to the prosecution and an important figure in formulating the Nuremberg Code for ethical research with human subjects, asks and answers the question "Were the criminal medical experiments carried out in Nazi Germany of any real scientific value? As a matter of fact they were not."[251] The argument Ivy proceeds to make in support of this statement has nothing to do with the empirical or methodological qualities of the experiments but with the moral and political factors surrounding and impelling them. He appeals to a spirit of science ("to seek the truth for the good of humanity") and the figure of the "true scientist" who embodies this spirit. This line of reasoning culminates in the very unscientific equation "The German scientists had become immoral and dishonest, therefore their achievements were of a pseudo-scientific character."[252]

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[251] Andrew C. Ivy, "Statement," in Alexander Mitscherlich and Fred Mielke, *Doctors of Infamy, the Story of the Nazi Medical Crimes*, trans. Heinz Norden (New York: H. Schuman, 1949), xi.
[252] Mitscherlich and Mielke, xii.

Ivy's attitude was neither atypical nor transient. Writing in 1992 on then current historiography, Mario Biagioli critiques the predominant tendency among historians of Nazi science: their attempt to portray Nazi science as exceptional, an anomaly.

> They seem to share a common denominator in that they generally reflect an essentially positive view of science, one which stands in the way of recognizing what some Nazi doctors did as 'science.' Such a representation of science seems to reflect not only appreciation of the cognitive effectiveness of the scientific method but also a belief in the symbiosis between science and the values of modernity as expressed in the culture of Western democracy . . . the belief in this symbiosis goes back to the Enlightenment.[253]

Thus, Nazi science is cast as pseudo-science or perverted science or simply not science at all. Yet as Biagioli shows Nazi science is problematic precisely because it is science. During the Doctors' Trial the defendants attempted to use the very normalcy of their science vis-à-vis experimental subjects as a defense, producing "a list of fifty-three non-Nazi publications reporting human experiments on convicts, immigrants, invalids, children, soldiers, nurses, and sanitation employees."[254] Some of these experiments were "conducted in the United States." This evidence did not exculpate them then nor does it now, but it does help us to understand that science does not have a special symbiotic relationship with the positive values of the Enlightenment. It is as Horkheimer observed in 1947, "The objective progress of science and its application, technology, do not justify the current idea that science is destructive only when perverted and necessarily constructive when adequately understood."[255] And the werewolf was far from the only figure caught in the tangle of constructive/destructive science.

Astride Colossus

> *Fantastic! Fantastic! You create any more like this you put the human race out of business.*
>
> *The Colossus of New York*

1958's *The Colossus of New York* is another of *Frankenstein*'s progeny, a representation of science pushing boundaries between life and death. The film tells a tale of cybernetic resurrection, one that works through science's dialectic of construction and destruction at two registers. Like *Bigger Than Life* and *The Werewolf*, the film centers on a father figure upon whom catastrophic contingency has fallen. This contingency creates an opening for radical scientific intervention to occur. World-famous scientist Jeremy Spensser is struck down by a car as he chases after his son's balsa wood airplane. He had literally just gotten off an airplane (commercial not balsa) returning from Switzerland and his acceptance of the International Peace prize (the Nobel in all but name) for his work on increasing food production, when the winds of chance blew his child's plane out of the boy's hand and into oncoming traffic. The personal tragedy of his death is quickly turned into a global one by Jeremy's father, a famous brain surgeon. He interprets Jeremy's death as a loss for humanity in general, making this loss a justification for 'resurrecting' him as a brutish cyborg. This cyborg visually evokes Frankenstein's monster and, especially, the Golem of Prague. This Colossus is bulky and blocky.

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[253] Biagioli, "Science, Modernity, and the 'Final Solution,'" 185.
[254] Biagioli, 192.Ibid., 192.
[255] Horkheimer, *Eclipse of Reason*, 58–59.

[fig 3.31] Played by the 7'4" Ed Wolff, he towers over everyone around him, his face impassive, unmoving, and indistinct, his voice given a sheen of electronic processing. [fig 3.32] He is a horror show from the very beginning.

Jeremy's return to life is traumatic. And he is at first almost pre-verbal, struggling through feedback and distortion, as he forms random, staccato syllables, between basic words. That is, until he sees himself in a mirror and lets out an inhuman electronic scream at his condition. After Jeremy's initial horror at being a quasi-life, a brain implanted in a sensationless robot body, he acclimates himself to his father's desire that he continue his scientific work. As the film progresses he gains in both physical abilities—tapping into broadcasts, mind control, seeing at a distance, death rays—and inhumanity, becoming disdainful and angry (especially at his brother, who has designs on Jeremy's widow and is subsequently killed by Jeremy). The only human contact he craves is with his young son, who thinks him a friendly giant. When at the end of the film Colossus has gone on a killing spree at the United Nations (because it is full of humanitarians, of course!), it is the son who gets through to Colossus and helps him commit suicide.

The (monstrous) transformation of the humanitarian Spensser into the inhuman Colossus occurs in a hidden, secluded location: the basement of the Spensser family's bedroom community estate. This seclusion is of a piece with many of the films I have been considering but it has a telling difference. This seclusion is different from that in *The Werewolf*. There the country doctors and their experiments are far from urban and institutional settings.[256] In contrast, *The Colossus of New York* integrates its monster and monstrous practices into the institutions, networks, and ideology of the modern world and modern science. The lab's spatial seclusion, and thus the outré quality of the transformation, is belied by both the lab and transformation's inclusion in various 20th century discourse networks, creating a monster appropriate to them. Friedrich Kittler, who coined the term "discourse network," revealed how Bram Stoker's *Dracula* is a novel about the rise and power of media technology and bureaucracy in the 19th century. It is a novel not so much about the flow of corruption from the backwards East to the enlightened West, as it is about the triumph of new technical networks and systems (typewriters, postal systems, cataloging, phonographs, etcetera) over older forms. Technologized writing is the hero of *Dracula*. *The Colossus of New York's* tale moves through the mass technologies of the 20th century—TV, radio, film, newspapers, telephones. In the film, the discourse networks (*Aufschreibesysteme*) of science exist.[257] They are invisible networks of thought transference.[258]

The beginning of the film opens with a living room screening of an industrial film. From the very beginning, boundaries between "living" and industry, between technical media and domestic locations are collapsed, with automation uniting them all. The first images shown in both the film and the film within a film are of automated manufacture, wherein Jeremy's brother's latest invention, an automated heat sensor for industrial manufacture (a cybernetic piece of technology), is exalted as an epoch-heralding achievement. The film within a film is all machines working, laboring, producing. Only two humans appear, and then only briefly. The first does nothing but walk off screen, almost embarrassed to be seen next to the 'real' worker.

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[256] Though not as far removed as Dr. Moreau's practice!

[257] Gill Partington, "Friedrich Kittler's 'Aufschreibsystem.,'" *Science Fiction Studies* 33, no. 1 (March 2006): 53–67.

[258] They are much like those of schizophrenic Daniel Schreber, the inspiration for Kittler's *Aufschreibesysteme*. See below.

The second is little more than an arm to the far right of the screen. Humans are not needed here, as per the onscreen text in the film trumpeting the heat sensor's use in a variety of "automation applications" and "overall plant control." Before *Colossus of New York* has introduced any of the characters, we are oriented by automation *and* cybernetic thinking. The 'heat sensor,' (a networked thermometer) touted in the industrial film is a basic feedback device and the foundation of a non-human manufacture, part of "the machine that works like a man."

Historian of technology Otto Mayr describes a historical opposition between types of automata, both as figure and technology.[259] On one side was the clock and on the other were feedback-based or *self-regulating* mechanical devices. The clock (and the automaton as well) is rigid and unyielding in the execution of its functions. There is a hierarchy; everything is in its place, doing its specific task—a static construction. As Mayr shows, the clock metaphor was marshalled for understanding and justifying authoritarian systems and regimes, a ready-to-hand image for an idealized power. Likewise, Foucault took pains to point out that early-modern era automata were "small scale models of power."[260] Thus, as we saw in chapter one, clockwork and automata are both on the disciplinary side of biopower. Conversely, Mayr shows the affinity of self-regulating devices to liberal conceptions of society, including such ideas as the "invisible hand" and "checks and balances"—processes that work on the principles of equilibrium and feedback. A feedback device is always part of a dynamic system, and democracy and capitalism are preeminent examples of dynamic systems. Feedback and self-regulation, unsurprisingly, fall on the biopolitical side of Foucault's biopower. When Foucault attempted to chart the origins of contemporary biopolitics within liberal thought and practice, he turned to the rise of neoliberalism in the post-World War II epoch, the same epoch as *The Colossus of New York*.[261]

The film itself characterizes cybernetics as a double-edged sword, a powerful, potentially world-saving practice with dangers to which its practitioners and adherents are blind. With much verve, Jeremy exclaims upon seeing the industrial film at the beginning of *Colossus of New York*, "Fantastic! Fantastic! You create any more like this, you put the human race out of business." This claim not only foreshadows his own dehumanization but also his brother's involvement in his monstrous transformation into colossus. (Moreover, the heat sensor was, we are told, Jeremy's idea.) This moment is also, however, a broader commentary on cybernetic thinking as a whole. There are echoes in Jeremy's enthusiastic statement to the titles of Norbert Wiener's 'popular' books on cybernetics, *Cybernetics: Or Control and Communication in the Animal and the Machine* (1948) and *The Human Use of Human Beings* (1950, revised 1954).

Jeremy is continually shown enmeshed in modern networks of science and technology and the proto-networks and systems thinking that undergirds the film—newspapers, awards, television broadcasts, radio broadcasts, United Nations' meetings. As Colossus, he is a cyborg, *avant le lettre*, a cybernetic organism, an identity that emerges from a human-machine network. He is an entity made possible by cybernetic thinking and its reorganizing of the world such that animals, humans, and machines can all be treated and understood in the exact same fashion, to the ends that they can be productively intermeshed.

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[259] Otto Mayr, *Authority, Liberty, & Automatic Machinery in Early Modern Europe*, Johns Hopkins Studies in the History of Technology, new series no. 8 (Baltimore: Johns Hopkins University Press, 1986).

[260] Foucault, *Discipline & Punish*, 136.

[261] Michel Foucault, *The Birth of Biopolitics: Lectures at the Collège de France, 1978-79*, ed. Michel Senellart (Basingstoke [England] ; New York: Palgrave Macmillan, 2008).

Norbert Wiener, Julien Bigelow, and Arturo Rosenbluth's foundational paper from 1943, "Behavior, Purpose, and Teleology"[262] derived from their grappling with the problem of anti-aircraft servomechanisms. It was written during a period of World War II when enemy aircraft were flying faster and higher than before; British antiaircraft guns were missing too many of German planes attacking England. The animating question was how to better integrate not just plane and gun, but pilot and even gunner into the same system.[263] Wiener, a mathematics prodigy, had already been working on a nascent computer science, but the antiaircraft problem would lead to the founding of 'cybernetics.'

> His early efforts at computation and antiaircraft fire coalesced in a remarkably ambitious calculating device that he called the "antiaircraft (AA) predictor," designed to characterize an enemy pilot's zigzagging flight, anticipate his future position, and launch an antiaircraft shell to down his plane. But Wiener's electronic manipulation did not stop with halting Nazi air attacks. In the course of characterizing the enemy pilot's actions and designing a machine to forecast his future moves, Wiener's ambitions rose beyond the pilot, even beyond the World War. Step by step, Wiener came to see the predictor as a prototype not only of the mind of an inaccessible Axis opponent but of the Allied antiaircraft gunner as well, and then even more widely to include the vast array of human proprioceptive and electrophysiological feedback systems…Finally, the AA predictor, along with its associated engineering notions of feedback systems and black boxes, became, for Wiener, the model for a cybernetic understanding of the universe itself[264]

"Behavior, Purpose, and Teleology" begins laying out what that understanding is. In the essay, what is being studied and analyzed are not humans or machines or animals, but events, objects, entities and their behavior put into terms of output and input, output and input in service of a purpose. This general and abstract framework can in theory accept any entity (an animal, a man, a machine, or any combination of them). Conversely, one can then understand any of these entities as qualitatively indistinct. Thus is born a "new physics," a universal science; almost all behavior then could be formalized into goals achieved via negative feedback. Was cybernetics that perfect science of which Chambers spoke in *The Werewolf*?

Lily E. Kay described the paper in hindsight as follows: "A kind of manifesto for a new form of knowledge, this military-inspired theory was a cognitive implosion, conflating categories and hierarchies that until then had determined the analysis of behavior."[265] We should understand that this new form of knowledge has two critical features. The first is the radical blurring of boundaries between phenomena—living, constructed, or otherwise.[266] This is an idea we have been tracking broadly since Descartes and specifically beginning with the figure of the zombie.

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[262] Arturo Rosenblueth, Norbert Wiener, and Julian Bigelow, "Behavior, Purpose and Teleology," *Philosophy of Science* 10, no. 1 (January 1, 1943): 18–24.

[263] Paul N Edwards, *The Closed World: Computers and the Politics of Discourse in Cold War America*, Inside Technology (Cambridge, Mass: MIT Press, 1996), 180–87.

[264] Peter Galison, "The Ontology of the Enemy: Norbert Wiener and the Cybernetic Vision," *Critical Inquiry* 21, no. 1 (October 1, 1994): 229.

[265] Lily Kay, *Who Wrote the Book of Life?: A History of the Genetic Code*, 1 edition (Stanford, Calif.: Stanford University Press, 2000), 81–82.

[266] See Galison's discussion of Wiener's categories of Manichean and Augustinian evil, and Galison's conclusion that the categories ultimately collapse into each other in cybernetics. Galison, "The Ontology of the Enemy," 231–33, 266.

What is different here is both the open-ended erasure of potentially any boundary separating entities and a concomitant break down of the boundaries that delineate an entity. That is to say, not only are humans, machines, and animals functionally the same but they are now also just a collection of situational components integrated into a system, components whose distinction is not composition or origin but function. Where the zombie was the human seen as machine, grounded in the conception of animals and machines as functioning through the same physical principles, now, with cybernetics, they are simply the same, organized around universal principles of purpose and feedback. Ed Avery in *Bigger than Life* was thus broken down and reconstituted within a cybernetic paradigm as an Avery-barium-X-ray system and then subsequently a chemical-pain system.

This paradigm is dynamic (thanks to feedback), but also interventionist; purpose helps organize and re-organize systems, and purpose can justify or advocate for different and/or modified components in the name of achieving its goal. And the goal is the thing. Entities have no essential quality but are a concatenation of goal achieving qualities. This leads to the second feature: once the old boundaries between humans, between humans and animals, between animals and machines are torn down one can start combining components across those old boundaries. We saw a similar phenomenon occur across primates in chapter 2, the mixing of blood and the attempts at cross fertilization.[267] *The Werewolf* referenced a more radical mixture between wolf and man, a harbinger of genetically modified organisms. Cybernetics spawns a creature: the cyborg, a cybernetic organism, that freely combines components from different (old) domains into one entity.[268]

Paul Edwards argued that "Behavior, Purpose and Teleology" used "analyses of humans as components of weapons systems as a central source of analogies."[269] In the film we see Colossus interact with telecommunications networks and radio networks. He initially exists entirely within these techno-systems, his voice radio-projected, and he interacts with these networks without an intermediary. Like in the case of schizophrenic Daniel Paul Schreber, an invisible network beyond man's ken relays images to him causing him distress.[270] But one sequence of images, he reports to us, becomes clear: a passenger ship in the fog and its collision with a freighter. The images overwhelm him (the soundtrack dominated by harsh, electric crackling) and he howls in pain. His father shuts him down. In the next scene, taking place the following day, we see the father watching a news broadcast on television about the shipwreck, the announcer proudly declaring that these are the first images of the accident. Another invisible network (television) has made visible the first (Colossus's seeing-at-a-distance) much as the discourse networks of 'science' are made visible through the figure of Colossus and his worldview. More importantly, the film represents these discourse networks (i.e., modern science) as being amical if not encouraging of a kind of dehumanized utilitarianism, one that quickly slides down a slippery slope to negative eugenics and finally fascist-tinged extermination practices.

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[267] And subsequent films went even further than those discussed in chapter 2, for example, *The Monster and the Girl* (Heisler, 1941) having a human mind transplanted into a gorilla's body.
[268] For an overview of the history and theory of the cyborg in both its literal and figural iterations see Chris Gray, *The Cyborg Handbook*, 1st ed. (Routledge, 1995).
[269] Edwards, *The Closed World*, 181.
[270] Daniel Paul Schreber et al., *Memoirs of My Nervous Illness*, Revised ed. edition (New York: NYRB Classics, 2000).

Jeremy/Colossus steadily advances to the point where he can declare some lives not worth living and organize a critical practice around this concept, much as Chambers and Forest in *The Werewolf* had justified their actions. But also echoing the speech Ed Avery gives at parent-teacher night while in a manic phase, all his earlier ideals of a compassionate pedagogy removed. Towering over the parents he tells them their children's art is terrible and a waste of time, that their children are morons, that "we're breeding a race of moral midgets" and that "childhood is a congenital disease." It is suicide to coddle children in any way when "the world is ready to blow up." And he finishes by laying out a standard authoritarian solution, "hard work, self-discipline, and a sense of duty," as what schools should be teaching.[271]

Colossus, who in his previous life sought to make food available to everyone, now asks, "why create food for the maimed and the useless, why should we work to preserve slum people of the world?….unfortunately there are these so-called humane scientists…who try to keep this human trash alive." In this articulation of a scientific ideology (of the Social Darwinist type), the humanist-inflected science used to discredit the Nazi doctors is no longer the solution but the problem. It constrains science to the detriment of the human race, much as inferior specimens do to the species in eugenics. Colossus embodies a violently rigid morality (or ethos), inflexible like himself. The image of Colossus, a quasi-giant, bulky and lumbering with humanoid features but simplified and immobile, is designed to evoke such creatures as The Golem (a brutish instrument) and Karloff and his successors' Frankenstein's Monster (a pre-rational primitive). Yet Colossus's appearance ultimately serves a more up-to-date purpose, an instantiation of unbending, inhuman reason. He is like the moral robot described by cybernetist Warren McCulloch, the rules programmed in, unable to change or to act freely.[272] The moral robot is not an ethical robot, and like Colossus, not a desirable robot (we can easily see this fear of moral rigidity informed by the ideological antagonisms of the Cold War).

From its opening line about putting "the human race out of business," the film has agonized over science's slippage into simple mechanistic materialism. Concomitantly, the film continually implies that modern geopolitics and science work in tandem, inseparable, pushing each other forward beyond the controls and oversight of humanist traditions. The boundaries of science itself are pushed and broken as well. By the end of the film, Colossus has mind-control power and death-ray eyes. No rationale or material explanations are given for these powers. Their logic is mythic and their source a fear of science seemingly capable of anything. And while the fear of science in the atomic fifties is almost mundane in its pervasiveness, what is most pertinent here is the way the films under discussion have figured that fear in intimate contact with the individual human body. In all three films, it is medicine that opens up the body to the predations of science. Medicine's power in these instances is its twofold nature: first as the most humane of human sciences, seeking to ameliorate individual human suffering; and second in its technical ability to affect the specific individual body. The first is often figured as the *ends* to second's *means.* But as we have seen, the distinction and separation of the two is a just-so story. The technical "means" are an end in themselves, justified not simply by the ends of humanitarianism but its own technical achievements.

"Now they know it's possible."

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[271] He tells one mother her "daughter at her present stage of development is roughly on an intellectual par with the African gorilla."

[272] Warren S. McCulloch, *Embodiments of Mind* (The MIT Press, 1988), 199.

The German compilers and commentators of *Doctors of Infamy,* Alexander Mitscherlich and Fred Mielke, are far closer to Adorno and Horkheimer in their assessment of modern medicine post-World War II than Andrew Ivy or someone such as Robert Lifton.[273] Mitscherlich and Mielke also use the language of philosophical and historical disaster, of human strivings turning back on humanity. One of the earlier German titles of the book more aptly reflects this, *Wissenschaft ohne Menschlichkeit* - Science without Humanity.[274] In tune with the Frankfurt School, they did not see the elimination of fascist atrocities as entailing the elimination of their conditions of possibility. "A profound inhumanity had long been presaged. This is the alchemy of the modern age, the transmogrification of subject into object, of man into a thing against which the destructive urge may wreak its fury without restraint."[275] In this new age, no humanitarian concerns need impede one's actions vis-à-vis an object.

The Werewolf similarly registers this transmogrification, here given form in the shape of a wolfman. The figure of the wolfman is part of the overarching thematic that is structuring the film – the intersection of a disenchanted nature and the human. The disenchanted world is one that has by definition come under human control and domination. At the same time, this nature is reinscribed further and further into the human's being, enabling the further control and domination of humanity. Thus, this intersection is also one between scientific techniques and knowledge and the human. This helps explain why in *The Werewolf* it is not research scientists who are the villains (as in so many 1950s science fiction films) but medical doctors. For medicine is readily understood as humanity's most intimate point of contact with science. The doctors and the werewolf serve to give an immediate tangible form to the impersonal, incomprehensible global catastrophes of the Holocaust and Hiroshima-Nagasaki, to give abstract science and its impersonal effects a "human" face.

Historian of science Robert Proctor in his two studies of Nazi medical science posed the question, "What is science that it so easily flourished under fascism?" *The Werewolf* attempts to answer not only this question but also the question of what science is when in the name of humanity it can destroy a person or the whole world. What happens when one's irrational fears and terrors are not assuaged or conquered by the quest for knowledge but given new terrible life, transformed from ephemeral fantasies and nightmares into unassailable facts? When one confronts the realization that the disenchanted world ushers in a nihilistic universe, a universe where good has no greater claim to dominion than evil, where an undeserved death is guaranteed and life as a living hell all too probable? These facts are nigh unbearable and *The Werewolf* acknowledges them as such. After Marsh has been captured, most of the townsfolk congregate at the bar and proceed to get extremely drunk. One man observes, "Never seen anything like it. Everybody's goin' crazy – all of 'em scared . . . I think I know what they're scared of. They're scared of what Marsh has become. Cause it could happen to them. It could happen to anyone. You see, now they know it's possible."

And it was "possible." Not werewolves perhaps (or colossi for that matter), but all those terrors that had been condensed into those figures: mass death, holocausts of all sorts, but

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[273] This is not surprising as they knew each other and Adorno and Mitscherlich worked together.
[274] The book was also titled *Das Diktat der Menschenverachtung* (the dictates of inhumanity) and later *Medizin ohne Menschlichkeit* (medicine without humanity). A revised edition came out in America in 1959 entitled *The Death Doctors*.
[275] Warren S. McCulloch, *Embodiments of Mind* (The MIT Press, 1988), 199.

especially, in this instance, medicine turned back on itself. An inverted Hippocratic oath: first *do* harm. Medicine in *Bigger Than Life* abstracted 'disease' from the person, first by decomposing the body (the barium /x-ray scene), and then treating that discrete aspect of the body in a kind of isolation and regardless of the effects on the person as a whole (an entity we never see factored in). *Bigger Than Life* as expressionistic dramatization of real life is a given, but like *Murders in the Rue Morgue,* it tames reality. In the *New Yorker* article on which the film is based, "Ten Feet Tall" written by Berton Roueché, there is no mismanagement at fault. Moreover, the dosage (including its steady *increase*) is controlled by the doctors, not the patient. When Doctor Prince, the prescribing physician for Robert Laurence (Laurence being the pseudonym for the man Ed Avery is based on), hears from Mrs. Laurence about Robert having a psychotic episode, he is blasé "Well, cortisone could do that, he said. Especially in the amount that Bob had been getting. It was nothing to worry about, of course."[276] Of course. The violent outbursts, the suicidal and homicidal rants, the crying jags, all are at the least to be expected and will most likely yield new data.

But the far more nefarious and harmful "possibles" were the decades-long series of radiation experiments undertaken by the United States government on its own citizens. The most famous, far-reaching exposé on these experiments is Eileen Welsome's *The Plutonium Files* (1999).[277] Welsome had been researching animal experimentation when she noticed something odd. "One minute I was reading about dogs that had been injected with large amounts of plutonium and had subsequently developed radiation sickness and tumors. Suddenly there was a reference to a *human* experiment. I wondered if the people had experienced the same agonizing deaths as the animals."[278] Here is an eerie concordance with the B-movie horrors of *The Werewolf*: radiation experiments with canines as an entryway into experiments on humans. In the *Werewolf,* the experiments start with an irradiated wolf and then move onto an unsuspecting patient (one culturally and ethnically removed from them). In reality, radiation experiments were not done "beyond the line" and in isolation. In reference to a 1947 AEC [Atomic Energy Commission] letter detailing guidelines for human radiation experiments, guidelines that were not followed, Welsome notes that "Thousands of human radiation experiments, many of them unethical and without therapeutic benefit, were funded by the AEC over the next three decades of the Cold War"—including at UC Berkeley.[279]

Black people, poor white people, and 'criminals' while being treated for other conditions were secretly injected with plutonium. Elmer Allen an African-American train porter, who with his wife, had moved to the East Bay after World War II, had a hurt leg. After seeing many doctors, he was finally diagnosed with bone cancer at UCSF. His leg was to be amputated, but three days before the operation he was given an injection of plutonium into the leg. The injection served no therapeutic purpose. It was purely experimental. After the operation, the leg was sent

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[276] Berton Roueche, "Ten Feet Tall," *The New Yorker* 10 (1955): 72.
[277] As Welsome herself mentions, she was not the first to uncover some of what had transpired. See also Gerald Markowitz's excellent review of the book which situates it in the history of American radiation experiments and their (non)coverage, Gerald E. Markowitz, "' A Little Touch of Buchenwald': America's Secret Radiation Experiments," *Reviews in American History* 28, no. 4 (2000): 601–606.
[278] Eileen Welsome, *The Plutonium Files: America's Secret Medical Experiments in the Cold War* (New York: Dial Press, 1999), 3.
[279] Welsome, 193.

to UC Berkeley to be studied (a la Frankenstein and his clinic), while Allen was sent out into the world to a life of suffering.[280] As far as the AEC was concerned he was merely CAL-3. Alcoholism, seizures, and schizophrenia followed. Brought in for the occasional follow ups, Allen was never truly told what had been done to him, nor was any help or compensation offered. And while he outlived most of those who experimented on him, many ironically dying of cancer themselves, his life was a long, slow tragedy. On his tombstone his family put,

Elmer
Jan. 26, 1911
July 18, 1947
"CAL-3"
July 18, 1947
June 30, 1991
One of America's
Human Nuclear "Guinea Pigs"[281]

The connections in these experiments between the two great holocausts of the 20th century surfaces at two flashpoints, as it were. The first is in a 1950 letter by Joseph Hamilton, a "compulsive experimenter[s] . . . having second thoughts" over whether prisoners should be used as subjects. "If this is to be done in humans," he wrote, "I feel that those concerned in the Atomic Energy Commission would be subject to considerable criticism, as admittedly this would have *a little of the Buchenwald touch*" (my emphasis).[282] The second is a quote from Josh Shaw, brother of Simeon Shaw the youngest recipient at age 4 and the first to die less than a year later. "The Nazis tattooed numbers on their victims' arms. The American Government gave Simeon Shaw the number 'CAL-2.'"[283]

Throughout this chapter I have looked at films that dramatized and visualized the way the human was being disassembled, broken down into components and combined with other entities be they machines, animals, or chemicals. In each case the ostensible reason behind the act was a humanitarian one, but "humanitarian" often parsed out to something ambiguous like knowledge or progress, a general, impersonal humanity—the objective of the human sciences. The threats to the individual, embodied human came from these human sciences (and science in general) even as and especially when those sciences worked to better humanity or save the individual. The dialectic of the Enlightenment is not merely a paradox, but a trap. The material gains are real, but they and the methods that bring them about are inextricably bound to the physical suffering and political cooption these films grapple with. This chapter has looked primarily at the way medicine impinging on the single body condensed many of the fears and anxieties the new age of human sciences generated. We witnessed in these 1950s sf-horror films a triangulation of historical catastrophes (nuclear weapons, death camps), abstract theory (cybernetics), and individual bodies. In that, this chapter dwelt on intimate, physical suffering. The next chapter will take us into the fleshy metaphors of political dissolution and reconstitution, where the full import of the human and technical sciences to a new, biopolitical era is first visualized as horror.

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[280] Welsome, 157–62.
[281] Welsome, 11.
[282] Welsome, 321.
[283] Welsome, 478.

Figure 3.1 The patient is at fault.

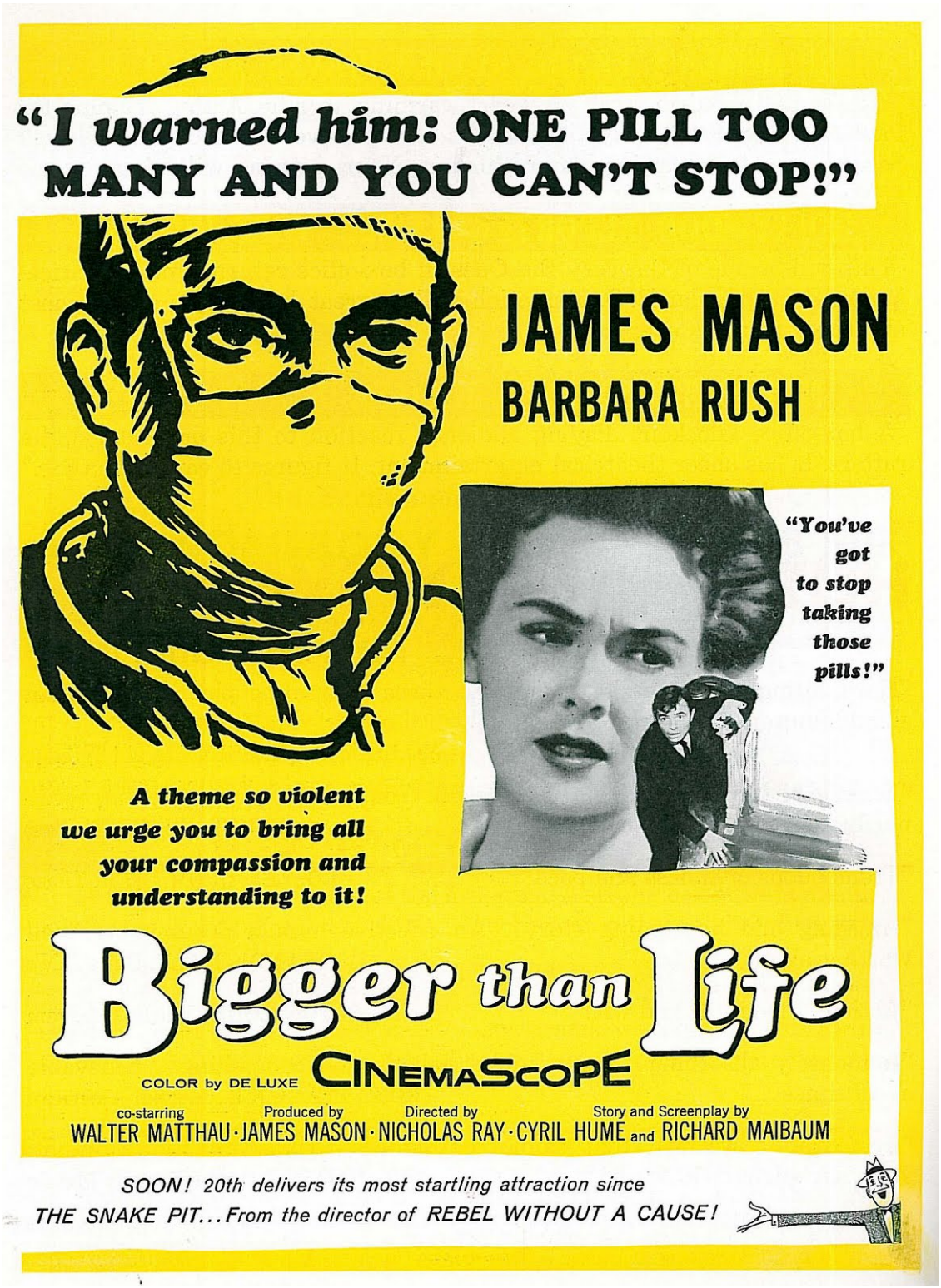

Figure 3.2 The patient won't listen.

Figure 3.3 The world calls one

Figure 3.4 from every corner in the house

Figure 3.5 with unattainable temptations.

figure 3.6 Diagnosis horror.

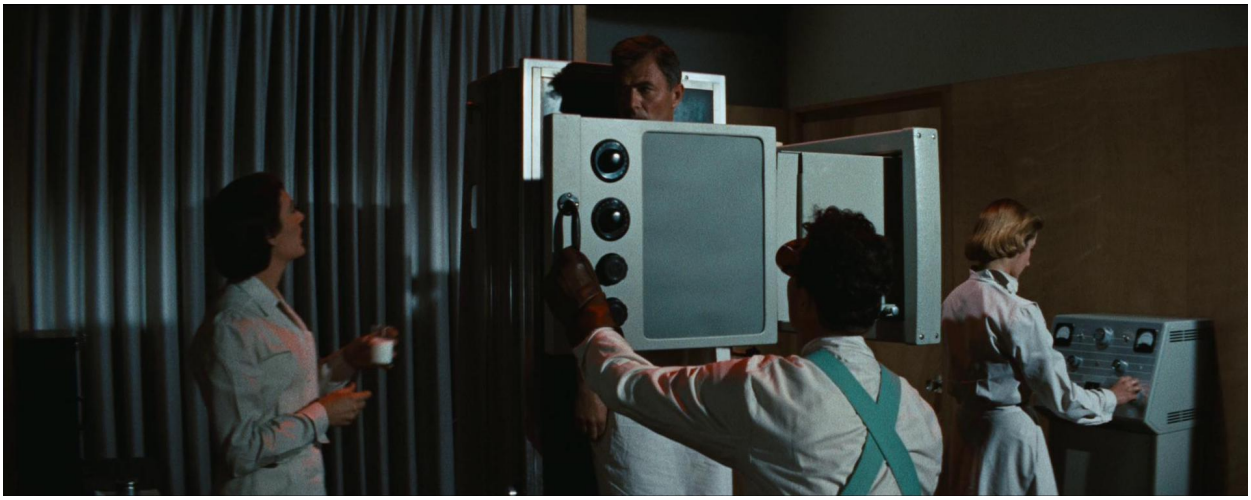

Figure 3.7 Creating the man-machine.

Figure 3.8 The mediation of the Avery system.

Figure 3.9 The patient as distraction.

Figure 3.10 The patient as object.

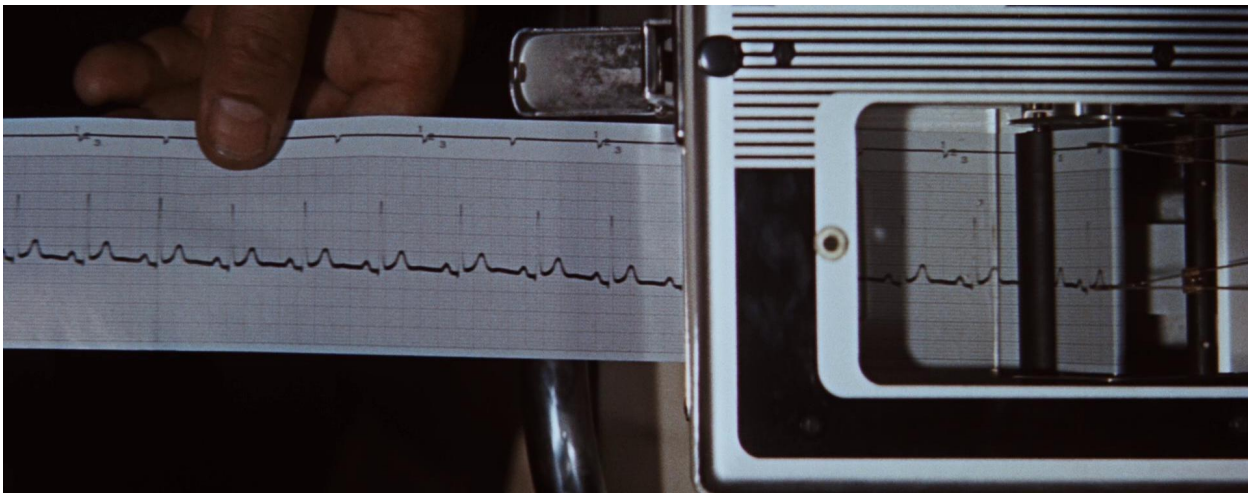

Figure 3.11 Data only for the medical gaze.

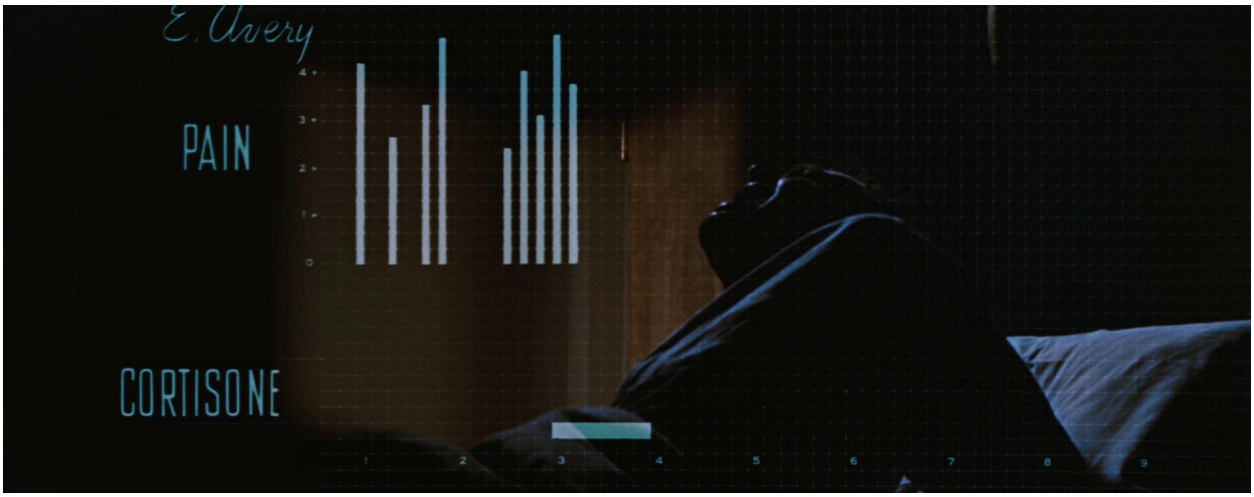

Figure 3.12 The patient is integrated into the chart.

Figure 3.13 The chart is the patient.

Figure 3.14 Somatic abstraction is complete.

Figure 3.15 Carnivorous plants break boundaries.


Figure 3.16 Monstrous plants as social affair.

Figure 3.17 Yet danger still lurks.


Figure 3.18 Plant or animal?

Figure 3.19 What is eating this frog?

Figure 3.20 The boy's trials have been cut.

Figure 3.21 The noir entrance.


Figure 3.22 The noir tavern.

Figure 3.23 Crossing the border.

Figure 3.24 Nature and the human intersect.

Figure 3.25 Another liminal space.

Figure 3.26 The werewolf cannot escape its dual nature.

Figure 3.27 Man encroaches.

Figure 3.28 Even escape is bounded by the human.

Figure 3.29 Two domains mix: the suit and the fur, the rock and the hooks.

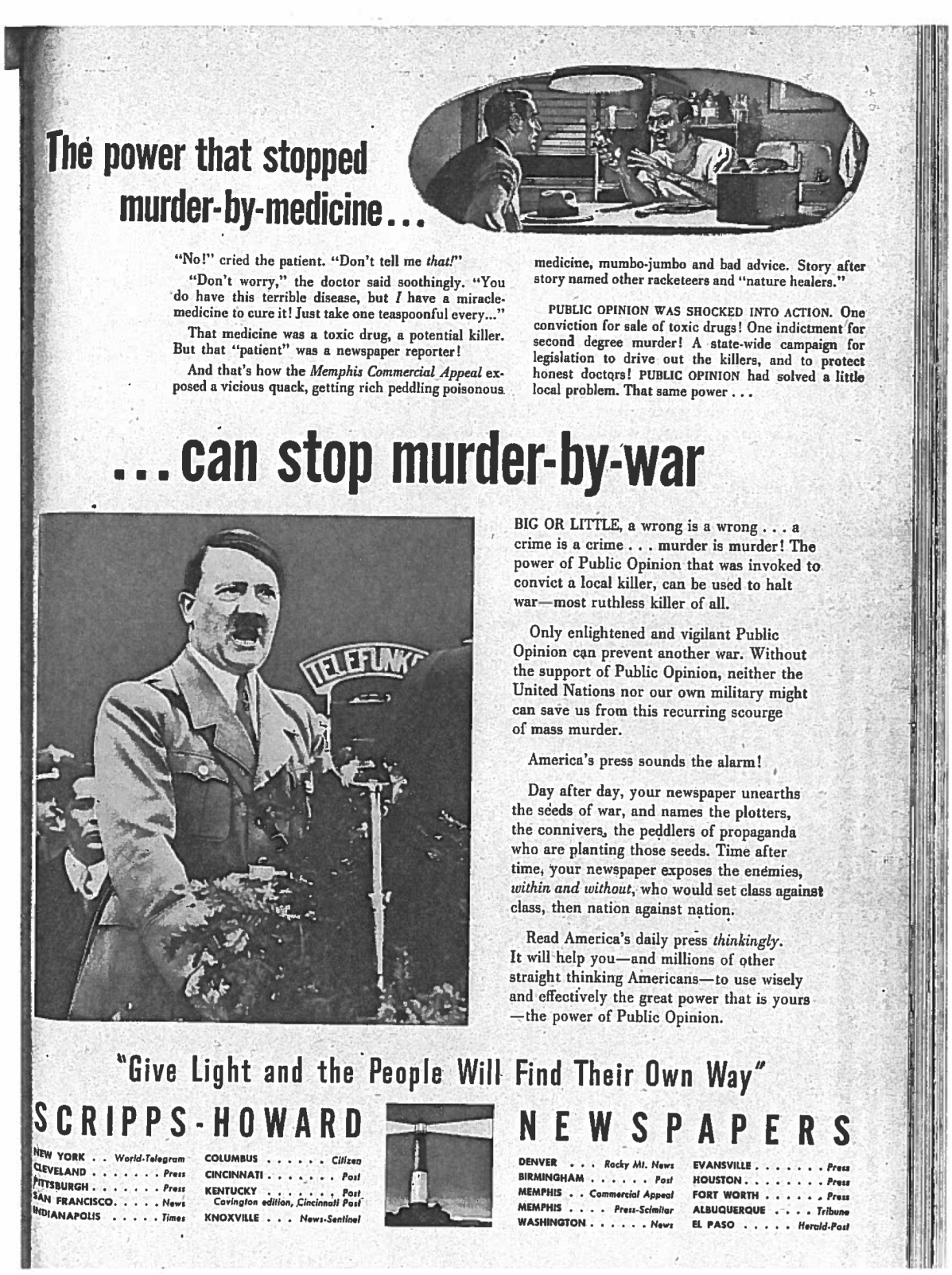

Figure 3.30 Nazi medicine by another name.

Figure 3.31 The golem awakes.

Figure 3.32 Monstrous size.

CHAPTER 4: THE BIRTH OF BIOPOLITICAL CINEMA

Prologue: An Invisible World Revealed

-"I live with one fact, a power has been released that will melt those stones. We must be ready when the time comes."

-"You really believe it's going to happen, don't you?"

-"Certainly, there's no question."

-"And there's nothing we can do to prevent it?"

-"Nothing."

These Are the Damned

Discipline allows nothing to escape. Not only does it not allow things to run their course, its principle is that things, the smallest things, must not be abandoned to themselves.
Michel Foucault[284]

In the early 1960s, the Cold War made geopolitical issues local concerns. There was a sense that no part of the world, no matter how removed, was unaffected and safe from the consequence of this global struggle. Yet, for all its specific local effects, the Cold War was invisible. It was too big, too complex, and spread over too much distance for the vast majority of people to grasp its concrete totality. And it was a bit uncanny. It was a war with no fighting and no front.[285] For all that, at times it seemed the Cold War penetrated every aspect of daily life from televised show trials to the pledge of allegiance from "duck and cover" drills to the construction of the interstate highway.[286] The individual lived in a world being reshaped by a war that was not happening. Simultaneously, advances in molecular biology turned the individual and the species into the effects of all-determining chemical processes, processes over which one had no recourse. At both the micro and the macro level, invisible, yet no less material, forces enacted a near total control over the world.

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[284] Foucault, *Security, Territory, Population*, 45.
[285] Setting aside all the proxy conflicts, which in effect is what happened with them.
[286] Not to mention more extraordinary events such as the Space Race or the Bay of Pigs invasion.

The science fiction cinema of the era responded with some of its most somber films, beginning with Hammer studios Quatermass films in the 1950s.[287] SF Films of the era again embraced the horror genre, in part through taking the topics of the apocalypse and impotence in the face of an indifferent world seriously. On television, *The Twilight Zone* (CBS, 1959-1964) and *The Outer Limits* (ABC, 1963-1965) offered intelligent but bleak and unsettling visions of the present and near future. In theaters, international co-productions such as *The Day the Earth Caught Fire* (Guest, 1961), channeled this contemporary dread into effective if downbeat narratives.[288] In particular, the US-UK co-productions that make up the *Damned* films—*Village of the Damned* (Rilla, 1960)*, These are the Damned,* (Losey, 1963) and *Children of the Damned* (Leader, 1963)—present visions of population level crises and of accidents, both genetic and nuclear, that could end the world as we know it.[289] The American-Italian co-production *The Last Man on Earth* (Salkow, 1964) does end the world, and through that shows the occluded biopolitical reality of the times. All four films are revelatory in their engagement with contemporary anxieties around nuclear war and genetics, making visible biopower's otherwise invisible hegemony.

In the case of *These Are the Damned,* the very plot is structured around the revelation of these ongoing trends and processes working for years under the surface of things. Around a third of the way into Joseph Losey's *These Are the Damned*,[290] the film at last reveals what it is truly about. Literally beneath the mundane action in the film so far is a nightmare of Cold War technoscience**.** A *pre*-apocalyptic project sits in a bunker deep underneath the Portland Bill cliffs on the Dorset coast of Southern England.[291] There, the human and the physical sciences converge, much as the disciplinary and regulatory poles of Foucauldian biopower do as well. The prerogative of biopower as Foucault describes it reigns here: "the setting up of this great bipolar technology—anatomic and biological, individualizing and specifying, directed toward the performances of the body, with attention to the processes of life—characterized a power whose highest function was perhaps no longer to kill, but to invest life through and through."[292] In this coastal bunker, regulatory power uses intense disciplinary practices to invest life to an unprecedented degree. It does this in order to compensate for contingency, specifically a nuclear war. Biopower's goal is to extend life (and thus power) beyond an apocalyptic contingency.

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[287] *The Quatermass Xperiment* (Guest, 1955), *Quatermass 2* (Guest, 1957), and *Quatermass and the Pit* (Baker, 1967). All three films were written by Nigel Kneale originally for BBC television. Hammer then acquired the rights and produced the successful series of films.

[288] In the US, the film *Panic in Year Zero* (Milland, 1962) offered a conservative vision wherein the apocalypse is staged in terms of the nuclear family and the Western. The post-apocalyptic world is turned into a new frontier, a desert that by the film's end makes way for a garden.

[289] A very loose thematic trilogy.

[290] Filmed in 1961 but not released until 1963, it is also known as *The Damned*, its UK release title.

[291] A location Losey picked, in part, because he "wanted to combine something absolutely bleak and wild and very ancient, which is Portland Bill, with something traditionally British, and that is Weymouth, of course, in the Bay. Portland Bill—bill does mean beak—is a kind of beak of bare rocks. In fact, it's where the British were *developing germ warfare and also undersea warfare*. So it was a very secret place, strange" (emphasis mine). Joseph Losey and Michel Ciment, *Conversations with Losey* (London; New York, NY: Methuen, 1985), 199.

[292] Foucault, *The History of Sexuality, Vol. 1*, 139.

These Are the Damned's nightmare combines Cold War tensions and fears with the intense scientific objectification of human life of the post-World War II era.

Before its curtain drawing moment, *These Are the Damned* is a strange amalgamation of, at the very least, two genres: a kitchen-sink inflected juvenile delinquent film, complete with a rock-n-roll theme ("Black Leather Rock"), and an Antonioni-esque meditation on the modern condition.[293] From the beginning, the film juxtaposes the two genres, subtly preparing us for its synthesizing revelation. *These Are the Damned* opens with a dissonant, repetitive melody playing over the black and white Columbia studios logo. The music continues as the film cuts to water and the camera begins a long track and pan shot, harsh coastal cliffs and rocks quickly coming in to view, the music joined by the crash of waves against the rocky shore. The Dorset coast is shot from a high-angle and overhead position, giving the coast an open and desolate character, a place where humans can only transit. The black and white film accentuates the coast's inhospitality even as it renders it formally beautiful. The high-angle tracking shot takes in a cliff top that is littered with bits of sculpture, like the limbs and pieces of human bodies or parts of incinerated corpses strewn across the ground. The camera arrives at an artist's outdoor studio located at the edge of one of the cliffs. On the left, a kind of horse head sits on a tall stool; next to it, the sculpture of an armless, headless body lays across a bench, a rod sticking out of its neck, the latter piece the most explicitly corpse-like figure yet—one of artist Elizabeth Frink's Giacometti-esque pieces. Frink provided all the artwork for the film and her name appears on screen at this moment.[294] [fig 4.1] The credits on the left side are in a typeset font, but to the right is "sculpture by Frink," her name written as her signature.[295] The tracking camera pans and creeps toward the body until it dominates the shot (with directed by Joseph Losey floating just above it), [fig 4.2] and then it cuts to an extreme long shot of Weymouth across the water as the soundtrack begins playing the rock-n-roll theme.

The rest of the film is colored by this opening. The harsh indifference of the landscape and the horrific expressionism of the artwork establish a tone, a milieu inhospitable to humans. The jarring nature of the cut to the tourist town and popular music does not dispel this sense of doom but sets it just to the side, a reality lurking around the edges of the film, a sensibility that carries over, shading what follows. The film cuts from the long shot of Weymouth to another long take, tilting and tracking down from a small clock tower to a seashore tourist. The camera movement echoes those used on the natural landscape from before, further imbuing the mundane human landscape with inhuman dread, if only just below perception. A middle-aged man, screen right, looks up at the clock tower until a pretty girl enters, screen left. He stares at her, she exits the frame, and he follows. Then there is a cut to a statue of a unicorn, with an umbrella hanging from its horn. Now the lyrics to the song begin. "Black leather, black leather, rock, rock, rock, black leather, black leather, smash, smash, smash, black leather, black leather kill, kill, kill" as we see a gang of Teddy Boys, all but their leader—King (Oliver Reed)—wearing black leather jackets and lounging on and around the statue. This gang of youths dissolutely roam the streets

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[293] *These Are the Damned* is arguably the most important film in Losey's career-qua-career. The film straddles his 40s and 50s genre films and his 60s and 70s art films, a mixture of both tendencies.

[294] Frink also provided works for Losey's *The Servant* (1963).

[295] For an excellent analysis of Frink's works' contribution to the film and of the film itself see, Susan Felleman, "Art for the Apocalypse: Sculpture by Frink in Losey's The Damned," *Aniki: Revista Portuguesa Da Imagem Em Movimento* 1, no. 2 (July 1, 2014): 253–73.

of Weymouth looking for action, often whistling or singing the theme song. The childishness of the lyrics and their incessant repetition seem somewhat ludicrous at first. But as the film progresses and the melody recurs over and over again, the lyrics whispered and mumbled by the gang members, the tune takes on a polysemic role. At first, the song functions as both a rallying cry and a statement of identity for the gang. But later it is method of communication, a form of succor, and even uttered as a sort of mantra. By the end of the film, it becomes readily apparent that the song which appears to be one of rebellion and revolt also encapsulates the ruling military ideology as well.

There is a martial quality to the gang and its actions. They use King's sister Joan to lure male tourists away so that they can beat and rob them in a righteous fury. The gang marches through the streets in mock military fashion, stiff legged and in line, to do just this to the middle-aged man from the shot before—Simon, an American. After the attack, Simon is found and brought to a café by two men in suits (military officers out of uniform), where he meets the second set of characters: Bernard the high-level military/civil servant/bureaucrat running some kind of secret operation, and Freya, his occasional lover and the sculptress of the artwork seen at the beginning of the film. Their conversation announces the philosophical themes of the film, a brutal, meaningless modernity ("The age of senseless violence has caught up with us too," Bernard pontificates) and the various responses to it: existential drift in Simon's case, aesthetic confrontation in Freya's, and contained but absolute rational control in Bernard's.[296] This encounter also introduces Freya's "graveyard bird," an expressionistic sculpture of a raven, which lurks in the background throughout the scene, casting an apocalyptic pall over it. The scene ends with the camera circling the bird as Bernard and Freya discuss lunch.

The bureaucrat and the artist cannot come to terms, ideologically speaking. King is (sexually) controlling of Joan, who does not like that or the Teddy Boys' brutality towards Simon. She visits Simon on his boat, the "Dolce Vita."[297] They sail away from the pursuing gang and try to understand each other. At this point in *These Are the Damned*, just under the 25-minute mark, we have perhaps settled into the idea that the film's strangeness is just the result of the collision of the two seemingly disparate genres. Bernard's early comment on the deadly secrecy of his work more a thematic than plot concern. But then an extreme long shot of the coast pulls back, via optical effects, through a window frame with one of Freya's distressed figures on its sill and then into an institutional office, with scientists, civil servants, tweed-wearing academics, and uniformed officers at work. A large two-way monitor sits to the side, while abstract expressionistic paintings flank the window. [fig 4.3] The characters discuss a topic that appears to be about teaching or raising children. It is only when Bernard arrives and sits in front of the monitor to address them that we at last see the children under discussion.

The children, dressed in school uniforms, are housed in a futurist-modernist bunker complete with desks facing a large video monitor. The children's only contact with the outside world is via Bernard's video conferences. [fig 4.4] The lives and the milieu of the children

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[296] During this scene, a muzak version of "Black Leather Rock" plays in the background establishing a consonance between the gang and the military-science complex.

[297] Notably, *La Dolce Vita* (Fellini, 1960) has at its heart an overwhelming fear of nuclear annihilation. This fear leads Marcello's friend Steiner, an older, cultured bourgeois to kill his children and himself. Steiner tellingly talks of the hidden danger of modernity, "*Peace frightens me; perhaps I fear it most of all. I feel it is only a facade hiding the face of hell."*

present an image of total disciplinary power in practice. They live within their school, an exemplary site of Foucauldian discipline, and they are never seen out of their school uniforms. They are under constant surveillance. CCTV cameras track their every action and at all times, and following the logic of panopticism, they are aware of this monitoring. Even their secret place, outside of the cameras' view, is actually known and monitored by Bernard and his group, who have deliberately allowed and encouraged it to exist. [298] Nothing escapes Bernard. Neither we nor the children know exactly what is going on—one of the girls even asks Bernard "When does the time come?" in reference to the absent understanding. However, there is now a new imperative to the narrative, as this bunker is located near Freya's studio and Simon and Joan are also right off the shore from it, while the Teddy Boys are tracking them. All the storylines lead to the bunker, Bernard's secret project and its 'damned' children.

The children are radioactive, victims of an unspecified "accident" which exposed their mothers to radiation while pregnant with them. The children are cold to the touch, having never felt human warmth nor left their bunker deep underneath the cliff. They are pathos-filled monsters, more victims than perpetrators. They are hidden far away from sight, inaccessible to all but the most advanced scientific and technological practices: not merely secreted in the bowels of the earth but functionally invisible except through CCTV. Their danger, too, invisible except through the esoteric technology that is a Geiger counter. They are touted by Bernard as a sort of pre-adaptation to the nuclear apocalypse that will fill the world with Frink's ravaged figures. In this, they are like genes, newly "discovered," hidden to the untrained eye, yet determining the future of humanity. And like DNA as popularly conceived, they are a medium through which the indeterminate (contingency) becomes determinative. The children are both the result of contingency—here an accident—and adaptation to it, the highly probable likelihood of (the "inevitable") nuclear war. Yet, in their management by Bernard and his subordinates, in their complete immersion in the disciplinary, and in the goals of these two practices, they are the image of the biopolitical, where life itself is governed not only to extend and consolidate power but also to maintain and mange power across contingency. Foucault states, "The phenomena addressed by biopolitics are, essentially, aleatory events that occur within a population that exists over a period of time."[299] If DNA is how life extends itself across time, biopolitics is how power dos the same through life.

Contingent Apocalypse

> *Creation or collapse, the accident is an unconscious oeuvre, an* invention *in the sense of uncovering what was hidden, just waiting to happen.*
>
> *Paul Virilio*[300]

Chapter three ended with the death of a five-year-old boy from unethical, yet government-sanctioned radiation experiments. Much like the fictional figures examined in chapter three, the boy and the other experimental subjects were victims of circumstance. Contingency brought them all, real and fictional alike, into the domain of radical experimental

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[298] "To arrange things that the surveillance is permanent in its effects, even if it is discontinuous in its action." Foucault, *Discipline & Punish*, 201.
[299] Foucault, *Security, Territory, Population*, 246.
[300] Paul Virilio, *The Original Accident* (Cambridge: Polity, 2007), 9.

science. Throughout the chapter, I showed how technoscience created both a more vulnerable human subject and a more dangerous world. The flipside of the material mastery of the world that the sciences delivered was the sense of the world becoming ever more meaningless, ever more threatening. Explicitly, that unprecedented catastrophes seem to happen purely by chance. There is a maliciousness to chance that is particular to the modern, rational world. The clean lines of cause and effect uncovered by ratiocinating detectives such as August Dupin and Sherlock Holmes obscure the fact that their rational ordering is always post facto.[301] Their reassurances of an order subtending modernity's cacophony are cold comfort to the victims of chance. That statistics and other calculations of probability "tame chance" does not change the individual's daily experience of the contingent.[302] And during the Cold War, the apocalypse was in a strong sense just another accident waiting to happen.[303] When in *The Werewolf,* the villager states "Now they know it's possible," the anxiety articulated is not only that such a horror can and does exist but also that one cannot predict when or where or even if it will happen. Like lycanthropy, nuclear war is, from the individual's perspective, a matter of cosmic probability, subject to meaningless chance, an accident.

In this chapter I examine four films from the early 1960s that playout the fear of a radical, apocalyptic accident that occurs not to an individual (or to a multiplicity of individuals) but at the level of the group, that is, to populations—*Village of the Damned* (Rilla, 1960), *These Are the Damned*, *Children of the Damned* (Leader, 1963), and *Last Man on Earth* (Salkow, 1964).[304] I show how each film dramatizes and visualizes apocalyptic fears that have roots at both the macro and micro level of technoscience. In these films, genes and viruses appear to move in tandem with nuclear weapons and with an ever-increasing collapsing of time and space. I contend that these films reveal a fear that, to the extent that they ever existed, the boundaries between the physical sciences and the human sciences were a fiction and that all of science appears to be directed *at* the human, not for it. Nature and the human are no longer differentiated. The films show that the universalism of Heidegger's essence of technology, that it frames all the world as a resource, concurs with the Frankfurt School's Dialectic of Enlightenment wherein principles of exchange, quantification, and instrumentality dominate everything. I show how these films thus present the apocalypse as arising from almost any source, most strongly signified by having it arise from no particular source (regardless of whether it starts at a specific spot in time and space) such as in *Village of the Damned* and *Children of the Damned* (and also *Night of the Living Dead* [Romero, 1968]). The apocalypse is the exemplary accident, the point where contingency reaches its apotheosis.

Paul Virilio noted that "the accident" is as much a human creation as the historical world from which it springs. Each new human thing, technological or otherwise, brings into being new accidents, new catastrophes. Invention is two-fold.

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[301] See chapter two.

[302] Ian Hacking, *The Taming of Chance* (Cambridge England; New York: Cambridge University Press, 1990).

[303] A sense captured in the title of the Elvis Costello song "Waiting for the End of the World."

[304] While discussing Giorgio Agamben's biopolitical figure, the homo *sacer,* Lorenzo Chiesa translates sacer not as sacred or accursed, as is typical, but as "damned." Lorenzo Chiesa, "Giorgio Agamben's Franciscan Ontology," in *The Italian Difference: Between Nihilism and Biopolitics*, 2009, 149.

> According to Aristotle, 'the accident reveals the substance.' If so, then invention of the 'substance' is equally invention of the 'accident.' The shipwreck is consequently the 'futurist' invention of the ship, and the air crash the invention of the supersonic airliner, just as the Chernobyl meltdown is the invention of the nuclear power station […] To invent the sailing ship or steamer is *to invent the shipwreck*. To invent the train is *to invent the rail accident* of derailment. To invent the family automobile is to produce the *pile-up* on the highway.[305]

Technological mastery of a dangerous natural world hides its own novel danger. This novelty reveals itself through the accident, which is as inevitable as it is uncontrollable. Chapter three featured multiple iterations of this idea, as genre conventions mutated to express an unconscious realization. The characters in those films were victims first of modern contingency, often technologically based (e.g., car accidents) but also located in vast modern systems of circulation, and second, were subsequent victims of new techoscientific phenomena (e.g., various types of experimental medicine). Yet, these victim-monsters were still traditional monsters in the way they embodied broken boundaries and category collapse. More than just their explicit, surface transgressions (e.g., human and animal and human and machine for *The Werewolf* and *Colossus of New York* respectively), the broader domains of the human world and the natural world collapse in on each other. Most importantly, this collapse leads to a loss of distinction between human agency and human impotence. Instead of rising to combat the latter or to limit it, the former creates and increases impotency. The films dramatize the degree to which the individual in the "fully enlightened world" of technoscience feels less secure, less safe, less stable.

This chapter takes us away from the individual and their localized accidents and towards populations and systemic catastrophes. At the same time, the films under consideration from the early 1960s complete a movement begun in the first chapter and the films of the 30s, one away from not only the dominance of sovereign power but disciplinary power as well, a movement towards biopolitical power. This power works at the level of populations not individuals, power that traffics in the aleatory and statistics.[306] The 'monsters' in these films are all new populations.[307] The films set these populations in situations of a quasi-evolutionist cast, arising out of contingency and threatening to displace the contemporary norm of humanity with another. This unity of theme is not coincidental. If the threat of nuclear war is the obvious, hyperbolic source of the anxieties these new monsters channel—the accident to end all accidents—even that fear here is entwined with a newly discovered subterranean realm: DNA, microscopic structures that dictate macroscopic forms. The visible world of life determined by an invisible world of biochemistry.

To Envision the Biopolitical

> *The camp is also the most absolute biopolitical space that has ever been realized—a space in which power confronts nothing other than pure biological life without any mediation.*

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[305] Virilio, *The Original Accident*, 5, 10.

[306] Keeping in mind that sovereign and especially disciplinary power never completely disappear.

[307] Seen in many other films of the era, for example, *Attack of the Mushroom People* (Honda, 1963) or *The Outer Limits* episode "Zzzzz" (ABC, 1964) discussed below.

Giorgio Agamben[308]

The 'creatures' of these later movies embody the fulfillment of the biopolitical promise of the early zombie films I analyzed in chapter one, a promise of life itself as the subject of power. In the first chapter, I mainly analyzed the zombie within a disciplinary, docile-body paradigm, the body as a machine-like entity, drilled to be a productive force. And while I noted the disciplined zombie's relation to and at times embededness within biopolitical schema, this relation was secondary. The early zombie films' primary task is to illuminate and give form to the disciplinary power of the human sciences. This is not the case of the films of the early 60s with which this chapter engages with. For, as Foucault argues, "biopolitics deals with the population, with the population as political problem, as a problem that is at once scientific and political, as a biological problem and as power's problem."[309] In this chapter, I show how biopolitics was at last visualized in the form of monstrous populations that posit a new normal/abnormal divide. And herein lies an important reason behind the normal appearance of these monsters: as Foucault shows, where disciplinary power starts with a norm and turns to practice to sort out the normal and the abnormal, biopolitics starts from the normal and posits a norm from it.[310]

These films feature monstrosities at the level of population, monstrosities that threaten to transform and supplant a previous norm. These films show monstrosities that are rooted in contingency and monsters that seem to have no purpose other than life itself. The sovereign is gone, there is no agent calling the shots. There are no individual gains or desires. Unsurprisingly, all these films trade in aspects of anti-humanism. Anthropocentric values are questioned, and shown to be inadequate or corrupt. The "human" itself is called into question in good Foucauldian fashion, charged with being a brief historical moment in a diachronic multitude, waiting for the tide to wipe it away. All four films (to differing degrees) tackle the idea of the apocalypse, but only one unambiguously shows the apocalypse: *The Last Man on Earth*. It is also the only film that ends on a hopeful note, as humanity ("man") is reduced to bare life only for a new way of life to arise from it, one that leaves enlightened man and his desire for control of life behind. And it is the film that most fully articulates biopolitics on film, setting a template for decades of zombie and viral outbreak films to come.

DNA and the Logic of Command and Control

> *As with other contemporary forms of knowledge production, the genetic code, as an icon of biological command and control, can be also viewed as part of the cultural experience of the cold war.*
>
> *Lily E. Kay*[311]

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[308] Agamben, *Homo Sacer*, 171.
[309] Foucault, *Society Must Be Defended*, 245.
[310] Foucault, *Security, Territory, Population*, 63.
[311] Kay, *Who Wrote the Book of Life?*, 9.

In many ways, DNA provides the perfect site for the re-enchantment of the world.[312] An occulted force determines all, obeying esoteric rules and accessible only to acolytes. Lily E. Kay's *Who Wrote the Book of Life?* explains how this almost magical perception of DNA's power came to be. Like cybernetics, genetics was a product of Cold War thinking and funding. Moreover, it was not just like cybernetics in that respect, as genetics also borrowed concepts and even terminology from cybernetics.

> In that postwar world order, the material, discursive, and social practices of molecular biology were transformed. Information theory, cybernetics, systems analyses, electronic computers, and simulation technologies fundamentally altered the representations of animate and inanimate phenomena. These new communication sciences began to reorient molecular biology (as they did to various degrees, other life and social sciences) even before it underwent a paradigm shift (1953) from protein- to DNA-based explanations of heredity. It is within this information discourse that the genetic code was constituted as an object of study and a scriptural technology, and the genome textualized as a latter-day Book of Life. The disciplinary terrain and representational space of molecular biology changed, as well, partly through the growing participation of physical scientists. Worldwide, its institutional structures were reconfigured within cold-war organizations, military patronage, and the unprecedented commitment of government resources for scientific research. In short, from the 1950s on, the diachronic resonances of the Book of Life as transcendent writing were amplified by synchronic articulations of DNA as a programmed text, and information became the animate *Primum Mobile*. The genetic code became the site of life's command and control.[313]

The project of the "genetic code" was another participant in Paul Edwards' 'closed world discourse,' a term used "to describe the language, technologies, and practices that together supported the visions of centrally controlled, automated global power at the heart of American Cold War politics."[314] It should not surprise us that the description of DNA's role, one firmly based in command and control thinking, was termed "the central dogma." In fact, I contend that Cold War genre films like *Invasion of the Body Snatchers,* which are often taken as allegories of ideological domination are best understood as about control—period. This helps explain how in genre films metaphors of ideological influence are supplanted by ones of the even more invisible and insidious influence of genetics. It is always a question of control.

Like the discipline of sex discussed in chapter two, genres soaked up this new science of genetics spreading throughout popular culture. Media trumpeted this new, microscopic power: "The most exciting area of modern biology perhaps of all science today is in the effort now being made to learn the secrets of the code of life."[315] Headlines talked of breaking codes to the secrets

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[312] For re-enchantment as a response to modernity's disenchantment see Michael Saler, "'Clap If You Believe in Sherlock Holmes': Mass Culture and the Re-Enchantment of Modernity, c. 1890–c. 1940," *The Historical Journal* 46, no. 3 (September 2003): 599–622; Thomas Laqueur, "Why the Margins Matter: Occultism and the Making of Modernity," *Modern Intellectual History* 3, no. 1 (April 2006): 111–35. Adorno and Horkheimer also argued for the enlightenment's penchant to reactivate myth in Horkheimer and Adorno, *Dialectic of Enlightenment*.

[313] Kay, *Who Wrote the Book of Life?*, 5.

[314] Edwards, *The Closed World*, 7.

[315] "Heredity's Coded Pattern," *New York Times*, 1961, sec. Review of the Week Editorials.

of life, of breakthroughs that would lead to hereditary control.[316] The *New York Times* heralded the "Small Wonder Called the Gene: Genes determine the traits of man from generation to generation."[317] Carried along with the loudly proclaimed promises to improve life is the unspoken threat to further reduce the human and life itself to pure, manipulatable quantification. But unlike the manipulations presented in the preceding chapters, DNA, genetics, and related biological 'discoveries,' are inaccessible and invisible. While described as being present everywhere and "central to all life's processes," they were "the *secret* of life," occult forces controlling the world.[318]

From a Suburban Invasion to a Damned Village

Village of the Damned from 1960 revolves around invisible, intangible, and ultimately incomprehensible forces.[319] The film is in many ways descended from the 1956 version of *Invasion of the Body Snatchers* (Siegel) and has many productive similarities with it. In each film, communities connected to but distant from the modern, urban world are invaded. This is an invasion that at first is not recognized as such. Both films feature monsters with no visible monstrosities.[320] The pod people of *Invasion of the Body Snatchers* and the children of the *Village of the Damned* are frightening, in part, because of how normal they first appear. Vivian Sobchack notes that "what is visually fascinating and disturbing about images in films like Siegel's *Body Snatchers* is the way in which the secure and familiar are twisted into something subtly dangerous and slyly perverted."[321] Instead of visual cues, the films use behavior and context to reveal monstrosity, at least initially. They train their audience to recognize what would otherwise be odd but innocuous (blond hair but with dark eyes or a lack of affect) as monstrous. The pod people of Siegel's film are symbols of ideology's desubjectifiying power, ideology conceived as a destroyer of the humanist-self-subject.[322] Like the pod people, the village children do not "suffer from emotion," and they link that quality to their power and superiority over 'normal' humans. But unlike the pod people, the children are not 'replacements'; they do not

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[316] William L. Laurence, "Structure of Life: 'Genetic Code' Discoveries Bring New Understanding of Heredity Major Progress Remaining Mystery Related Discovery," *New York Times*, 1962, sec. The Week in Review; "Gain Is Reported in Heredity Study: 'Genetic Code' Partly Broken by U.S. Researchers," *New York Times*, 1961; William L. Laurence, "Science: Protein Synthesis Radioactive Isotopes Shed New Light on the Basis of Life," *New York Times*, 1961, sec. Review of the Week Editorials.

[317] John L. Springer, "Small Wonder Called the Gene: Genes Determine the Traits of Man from Generation to Generation. How Will Fallout Affect Them -- and Man? Small Wonder Called the Gene," *New York Times*, 1958, sec. Magazine.

[318] John Davy, "The Secret of Life," *The Observer (1901- 2003); London (UK)*, June 26, 1960.

[319] An English production, the film started in America with MGM before moving to MGM's British Studios. However, it would be a stateside hit for MGM.

[320] On the lack of obvious, visible markers for these monsters see, Sobchack, *Screening Space*, 124–26; Neil Badmington, "Pod Almighty!; Or, Humanism, Posthumanism, and the Strange Case of Invasion of the Body Snatchers," *Textual Practice* 15, no. 1 (January 1, 2001): 5–22.

[321] Sobchack, *Screening Space*, 124.

[322] The pod people stand in for everything from Communists to McCarthyists to everyday conformists.

stand in for (political) subjectivity erased or supplanted. They are literally born into the community, always, totally themselves. They embody the birth of a new species out of an old, the figure of contingency in evolution, heredity, and genetics.

In the *Village of the Damned*, Midwich, a rural village in England, is struck by an unknown force which renders all its inhabitants unconscious for four hours. After that, they all wake up none the worse for wear. Except, around two months later, it is discovered that all the women of childbearing age are pregnant, including at least one virgin. The fetuses grow rapidly and all the births happen on the same day. The children share similar characteristics: platinum blonde hair, "striking eyes," narrow finger nails, and an odd shape to their hair follicles. They develop at an accelerated pace, manifesting telepathic abilities. Three years after the initial incident, the children physically present like 10- or 11-year-olds, are highly intelligent, and keep to themselves, dressing and behaving in a uniform fashion, "Like a colony of ants or bees," as one of the characters remarks. With their black trench coats, blonde hair, and controlled movements they also evoke a quasi-fascist quality, a diminutive gestapo. [fig 4.5] Their uniformity and self-possession appear in sharp contrast to the children around them. [fig 4.6 and its reverse shot fig 4.7] The children are uncannily like small, very serious adults. They are a kind of group mind, with David as their leader and spokesperson. Played by Martin Stephens, David's voice was dubbed over by an adult actress mimicking a child, giving the character an added uncanny quality, both child and adult.[323]

For all their peculiarities, the children remain ostensibly human. They are born from human mothers, healthy and without complication, played like any other film birth, off screen. This is in sharp contrast with the multiply monstrous births in *Invasion of the Body Snatchers*. There, large plant pods bubble and leak a milky fluid before splitting open, always shot at a canted angle, (a form reserved for these scenes that revel at long last an unambiguous monstrosity. [fig 4.8 and 8.5] The pods then slowly disgorge humanoid shapes amidst more fluid and white foam. [fig 4.9] The bodies look like featureless, adult-sized fetuses. Everything about these births is monstrous and boundary defying: animals are born from plants, humans from aliens, as adults not infants, and as replicas not unique individuals. The film repeatedly returns to images of partially human figures and especially the pods. *Invasion of the Body Snatchers* foregrounds its monsters more and more as the narrative progresses (even the "normal" monsters form mobs). *Village of the Damned*, by contrast, equivocates about the monstrosity of its monsters. Its signature effect—glowing eyes as the children use their telepathic powers—is used intermittently. Originally not part of the British release, the effect involves freeze framing the children and superimposing negative images of the eyes.[324] [fig 4.10] But this effect doesn't seem to be visible diegetically. And some scenes contain a mixture of the children intently staring with normal eyes and with the glowing eyes, including in the final scene when they all use their powers to maximum effect. Until the last moment, their (relative) humanity remains an open question.

Halfway through the film, a closed room meeting of civil servants, military, and scientists discuss the question of their humanity. During the meeting, it is revealed that there were multiple

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[323] Bill Warren, *Keep Watching the Skies!: American Science Fiction Movies of the Fifties, the 21st Century Edition* (Jefferson, N.C: McFarland & Co, 2010), 851.

[324] The eyes were the selling point for the film in America and almost all existing prints now contain them, including the British ones. If they share a scene, only the part of the image featuring them is frozen [fig 4.11]

incidents like the one in Midwich occurring across the globe. But the children in Midwich and a group in the Soviet Union are the only ones who have survived. Back at the village, the children's telepathic power continues to increase, and they become more troubling and dangerous. They psychically force villagers who have threatened or harmed them to kill themselves. They remove themselves to a separate building, away from the village. There they will live and learn under Gordon Zellaby, father of David. Zellaby eventually worries the children are beyond redemption, inhuman, possibly alien, and a threat to the human race. The Soviets have destroyed their own 'colony' with atomic weapons, "They had developed more quickly than ours, they'd begun to . . . take control," Zellaby's brother-in-law informs him. Zellaby uses a more prosaic time bomb to kill himself and the children, neutralizing a threat that remains obscure to the end.

The Apocalypse in Miniature

Village of the Damned's opening is prescient as a kind of template for Antonioni's later film *L'eclisse*'s (1962) famous end sequence.[325] After the inhabitants of Midwich have collapsed, unconscious, the camera begins to explore the village newly voided of human life, by tracking, zooming, and craning as it observes rooms, yards, stores, and the main thoroughfare. [fig 4.12] Unconscious bodies lie amidst the mise-en-scène of halted actions—phone calls, ironing, field tilling, milk delivery, and so forth; at the same time, the camera finds all sorts of non-human actions continuing on. A tractor keeps driving round a field until it runs into a tree. Water continues to fill an overflowing sink (calling to mind the draining water barrel in *L'eclisse*). A record player plays and skips until it runs down. Some phones ring. Telephone operators plead over others for the phones to be hung up. An iron slowly starts to burn the clothes it is on, smoke rising. The non-diegetic soundtrack had ceased as the blackout struck, and all that is heard are the stray noises from these running down actions until finally, the camera zooms in on the clock tower as it loudly, pointlessly chimes and strikes eleven o'clock.

Both *Village of the Damned* and *L'eclisse* conjure an apocalypse that leaves the human world intact, while removing its subjects and human subjectivity. Where Antonioni portrays actions continuing after 'the end,' *Village of the Damned* shows a winding down, followed by a resumption of action. A blackout of the village marks the moment when contingency strikes and novelty arrives. Certainly, the blackout still stands in for nuclear apocalypse in its quality as an indeterminate event that ceases everything. But it also stands for the moment when genetic mutation takes place. The danger of radiation was known since the 1890s, and its ability to cause genetic damage and mutation since the 1920s. But once the idea of a "genetic code" began to circulate, genes became a prime target of radiation. The popular conception in the 1960s included radiation intersecting with the "fundamental living processes"; as a *New York Times* headline proclaimed, "Radioactive Isotopes Shed New Light on the Basis of Life." [326] There were news stories of genetic damage in irradiated mice and of genetic mutation in humans that could lead to the next Einstein.[327] Radiation, DNA, danger (especially to the unborn), but also

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[325] And one could argue for the opening of *These Are the Damned* evoking *L'avventura* (Antonioni, 1960) with its beautifully photographed but inhospitable rocky shores.
[326] Laurence, "Science."
[327] "Radiation Damage on Mice Demonstrated," *Los Angeles Times (1923-Current File); Los Angeles, Calif.*, August 20, 1961, sec. West Side. John Hillaby, "X-Ray Mutations Stir

utopian possibility all collide here, much as they do in *Village of the Damned.* The two great invisible forces of the 1950s—radiation and DNA—combine and then engender multiple, competing visions of the future, futures that keep slipping in and out of human control.

Geneticists were shown trying to balance the positives and negatives of genetic mutation. *The Washington Post* article "Could This Be the Way to a Race of Supermen?" opens with "Fake parts of genes, the blueprints of life, can cause them to reproduce monstrous offspring, a team of Columbia University scientists reported. The report rocks the long-held belief that genes, the carriers of all endowed physical and mental traits, are chemically unalterable."[328] Genes are all determining and all powerful until they suddenly go out of control and create monsters (the new accident they bring). Geneticists are shown as seeking to make supermen by bombarding DNA with radiation. One headline asked, "Does Heredity Hold Secret of the Superman?: At the Least, Geneticists Are Hopeful Of Learning Keys to Age, Deformities And Cancer."[329] This last article from *The Washington Post* is crowned with a large photo of an axolotl, looking both strange and cute in its own way [fig 4.13]. The axolotl is a creature characterized by its ability to change from a water breather to an air breather when its environment changes. The article goes on to tell how a scientist is trying to crossbred the axolotl with a land salamander to create a new *fully* amphibious creature.

This axolotl-salamander hybrid is similar to the children in *Village of the Damned*, a new adaptation brought on by the deliberate mixing of two different species. Contrast this with chapter three's composite creatures, who align with the irradiated mice which were infused with rat's blood, to become "radiation chimeras."[330] From 1957, the mouse-rats, too, are composite creatures, like cyborgs and werewolves, but unlike the speculated axolotl-salamanders. Like the werewolf from last chapter, the mouse-rat will thrive due to its composite nature, fighting off the harmful effects of radiation, but it will not pass this ability down (much as the rejuvenation processes mentioned in chapter two never promised to pass down simian traits). The children of *Village of the Damned* present themselves as a new species, the human merged with something other, and they desire to proliferate as a species. Near the end of the film David tells Dr. Zellaby their goals: "We have to survive, no matter what the cost." He explains that they will "spread out, disperse. Soon we will reach the stage where we can form new colonies."

David is completely dispassionate as he tells Zellaby this. There is no cajoling to join them or to understand the advantage of their way of life as in *Invasion of the Body Snatchers*, there is no sign of a blissfulness to the vacancy of emotion. David is communicating in the

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Controversy: Briton Says at Geneva One Genius Might Outweigh 99 Mental Defectives," *New York Times*, 1955.

[328] Nate Haseltine, "Could This Be the Way to Race of Supermen?," *The Washington Post and Times Herald (1954-1959); Washington, D.C.*, January 6, 1957, sec. Outlook EDITORIALS COMMENTATORS ART BOOKS.

[329] Nate Haseltine, "Does Heredity Hold Secret of the Superman?: At the Least, Geneticists Are Hopeful of Learning Keys to Age, Deformities and Cancer," *The Washington Post, Times Herald (1959-1973); Washington, D.C.*, March 19, 1961, sec. Outlook.

[330] John Hillaby, "Rat Blood Cures Irradiated Mice: Then Animals It Saved Grow It in Their Marrow Instead of Their Own Donor's Blood Prevails A 'Radiation-Chimera,'" *New York Times*, 1957. For thoughts on other sf-horror films with composite creatures see Eric White, ""Once They Were Men, Now They're Landcrabs"; Monstrous Becomings in Evolutionist Cinema," in *Posthuman Bodies*, 1995, 244–266.

manner of scientist to scientist. Throughout the film, Zellaby has taken on the role of the dispassionate scientist, a scientist in the humanist tradition that Andrew C. Ivy used to discredit the Nazi Doctors tried at Nuremberg.[331] There is much to be learned from the children and they can be taught ethics and morals, Zellaby claims. Yet, Zellaby ultimately fails in these goals and must resort to violently eliminating them and himself. He is the scientist who rejects science. For the children not only stand in for the enlightened world (which radiates disaster triumphant) but also for scientists. The children set themselves apart from the everyday world. They are methodical, unencumbered by irrational emotions and values, and are deadly serious. In contrast to Zellaby, played by 54 year old George Sanders, the children present a youthful vision of scientists unencumbered by tradition or wisdom. Scientists with no attachment to the humanist world that came before them. They are, then, doubly the image of an antihumanist science.[332]

Cold War, Cold Monsters

Village of the Damned set its fantastic phenomena firmly if subtly within the Cold War.[333] Its official thematic sequel, *Children of the Damned,* continues this focus while also making genetics an explicit theme. Once again, mysteriously telepathic children are born seemingly at random throughout the world, this time as individuals who must find each other to form their group. Unlike its predecessor, *Children of the Damned's* group is overtly not uniform. Their unity in diversity, and their antiviolent tendency is the image of a model UN. [fig 4.14] The threat they present, though, is not one of domination or invasion, but purely of biological supplantation. Where *Village of the Damned* proposes the idea of extraterrestrial influence in the children's creation, *Children of the Damned* explores the idea of the children as a radical evolutionary leap forward. About ten minutes into the film, a shot of the first exceptional child crossfades to that of a caged rat, much larger than the other rats around him. The geneticist David Neville describes the rat as a not only larger but "very much cleverer" than his siblings, "under free conditions, his strain would take over." As he explains to his colleague, psychologist Tom Llewelin, "You remember, Darwin and, uh, survival of the fittest." To which Llewelin responds, "But this is not an example of the evolutionary process?" Neville clarifies, "No, this is a sudden, unexplained mutation in the genes. We call them biological sports." While this exchange sets the film firmly in the context of early-1960s genetics, the film doesn't know much more about evolution than did *Murders in the Rue Morgue* (Florey, 1932). A "sport" is merely another term for mutation or the result of such. It has no special, spectacular valence to it. Moreover, what they describe is exactly Darwinian evolution. "Sports" are mutations and mutations are the variety that enables the survival of the fittest to occur.

This misunderstanding of evolution as something linear and predictable reveals the fear of contingency that genetics introduced at the microscopic level. To make evolution palatable, the film characterizes it as in effect synchronic, not diachronic. Change, then, is always small, unsurprising, not radical or revolutionary. Here, evolution is conservative. As I have shown in

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[331] See chapter three.

[332] For an overview of science and scientist as problematic in British cinema at the time see Robert Jones, "' Why Can't You Scientists Leave Things Alone?' Science Questioned in British Films of the Post-War Period (1945-1970)," *Public Understanding of Science* 10, no. 4 (2001): 365–382.

[333] One could argue that the film is about the tragic gap in understanding between the two sides.

the previous chapters, this vision of a stable world summons monsters that are emblematic of a world subject to radical change. This world is the world of modernity's most disruptive qualities, where nothing seems stable. Both the theory of evolution and the experience of modernity seem to posit a world that is unstable over time and non-teleological. This is a world whose transformations are unavoidable (if also inevitable qua accidents) due to their roots in contingency. Genetics took the anxieties over radical change and contingency and placed them deep inside the body and life itself.

By the early sixties, the genetic code represented the idea of an all-determining force for all of life. The central dogma of genetics stated that information flowed one way, reinforcing the sense of DNA as the dictator of life, one that could not be swayed. That the command and control guaranteed by DNA was precarious and always subject to mutation and error was disturbing. As Evelyn Fox Keller notes, "Almost no one was ready to believe that, under certain circumstances, the normal DNA of a cell could rearrange itself. Such a notion was upsetting for many reasons, not the least of which was that it implicitly challenged the central dogma . . ."[334] It is not just the central dogma that the *Children of the Damned* challenges with its "sports," but the effectiveness of command and control in general. And these biological stakes are quickly ballooned into a mirror for the geopolitical and technological stakes of the historical moment. Nuclear war as accident, as a 'sport,' is played out with the film's ending.

The children have sequestered themselves in a church and are surrounded by the military who want to eliminate them, while other factions plead for understanding. At last, members of the embassies of the various countries where the children were born go to meet them, and the scene plays like the League of Nations (the older, war-weary men) going to meet the United Nations (the youth of a peaceful future). Earlier fears of the children's literal and figural inhumanity is, if not laid to rest, at least assuaged for the moment. The officer in charge of the military forces orders a hold on attacking. But then an accident occurs; a screwdriver is bumped by a soldier, flipping the signal to attack. The soldiers open fire even as the General and others try to halt the shooting. The children and the representatives are all killed, and the church is destroyed. The final image is an overhead tracking shot of the radio device that signaled the attack and then to the screwdriver still laying on the floor where it fell. [fig 4.15-16] While the ending is very on-the-nose in its symbolism, it establishes the connections between genetics, accidental technological catastrophe, and the biologization of politics.

The Technological Failure of Global Politics

The ending of *Children of the Damned* allegorizes the almost tragic failure of the United Nations, like in *The Colossus of New York*, but this time due to the arms race and brinksmanship. And though the film's end does not lead to an explicit apocalypse, there is an undeniable fatalism to the future. The final image of the tools and equipment that have 'broken down' are the same tools involved in the Cold War. The screwdriver of the final shot, a simple tool, stands in for the continuity between all tools, no matter how complex, and their potential failure. Here is a technological trap in a system of automatic responses, one whose noise overwhelms human communication. The Cold War technology will let the human race down, command and control will fail, and the future (here represented by the children) will be killed off before reaching

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[334] Evelyn Fox Keller, *A Feeling for the Organism: The Life and Work of Barbara McClintock* (San Francisco: W.H. Freeman, 1983), 9.

maturity. We are not far from the "accident" worried over by doctors Chalmers and Forrest in *The Werewolf*, and especially Bernard in *These Are the Damned.* Like the doctors of the earlier film, Bernard uses the language of inevitability and survival at all costs. For him, the children represent humanity's only hope "to survive the destruction that is inevitably coming." The radioactive children in his bunker are "the only human beings who have a chance to live in the conditions which must *inevitably* exist when the time comes." And like Doctors Chalmers and Forrest, he takes advantage of one contingency—*a* nuclear accident—to prepare for another, *the* nuclear accident.

Bernard's response to the situation of immanent catastrophe is to instantiate total disciplinary control in the name of the species. A kind of totalitarianism, disciplinary power expands to an unprecedented degree in service of a biopolitical goal, a population-level effect not an individual one.[335] The bunker is a site of total discipline, a school, clinic, prison, laboratory, and military installation all in one. At one point, a long tracking shot travels around the space at night, the point-of-view shot of the head of security checking on the children. Everything is in its place, everything surrounded by cement and steel, everything contained. [fig 4.17-20] As in *L'eclisse* and *Village of the Damned*, this sequence presents a world missing its humans. When at last the camera cuts from the POV shot of the head of security to that of one of the children he has inadvertently awakened, the man is shown in full protective gear. He is one of the dehumanized figures the children term "the black death." [fig 4.21] The bunker is the inverse of the artist Freya's place above. There, rooms bleed into each other, no surfaces are smooth, and artwork, tools, dishes all lay scattered about. [fig 4.22] Freya's world is one where life is not managed and rationalized, so very different from the world the children inhabit.

The zombies of chapter one did as their disciplinary master dictated. These children are a type of zombie as well. Oliver Reed's character calls them 'zombies' due to their deathlike lack of body heat. "He's dead. He's dead, I tell you!" he cries upon first touching one of them. But Bernard is not their master, instead; as the logic of biopolitics dictates, he conducts their conduct. Total discipline is deliberately abrogated in regards to the children hide-out, a place that resembles Freya's. This is not an oversight, but a secretly sanctioned space. The hideout is formed out of caverns in the cliff; the rocky, variegated surfaces and walls not unlike the textures of Freya's (i.e., Frink's) sculptures. Like Freya's studio, spaces are not delimited from each other, and objects pile up where they may. [fig 4.23] And also like Freya's, emotion governs the use of the space.[336] Unlike Freya's, this is ultimately a space under command and control, not so much a space of freedom as one of governed release. The children are granted this space only because it makes them easier to manage.

The Birth of Biopolitical Cinema

From 1964, *The Last Man on Earth* (Salkow) also features a character trapped in a space filled with both emotional and rational artifacts. Like the children's space with its shrines to imaginary parents, this space also tries to perpetuate an inaccessible reality. The film is the story of the failure of that perpetuation at both the local and the global level. The eponymous last man

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[335] Esposito, *Bios*, 110–45; Foucault, *Society Must Be Defended*, 259–61; Agamben, *Homo Sacer*, 144–59.

[336] Freya's is where Simon and Joan make love and where King has a breakdown, among other various visitors who typical behave more openly there than at any other location in the film.

on earth is a liberal humanist, and a monster of biopolitics. Filmed in Italy and starring Vincent Price, *The Last Man on Earth* is the first film adaptation of Richard Matheson's 1954 novel *I Am Legend.* [337] The film's critical location seems permanently to reside in one of two places (its popular cachet includes a third, a "Vincent Price" film). First is as the initial appearance of Matheson's story and seen as inferior to the book or of interest for what light it sheds on subsequent adaptations.[338] Second, and for a while its greatest claim to posterity, is its influence on George A. Romero's *Night of The Living Dead* (US, 1968). Yet, the 9164 film was, again, often lumped in with its source novel, the Hammer production *Plague of the Zombies* (Gilling, UK, 1966) and even Alfred Hitchcock's *The Birds* (US, 1963). While *The Last Man on Earth* was certainly an influence on Romero's film, it was only one of many. With the success of the 2007 version of *I Am Legend* (Lawrence, US), *The Last Man on Earth* again came under discussion, though still subordinated to its relationship to other films.[339] If it has recently started to receive more attention—including, at last, some acknowledgement of its strange but undeniable resonances with Michelangelo Antonioni's *L'Eclisse* (Italy, 1962)—it has returned the film to its location as adaptation. [340] But it is the film's other location within the tradition of the zombie film that is the far more important one. Treated as a zombie film, *The Last Man on Earth* represents a major moment in film history in its own right. It is a film deeply informed by the history of science fiction and horror films while also breaking from that history decisively. The film sets into circulation images, motifs, tropes, and themes that sf-horror films, including the vast majority of zombie cinema, continue to appropriate to this day.

The Last Man on Earth begins three years after a "bacterial" (though importantly, sometimes called "viral") pandemic has killed everyone on earth except Robert Morgan (Robert Neville in the book and the other adaptations) played by horror icon Vincent Price. Many of those who have died from the disease return as the undead and try to feed off of Morgan and, failing that, each other. Morgan himself lives barricaded in his suburban home waging a one-man war against them. The them in question are vaguely referred to as vampires but are for all intents and purposes zombies. Every night these undead plague victims lay a languorous siege to Morgan's house and every day he hunts them down while they sleep. However, unbeknownst to Morgan, some of the plague victims have managed to keep the disease in check and are not

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[337] The film has two different provenances, America and Italy, with Sidney Salkow and Ubaldo Ragona credited as director on the respective prints.

[338] See for example, Peter Hutchings, "American Vampires in Britain: Richard Matheson's I Am Legend and Hammer's *The Night Creatures*," in *Sights Unseen: Unfinished British Films*, 2009, 53; Justin J. Roberts, "Transforming the Hero of *I Am Legend*," *Journal of Popular Film and Television* 44, no. 1 (2016): 42–50; Kolson Schlosser, "Apocalyptic Imaginaries, Gramsci, and the Last Man on Earth," *GeoHumanities* 1, no. 2 (2015): 307–320; Christopher M. Moreman, "Let This Hell Be Our Heaven: Richard Matheson's Spirituality and Its Hollywood Distortions," *Journal of Religion and Popular Culture* 24, no. 1 (April 17, 2012): 130–47.

[339] Janani Subramanian, "Alienating Identification: Black Identity in The Brother from Another Planet and I Am Legend," *Science Fiction Film and Television* 3, no. 1 (May 15, 2010): 37–55; Roberts, "Transforming the Hero of I Am Legend"; Sean Brayton, "The Racial Politics of Disaster and Dystopia in I Am Legend," *The Velvet Light Trap* 67 (February 17, 2011): 66–76.

[340] "Strange Correspondences: 'The Last Man on Earth' and 'L'eclisse,'" Bright Lights Film Journal, November 7, 2010, http://brightlightsfilm.com/strange-correspondences-the-last-man-on-earth-and-leclisse/.

undead. Importantly, none of these three groups—designated as immune, casualties, managed infection—have any moral valence connected to their state. Neither is there any supernatural component to the disease or a moral component for why a person is part of one group and not the other.

The Last Man on Earth channels the tradition of zombie cinema and transforms it into a new template for almost all subsequent zombie (and outbreak) films that follow, including *Night of the Living Dead* and everything from Romero's *The Crazies* (US, 1973) to the *Resident Evil* (2002-2016) franchise to the television series *The Walking Dead* (US, 2010-). All these films it is the zombie, or its analogues, in mass form that threaten. In this, *The Last Man on Earth* is also revelatory in its figuring of Foucault's biopolitics as power that takes life itself as its object and objective. As I discussed in chapter one, this is a conceptualization of power different from sovereign power (with its classical ability to "make die or let live"). This power operates on and through life—at one level the anatomical, physiological properties of bodies, that is, working on people qua bodies and those bodies as being machine-like; and on another level, the general biological processes of bodies within a species, dealing with individuals not as individuals but at the level of a population. This is a power that reduces the human subject to a bare life, a power that "makes live and lets die." From this horizon I argue that the film engages the biopolitical at many points: the move from subject to population; the presentation of a world where *bios*, a form or way of life (socio-cultural), has been reduced to that from which it is classically differentiated, *zoē*, the life (biological) common to all living things, much as the film reduces the diabolical vampire to the mindless zombie; and finally and perhaps most interestingly, its staging and working through of what Roberto Esposito terms the immunitary or immune paradigm in modern biopolitics.

> It is all too evident that politics enters fully into the immune paradigm the moment life becomes the immediate content of its action. When this occurs, all formal mediation disappears; the object of politics is no longer a 'life form,' its own specific way of being, but rather, life itself—all life and only life, in its mere biological reality. Whether an individual life or the life of the species is involved, life itself is what politics is called upon to make safe, precisely by immunizing it from the dangers of extinction threatening it.[341]

The film, then, not only makes biology its central theme but also takes up the question of what it means for biology to become the dominant principle of social reality. Once understood as bringing the biopolitical to the screen, *The Last Man on Earth* helps us see how all subsequent zombie-outbreak films that follow are understandable in biopolitical terms. Or to put it more strongly, that the classic zombie sf-horror tradition (the one often seen as beginning with Romero's *Night of the Living Dead* in 1968) has always been about the nightmare of biopower. We should not be surprised to find that the evil corporation behind the zombie producing T-virus in *Resident Evil* has "our business is life itself" as its corporate slogan, only that it took so long for someone to finally say it.

The Last Man on Earth differentiates itself from previous science fiction and especially sf-horror films in the way that it breaks from the invasion and nuclear catastrophe scenarios of the fifties, as well as the subtle invasion-from-within structure found in the *Damned* films discussed above. Not coincidently the figure of the zombie, which had decreased in prominence

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[341] Roberto Esposito, *Immunitas: The Protection and Negation of Life* (Cambridge ; Malden MA: Polity, 2011), 112.

after its initial flourishing in the 1930s, found its most productive home in the fifties in alien invasion films. It was there that it maintained its relevance even as it mutated drastically from its voodoo roots. It is from those films that *The Last Man on Earth* takes up the zombie figure and gives the zombie its now-canonical and still dominant visual form: the zombie en masse or the horde, made of visually varied but mundane first world inhabitants, clothing in shambles, and in various stages of decay (though here, in 1963, the decay is very mildly portrayed). And the zombie is now a type of cannibal. Moreover, in the film, this mass zombification is posited as the result of an outbreak, viral or otherwise, and these outbreaks are shown as both physically and socially destructive.[342]

I showed in chapter one how, from its earliest appearances on screen, the zombie has existed at a meeting point between scientific and supernatural causes (hypnotism, telepathy, spells, potions, drugs, electricity, etcetera), and that early zombie films resisted positing the zombie as definitively rational or irrational at its source. *The Last Man on Earth*, on the other hand, presents us with a revenant that has a completely scientific explanation, one that defies traditional theological or psychoanalytic meanings. The vampires-cum-zombies of the film that 'haunt' Robert Morgan do so out of a mechanical compulsion that has no essential content beyond mechanical-biological processes. They have been completely divested of any gothic or romantic content. Instead, the film presents us with creatures performing acts that seem best described as automatic. They repeat the same actions over and over again. They shamble, they grope, they groan. They attack Morgan's house night after night. They seem to have no drive beyond feeding. The only one that does speak says the same things over and over again ("Morgan, come out. Come out. Morgan."). Their thoughtless automaticity is their defining characteristic; Morgan even proclaims that "reason [thought] is the only advantage I have over them." This is why the creatures should be—and largely have been—considered zombies and not vampires.[343] Coupled with this is their appearance, which suggest that they have crawled out from the grave and are going downhill from there, dressed as they are in torn, dirty clothes that barely covers flaking skin and grayed out skin. And finally, they run contrary to the tradition of the vampire, a creature that never quite escapes its gothic trappings with its intimate relation to evil and diabolical sense of purpose and irrationality. The zombie, by contrast, is the very picture of rationality, but a hypertrophic rationality. It is instrumental reason in human form as "dead mechanism."

Regardless of its origins in Haitian voodoo or its most well-known cinematic form as an undead cannibal, the zombie has always been founded on one essential quality: it is a subject reduced to nothing but a body. Whether that body is fast, slow, dead, alive, infected, decaying, angry, hungry, or indifferent doesn't matter; the fact that it has no subjectivity does. The subject has been boiled down to, "'only life,' 'pure life,' 'bare life'".[344] Giorgio Agamben's definitions of *bios* and *zoē* apply to the zombie, the zombie as pure *zoē*, "the simple fact of living common to all living beings," in opposition to *bios*, "the form or way of living proper to an individual or a

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[342] The effective difference between the bacterial and viral for outbreak narratives is nil. They both serve the same function, wonderfully evidenced in the post-viral-apocalypse television series *Jeremiah* [US, 2002-2004] in which a character uses both categories interchangeably in the same sentence.

[343] To the contemporary viewer their "zombieness" is obvious.

[344] Roberto Esposito, *Immunitas: The Protection and Negation of Life*, 1 edition (Cambridge ; Malden MA: Polity, 2011), 14.

group."[345] What is shown to be dead in the zombie is the subject—that which is capable of *bios*—while the corpus goes on living, *zoē*, a body that is not a person but merely a bare life. The zombie is horrific as an image of the living (*zoē*) that is no longer a life (*bios*). The zombie shows us that the loss of liberal-humanism both as subjectivity and ideology, does not entail the reversion to some other or prior or deficient form of subjectivity. It is the end of subjectivity *tout court*. The determining subject is gone and in its place is a biologically determined bare life, a subjectless body—yet, one that is the object of power and politics nonetheless. The zombie is the hyper-politicization of the body as a biological organism (*zoē*). Agamben sees an example of this logic at work in contemporary debates around persistent vegetative states, "in the discussions about the definition *ex lege* of the criteria for clinical death, it is further identification of this bare life – detached from any brain activity and, so to speak, from any subject—which decides whether a certain body can be considered alive or must be abandoned to the extreme vicissitudes of transplantation."[346] Or as in Francisco Franco's case, kept alive to keep a regime "alive."[347] While for Roberto Esposito it is the concept of immunity and its negativity, its obsession with the body and thus the body's extreme valorization that leads to "the reduction of life to its bare biological layer, of *bios* to *zoē*."[348]

In the early zombie films of the 1930s and 40s the zombie is not just a subject reduced to *zoē* in a general sense, but one given the form of a Foucauldian docile body.[349] The zombie as predominately a docile body becomes less tenable when visualizing the masses of zombies of the "horde," first seen in the invasion films of the 1950s. If the zombie begins as a docile body under the control of a sovereign figure, already by World War II this has changed. The conflicts in the early zombie films restaged the transition to modernity, where the absolutist state is superseded by the liberal nation state.[350] In the World War II-era films—such as in the *Buck Rogers* (Beebe, Goodkind, 1939) serial chapter 8 "Bodies without Minds" in which technology ("amnesia helmets") creates zombies and *Revenge of The Zombies* (Sekely, 1943) wherein zombies are explicitly a Nazi weapon—the 'sovereign' that the self-possessed individual position is arrayed against takes the form of ideology and totalitarianism. These ideologies are conceived as the inverse of those of the enlightened West's, but they are actually the obverse. [351] For what transpires with the Nazis is a "paroxysm" (in Foucault's words) of the biopolitical to the point where it turns over and becomes a *thanato*politics. As the political increasingly takes the regulation and control of life itself as its object, the political body (e.g., the nation) is seen as a

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[345] Agamben, *Homo Sacer*, 1.
[346] Giorgio Agamben, *The Open: Man and Animal*, trans. Kevin Attell, 1 edition (Stanford, Calif: Stanford University Press, 2003), 15.
[347] See Introduction.
[348] Roberto Esposito, *Terms of the Political: Community, Immunity, Biopolitics*, ed. Rhiannon Noel Welch, 1st ed, Commonalities (New York: Fordham University Press, 2013), 61.
[349] A body that is knowable and thus malleable, a body to be worked on by power, power that organizes, distributes, controls, and surveys individual bodies. Foucault, *Society Must Be Defended*, 242. Explored in more depth in chapter one.
[350] See Foucault's *Security, Territory, Population* and especially *The Birth of Biopolitics* for the relationship and parallelism between liberalism and neo-liberalism with biopolitics. Foucault, *The Birth of Biopolitics*; Foucault, *Security, Territory, Population*.
[351] Foucault, *Society Must Be Defended*, 258–63; Agamben, *Homo Sacer*. And chapter four "Thanatopolitics" in Esposito, *Bios*, 110–45.

literal body, a body threatened not only from without but from within by contagion, degeneracy, and abnormality; then, as Timothy Campbell notes, "death becomes both the object and the therapeutic instrument for curing . . . the body politic."[352] Esposito describes National Socialism in terms of an immunitary paradigm, "the figure of the autoimmune illness, the ultimate condition in which the protective apparatus becomes so aggressive that it turns against its own body (which is what it should protect) leading to its death."[353] The situation of Robert Morgan in *The Last Man on Earth* is a figure for this immunitary paradigm. The immune obsessed subject becomes the entirety of the 'nation' and his incessant killing of everyone else, itself an autoimmune response, "finally the life of the one is sanctioned only by the death of everyone."[354]

This shift towards the immunitary in *The Last Man on Earth* is possible because in the films preceding it, the zombie master, the figure of sovereign power (a figure that was always a compensation, a stand in for the diffuse and ephemeral power of biopower) recedes farther and farther away from the reanimated bodies. These bodies may have been created and receive explicit instructions from an intermediary but are in service to some spectral political party or national ideology. The true leaders, the source of the 'power' of zombification is never present. The zombie becomes an instance of fascist power. That is, the zombie in the late 1940s and 50s is definitively situated as that which threatens the liberal-humanist project of civilization, rather than individual subjects. The dividing line is established—democratic subject or totalitarian zombie. In the 1950s the zombie figure reappears most prominently as a puppet of alien invasion attempts. The signal example here is *Invisible Invaders* (Cahn, US, 1959), in which disembodied aliens animate human corpses as part of their invasion of earth.[355] Not only are zombies explicitly created for a political-military end and in service to an alien ideology, but the visual image of the zombie gets its new paradigmatic form. The 'zombies' in *Invisible Invaders* have grey faces, black splotches (especially around the eyes), are dressed in suits and other everyday clothing, and tend to be middle-aged, middle-class, white men (i.e., normal). Their grand entrance as a horde replays the zombies' first appearance in *White Zombie*. The zombies come marching, staggering down a hill, blank faced and stiff. With their suits on and their arms to their sides they are the uncanny image of white collar professionals on their way to work. In stills for the film, they take on a more explicitly threatening cast, arms out stretched and reaching for their victims. These are the first instances of the image of the walking dead seen in both *The Last Man on Earth* and subsequently *Night of the Living Dead*: the mass of zombies animated by unseen forces.

These forces in their purest form are not an individual subject that one can resist and through resisting assert one's own subjectivity and thus the value of the latter. The early zombie films needed to reinstate the absolute sovereign, using the zombie master in order to posit a type of sovereign that would both explain this new (bio)power and contain it in a form that could be defeated and expelled. In *Invisible Invaders,* we see how much the threat to subjectivity has changed. It is still the threat posed to the subject as a subject which is also bound to materiality, to a body. But the threat of alien ideology (i.e., ideology in general) is literally invisible. The new techniques of power are discursive techniques with which bodies (and their subjects) are

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[352] From Timothy Campbell's Introduction to Esposito, *Bios*, xxiv–xxv.
[353] Esposito, 116.
[354] Esposito, 115–16.
[355] A trope found in subsequent films such as *Plan 9 from Outer Space* (Wood, 1959) and *The Earth Dies Screaming* (Fisher, 1964)

enmeshed; this power is invisible and strikingly so in comparison to sovereign power. Recall the opening of Foucault's *Discipline and Punish* (1975) with its horrific description of public punishment in the form of a protracted drawing and quartering.[356] Sovereign power must show itself; it is dependent on spectacle. It must make itself visible to all in order to function. However, in place of a power whose presence must be seen, there is the power that cannot be seen, biopower, a power that circulates but that also contaminates. This engenders a visceral anxiety, as the body, the focus and locus of this power, becomes the most precious and the most threatened site. And as Esposito notes, "from this point of view the virus has become the general metaphor for all our nightmares."[357] This is the nightmare to which *The Last Man on Earth* gives shape.

In sharp contrast to all previous zombie films, *The Last Man on Earth* places its nightmare in the future. Instead of a progressive narrative, it offers an apocalyptic one. And the zombie apocalypse will become the most common setting, the default position, for zombie-outbreak films. Foucault notes how nuclear weapons create a paradox for sovereign power in the biopolitical age, for if one uses nuclear weapons, one is sovereign (able to "make die") but destroys all *life* – the source and goal of its power. Running counter to this, an excess of biopower threatens to exceed all sovereignty; it "appears when it becomes technologically and politically possible for man not only to manage life but to make it proliferate, to create living matter, to build the monster, and, ultimately, to build viruses that cannot be controlled and that are universally destructive."[358] Many of the science fiction films of the fifties take up this paradox by presenting an atomic power that results in an excess of life. Radiation creates living matter and builds monsters, then it inflates them to gigantic sizes. The radioactivated imagination produces an endless proliferation of giant monsters, especially insects (e.g., *Them!* [Douglas, US, 1954]), creatures already emblematic of a fecund, encroaching life beyond control. Like many of the creatures in 1950s science fiction films, the giant ants in *Them!* are often taken as metaphors for nuclear war or communism or other aspects of the contemporary political climate.[359] But as William M. Tsutsui argues, giant bug movies were also very much about the fear of actual large insects: "The sense of public fear of destructive insects, stoked by entomologists, government officials, agricultural interests, and the pesticide industry, reached a fever pitch in the 1950s, at the very same time that giant bugs were swarming over movie screens across America."[360] Not so much nature run amok, as nature, technoscience, and modernity interacting in ways that left humans at an extreme disadvantage.

By contrast, in *The Last Man on Earth* there is the paring away from the human world of everything except its lifeless artifacts. This empty world is similar to various moments in *These Are the Damned* (e.g., the cliff and Freya's workshop, the sleeping bunker), the beginning of *Village of the Damned* and, of course, the ending of *L'eclisse* (which uses some of the same

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[356] Foucault, *Discipline & Punish*, 3–6.
[357] Esposito, *Terms of the Political*, 60.
[358] Foucault, *Society Must Be Defended*, 254.
[359] And this is still the case. See Erin Ihde, "The Cold War and Popular Culture," *Agora* 51, no. 2 (June 2016): 37–43.
[360] William M. Tsutsui, "Looking Straight at 'Them!' Understanding the Big Bug Movies of the 1950s," *Environmental History* 12, no. 2 (2007): 247. Tsutsui also gives a comprehensive overview of all the various interpretations the big bug films have received over the years.

locations in Rome as *The Last Man on Earth*).[361] What those films gesture towards, *The Last Man on Earth* dramatizes: a world that is only a field of basic biological conflict. The film then places a lone, anachronistic protagonist in this world. The film becomes a kind of Robinsonade for biopolitics (and certainly his first sighting of the dog actively recalls the discovery of Friday's footprint), not simply because of this lone male figure who instantiates an entire ideological system but because he is eliminated in the end; he and thus the system are shown to be in error, the model that is ultimately invalidated and destroyed. The West's way of life is then condensed down to a single, semi-effectual subject slowly killing as many zombies as he can; arrayed against this lone, pathetic figure is a horde of unfeeling, cannibalistic automatons. Both sides—the individual subject and the subjectless group—are ultimately doomed.

The Little Things of Life

> *Human life strives ceaselessly to perfect itself, to gain ascendancy. But what of the lower forms of life? Is it not possible that they, too, are conducting experiments and are at this moment on the threshold of deadly success?*
>
> *"Zzzz," The Outer Limits, Jan. 1964*

The zombies of *The Last Man on Earth* are not the result of a "sovereign will" or of ideology (alien or otherwise). The agent of zombification is a bacterial-viral pandemic[362]; though bacterial, it is modeled on the Spanish Flu pandemic. The virus and its analogues will dominate zombie-outbreak cinema. Viruses, like DNA and radiation, are invisible. And like the other two, viruses are an active agent, effecting the world and living processes, yet not quite life. This is not to say DNA is separate from life, but that the idea of DNA circulated in popular culture in terms of biochemistry (thus for the layman, simply chemistry) and as command and control (thus, simply mechanism). Moreover, in the late 50s and early 60s, the figure of the virus often appeared with DNA (and radiation) and was described as something like a zombie or vampire. *The New York Times* wrote in 1960, "Viruses are extremely small and considered to be on the borderline between the living and the non-living. They can reproduce only with the help of the living cells of their victims."[363] The virus-bacterium of *The Last Man on Earth*—like radiation in *These Are the Damned*, the mutant genes in *Children of the Damned* and the unknown in *Village of the Damned*—merges with the human to create a hybrid. These hybrids are all presented as evolutionarily advantageous. The goal of nature (in sf-horror nature often has a goal) is perhaps best articulated in *The Outer Limits* episode "Zzzzz," wherein sentient bees, seeing the success of humans, decide to interbreed with them for the betterment of their species, to create a new species that will be distinct from its sources. To this end, they transform their queen into a beautiful young woman, and she attempts to seduce the scientist who has "accelerated" the bees' intelligence. There are shades of Dr. Moreau and his teleological conception of evolution here,

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[361]The "Strange Correspondences" article includes photos comparing the two.

[362] Moreover, in line with Esposito's analysis of viral metaphors, it will be the virus and its analogues that will dominate zombie-outbreak cinema. Esposito, *Terms of the Political*, 60–62.

[363] Harold M. Sschmeck Jr, "Means of Attack by Viruses Found: Academy of Sciences Is Told of Research Involving Human Cancer Cell Double Effect Noted Host Makes Vast Amount of DNA and Proteins That Poison the Cytoplasm," *New York Times*, 1960.

but also more recent concerns, as the queen bee Regina's blood reveals she is a "complete mutant," a "sport" like the *Children of the Damned*.

Regina, though, appears completely human. She is neither a composite creature nor does she embody a midway point between bee and human. She is one thing, and then she is the other. The episode begins in a corner of a garden where we watch as a superimposed bee flies in and begins to wriggle. The image of the bee grows bigger as it alternates and at times overlaps with the miniaturized image of Regina. At last, we only see Regina. [fig 4.24-27] She quickly expands to full height and collapses. This simple effect, most likely achieved through optical printing, leaps over monstrosity. While the bee is larger than in reality, it never approaches anything near the size of the big bugs of the 1950s films. Its translucent appearance from the multiple exposures further mitigates any threatening quality it may have. The bee completely vanishes, leaving a beautiful human girl in its place. Even when she communicates with her hive she does it as human to insect, a cross-species communication. [fig 4.28] Whatever she may be, her body is human. This post-bee human body acts as a medium through which a new species can arise. The human body is not a teleological endpoint but a transmitter or a vector to a biologically novel future.

Vector Management

The body in *The Last Man on Earth* is a vector for biological processes. Disease is a form of life. The disease in the film is a "universal disease," killing everyone and every animal except our eponymous hero. The film shows a world that pre-apocalyptically was already a biopolitical one. In flashbacks, we see the state's response to the epidemic purely in terms of public health issues, a classic instantiation of biopolitical policies—securing a population against disease.[364] The military is everywhere but the entirety of its job is hygiene: proper and timely body disposal. Military trucks stop on residential streets so that undifferentiated soldiers can pick up bodies like garbage men on their rounds. [fig 4.29] There are no individuals in this configuration; a soldier throws the body of Morgan's daughter into a massive cremation pit, a secular inferno, just like he has thrown his own daughter's body in. The military itself is dehumanized, that is, de-individualized, not only by the uniformity of uniformed men but also because almost every scene features soldiers whose faces are covered by gasmasks (an image taken up repeatedly and obsessively by subsequent outbreak films). They are indistinguishable figures—not too dissimilar to the 'black death' guards from *These Are the Damned*—with crude technology instead of faces, removing and disposing of equally indistinguishable wrapped corpses. [fig 4.30] The daughterless soldier is the only one whose face is revealed. The face, though, appears alone, out of place and at a loss. In the context of universal body disposal, the appearance of a human subject's face only accentuates the fact that the biopolitical horizon, the collapsing of *bios* into *zoē,* erases those distinctions of and between people that Morgan's old public and private worlds were based on. In its place are vast systems of regulation which dissolve individuals into statistics. Even though this attempt at regulating and normalizing the situation fails, we are given no indication that this is not the proper, appropriate, obvious response. The deaths and the zombies that follow can only make sense as a nightmare ending of a "way of life" if that way is already paradoxically a biopolitical one.

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[364] Foucault, *Security, Territory, Population*, 55–79.

Complicating this war between the individual and zombies in the final act is the introduction of a third category, a group that has the disease under control. They form a new society by killing the zombies (post-apocalyptic civic hygiene). But they also must eliminate Morgan, who has been indiscriminately murdering them along with the zombies. This third group is establishing a society consciously based on a single biological element—thus, a *bios* that arises from *zoē*. If this society is not elaborated in any substantial way, it is still posited as moving beyond the pure *zoē* of the self-devouring zombie community. The zombies are presented as a hyper-community wherein subjects have been dissolved into a commonality, a population that literally eats itself. They are both the image of the Foucauldian population which "is not, then, a collection of juridical subjects in an individual or collective relationship with a sovereign will," and the community against which Esposito's conception of immunization posits itself[365]: "If *communitas* is that relation, which in binding its members to an obligation of reciprocal donation, jeopardizes individual identity, *immunitas* is the condition of dispensation from such an obligation and therefore the defense against the expropriating features of *communitas.*"[366] Esposito sees the immunitary paradigm as a central feature of modernity, one first articulated in the work of Thomas Hobbes where one must find security against one's neighbors. The de-individualized zombies of *The Last Man on Earth* put into motion the exaggerated image of the community that Morgan sees as threatening the immune dominated position he holds. He projects onto the new society of the non-zombie infected the fear of the individual-destroying community. [367]

Thus, counterpoised against the subjectless population of the zombie-community is the ultimate distillation of the bourgeois, liberal-humanist subject, Robert Morgan. The last man is not so much the last human male but is overdetermined as the last bourgeois liberal subject; he is white, American, middle-aged, middle-class, a scientist living in a suburban home. He is shown not only as self-willed but self-centered and isolated. Played by Vincent Price, he is ostensibly the character the audience identifies with, yet this identification is always troubled. While his voiceover constantly aligns the audience to his point-of-view, it is also distancing. Part of this is the result of the casting. At this point in his carrier, Price was coming off the successful series of Poe adaptations by Roger Corman. His persona was solidified as being primarily a villain of inhuman proportions. This extra-textual quality shades the audience's reading of the character but affects Price's performance as well. The villain cannot help but sneak through. Added to this is a script that more so than any of the other versions of the story highlights the futility and senselessness of his life. The entirety of his existence is cast as a Sisyphean task. This is a departure from the book and the 2007 version in which the character is driven by the desire for scientific knowledge and mastery. It also differs from 1972 version, *The Omega Man* (Sagal US), where Charlton Heston's performance accents his pleasure in fighting the infected and which has an ideological investment in his struggle and individualistic way of life. Set those versions of the character against Price's, whose first line in *The Last Man on Earth* is, "Another day to live through, I better get started." In place of pleasure, ethical imperatives, and desire there is only inertia.

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[365] Foucault, 74.

[366] Esposito, *Bios*, 50.

[367] Note that for Esposito a true community can never be achieved in reality, but a fantastic fiction is another story.

The environment in which he lives announces the drudgery of a way of life that has ended yet still struggles on. We even see him continue the pre-apocalyptic body disposal the military had undertaken, wearing a gas mask and all. [fig 4.31-32] His home is a wreck, cluttered with stuff, half of which seems to be garbage or broken. The house itself is half falling apart and in a state of disrepair. All his windows are boarded up—but only barely and in a haphazard way. Wires hang low, crisscrossing rooms and limiting Morgan's movement as he stoops under them and around the detritus that fills the place. [fig 4.33] This is without a doubt the American dream collapsing in on itself. The suburban home, with its privacy, security and relative material opulence is now devoid of meaning and turned back on its inhabitant. This home fails to differentiate itself from the threats outside it; both are falling apart. In contrast, in the novel, Neville's house is described as continually becoming *more* ordered and utilitarian. Rooms have specific functions in his survival routine, regardless of their previous purpose. In *Omega Man* (1970), though Heston's Neville also lives in clutter, it is like that of an antique shop or a cabinet of wonders—art, beautiful furniture, cut crystal, and fancy gadgets are everywhere. This is not a middle-class mess but an upper-class playground. In *I am Legend* (2007), Will Smith's Neville lives in the perfect upper middle-class professional's home; it is immaculate, unostentatiously stylish, with thoughtfully selected fine art and appliances and a prime location right on Washington Square. This increasing improvement of the living conditions in the films is mirrored in the casting as well. And with these trends is a retreat from the critique of subjectivity in the age of biopolitics and the immunitary paradigm it embraces. The ending of the 2007 *I Am Legend* has the Neville character earn his legendary status through a heroic sacrifice by destroying the Other (and its community). He does this in order to safeguard the uninfected and their community, one that embraces the immunitary paradigm that has "transformed and perverted the very idea of community into a besieged fortress."[368] The last image of the film is of the immune sequestered in the ultimate gated community deep in rural Vermont.

The ending of *The Last Man on Earth* is quite different. Morgan's death is not a heroic sacrifice but pathetic and something of a relief.[369] The group who have gotten the disease under control have decided to eliminate (once and for all) the zombies and Morgan, both of which pose a threat. They have driven Morgan into a church where he will make his last stand. Here Robert Morgan shows himself to be desperate and contemptuous, calling his biological successors—"Freaks. All of you . . . You're freaks. I am a man." In place of the tragic comprehension of the novel, where Neville realizes that he is the monster, there is a refusal of understanding. While inspiring pity, his death also signals a kind of hope, for his death is presented as a necessary step towards a new and maybe healthier society. We cannot help but feel trepidation when we see the image of black-shirted men roaming the streets of Rome, eliminating the unworthy. Yet, their black clothes imply "mod" as much (if not more) than "fascist." All atavistic qualities seem absent; in their place is a future-oriented break with the past.

Perhaps most importantly, the final moments of the film focus on the soothing of a crying baby. All of the living infected had gathered in the church and witnessed Morgan's death, including mothers with young children. The crying baby as an infant no older than two by necessity must have been born after the plague. Unlike the societies represented by Morgan or

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[368] Esposito, *Terms of the Political*, 60.

[369] Compare Morgan's end to that of Scott Carey the protagonist of *The Incredible Shrinking Man* (Arnold, 1957) (also written by Matheson), another film that imagines "man's" end as a failure against an enlightened nature and the invisible forces unleashed there.

the zombies, this one gives birth. The biopolitical paroxysm that leads to thanatopolitics and auto-immunity (and thus to death and the suppression of life) is countered by birth. Following Hannah Arendt, Esposito sees birth as the point where *bios* and *zoē* are most distanced from each other, where bio and politics do not yet meet. Thus, the possibility of a political life arises, not just life politicized: "If the fear of death cannot produce anything but a conservative politics, and therefore be the negation itself of politics, it is in the event of birth that politics finds the originary impulse of its own innovative power."[370]

The Last Man on Earth presents a different image of birth and biopolitics than the *Damned* films (and nowhere near the monstrous births of *Invasion of the Body Snatchers*). The latter films view birth as a site where contingency could assert itself and destabilize and threaten order (social, natural, political), points where the biopolitical dominates to the detriment of all. In contrast, *The Last Man on Earth* gestures towards the possibility of a progressive reconfiguration of the biopolitical, something barely hinted at in the novel and actively rejected by the conservative thrust of the other versions. This is part of the film's importance. Not just that we can map biopolitical concepts on to it, but that it helps us see the zombie films that came before and that follow it as trafficking in images of biopower. And finally, the film thematizes biopolitics and makes an argument within its horizon about the political nature of immunity (or the immunitary nature of politics). With *The Last Man on Earth,* the biopolitical is represented and *interpreted* by the cinema.

The film's end is an acknowledgment that life itself is the subject of politics and power, that the *world* in the age of biopolitics is apocalyptic (contrast this with the discrete and contained sites of the other films discussed in this chapter). And it is because of that acknowledgment that the film can end with novelty and not a return to the known. Every other film considered so far returns to the status quo or "cultural norms"—even if those norms are presented as negative, as in *These Are the Damned* and *Children of the Damned.* The "counter-cultural" threat is neutralized in these films. But in *The Last Man on Earth* there is a reversal of valence. That which is initially taken as the threatened—Robert Morgan and the self-possessed humanist values he represents—becomes the threat to the new set of values and norms posited. Whether the ending portends the positive biopolitics Esposito proposes or merely an acclimation to the fact of life under (within!) biopower is left unanswered. But the ending does represent a vision of acceptance, melancholy though it may be, of a future radically different from the present, one whose coming and content are unpredictable.

Zombies Redux: Nights of the Living Dead

Whereas in chapter three the films showed the decomposition and re-composition of human bodies, now in the films of this chapter there is the creation of a new normal, of new 'species.' Populations transform or evolve into something new that supplants what came before. These new populations are not merely the mixture of components we saw with the cybernetic-inflected or human-animal monsters of previous chapters, but a wholesale integration of the human with the (previously) non-human, that is, hybrids—radioactive-humans, insectoid-humans, viral-humans, botanical-humans, etcetera. I have stressed that the visual component of these monsters is one of their most important qualities: they are without visible monstrosities. They pass as human—"normal." I have been mapping the various ways the human sciences have

[370] Esposito, *Bios*, 177.

objectified the human and in the process opened up the human to the effects of new (and some old) forms of power. Thus the human sciences logically lead to the human being reduced to the status of all other objects of scientific inquiry, the human sciences subsumed into technoscience. Sf-horror films have responded and commented on this situation by generating narratives around human-monsters, monsters often "emblematic" of the technoscience at work behind the scenes in the broader culture. But in this chapter, most of the time, most of the monsters analyzed lack this emblematic quality. These are monster that do not show.[371]

The biopolitical, too, does not show. Its effects appear in aggregates, in rates and distributions, in long term institutional and social practices. It works through the normal and abnormal, creating norms. Thus, the 'monsters' of this chapter must be mistaken for normal, at least some of the time. All the films turn on these misrecognitions. *The Last Man on Earth* goes the farthest, inverting the normal and the abnormal, where the monster winds up to be the model bourgeois man. The visual appearance of 1968's *Night of the Living Dead's* "ghouls" (post facto zombies) are not the only element the film appropriated from *The Last Man on Earth*. It also borrows scenarios of misrecognition. *Night of the Living Dead* opens and closes on scenes where the misrecognition of monsters leads to fatal consequences. In the opening, a brother and sister go to visit their father's grave. While at the cemetery, they are approached by an odd, middle-aged man. Too late, they realize he's not a normal man, but a zombie [fig 4.35-36], and the brother is killed in the process of freeing his sister from the zombie's clutches. At the ending of the film, Ben, the protagonist of the film and the lone survivor from a farmhouse besieged by zombies (a situation that in many ways recalls Morgan's nightly sieges), is shot by a zombie hunting militia, mistaken for one of the living dead, much as Morgan mistook the living infected. The zombie mistaken for human (and vice versa) will be a trope repeated ad infinitum after *Night of the Living Dead.* And while the zombie will also be shown in more and more advanced stages of decay (a type of visible monstrosity) in the subsequent decades, this decay will be on a continuum with the perfectly "normal" appearing zombie. As with humans and apes in chapter two, the hard either/or distinctions between humans and zombies are dissolved.[372]

Unlike *The Last Man on Earth*, though, *Night of the Living Dead* offers no explanation for its monsters. They are pure contingency, a species-level accident. Zombies just happen. Every subsequent zombie film lives in the shadow of *Night of the Living Dead.* Contingency and biopolitical themes and imagery abound in them. Not surprisingly, the docile body of the disciplinary zombie has almost completely vanished. The zombie from here on out is often morally neutral, a nullity. While the hordes of zombies in *Night of the Living Dead* are often read as allegorizing, engaging in social commentary,[373] they do this from an antihumanist position. The rising of the dead had its first spectacular moment in Able Gance's *J'accuse* (1919). Gance's dead have a purpose, a voice, a moral imperative. These revenants are the hallucination of a

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[371] Staying true to monster's actual etymological roots in the latin *monstrum* (to warn) and not *monstrare* (to show), which is sometimes misapplied to it, even by Cicero and Foucault. See Emily I. Troshynski and Jesse D. Weiner, "Freak Show: Modern Constructions of Ciceronian Monstra and Foucauldian Monstrosity," *Law, Culture and the Humanities* 12, no. 3 (October 1, 2016): 741–65.

[372] In *The Walking Dead*, everyone is "infected," zombies waiting to happen.

[373] Perhaps most famously championed by Robin Wood. See Robin Wood, *Hollywood from Vietnam to Reagan-- and Beyond*, Expanded and rev. ed (New York: Columbia University Press, 2003).

shell-shocked soldier, the ghost of men whose dead bodies have been abandoned on the battlefield. They gesture towards the zombie of the 1930s and its essence as a resource for war and industry. Yet, these soldiers are saturated with morality; *it* animates them, not technical means. They are humanist zombies. They march down streets to confront the survivors of World War I, not to eat them or harm them, but to accuse them. And for all their visible wounds and bandages, they are in essence incorporeal, at times translucent (thanks to multiple exposures), vanishing once their task is complete. The immateriality of the moral values which animate them is expressed in their own immateriality. They belong to Marcuse's affirmative culture. They are nothing like the zombies of *Night of the Living Dead* who slowly swarm around a house to feed on the living, a dumb and null nature, and without values of any kind.

Where the zombies of chapter 1 explicitly engage with concerns over power (sovereign, disciplinary) directed at and from individuals, the same cannot be said of *The Last Man on Earth*, *The Night of the Living Dead*, or biopolitics in general. No longer does power look like Max Weber's famous description: "'Power' is the probability that one actor within a social relationship will be in a position to carry out his own will despite resistance, regardless of the basis on which this probability exists."[374] Weber describes a sovereign power, something we can equate to the zombie master, not active in the canonical zombie cinema from the 1960s on. There, Foucault's biopower reigns: "Such a power has to qualify, measure, appraise, and hierarchize, rather than display itself in murderous splendor: it does not have to draw the line that separates enemies of the sovereign from his obedient subjects; it affects distributions around a norm."[375] The films of the 1930s with their zombie masters and their disciplined zombies, their mad scientists and their apemen reveal the anxieties over the sciences transforming the human into a type of object, one that denied the human's humanist qualities, opening up the body to scientific investigation and manipulation, both actions inseparable from new modalities of power. The films of the 1950s take this new body, more than ever threatened by contingency, and integrate it with the nonhuman, not for that body's benefit but for goals external to it. The films of the 1960s and their zombie cinema progeny at last show what cannot be shown: the monstrosity of biopower. The canonical zombie's monstrosity—with its incessant movement, its incessant eating, and its incessant decay—*is* life itself.

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[374] Max Weber, *Economy and Society: An Outline of Interpretive Sociology*, ed. Guenther Roth and Claus Wittich, New Ed edition (Berkeley: University of California Press, 1978), 53. He continues with interrelated definitions of "domination" and "discipline"; the latter while bearing a surface similarity to Foucault's conception, still depends on a command being given. For Foucault, discipline's great strength is that no command need be given.

[375] Foucault, *The History of Sexuality, Vol. 1*, 144.

Figure 4.1 The artist sets herself apart.

Figure 4.2 The artist is alone.


Figure 3. The juxtapositions peak.

Figure 4.4 The panoptic classroom.

Figure 4.5 Diminutive Gestapo.

Figure 4.6 The old norm . . .

Figure 4.7 meets the new.

Figure 4.8. The unbalanced world of alien duplication.

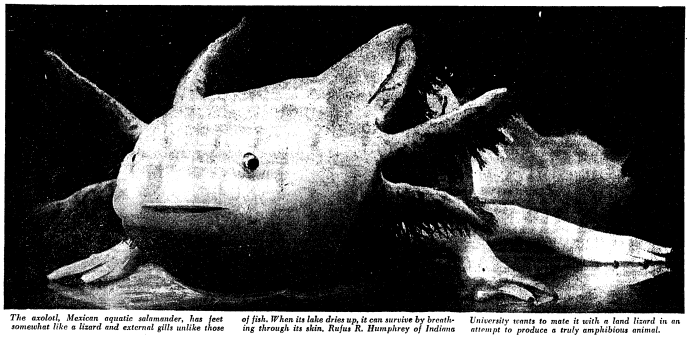
Figure 4.8.5 The eruption of animal-plant.

Figure 4.9 Fetal Monsters.

Figure 4.10 The image of mental power.

Figure 4.11 Matte effects—merging the static and the mobile.

Figure 4.12 The world after the human.



The axoloti, Mexicon aquatic salamander, has feet somewhat like a lizard and external gills unlike those of fish. When its lake dries up, it can survive by breathing through its skin. Rufus R. Humphrey of Indiana University wants to mate it with a land lizard in an attempt to produce a truly amphibious animal.

Does Heredity Hold Secret of the Superman?

At the Least, Geneticists Are Hopeful Of Learning Keys to Age, Deformities And Cancer

By Nate Haseltine
Staff Reporter

FOR YEARS, geneticists have been seeing tracks on the ground; now they're beginning to get a look at the animal.

The animal is Inheritance, and the glimpses they are getting may someday tell them:

- How to manipulate livestock heredity at will.
- How to crossbreed nonmating animals artificially to produce new and valuable fish, fowl and livestock hybrids.
- How to prevent birth malformations—babies doomed to deformities and death.
- Society ever permitting, how to breed supermen and superwomen semi-artificially, building up a new racial stock which would combine humanity's best physical and mental inheritances.

On an even finer scale, geneticists believe that their science will advance to the point where man may be able to pull apart the chains of heredity and patch up any faulty cross-linkages. These are the faults responsible for more than 300 hereditary disorders ranging from frequently fatal cystic fibrosis to acutely painful gout; from the mental retardations of phenylketonuria to the much more widely known diabetes.

TO FIND OUT what's going on in genetics research, I went to Indiana University, one of the Nation's great centers for this comparatively fledgling specialty.

At the turn of the century, Indiana's geneticists were working out details of how characteristics are passed from parents to descendants. Today they are the leaders in developments which offer hopes of explaining the aging process, solving the riddles of cancer and correcting life forms.

Prof. Hermann J. Muller of Indiana, called the father of radiation genetics, soon may be announcing an explanation of how radiations cause body cells to age and die prematurely. Such knowledge could help explain the whole aging process.

Prof. Tracy M. Sonneborn, another prize-winning geneticist at Indiana, is off on a new and scientifically exciting pursuit. He recently discovered a type of cell inheritance controlled by the cell's structural organization regardless of gene content.

The genes, called the carriers of heredity, have long been regarded as the all-important stuff of new life. Sonneborn found that he could change one-celled animals called paramecia into new types of creatures without manipulating their genes. And the new paramecia reproduced true to their change.

Normally, a paramecium has two body orifices, one to take in food (mouth) and an opposite one to expel waste (anus).

Paramecia reproduce by mouth matings, exchanging their genes (inheritances) in the process. Then each individual divides into two similar paramecia.

Sonneborn found that when their fluid environment was changed during the mating process, the progeny became monsters—but in size but in structure. They had two mouths, two ani and other structural differences from their parents. The wonder was that the new animals mated true; that is, their progeny also possessed the new physical characteristics.

When doublets mated with singles, the doublets divided into new doublets and the singles into new singles. Here was a phenomenon of cell inheritance attributable to outside influence.

The Indiana scientist will continue his work with one-celled animals; others are expected to take up the research challenge with germ cells of higher organisms.

CARL EIGENMANN was the Indiana University pioneer in genetics. A graduate of the university who became its professor of zoology in 1891, he is best remembered for his attack on problems of heredity through the study of blind cave fish. Still to be seen in Spring Mill State Park, Ind., are the concrete pens he built for the rearing of blind fish in daylight.

He was among the first to believe that hereditary characteristics are acquired through genetic changes (mutations) and not as changes brought on by environment. Thus, the cave fish are blind not because their ancestors became blind from living in the dark. Rather, their ancestors became blind through mutation and then took to the caves, where they thrived because they were adapted for survival there.

The opposing, or Lamarckian, view, that adaptations are passed on to descendants, is now discredited practically everywhere except in Russia. There it is expounded by the botanist Lysenko and sanctioned officially more as political than scientific gospel.

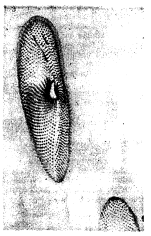
Eigenmann became the first dean of the I. U. Graduate School and was succeeded in that post in 1927 by Fernandus Payne. And it was while Payne was in command that three bright stars in American genetics came to the campus: Muller, Sonneborn and Ralph E. Cleland.

All three plus Marcus M. Rhoades, who became head of I. U.'s botany department in 1958, are past presidents of the Genetics Society of America and members of the elite National Academy of Sciences. All have contributed major discoveries in genetics' four principal areas of research: Cleland with his studies on evening primroses; Muller with his work on drosophila, or fruit flies; Sonneborn with the paramecia, and Rhoades with corn plants.

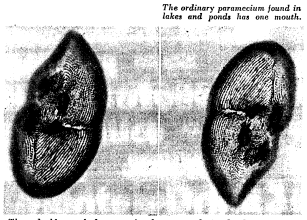
Living organisms — submicroscopic viruses, bacteria, crop plants, forest trees and man himself—are all believed to communicate their biological specifications to their offspring in much the same way. So what is found out with corn, roses, germs, fruit flies, paramecia and other life forms should hold true for all living things, gentically speaking.

Muller won the Nobel Prize in 1946 for first artificially producing changes in the genes. He used X-rays to produce such mutations at first and has since extended that research to other types of radiation, including those of nuclear reactions.

Prof. Hermann J. Muller of Indiana University, called the father of radiation genetics, examines fruit flies for genetic damage caused by exposure of their ancestors to radiation. Muller won a Nobel Prize in 1946.



The ordinary paramecium found in lakes and ponds has one mouth.



These double-mouthed paramecia, shown reproducing by division, were developed by manipulating the cell fluids of single-mouthed animals.

Muller first used X-rays to produce mutations in fruit flies. He produced flies with irregular eyes, extra wings, almost no wings, extra legs and even extra heads by bombarding their forebears with radiations.

The whole-body exposures to his rays caused mutations which were unpredictable at the time of the exposures. They showed scientists that almost all mutations are bad, either killing or mutilating the progeny. The mutilated ones which survived passed on their defects.

The work dispelled the once common belief that nature, through cosmic radiations and other influences, produced beneficial mutations to control the course of evolution. Now we know that evolution occurs because unfit individuals die off without leaving progeny to duplicate their weaknesses.

Muller is now investigating the possibilities of pinpointing radiations, a selective course which conceivably could produce beneficial mutations. It is not an easy task, but its potentials could be tremendous in benefiting future man's mind and physique.

Right now, Muller told me with undisguised excitement, he is looking for evidence that body cell (as distinguished from germ cell) effects of radiation may be caused by the rays' break-up of cell chromosomes, the packets which contain the genes. If this is found to be the mechanism involved in radiation damage, it may help explain postradiation sickness and the seemingly healthy state of humans exposed to atomic radiations at Hiroshima and Nagasaki between their exposure and their subsequent radiation sickness and death days to weeks later.

It could also help explain premature aging processes and perhaps tell us more about what is commonly called the normal aging process.

For years, Muller has been a leading spokesman for those geneticists who believe that man has been too indifferent to the possible harm to future generations by carelessness with radiations of all kinds, including medical X-rays and atomic test-bomb blasts.

Most recently, he has turned his thinking to another possible danger to future generations — chemical mutations. Far too little is known of this subject while man goes on adding more and more chemicals to his diet and environment.

He told me of one recent experiment, not his own but illustrative of his concern. The question came up on the possible carcinogenicity (cancer-causing activity) of caffeine. The compound was shown to cause mutations in test bacteria.

This brought up the question of whether the caffeine in coffee reaches the human germ cell, where it could do possible harm. It was answered through an experiment on a human patient scheduled for surgical removal of both testicles, who willingly agreed to the test.

For 24 hours before the operation, the patient abstained from drinking coffee. Then the surgeon removed one of the male sex glands and suspended the operation. The removed organ was found free of caffeine.

When the patient recovered consciousness, he was given a welcome cup of coffee. Some three hours later the remaining testicle was removed and examined. It was loaded with caffeine.

Muller said that none of the researchers involved would contend that the test showed that coffee is either a chemical mutant or a cancer-causer in humans. It shows, if nothing else, how little is known of mutating processes and the possible role chemicals may play in changing the physical forms of man.

It shows also, Muller said, that scientists should study all the known carcinogens to see if they are also mutagenic. It may well be that some of the chemicals which cause cancers can also upset hereditary balance. This is the coming challenge.

SONNEBORN ALSO is interested in cancer and in aging processes. His geneti lines of paramecia lend themselves well to such studies. Since the single cells reproduce by dividing, a genetic line of them is comparable to the multiplicity of them in many-celled organisms which are also a "line" from a single cell, the original germ cell.

Cancers are abnormal cell growths, or changes from normal to abnormal cells. So the final answers to cancer may well be uncovered by the geneticists.

"In my opinion," Sonneborn said, "there is no one universal cause and mechanism of origin of cancers. The basic fact is cellular transformation, which we have observed as occurring in paramecia in several ways."

Rhoades, like Sonneborn, has also contributed evidence of cytoplasmic (cell fluid) inheritance factors. His work on a strain of male sterile corn was the first evidence of such sterility inheritance in corn. It led to the use of male sterile lines in the hybrid corn industry to avoid the necessity of de-tasseling the female parent plants.

"Anything we can find out about corn genetics may be of value to the farmer, and he is welcome to it," Rhoades said. "Our interest, however, is in problems basic to the whole field of genetics."

For the same reason, Prof. Dean Fraser of the university's bacteriology department is studying the genetics of viruses and bacteria. Obviously, he can't study the organisms individually. Many are so small that they can't be seen even with the electron microscope, which magnifies subjects 100,000 to 200,000 times.

So Fraser works with whole populations of viruses and bacteria. The viruses are those which attack bacteria rather than man. And the bacteria are those which the viruses attack.

Viruses are very specific organisms. Those which infect humans seek out only humans and are not likely to harm other forms of life. Those which attack bacteria attack specific bacteria rather than just any germ.

The bacteria-attacking viruses are also ideal subjects for the study of DNA (deoxyribonucleic acid), called the vital stuff of all living cells. So Fraser's concern is the role, in virus reproduction, of DNA and proteins. Interrelations of these substances are believed to be of paramount importance in life perpetuation through cell reproduction.

AT A MORE visible level, Rufus R. Humphrey, a research scholar, is preparing to mate artificially animals of different steps in the evolutionary scale. This can be attempted now that scientists have isolated hormones which can change mating cycles.

Thus, a female which normally mates only in the spring can be prepared for laboratory mating with a male of another species at any time of the year.

Humphrey's pet subject is the axoloti, a Mexican aquatic salamander, somewhat a misfit in evolution. It lives in water, its gills outside the head. But when its lake environment gradually dries up, it is capable of learning to breathe through its skin to become a land salamander.

What Humphrey plans to do is to try to mate some of his fishbowl pets with true land salamanders to see if the progeny will be truly amphibious, capable of living equally well in water or on land. He also needs to find out if any hybrids so produced will mate and perpetuate the new animal.

HOW SOON do these Indiana scientists believe that the real research breakthrough will come in genetics — the time when their findings will be of benefit to human inheritances rather than for agriculture or livestock breeding?

They have already reached a point where they can ask questions no one ever thought about before. They may have answers to those questions in less than another decade.

Figure 4.13 The cute uncanny to be hybridized.

Figure 4.14 The biological future as model UN.

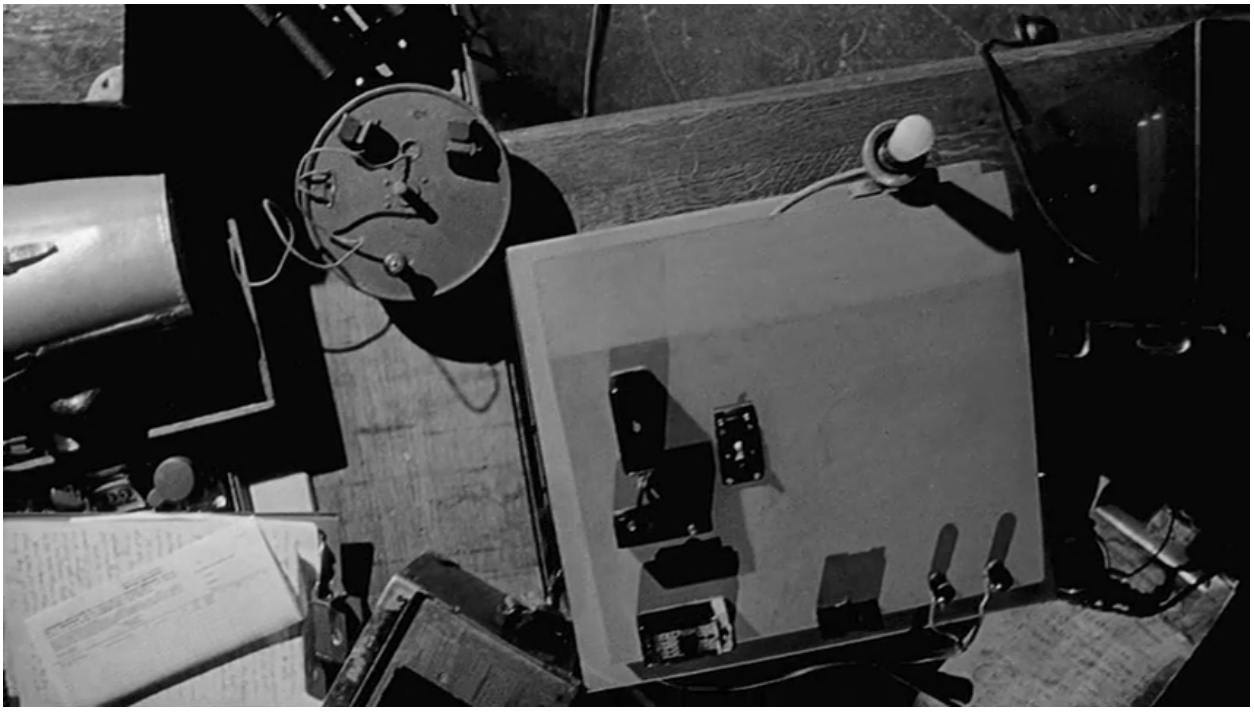


Figure 4.15 Technology Trap.

Figure 4.16 Catastrophe rooted in the simplest of tools.


Figure 4.17 All mod cons.

Figure 4.18 Everything in its place.

Figure 4.19 No place free from observation.

Figure 4.20 Even in sleep.

Figure 4.21 Enter the “Black Death.”

Figure 4.22 A world outside the grid of rationality.

Figure 4.23 Free expression imprisoned.

Figure 4.24 From bee to girl in four parts.

Figure 4.25

Figure 4.26

Figure 4.27

Figure 4.28 Reign of the queen bee.

Figure 4.29 Emergency sanitation practices I.

Figure 4.30 Emergency sanitation practices II.

Figure 4.31 Post-apocalyptic hygiene.

Figure 4.32 Waste disposal.

Figure 4.33 Eyes without a face.

Figure 4.34 The suburban dream collapses in on itself.

Figure 4.35 Misrecognition.

Figure 4.36 and its fatal consequences.

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