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The Race of Machines:
A Prehistory of the Posthuman

A Dissertation submitted in partial satisfaction
of the requirements for the degree of

Doctor of Philosophy

in

English

by

Taylor Scott Evans

December 2018

Dissertation Committee:
- Dr. Sherryl Vint, Chairperson
- Dr. Mark Minch-de Leon
- Mr. John Jennings, MFA

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The Dissertation of Taylor Scott Evans is approved:

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University of California, Riverside

Acknowledgments

Whenever I was struck with a particularly bad case of "You Should Be Writing," I would imagine the acknowledgements section as a kind of sweet reward, a place where I can finally thank all the people who made every part of this project possible. Then I tried to write it. Turns out this isn't a reward so much as my own personal Good Place torture, full of desire to acknowledge and yet bereft of the words to do justice to the task.

Pride of place must go to Sherryl Vint, the committee member who lived, as it were. She has stuck through this project from the very beginning as other members came and went, providing invaluable feedback, advice, and provocation in ways it is impossible to cite or fully understand. Without her support this project's arguments would be much less complete and the dissertation itself much more not-actually-written. My thanks to Emma Stapely, for serving on my exam committee and turning me on to a perfect and obscure little story of Poe's. My thanks to Jayna Brown, Erica Edwards, and Fred Moten for also serving on the exam committee (and for a time on the dissertation committee) and providing valuable feedback at critical stages of the work. My thanks to Mark Minch-de Leon and John Jennings for stepping in at the eleventh hour when everyone but Sherryl left for greener pastures, and for reading a long project they had little chance to shape: it is an act of academic generosity I won't soon forget.

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ABSTRACT OF THE DISSERTATION

The Race of Machines:
A Prehistory of the Posthuman

by

Taylor Scott Evans

Doctor of Philosophy, Graduate Program in English
University of California, Riverside, December 2018
Dr. Sherryl Vint, Chairperson

In this digitally saturated age, the cultural influence of technology has seeped into all areas of social, political, and individual life. At the same time, discourses of technology have long proceeded as if matters of social, political, and individual identity are incidental to technological development. Specifically, themes of technology and themes of race have long been understood as separate and unrelated. I contest this understanding through a sustained examination of the occluded, repressed, and otherwise forgotten truth that American technology arose in a society in which some people were once legally—formally—things, and that these legal forms are nothing other than race. To that end, I read broadly across American cultural production, examining canonical fiction, genre science fiction, and a wide range of ephemera to argue that the culture of the machine age, including the emergence of genre science fiction, was always already a racial project.

This dissertation begins by theorizing the racial history of the human. It builds on the work of Sylvia Wynter, Saidiya Hartman, and Fred Moten, who have explored the way modernity depends on blackness for coherence and power, and applies these approaches to the intersection of science, technology, and fiction, putting these scholars in conversation with scholars of speculative fiction and cultures of technology like Leo Marx, N. Katherine Hayles, Mark Seltzer and John Rieder. The first chapter, “The Machine in the Garden was Black,” for instance, focuses on the place of slavery in Leo Marx’s *The Machine in the Garden*, reappraising many of Marx’s own sources to expose a foundational conflation of slavery and machines in early American culture.

Later chapters focus on the figure of the Steam Man, on racial passing in early pulp science fiction, on the emerging post-racial ideologies of John W. Campbell, and on the critiques and anxieties of agency that followed. The dissertation ends with an epilogue posing the question: what if science fiction was always black? This epilogue reframes what came before, dwelling in the Alternative, aiming to clear some ground for a newer set of genres—genres of science fiction and the human alike.

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Introduction - The Race of Machines, or, A Racial Prehistory of the Posthuman

> Certain kinds of dissolution, the loss of and the need to reconstruct certain kinds of stability. Certain kinds of madness, deliberately going mad in order, as one of the characters says in the book [Beloved], 'in order not to lose your mind'. These strategies for survival made the truly modern person. They're a response to predatory Western phenomena. You can call it an ideology and an economy, what it is is a pathology. Slavery broke the world in half, it broke it in every way. It broke Europe. It made them into something else, it made them slave masters, it made them crazy. You can't do that for hundreds of years and it not take a toll. They had to dehumanize, not just the slaves but themselves. They have had to reconstruct everything in order to make that system appear true.
>
> – Toni Morrison, in Paul Gilroy's *Small Acts* (1993)

> The fact is, that civilisation requires slaves. The Greeks were quite right there. Unless there are slaves to do the ugly, horrible, uninteresting work, culture and contemplation become almost impossible. Human slavery is wrong, insecure, and demoralising. On mechanical slavery, on the slavery of the machine, the future of the world depends.
>
> – Oscar Wilde, "The Soul of Man Under Socialism" (1891)

One day late in January of 1868, a clanging metallic creature stalked the streets of Newark, New Jersey. Dressed in "Pantaloons, coat and vest, of the latest styles," standing "seven feet and nine inches high," and weighing "five hundred pounds," this monstrous mechanical man looked out on the gathering crowds with its face "of white enamel" while traveling under its own motive force, powered by nothing but water, heat, and gumption.[1] The water and heat were contained in a boiler, fashioned like a torso and powering a pair of articulated legs. The gumption resided elsewhere, in the person of one Zadoc Dederick, “the inventor, who is at present but twenty-two years of age, [and who, six years ago,] conceived the novel idea of constructing a man that should receive its vitality from a perpetual motion machine” (*Chicago Tribune* 1868). If this sounds like the premise of a science fiction (sf) story, that’s because it would be, when, some months later, fellow Newark resident Edward Ellis published his dime novel *The Steam Man of the Prairies*, the first American[2] sf novel, featuring a proto-pulp plot that centers on the career of a young engineering genius and his steam-powered man.[3]

---

[1] These quotations are from the January 14, 1868, issue of the *Chicago Tribune*, in a notice with the headline "An Extraordinary Invention," itself a reprint of a notice from the Newark (NJ) *Daily Advertiser* that circulated widely in the first few months of 1868. Many thanks to Buckley (2007), who was my original source for this information; indeed, digital archives have greatly facilitated all aspects of this research on these fragile, ephemeral texts, especially Northern Illinois University's *Nickels and Dimes* collection and the University of South Florida's *Frank Reade Dime Novels* collection.

My project begins with this conjunction between the historical Newark Steam Man and first American sf novel, a conjunction between entrepreneurial imagination and speculative storytelling that marks an important genealogical node in the emergence of U.S. technoculture,[4] a conjunction enabled and endowed by the structures of racial politics in the wake of the United States Civil War. For beyond the Newark connection, the boy engineer, and the steam powered man, Dederick's invention and Ellis's story share one other crucial element: for both men, the Steam Man is speculatively black.

---

[2] In this project, I try to follow the convention of distinguishing between the United States (usually as U.S.) and American, with the latter referring to a broader, transnational context shaped by U.S. political and cultural hegemony.

[3] This title underwent a couple of variations. It was originally published in Beadle’s American Novel series with the title used here. The title of the widely read, reprinted, and anthologized 1876 reissue, as well as most of the subsequent reissues, was expanded to *The Huge Hunter; or, The Steam Man of the Prairies*. Though this was marketed as a novel, it (like most boys’ stories) is at the extreme short-end of novel length, about 40,000 words.

[4] This term originally became prominent in 1990s-era scholarship to describe an emerging digital culture, one exemplified by cyberpunk texts and aesthetics. I use it, here and throughout, in a more generalized sense to describe the sociotechnical imaginaries that evolved through the eighteenth-century Industrial Revolution, nineteenth-century rise of machine culture, and twentieth-century explosion of technological cultures—especially as seen in the development of sf—that both preceded and continues to shape posthuman ideologies. My use of the term “technoculture,” in other words, is part and parcel of my larger argument that cybernetics, information technologies, and the cultures that they have begotten have far deeper roots in America’s (racial) past than is often recognized.

In his story, Ellis describes the Steam Man with a face "made of iron, painted a black color, with a pair of fearful eyes, and a tremendous grinning mouth" (3). This black countenance—a seemingly redundant detail on an already iron visage—works to embed his imaginative device in a broader discourse of racialized labor. The race of Dederick's machine is bit more complicated: as noted, the device he unveiled for the people of Newark had a white enamel face, a piece of its overall design intended to "give it as nearly as possible a likeness to the rest of humanity" (so as to not frighten the horses), apparently embedding his invention in a discourse that equated whiteness with humanity writ large. But there is a contrasting moment of racialization in the patent Dederick and his partner, Isaac Grass, filed for the device: his "improvement in steam-carriage," US Patent 75,874 (1868), depicts the lower half of the device—those parts being patented—in conventional schematic form, appropriate for a technical legal document. The upper half, the "man," is presented as a stereotypical black caricature (see figure 1).[5]

Taken together, these three speculative documents—a prototype, a patent, and a story—exemplify the relationship between technoculture and race as it developed in the U.S. following the Civil War. The historical Newark Steam Man and its para-literary progeny function as something of an ur-text for my broader study of the relationship between racial discourses and the discourses of science and technology in the Unites

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[5] All figures are in **Appendix** (332-337)

States. Though modern-day technoculture projects a rhetoric of color-blindness, it is my assertion that American technoculture is inseparable from the discourses of race that circulated—and continue to circulate—during its development.

The “man” part of these various Steam Men constitutes something of a skeuomorph, a reference back to the familiar movements living creatures use for propulsion. Skeuomorphs, glossed by N. Katherine Hayles as “a design feature that is no longer functional in itself but that refers back to a feature that was functional at an earlier time” (17), linger in most aspects of technological invention and adoption. Rarely are inventions imagined out of whole cloth, even radically innovative ones with vast and transformative effects on society; indeed, radically transformative technologies tend to be more in need of true skeuomorphic features than more modest inventions:

> Like a Janus figure, the skeuomorph looks to past and future, simultaneously reinforcing and undermining both. It calls into play a psychodynamic that finds the new more acceptable when it recalls the old that it is in the process of displacing and finds the traditional more comfortable when it is presented in a context that reminds us we can escape from it into the new. (Hayles 17)

Strictly unnecessary features are frequently included in new technologies to help ease the transition between technological regimes. One way these features do this is by embedding semiotic clues to the proper use or function of a new device, providing a kind of passive script to guide new users. Other skeuomorphic features emerge from the design process itself. These strictly unnecessary elements appear, almost as allegory, as traces of a design’s development.

In this, Dederick was hardly alone in looking to life for inspiration. Numerous inventors of his day were tinkering with variations on mechanical horses, donkeys, and even men; indeed, as USF engineering professor Stan Kranc pointed out to me at a conference, for most of the nineteenth century scientists and engineers could not rigorously understand how the smooth, round wheels of locomotives were able to propel engines along smooth metal tracks. In imagining a fantastic, trackless form of mechanical locomotion, then, it is not particularly surprising that inventors and proto-sf writers drifted to fantastic renditions of mechanical animals. But it is notable that the first such imagined story starts with the figure of a man rather than a conventional beast of burden, like a horse, and that its successors (specifically, the *Frank Reade* and *Frank Reade, Jr.* stories, discussed in chapter 2) also began their runs with a steam *man* before introducing other, less anthropomorphic devices. Moreover, the man in these stories is uniformly coded as black, a thoroughly unnecessary feature that nonetheless serves an important purpose.

In other words, the Steam Man's blackness is more than a trace of older, familiar technologies. This feature embeds the speculative mechanical device into a social structure increasingly affected both by machines and the unruly mobility of a recently emancipated black population. Blackness seems to be necessary for the imagination of an atomized, labor saving device in the recently re-United States. It looks forward to a world where immaterial, socially-dead labor has been severed from actually (inconveniently) socially-alive black bodies while also projecting a familiar racial hierarchy into this bold new world, assuring the always-white machine owner/operator that hewill retain his honorable position in a high-tech society.[6] This dissertation focuses on the shifting relationship between black bodies and white supremacy suggested by these speculative Steam Men. I will explore how one strand of this technoculture—the one most tightly identified with white supremacy—became hegemonic by first explicitly drawing on the cultural authority of white supremacy and later by erasing its overt racialization.

My title, "The Race of Machines," refers to several things. First, and most significantly, it references the occluded, repressed, and otherwise forgotten truth that American technoculture arose in a society in which some people were once legally—formally—things, and that these legal forms are nothing other than race. It seeks to re-entangle the discourses of what Mark Seltzer calls machine culture in *Bodies and Machines* with the discourses of what Saidiya Hartman, in *Lose Your Mother*, calls the "afterlife of slavery" to demonstrate the connection between race and technology in American culture. This connection is, in part, a legacy of racialized slavery, which saw the forcible importation of African bodies to and from "factories" to serve as instrumentalized labor. Even after emancipation, fantasies of racialized labor continue to structure the political and ideological climate in the United States, at the same time that an emerging machine culture likewise made its presence felt across political, ideological, and (most importantly for this study) literary and cultural regimes. The figure of the machine and that of the slave precisely coincide in Dederick's patent, exposing the entangled nature of their respective ideological constructions.

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[6] These operators are invariably male in the nineteenth century texts I examine, and overwhelming male throughout their twentieth century descendants. This gender dynamic runs throughout this project, and has been explored at length in works like Brian Attebery's *Decoding Gender in Science Fiction* and Justine Larbalestier's *The Battle of the Sexes in Science Fiction* (in the context of sf), in the oeuvre of feminist science scholars like Donna Haraway and Sandra Harding (in the context of scientific culture), and in Constance Penley's work on the intersection of science, gender, and popular culture, to list just a few important examples. The racial dynamics of machine-age masculinities, however, have been less well documented, and are the focus of my work here. With the occasional exception, I will let such moments of gratuitous gendering pass without comment.

The patent also suggests an answer to the question implied by the title: at least in America, the race of machines is specifically black—black, that is, in its specificity as an ideological construction both in and of American white supremacy. This specific, explicit blackness emerging during and after the Reconstruction era is also always-already in dialogue with another sense of "the race of machines": the idea that "machine" could be its own racial designation, that the mechanic is in some sense racial (and vice versa). It points to a central anxiety suffusing (white) American technoculture: are we masters of our machines or slaves to them? My project does not set out to answer this question so much as to explore the ideology that leads to it in the first place. This focus is intended to illuminate a particular and distinctive set of histories, politics, and aesthetics in American technoculture, but it is by no means exhaustive; rather, this project is broadly situated in the work of black studies to analyze the foundational role of black bodies in the development of technocultural hegemony.[7]

Racism and the Emergence of Science Fiction

In part, my project stands as a sort of companion to John Rieder's literary history *Colonialism and the Emergence of Science Fiction*. This monograph unpacks the oft-unacknowledged role of colonial ideologies in the development (and therefore, present state) of sf. Rieder argues for understanding sf as a sort of imperial enterprise, unpacking the colonialist narratives that underwrote many early sf forms. At the same time, he argues that sf texts are not merely manifestations of a colonialist id but should rather be thought of as complex engagements with colonialism in their own right. Works like H. G. Wells' *War of the Worlds* express a sort of resistance to the colonial gaze by reversing it; *The Island of Dr. Moreau* "is not so much a distorted, metaphorical representation of colonialism as it is a literalization of the racist ideological fantasy that guides much colonial practice: We know very well that non-whites are human beings, but we behave under the assumption that they are grotesque parodies of humankind" (106). In short, "science fiction exposes something that colonialism imposes" (15).

---

[7] An examination of the distinctive and dynamic ways that (for instance) Asian American, Latino, and Native American racial discourses intersect with American technoculture remains an important area for further study.

Though Rieder focuses almost exclusively on British texts, these points all broadly hold for America sf as well. *The Steam Man of the Prairie*, for example, manifests a U.S.-centric fantasy of colonial expansion and appropriation. Rieder's discussion of race, however, does not hold up in an American context. For Rieder, race in colonial sf traces a troubled boundary between an objectively knowable, colonized, distant "other" and the knowing, empowered, centralized "self." These stories serve as a means of spreading the ideological fruits of colonialism: knowledge of and from the colonies, situated on the periphery of the British Empire, is returned to the average British subject through fiction, dramatizing the journey from center to periphery and back again as an engaging, enriching experience. It brings back knowledge of Others in a context that ratifies the superiority of the colonial masters, often by characterizing colonized subjects as rightly-conquered barbarians. This helps to construct identities in the colonial center in the context of racial Others that are simultaneously circumscribed outside the colonial center.

Race in the United States functions differently—less a matter of center and periphery than a matter of kinship and disavowal; less *Heart of Darkness* than *Pudd'nhead Wilson*. So while *The Steam Man of the Prairie* does tell of travels to the unexploited periphery to recover lost knowledge (and gold), the story's racial ideology goes beyond imposing a grotesque barbarity on native peoples (though it also does that), as its cast of multi-ethnic white protagonists unites around their silent partner in the venture: the black Steam Man. At stake in this American branch of a sf genealogy, then, is the way that structures of slavery helped to shape the trajectory of U.S. sociotechnical imaginaries—especially but not exclusively as manifested in sf—and help precipitate a broader reinstatement of racial hierarchy following emancipation.

Put another way, this project is a tale to two genres: one, the genre "science fiction"; the other, what Sylvia Wynter calls the "genre of the human" ("Unsettling" 313). Perhaps more precisely, this project is an examination of what happens at the intersection of these two genres. As such, this project seeks to locate and bring forth an untold history of the role of racism in the emergence of science fiction. It also seeks to recover a branch of science fiction's genealogy that has long been disavowed—as, for instance, in what is perhaps the first formal definition of the genre, Hugo Gernsback's call for "the Jules Verne, H. G. Wells, and Edgar Allan Poe type of story – a charming romance intermingled with scientific fact and prophetic vision" ("A New Kind of

Magazine" 3). Not acknowledged in this call are the juvenile gadget stories, adventure tales, and techno-Westerns that preceded Gernsback's tenure as managing editor of the first major science fiction magazines, *Amazing Stories* (monthly and quarterly) and *Wonder Stories*, even though Gernsback often published stories that did not conform to his stated ideals. Instead, these disfavored aspects of the genre became something of a repressed trope, characteristic of "bad" sf in the eyes of fans, or of sf in general in the eyes of a skeptical public. Similarly, the racial politics inherent in early sf works did not simply disappear from the genre but were likewise pushed off to the side. As the genre matured, these repressions coalesced in definitions of sf promulgated by authors, fans, and especially the editor John W. Campbell that disavowed their disfavored element, paving the way for the emergence of a post-race ideology.

Perhaps this is good spot to pause for a moment and note that, as a scholar of sf it is incumbent on me to provide a definition for the genre. Mostly, I follow the path suggested by latter part of the title of John Rieder's article "On Defining Science Fiction, Or Not." Rieder asks: "What action does it accomplish to attribute the label, sf, to a narrative?" (200). One possible answer is that "[g]eneric attribution therefore affects the distribution and reception of texts: that is, the ways they are put to use. It is a way of telling someone how to read a text, and even more a kind of promise that the text can be usefully, pleasurably, read that way" (200-01). This is the sense of science fiction which is most operative in this project: it designates my approach to reading texts.

In other words, I resist offering much more than a gesture towards defining what science fiction *is* because I am much more interested in what it *does*. I approach all of the texts in this study as sf because doing so enables what I hope will be a productive mode of inquiry. Perhaps the most precise extant definition for this study is Damon Knight's: "Science fiction … means what we point to when we say it" (1). Every text I examine here is arguably sf—at least, I argue that they are all sf, though in some cases the argument is more straight-forward than in others.[8]

In the case of unambiguous "science fiction" (those stories published in pulp magazines explicitly dedicated to publishing sf, those novels sold by publishing houses and imprints that explicitly catered to the genre's audience, etc.), approaching the texts as sf means reading them in the context of other stories of similar provenance, as well as in the context of specific, and often fairly well-documented, fan and editorial discourses. More ambiguous genre sf works, such as "The Steam Man of the Prairies" and the *Frank Reade Jr.* stories, both predate the explicit formation of the genre (and so are often relegated to the ghetto-within-a-ghetto of "proto-sf") and were left out of the genre's formative documents. Approaching these as sf means recovering a mostly-forgotten lineage, one that, despite its apparent absence in the genre's genealogy, is as important to the development of sf as the acknowledged parts of the lineage.

In the case of liminal works of sf—works like *Blake, or The Huts of America* that has some meaningful connection to sf but have generally circulated as something other than genre sf—approaching them as sf opens up the horizon of possible modes of technocultural speculation beyond the relatively bounded imagination of a white, male, and middle-class dominated genre. To this liminal category we can also add texts of non- or para-literary provenance, such as Dederick's patent, the fannish sf conversations running through a massive parallel community of letter columns and "fanzines," the cover and interior art of sf publications, even the advertising that ran alongside pulp magazines, all of which create, shape, and participate in the evolving technoculture of their time. Finally, some texts that I will examine have no clear connection to sf at all: stories like Hawthorne's "Ethan Brand," novels like Twain's *Huckleberry Finn*, and others like Equiano's 1789 or Frederick Douglass's 1855 autobiographies. Though they have no obvious historical link to sf, they all nonetheless directly engage the same technocultural milieu that gave rise to sf. Reading them in this context helps to expose their pointed and often radical engagement with a present and future as defined by (white) technophiles.

---

[8] I do acknowledge an important distinction between sf texts that follow the emergence of Gernsback's first issue of *Amazing Stories* (with its deliberate attempt to name, collect, and solicit a particular kind of story) and those sf texts that precede and exceed this formation, that is, between those that originally circulated in/as sf and those that did not. For my purposes, however, this distinction is more a matter of audience than form. I use the term "genre sf" to name those works that circulated within the sf community. Relatedly, I use "science fiction" and "sf" interchangeably.

My interest in what sf *is does* rather than what it *is* emerges from my more general methodological approach. I see sf as both effect of and motive force in a more general social negotiation attendant on technoculture. In other words, sf's speculative stories of life amongst machines are more than passive receptacles for the ideologies of technoculture; they actively help to shape this ideology, especially amongst their relatively privileged white, male, imperialistic, technocratic readership. Central to my methodology is what Robin Bernstein, in *Racial Innocence: Performing American Childhood from Slavery to Civil Rights*, theorizes as "scripting":

> The term *script* denotes not a rigid dictation of performed action but rather a set of invitations that necessarily remain open to resistance, interpretation, and improvisation. I use the term *script* as a theatrical practitioner might: to denote an evocative primary substance from which actors, directors, and designers build complex, variable performances that occupy real time and space. (11–12, italics in original)

Sf likewise produces “scriptive things” that, “like a playscript, broadly [structure] a performance while allowing for agency and unleashing original, live variations that may not be individually predictable” (12). Many of these things are manifested in ephemera (like a thoroughly disposable boys’ story or the pre-digital comments section that was the pulp sf reader columns) and like most ephemera, their individual impact runs from negligible to unknowable. Taken together, however, such texts suggest something of the broader trends and ideologies in formation within the community and its likeminded readers. The scriptive things in Bernstein’s analysis are often material object (dolls, handkerchiefs, and such), things that are not usually thought of as “readable” in part because we cannot know how they were used. In this project, I’m mostly interested in textual things—things which could (and will) be read in the conventions of literary analysis—but I’m similarly interested in them as objects that have been put to use to shape (masculine) identity in an increasingly technocultural culture.

The core of my project—a period stretching, roughly, from the Civil War to the Civil Rights movement—is marked by the evolution of a nineteenth century machine culture through the Fordist expansion of the early twentieth century into the mid-twentieth century Space/Nuclear Age[9] (a line of evolution that continues through the advent of digital technologies to our present mobile cyberculture, though that period is beyond the scope of my present work). The rise of technology as a powerful and increasingly visible force in the American zeitgeist enables and demands generic innovation. As Rieder notes, "Categorization . . . is not a passive registering of qualities intrinsic to what is being categorized, but an active intervention in their disposition" ("On Defining" 195). This is true of all genres, including and especially the genre of the human.

A Racial Prehistory…

In 2003, Caribbean author and scholar Sylvia Wynter collected her career-long work on the effect of race and colonialism on American identities into an extended, magisterial essay titled "Unsettling the Coloniality of Being/Power/Truth/Freedom: Towards the Human, After Man, Its Overrepresentation." In this essay, she describes the history and implications of the currently dominant genre of the human—what she calls Man, "which overrepresents itself as if it were the human itself" ("Unsettling" 260). Man is a conception with its own history specifically rooted in "our present ethnoclass (i.e.,

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[9] These two ideas drive much of genre-sf through the 1940s and 50s; they are also intimately connected in American politics more broadly. That is, as much as the space race was as society-wide contest of science and technology, it was even more an exhibition of missile-building prowess (a strange exhibition, to be sure, often understood in the context of other societal-wide efforts—the Pyramids, the Great Wall of China—but probably better characterized as a more "we can put a man on the moon, you think we can't put a warhead in Moscow?" kind of exhibition). See David Nye's pairing the Apollo program and the Manhattan project in *American Technological Sublime* for more on this (staring on 225).

Western bourgeois) conception of the human" (ibid.). Wynter builds this argument from the famous provocation that closed Foucault's *The Order of Things*: "As the archeology of our thought easily shows, man is an invention of recent date. And one perhaps nearing its end" (422). Wynter agrees, but expands the scope, bringing race to bear on the question of the invention of the human to suggest that the genre of the human has in fact already evolved over its history. She calls these evolved genres Man1 and Man2.

For Wynter, the emergence of the human is an extension of the medieval framework of the "Judeo-Christian Matrix," an adaptation of Medieval methods of distinguishing and classifying people along the lines of religious affiliation. This emergence is still an "invention of recent date," but one with both a deeper and more continuous history than Foucault excavates, and one marked by what we can call, after Hayles, distinctly skeuomorphic features. Man grew out of a "gradual de-supernaturalizing of our modes of being human, by means of [the West's]/[its intellectuals] re-invention of the theocentric 'descriptive statement' Christian as that of Man in two forms" ("Unsettling" 263-64). She draws on work like Anthony Pagden's *The Fall of Natural Man: The American Indian and the Origins of Comparative Ethnology*, which shows how this process followed from the Spanish crown's attempt to claim the Americas for itself. To do so, they had to deal with objections from the likes of Bartolomé de Las Casas, a priest who accompanied early Spanish colonizers and who in some ways instigated the Atlantic Slave Trade with his suggestion (written in 1516 as

Memorial de Remedios para las Indias) of importing African slaves as an alternative to enslaving the natives.[10]

Las Casas came to regret his suggestion (Wynter quotes some of his work as evidence and tracks his mid-sixteenth century debates on the matter, see esp. "Unsettling" pp. 283-303). But, as Pagden notes, even he never argued that slavery was illegitimate per se, only that he had assumed—incorrectly, he came to believe—that Africans were taken in so-called "just wars," and thus had traded their freedom for their life, in contrast to the natives whom no existing doctrine justified enslaving: "Amerindians were quite another matter [than slaves taken in 'just wars'], for they had, with very few exceptions, been pressed into service on islands which the Spanish crown claimed to hold in legitimate suzerainty and whose people it was committed to converting to Christianity without inflicting 'dangers or hardships on them'" (Padgen 33). This situation necessitated justification, and luckily for the crown there was already a practice in place to generate it: *juntas*. These were meetings between various learned men who convened before a Grand Council and debated a topic (or at least, read papers at each other), after which the Council would render a judgment—though as Pagden notes, such judgments mostly served to satisfy "short-term political ends, and provide the crown with an ethical justification for a course of action to which, in most cases, it was already committed" (28). The case of the conquest of the Americas was no different.

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[10] "In some ways" because, as Pagden notes, slavery was alive and well prior to Las Casas's suggestion—including the European enslavement of Africans—albeit in a somewhat more limited sense than it would be later: "The enslavement of Muslims had been a feature of Christian Spanish society for centuries, and when during the fourteenth and fifteenth centuries this source of supply began to dry up, Spaniards began to import white slaves from the Balkans and the Black Sea, the principle source of the slave trade since the days of Polybius. These slaves were taken in 'just war.' That is, they were either pagans or, like the Greeks and the Russians, schismatics resisting the legitimate authority of the 'true Church.' … With the Portuguese incursions into Africa, however, a new source of labor became available. At the beginning of the fifteenth century the slave markets of Saville and Valencia were rapidly developed for the sale of Blacks … Even Isabel herself had, until 1479 when the Catholic Monarchs abandoned their claims to Guinea, taken a personal interest in the African slave trade" (32).

To justify their enslavement of American natives, these councils drew on an unusual argument from Scottish theologian John Mair. Usually (according to Padgen) such arguments privileged religious texts, relegating classical work to a subordinate, explanatory status that could never trump or contradict religious doctrine. Religious texts, however, were not forthcoming in terms of justifying the crown's actions. Mair thus looked to the pagan Aristotle and his theory of "natural slavery," initiating an early and massively consequential usurpation of religious authority for classical authority. Aristotle's argument is grounded on a distinction between "civil" and "natural" slavery—the former a legal process by which a person was stripped of recognition for external reasons (usually debt or war), the latter a function of the well-ordered hierarchies of the world by which a person's internal "nature" excluded them from recognition: "Mair had, in effect, established that the Christians' claims to sovereignty over certain pagans could be said to rest on the nature of the people being conquered, instead of on the supposed juridical rights of the conquerers" (41). It is this shift from juridical to "natural" that sets the stage for race in the modern world.

As Wynter argues, the coherence all three conceptualizations of the human (Christian Man, Man1, and Man2) rests on their contrast with an "Untrue Human Other" (318). For Christians, this "Untrue Human Other" is simply what Jacob Pandian calls the "Untrue Christian Self" (Wynter 318). Geraldine Heng expands on this schematic in

Empire of Magic, her study of Medieval romance. There, she notes that the Saracen (a contemporary word for Muslim in the Christian world), who had once been understood as an enemy of Christianity, would by the late fifteenth century become understood as a distinct Other to the Christian self. (During the Age of Expansion, in another usurpation of religious authority by secular rationalization, "the Christian" also began its transformation to the geographically delimited identity of "the European.") Significantly, this religious Other was marked by darker skin. Put simply, the racial formations of the Medieval age seeded the racialized understandings of foreign peoples in the modern world (Heng 239-305; also, see esp. 234). These various forces—political expediency, Aristotelian essentialism, medieval religious prejudice—coalesce into the amalgam of physical appearance, political standing, and exploitation against which new genres of Man could form.

For Wynter, the emergence of these new genres had profound implications for Western metaphysics, heralding a shift from Christian conceptions of the True Self into two subsequent forms:

> The first was from the Renaissance to the eighteenth century; the second from then on until today, thereby making possible both the conceptualizability of natural causality, and of nature as an autonomously functioning force in its own right governed by its own laws … with this, in turn, making possible the cognitively emancipatory rise and gradual development of the physical sciences (in the wake of the invention of Man1), and then of the biological sciences (in the wake of the nineteenth century invention of Man2). ("Unsettling" 264)

The order of causality in her analysis is important: it is not the rise of the physical sciences (physics, chemistry, astronomy) led to a new genre of Man, but that this new genre enabled new paradigms, in the sense suggested by Thomas Kuhn, that created new realities (or at least, modes of perceiving reality) in its wake. Man1 was built on the assumption that rationality separated True Man from untrue man. As such, it scripted an approach to thinking that privileged closed causal explanations of phenomena, which led to the development of physics. Man2 likewise emerged from the imperative to understand people as separated by their "natural" characteristics, which scripted an approach to thinking that privileged innate hierarchies—hence nature "governed by its own laws," and hence the search for these laws in biology, anthropology, and physiognomy.

The forms that characterize Man1 and Man2, then, emerge less a matter of positive identification than of negative disavowal—both in the ideological sense of constructing a Self from the not-Self of Them-Over-There (the constitutive Other), and in the more mundane sense of justifying geopolitical exploitation by denying its illegitimacy. A theocentric schematic morphs into the underlying structure of the Renaissance humanist project, with the religious Other becoming a proto-ethic figure. For the rational, political subject Man1, the "Indian" functioned as the categorical Other. "Indians" were the "acme of the savage, irrational other, while 'Negros' were assimilated to the former's category [i.e., understood as a species of Indian], represented as its most extreme form and as the ostensible missing link between rational humans and irrational animals" ("Unsettling" 266). As Man2 emerges in

> purely biologized terms, it was to be the peoples of Black African descent who would be constructed as the ultimate referent of the "racially inferior" Human Other, with the range of other colonized dark-skinned peoples, all classified as "natives," now being assimilated to its category—all of these as the ostensible embodiment of the non-evolved backward Others—if to varying degrees and, as such, the negation of the generic "normal humanness," ostensibly expressed by and embodied in the peoples of the West. (266)

In all three cases, the Other to the Western Self is a semi- or actually-racialized body, and while the particular mode of this racial Other's inferiority shifted, the external markers remained remarkably consistent.

In the American context, slavery fundamentally structures the ways the genre of the human manifests, specifically shaping both the actual and speculative relationship between those who serve and those who command service. Much as Wynter sees coherence and continuity across the European "invention of man" and the forms that preceded it, Saidiya Hartman argues that in the U.S., "emancipation appears less the grand event of liberation than a point of transition between modes of servitude and racial subjection" (6). Even after the Civil War's denouement led the formal abolition of the master-slave social arrangement, American racial hierarchy remained mostly unchanged. Instead of a break between slavery and freedom, Hartman describes a shift from slavery towards "a burdened individuality in which one enjoyed the obligations of freedom without its prerogatives" (132). White honor (discussed below) constituted one principle burden of emancipated black individuality: "The cultivation of proper conduct exceeded admonishments about duty and defiance; indeed, what amounted to the self-immolation of the free individual was required for the reconciliation of former masters and slaves" (149). Drawing on the context provided by Wynter's article, we can interpret this shift as partly motivated by a desire to stabilize the category of Man when its constitutive Other has been legally and, for a brief time at least, materially redefined.[11]

This assessment of the racial landscape suggests that what Wynter calls Man1 was still a major genre of the human in the United States prior to the Civil War—Man, that is, principally defined as a rational political actor, defined against the political non-person of the slave. The trajectory of race relations and the logic of racial laws following the Civil War suggest a move towards Man2, refiguring racial difference not as principally political but as fundamentally biological, evolutionary: "Despite assertions that blacks were no longer a subjugated race because of the triumph of liberty, equality, and contract, the shifting register of race from a *status* ascription to a formal and purportedly neutral category ineluctably refigured blackness as an abject category" (Hartman 173, emphasis in original). As such, race becomes a matter of public health and hygiene—"As the state defined its duty to protect the health and morality of the population, it entailed the isolation of blacks. The separate-but-equal doctrine effected the cordoning off of public space for the health and happiness of the greater body of Americans" (Hartman 170)—and the material realities of segregation were ideologically buttressed by a burgeoning market in racial sciences, especially evident in later eugenics tracts like Madison Grant's *The Passing of the Great Race* and Lothrop Stoddard's *The Rising Tide of Color against White World-Supremacy*.

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[11] When I say "materially," I'm thinking specifically of the changes in black life that manifested as movement, as a newly peripatetic populous that took to the roads, flouting prior restrictions on their movement: "The ambulant expressions of freedom are consistently detailed in slave testimony. The search for a parent, child, or lover and the longing to return to the place of one's birth or simply instantiate being free through the exercise of this nascent mobility. Locomotion was definitive of personal liberty" (Hartman 151). This movement was also one of the primary targets of the legal (curfews, zoning laws, police harassment, ultimately Jim Crow writ large) and extra-legal (KKK, lynching) strategies deployed by whites to reinstitute the old order. And it is hardly irrelevant that the Steam Man, residing at the intersection of blackness and machine, was principally a means of movement not for its own sake but in service of its white owner, containing and reimagining this potentially terrifying development.

The shift towards a biological understanding of race was not, however, the only path available to those who sought to preserve Man. Though only about eight percent of families surveyed in the last census conducted before abolition owned slaves ("Preliminary Report"), the ideal that slave-owning set up functioned as a pervasive trope in the shape of white American Man's self-conception. The power of slave-ownership to structure Man does not end with legal slavery; indeed, after abolition the basis for dividing Americans into "slave-owning" and "not slave-owning" disappears, eliminating one material hindrance in becoming the ideal of Man that slave-ownership represented. This idea can be thought of as white honor, a species of a more general attribute of master-slave structures as described by Orlando Patterson: "What was universal in the master-slave relationship was the strong sense of honor the experience of mastership generated, and conversely, the dishonoring of the slave condition. … even if the motivation was chiefly materialistic, the sense of honor was still enhanced" (12). The honor inherent in owning slaves—and implicit in membership in the slave-owning class—was transformed in U.S. legal practice into an explicit property right, as argued by Cheryl Harris: "The origins of property rights in the United States are rooted in racial domination. ... The hyper-exploitation of Black labor was accomplished by treating Black people themselves as objects of property. Race and property were thus conflated by establishing a form of property contingent on race" (1716).

This conflation sets up a persistent movement between the categories of property and race: “Slavery as a system of property facilitated the merger of white identity and property. Because the system of slavery was contingent on and conflated with racial identity, it became crucial to be ‘white,’ to be identified as white, to have the property of being white. Whiteness was the characteristic, the attribute, the property of free human beings” (Harris 1721). One key characteristic of this property was that it became “an ‘object’ over which continued control was — and is — expected” (Harris 1730). Roberto Esposito’s *Persons and Things* offers an analysis of an analogous structure in antiquity, he describes a similar, albeit juridical, process: “The relation between [persons and things] is one of instrumental domination, in the sense that the role of things is to serve or at least to belong to persons. Since a thing is what belongs to a person, then whoever possesses things enjoys the status of personhood and can exert his or her mastery over them” (17). Exertions of mastery, the, mediate the boundary between persons and things in the Aristotelian model, much as race would come to mediate the same boundary in the U.S. In this way, exertions of mastery likewise became racialized, a conflation that persists long after the legal forms of enslavement have been abolished.

…of the Posthuman

As Cary Wolfe explains in *What is Posthumanism?,* there is at best limited agreement about the definition of his titular term. Various genealogies define posthuman along different, if related, lines. The line in which Donna Haraway’s famous “Manifesto for Cyborgs” has been most influential, for instance, grounds its analysis in a deconstruction of a human/machine distinction such that the blurring between humans and their tools has been taken to hold radical promise.[12] Wolfe's own posthumanism is grounded in his deconstruction of the human/animal distinction; this he contrasts with transhumanism, a philosophical school dedicated to technologically enhancing the human (physically, but also ideologically) that he sees as the "best-known inheritor of the 'cyborg' strand of posthumanism" (xiii). His "posthumanism…isn't posthuman at all—in the sense of being 'after' our embodiment has been transcended—but is only posthuman*ist*, in the sense that it opposes the fantasies of disembodiment and autonomy, inherited from humanism itself" (xv). My prehistory, however, takes Katherine Hayles' *How We Became Posthuman*—the deepest history of the posthuman thus far—as its starting point. Hayles charts the route towards these various deconstructions in the development of information and systems theory, starting with the development of cybernetics in the 1940s.

"Cybernetics" was originally coined by prodigy-mathematician Norbert Wiener to describe the theory of messages (what is broadly called information science today) and its use in controlling machines: "Hence 'Cybernetics,' which I derived from the Greek word *kubernētēs*, or 'steersman,' the same Greek word from which we eventually derive our word 'governor'" (*Human Use* 15).[13] As Peter Galison shows, Wiener's earliest work on the machine/information interface came in the context of World War II antiaircraft technology, and led to a foundational figuration of men as elements in a machine system. In contrast to common models of the enemy—the racialized Japanese or anonymous antagonists of Germany—Wiener approached the enemy pilots as "a mechanized Enemy Other" (231), working to predict their movements through math to better aim antiaircraft guns.[14] Hayles describes how, at the sixth Macy conference, this mechanized identity was extended by another participant, John Stroud, to include the gun operator as well:

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[12] It should be noted that Haraway also discusses the human/animal distinction in this foundational essay (and in much of her later work), but that aspect was less taken up than the human/machine stuff. Thus, while cyborg didn't necessarily index a semi-mechanical being, its wider circulation has made the mechanical aspect dominant. This is the aspect that Wolfe notes here.

> The image as Stroud used it constructs the man as an input/output device. Information comes in from the radar, travels through the man, and goes out through the gun. The man is significantly placed in the *middle* of the circuit, where his output and his input are already spliced into an existing loop. (68, emphasis in original)

In this way, a fully cybernetic approach to machine culture destabilized human identity in two steps: first, by transforming those targeted *by* the machine into just another element *of* the machine; and second, by looping the machine operator into the machine as well. In both cases, the boundaries of the human subject become fuzzy, permeable, and (as Hayles argues) this decoherence provokes considerable ontological anxiety. The (largely unconscious or unacknowledged) reincorporation of pre-existing tropes of rational liberal humanism at the Macy conferences thus works to contain anxieties about a collapsing

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[13] He acknowledges in the same passage from *The Human Use of Human Beings* (15) that he was in fact preceded in coining the term a couple of times, once by Ampére and once by a Polish scientist. All three coinages are unconnected, however, and it is Wiener's that has become a staple of the language (though, I would note, not as inescapable as it once appeared: when was the last time you heard someone actually say "cyberspace"?).

[14] Wiener later became an outspoken critic of the military industrial complex, and publicly worked to distance himself from the military applications of his work. See, e.g., his open letter, reprinted in *Human Use* (xxvi-xxviii).

subject-position, and it is this reincorporation that leads to the posthuman's most regressive reinscriptions of humanist philosophy.

Unaddressed in each of these posthuman genealogies—cyborg, animal studies, and cybernetics—is the implicit racial element of the anxious subject, of the target of deconstruction. The collapse of the human subject's previously established boundaries is understood to be a change from an earlier state of things, whether the operative sense of "post" in posthuman is "after" or something more "analogous to Jean-François Lyotard's paradoxical rendering of the postmodern: it comes both before and after humanism" (Wolfe xv). In every case, prior humanity is assumed, and any examination of race's function in the formations (or deformations) of humanism, post- or otherwise, is eschewed.

What is posthumanism to those who were never addressed as human in the first place? Sometimes, as in Wolfe's approach, this question is addressed through a direct examination of non-human figures. Wolfe specifically focuses on the biological nonhuman exemplar of animals, arguing that

> the full force of animal studies—what makes it not just another flavor of 'fill in the blank' studies on the model of media studies, film studies, women's studies, ethnic studies, and so on—is that it fundamentally unsettles and reconfigures the question of the knowing subject and the disciplinary paradigms and procedures that take for granted its form and reproduce it." (xxix)[15]

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[15] In a great review of Wolfe's monograph, Joshua LaBare notes (correctly, I think) that Wolfe's study is so marked by its theoretical commitments and "the universalising aura of these – to put it bluntly – old white European men" that "it actually takes the edge off of pronouncements like this one" (138-39). The problem, then, is not so much that Wolfe is focused on a decidedly not-racial critical tradition, but that his titular purpose is not well served by such analytic provincialism. (This, incidentally, is why my project is "a" prehistory and not "the" prehistory of the posthuman—there are many strands from which I hope to draw out an illustrative but by no means comprehensive analysis.)

The fact that black studies, for instance, is concerned with little else but "reconfiguring the question of the knowing subject," passes unacknowledged.

In other cases, there has been a discussion of race, but it has generally been self-contained, as in Donna Haraway's 1990 interview in *Technoculture* by Constance Penley and Andrew Ross. There, Haraway notes the difficulty of what is now commonly called intersectional analysis—"it has remained true that there is no compelling account of race and sex at the same time. … While these issues are related to one another, we don't actually have the analytical technologies for making the connections" (16)—and ends on an unexpanded definition of her cyborg as a "polychromatic girl" (23). This designation, while structured against white supremacy in basic representational ways, channels the strategic lack of specificity common to post-racial appeals—indeed, there is a sense, explored more fully in fourth chapter, that the posthuman is necessarily post-racial and vice-versa.[16]

One of the few direct discussions of race in posthumanism to date comes in Alexander Weheliye's 2002 article "'Feelin': Posthuman Voices in Contemporary Black Popular Music." Here, he opens by responding to Hayles' call to "contest what posthumanism means," noting of the issue of race in Hayles' analysis:

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[16] Even more recent studies eschew any engagement with the racial dimension of humanism, despite a clearer awareness of them—Joshua Raulerson's valuable *Singularities: Technoculture, Transhumanism, and Science Fiction in the 21st Century*, for instance, makes pointed acknowledgement that the "demographically typical" object of his study (and transhumanism more generally) is largely "white, male, nerdy," but does little to interrogate why this might be the case or what difference it might make (26). Andrew Pilsh's even more recent monograph, *Transhumanism: Evolutionary Futurism and the Human Technologies of Utopia*, suffers from the same problems (though it is otherwise good).

> It seems that one has to be always already ‘free from the will of others’ (or think that one is) in order to mutate into the fusion of heterogeneous agents comprising the posthuman state of being, thereby excluding all cultural and political formations in which the history of subjectivity is necessarily yoked to the will—and/or the whips and chains—of others. (23-24)

This suggests an (at the very least) oppositional relationship between blackness and the posthuman, founded in no small part on “an aporetic relationship between New World black cultures and the category of the ‘human’” (21), though I will argue that the two (blackness and posthumanism) are more strongly related than they might initially appear. A more recent engagement in a 2015 *GLQ* “Dossier” feature interrogates the politics of posthumanism along similar lines. Zakiyyah Iman Jackson, in particular, notes: “Calls to become ‘post’ or move ‘beyond the human’ too often presume that the originary locus of this call, its imprimatur, its appeal, requires no further examination or justification but mere execution of its rapidly routinizing imperative” (215), while Uri McMillan calls for integrating black studies into theories like (but not limited to) posthumanism: “In short, theories of ‘object life’ are at their most fecund, productive, and expansive when considered *with*, rather than *instead* of, black cultural studies” (225, emphasis in original). This is, broadly speaking, what my project sets out to do, principally by extending the theoretical territory of posthumanism to directly include Sylvia Wynter’s interventions and to extend her argument into technocultural terrain.

The earliest commonly acknowledged root of a posthuman critical tradition goes back to Foucault’s pronouncement at the end of *The Order of Things*, quoted above, in which he famously historicizes the invention of the human. Even though Wynter never uses the terminology of posthumanism, her discussion of the human’s historicization as well as her particular attention to the role of race in this history are both central to my engagement with posthumanism. Given Wynter's sustained engagement with Foucault's deconstruction of the trope of a timeless humanism, his statement of the posthuman in some ways most fully grounds my own project.

For her part, Wynter (whose essay was published in 2003) proceeds as if Man2—"Natural" or biological Man—remains the currently dominant figure of the human. My argument, however, is that a new understanding of Man was (and still is) emerging as a specifically technocultural alternative to Man2. This genre of Man, what I call Man3, reimagines the world as fundamentally informational and agency as a matter of directing the disembodied energies of the world and is the basis of what Hayles and Wolfe call "posthuman" (and many more recent scholars distinguish as "transhuman"). Man3 is defined both by its relation to external technologies and by its technologization of internal, personal, and social realms alike. Put schematically, this technoculture imagines everything in the world, from the economy to the body, through the metaphor of the machine, and the proper technocultural human as the subject who uses the machine.

This genre increasingly fits with a new(ly evident) set of material and ideological realities: specifically, the impossibility of rigorously grounding racial distinctions in biological terms. This impossibility is immanent in biology, where nearly every advance in the past century shows genetics to be unconcerned with our geographically-derived, ideologically-enforced racial perceptions. This impossibility is in danger of exposure whenever fully human subjects—both in racial terms, i.e., white folks, and in more philosophical terms, i.e., (following Esposito) those who possess things—are subject to external management (as in the factory, the hospital, the school, perhaps especially the grocery store, etc.). And, in a specifically American context, it is subject to a constantly-deferred exposure in the dramas and traumas of kinship and disavowal by which some of Man's children become Man in turn, while others categorically cannot.

As with the other genres of Man, Man3 is initially defined *against* an Other who is the subject of what Aimé Césaire's *Discourse on Colonialism* calls "thingification," which for him is exactly equivalent to colonization (42). The untrue-Other of Man3 is this colonial "thing," the result of thingification applied to the individual body. It is one who has been apprehended into a state raw potential, a source of labor, or profit, or loss—one whose place in the world is defined by his or her instrumentalization. Man3, by implication, is the one who commands the use of raw materials (whatever shape they may take, however ambulatory they may be), and who in turn exceeds command. At one end of the spectrum of Man3, technocultural Man, then, is one who masters things—a trope which can be passively articulated as one whom things serve. At the other end of the spectrum are things themselves, that which exists entirely for the service of Man. As technology increasingly takes its place as the non-human laboring other, it displaces other forms of non-human things, taking over for the animal as the pinnacle of the non-human other. (Animals, of course, do not simply disappear in this formation; instead they are increasingly articulated in terms of biological technologies, genetic engineering, and the extent to which they satisfy or frustrate human management).

Mediating between these two realms are the same cast of non-white, colonized imaginaries, now actively sorted by their technological levels, and passively sorted by the extent to which they serve others. Much as racialized subjection persists across the false rupture of emancipation, a racialized sense of mastery persists as well, transforming from its prior grounding in slavery towards an understanding of Man as master of the world through means of technology. It is this generic revision which preoccupies U.S. technoculture, and especially the sf which emerges as its most explicit expression.

A Radical Aesthetic of Whiteness

The speculative arm of technoculture, epitomized by sf, develops in this context and works to craft the imaginative, ideological dimensions of this new, technocultural genre of the human. Though this genre (of fiction and of human) is strongly associated with material inventions, its ideology is most evident in those aspects of technoculture that are explicitly speculative. For instance, while there really was a walking Steam Man in nineteenth century New Jersey, this device never successfully reached its estimated top speed of 60 miles per hour; it never ranged over the American Frontier; it was never destroyed in an epic explosion wiping out a hoard of hostile Indians[17] all to ensure the safe return of a small band of white men and their recently acquired gold (the climax of Ellis's story). But while working Steam Men may be so much science fiction, railroads, settlers, and cavalry did soon range over and "tame" the American frontier, and much wealth was extracted, and that extraction did indeed unfold with genocidal disregard for the well-being of indigenous peoples and culture. Fiction frames the future, and ideologies form in the exchanges between the speculative and the material. Desires structure speculation, which in turn open new material possibilities, making "the new" imaginable and providing a sort of persistent drift towards certain cultural and material realities.

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[17] As here, at various points in this dissertation (but especially the second chapter) I use the term "Indian," but advisedly, in part because it is how these novels routinely describe the Native antagonists, but also to index the way these stories engage with native culture. It probably goes without saying, but they have little interest Native Americans as such. "Natives" would suggest at least some stake in their claim to original ownership or settlement of the lands, something these stories never address—indeed, the Indians in most of the edisonades (and other more generic dime-novel Westerns I've read) function less as people on land than as violent features of the land itself, relegated to the same category as brushfires, blizzards, and bears.

What can the desires embedded in such fanciful devices tell us about the desire for a particular kind of future? What role have they played in shaping the way that future unfolded? Where did these desires come from, and where have they gone? Two case studies can help frame these questions. The first comes from Geoffrey Batchen's book *Burning with Desire: The Conception of Photography*, wherein he exhaustively reviews the many different histories of photography in an attempt to locate the technology's origin. As it turns out, there is no clearly discernible origin for photography: "the basic components of photograph—the images formed by the camera obscura and the chemistry necessary to reproduce them—were both available in the 1720s, quite some time before the photograph was officially 'invented' in 1839" (Batchen 26). Even though photography is generally considered a technological process, it had to wait for the right sort of human desire (to capture images, to separate the seen from the seer) before it could be born. The later evolutions of the material technology of photography throw this "fact" into stark relief, as the original techniques have little place in the digital capture of images, and yet these digitally derived images circulate alongside chemically derived images without much popular distinction.

Indeed, although Batchen does not follow his theory through all of its possible implications, we can easily put this desire for capturing images within the ambit of colonial ideology and capitalist practice writ large. John Rieder, for instance, describes what he calls a “colonial gaze” operational in early sf that “distributes knowledge and power to the subject who looks, while denying or minimizing access to power for its object, the one looked at” (*Colonialism* 7). This gaze helped spread vicarious enjoyment of colonial spoils to those near but not at the center of the colonial network (basically every Brit outside London), thus spreading the promises of the colonial endeavor across a colonial population even while the material gains spread more slowly, and unevenly (27). The disarticulation between the object of apprehension and the apprehending subject drives colonial fictions (especially including those driving the development of sf) and mirrors the disarticulation of subject and object in the Western scientific project more broadly.

In other words, the colonial gaze is part and parcel of a historically new way of thinking about the value of knowledge as such, as something separate from the knower. In this way, the desire which made photography possible also plays a role in making possible the colonial project of managed resource extraction, in separating labor from capital, in distributing wealth and materials such that gentlemen with the leisure and inclination to do the ostensibly unproductive work of basic chemical experimentation can emerge. We can also extend this idea out to the posthuman realm, where the Cartesian mind/body duality becomes hyper-charged into a full (and related) disarticulation of material self and guiding intelligence—one that privileges "seeing" as a primary channel of information.

Batchen's material history of photography stands in stark contrast to that in something like Bruno Latour's *Aramis, or The Love of Technology,* which crafts its narrative around a failed public transit project in late-20th century France. The Aramis public transit system was an idea before the science or technology to realize it even existed, and much of its development was characterized by focused attempts to make the idea real. Throughout *Aramis* it is not clear that the project was ever technologically feasible—its crucial elements included makeshift "trains" composed of non-materially coupled carriages that would attach and detach from the larger, perpetually running trains as needed, delivering passengers to their stops without interrupting the trains' (and other passengers) progress around Paris. The difficulty of engineering such a system was initially inconsequential in the face of the overwhelming desire for such a system. That the technology never materialized to make this system feasible helps to highlight the odd way many other, successful projects come into being. [18] To draw on the most visible example, basically all of Apple's products under Steve Job's leadership were imagined years before the technological means to realize them were in place. Innovation increasingly follows design. In other words, in our technoculturally saturated world, technologies now seem to emerge directly from a collective science fictional imaginary as soon as they are technically feasible.

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[18] In some ways, the Aramis project is still underway, though no longer under the aegis of French public transit authorities. It lives on in the intersection of Uber/Lyft and the various players working on self-driving cars, which if fully realized could in fact coalesce into something like an individualized mass transit system. This vision goes back at least as far back as the 1939 New York World's Fair in General Motor's Futurama display: "Through this landscape run super-highways of the future, busy with moving traffic and complete with radio traffic control towers, safety intersections, and automatic lighting" (Nye 218).

This is one reason why sf texts are especially important for my study. Whatever it eventually evolved into, sf was first explicitly conceived of as a genre to incubate a technocultural imagination, as Hugo Gernsback, one of the early founders of the science fiction genre, declared in the first issue of the first “scientifiction” pulp: “For the best of these modern writers of scientifiction have the knack of imparting knowledge, and even inspiration, without once making us aware that we are being taught” (3). Gernback’s mission statement is instructive even for the many texts I draw on that circulated outside of the sf genre. The speculative nature of sf is marked by a plausibility that converts its fiction into a sort of performativity. In other words, the “saying” of science fiction is powered by a desire for “doing”—as if speaking the name of a technology will make it so.

In the case of the Steam Man, the racial desires it embodied (fictionally and in patent form) clearly suggest a fantasy of black labor without the trouble of the black body, and in the case of American history and law, presages a variety of legal and cultural (and terrorist) practices that collective worked to create such a culture, to enact this fantasy. The Steam Man both expresses and performs the desire of hegemonic American technoculture to treat the black body as a problem to be solved, a desire that echoes (albeit sometimes quite dissonantly) throughout technocultural fiction more broadly. Hartman asks: “If slave status was the primary determinant of racial identity in the antebellum period, with ‘free’ being equivalent to ‘white’ and slave status defining blackness, how does the production and valuation of race change in the context of freedom and equality?” (118). One answer rehearsed by sf texts is that ‘free’ and ‘white’ are disarticulated from potential mastery over slaves and rearticulated as mastery over machines. These texts mediate between an emerging technoculture and preexisting racial hierarchy in part by developing what I will call a radical aesthetic of whiteness.

The “radical” nature of this aesthetic is not especially obvious in today’s world where geeks and nerds are ascendant cultural figures and the virtues of technocratic competence are all but universally acknowledged.[19] Indeed, a shadow argument of this dissertation is that sometime-silly, often-marginal sf texts merit more academic consideration because the world they imagine, the ideology they rehearse, has in many ways become one of the central forces in our (social/cultural) reality. Such stories construct the constitutive ethos that shapes our invention of and cultural embeddedness within a world of machines. This aesthetic is not, then, radical in the sense often used in the academy today as a superlative descriptor (marking some text as a possible source of politically progressive revolution) but rather in a more literal sense[20] of a fundamental change in the roots of our sociality. This aesthetic works to radically reorganize the human along technocultural grounds. Radical reorganization *does* necessitate rethinking race, but this rethinking (following Wynter) does not mean that white supremacy will disappear. Indeed, one of the effects of this aesthetic is to preserve racial order through what it envisions as a necessarily tumultuous transition to technoculture—that's why I call it a radical aesthetic of *whiteness*.

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[19] The current U.S. (Trump) reactionary regime, which is very plainly about recovering white supremacy, also rails against expertise and technocratic competence, at least on a societal level, privileging the (presumptively-but-so-far-not-quite-explicitly) exceptional white individuals of business, especially those who can imagine their exceptional status as having been hindered by murky international conspiracy. The fact that most of the businesses held up as ideals are themselves transnational and highly bureaucratic is…not mentioned. (The incoherence of Trumpist ideology is, I imagine, not really news to anyone; maybe fake news to some.) I read Trump’s election as, in part, an expression of anxiety on the part of white folks about their place in the technocratic utopia promised by neoliberalism and embodied in the last election by arch-competent technocrat Hillary Clinton. Trump, in this reading, is the ultimate wrench, thrown into the machine as a blunt, desperate expression of agency. Relatedly, the geeks and nerds behind GamerGate and the various Puppies movements in gaming and sf fandom, respectively, likewise seem to be interested in recovering mastery as an individual (white) attribute, separate from the institutions they feel they have lost control over, and in which technocracy was originally embedded.

I theorize this aesthetic in explicit contrast to the radical black aesthetics that Fred Moten discusses in *In The Break*. He opens with the following declaration: "The history of blackness is testament to the fact that objects can and do resist." (1). The history of whiteness, by implication, is a testament to the opposition of any recognition of this history of blackness. It desires to contain the unruly resistance of objects; mastery is such containment perfected. White speculative technoculture is always haunted, which is to say motivated, by the specter of black resistance; black speculative technoculture is often likewise motivated by the recognition of other possible subjectivities, even or especially subjectivities that are ostensibly constrained by their object-hood, by their existence first and foremost as means to someone else's ends.

Moten works with an understanding of blackness as distinct (though not entirely separable) from black bodies—blackness is something of a "constructed imposition" (255 nt. 1) that "needs to be understood as operating at the nexus of the social and the ontological, the historical and the essential" ("Case" 187). Blackness, as an operation, as a construction, or (more to the point) as a critical term identifies something that is constructed by others that also describes a lived experience, neither element of which can operate independent of the other. For Wynter, Man is the force that constructs blackness, while in Hartman's work blackness names a relationality (though the two understandings are consistent with each other, and both name an approach to understanding blackness that foregrounds the term as a function of white people's needs/pathologies).[21] Much of Moten's work in recent years has turned on the question of what blackness describes—whether blackness is necessarily negative (the Afro-pessimist position) or has something of positive value (Moten's own don't-call-it-Afro-optimism).[22] Following this model, I make use of whiteness as a critical term, a shorthand for the radical aesthetic of whiteness in technoculture. It is similarly distinct from white people, describing a racial awareness, a semi-homogenized culture, and a series of social and political prerogatives that serve as the ideological, bordering on ontological, foundation for Western technoculture.

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[20] Following the etymology, from Latin "radix" meaning "root," towards its original English meaning of "forming the root," a sense that took on political implications in the early 19th century ("radical, adj. and n.").

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[21] "It is important to remember that blackness is defined here in terms of social relationality rather than identity; thus blackness incorporates subjects normatively defined as black, the relations among blacks, whites, and others, and the practices that produce racial difference. Blackness marks a social relationship of dominance and abjection and potentially one of redress and emancipation; it is a contested figure at the very center of social struggle" (*Scenes of Subjection* 56).

[22] Moten often distances himself from catchy designations; his PMLA article "Black Op" puns on his optimistic opposition to Afro-pessimism, but ultimately does not claim it as an accurate description. The background of this opposition be seen in his essay "The Case of Blackness" where he works to claim (or reclaim) a black social life that is denied in Orlando Patterson's famous formulation of slavery as social death. For Moten, slavery better describes a political death that was (and to an extent still is) the condition of possibility of black social life. He argues for an understanding of black life that is not merely imposed: "What Fanon's pathontological refusal of blackness leaves unclaimed is an irremediable homelessness common to the colonized, the enslaved, and the enclosed. This is to say that what is claimed in the name of blackness is an undercommon disorder that has always been there, that is retrospectively and retroactively located there, that is embraced by the ones who stay there while living somewhere else. Some folks relish being a problem" (187). He makes the distinction between black life and blackness more explicit later in the same essay: "It is, however, precisely through a consideration of the unstable zone between the lived experience of the black and the fact of blackness, between the color black and what it absorbs and reflects, what it takes in and pours out, that we can begin to see how it is possible to mistake impossibility or impoverishment for absence or eradication" (204).

On the one hand, technocultural whiteness appropriates preexisting racial, gender, and colonial tropes, linking its project of imagining a technocratic world to these tropes' substantial cultural power, working to make the technocultural project a natural extension of hegemonic forces in Western culture already. On the other hand, as Toni Morrison (quoted in the epigraph) suggests, technocultural whiteness scripts a new understanding of Man which necessarily torques hegemonic tropes, twisting them into new shapes that better fit with a technocultural paradigm. Out of this appropriation and torque emerges a radical aesthetic which scripts Man as profoundly knowledgeable, as technologically hypercompetent, and as a consummate problem-solver. Inasmuch as technoculture is "a culture informed or defined by its technological activity, *esp.* a culture characterized by a high level of technological development," as the *Oxford English Dictionary* defines it, technoculture is a culture dominated by means, as opposed to ends.[23] That is, it is a worldview that dwells on processes as ends in themselves, and as such strives not after some stable state (or a return to an ideal prior) but endless improvement, a telos of efficiency. The radical aesthetic of whiteness is then concerned with finding a place for whiteness in this new ideological landscape. What comes of Man—categorically understood by Kant (and much subsequent philosophy) as an end in himself—in a world of means? What is the end in a world of means?

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[23] One working definition of technology is that it is a means to some end; as Weheliye puts it (in the context of racialized technologies): "Habeas viscus suggests a technological assemblage of humanity, technology circumscribed here in the broadest sense as the application of knowledge to the practical aims of human life or to changing and manipulating the human environment" (12). The sense of technology as "means" is captured in definitions from its earliest use—"a discourse or treatise on an art or arts; *esp.* (in later use) a treatise on a practical art or craft. *Obs*."—to its current usage: "The branch of knowledge dealing with the mechanical arts and applied sciences," "[t]he application of such knowledge for practical purposes," and "[t]he product of such application" ("technology" definitions 1, 4a, 4b, 4c). Indeed, the first reference in the OED (which the dictionary notes is "perh. academic discussion or disputation generally") deploys "technology" as a mundane contrast to more elevated discourse (spelling irregularities follow the citation in OED): "1612 … Men, void of Gods spirit, commonly and promiscuously did dispute of spirituall things, and conuert Theologie into technology, that is, make no other vse of Diuinity but as a matter of

Radical technocultural whiteness approaches these questions in two ways: first by treating everything as an externality; second by treating the self as disembodied will, directing the energies of the world. The first approach sees the persistent transformation of the material world into something Other than the guiding intelligence of Man—in stark contrast to, for instance, the entangled webs of agency in animist belief systems, as with Ojibwe characterizations of non-human element as "people," e.g., rock-person, bear-person.[24] Modern science is premised on the assumption that observed phenomena are non-agential, operating according to knowable (rational) rules. Biology in particular began to apply the methods of observation and sophisticated causal hypotheses ever-closer to the realm of the "human," tying the already-present externalization of bodies (animal, but also enslaved or otherwise instrumentalized people) to the bodies of Man.

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learned, or artificiall discourse, as they talke of other arts and sciences out of humane reason" ("technology" definition 1).

[24] This specific example is discussed in Grace Dillon's introduction to the *Walking in the Clouds*, the first collection of indigenous sf. A similar distinction is made and elaborated on in Elizabeth Povinelli's *Geontologies: A Requiem to Late Liberalism*, drawing on the ideas of Australian indigenous peoples.

The second technocultural approach to questions of ends and means thus refigures the guiding intelligence (previously embodied, as I will discuss in the next chapter, by the shepherd or the slave driver) as a governor of external processes, a literalization of Cartesian mind-body duality realized against a background of racialized labor. Technocultural whiteness prizes knowledge but imagines knowledge as external to the body; it prizes engineering prowess (the ability to build or fix things) but imagines such competence as an intellectual rather than a physical property; finally, it prizes solutions—moments of finality and completion—over all else. This final point exists in tension with the deeper compulsion towards endless improvement, leading to a dynamic famously captured by Oscar Wilde: “Progress is the realization of Utopias” (1089). In all cases, this aesthetic form privileges mastery over externalities.

This privileging spreads through what Sylvia Wynter (in a slightly different context) calls the “norm of mastery” (“Sambos” 152). As I will discuss in some depth in chapter 2, we can see this aesthetic-in-formation in Ellis’s story: the creator/driver of Ellis’s Steam Man is described as “deformed”—disabled in an unspecified manner—but he is able to partake of white masculine prerogatives because he “managed the monster with rare skill” (16); his ability to become Man is separated from his embodied condition by a mediating technology. Ellis contains the negative, un-Man-ing potential of this sort of mediating technology by uniting the user and the inventor in the same character. The positive, formative potential of the device lies in its literalization of a genre of Man who is principally defined by his ability to steer external forces, to enact his will in and on the world for his own sake.[25] And of course, as the blackness of the Steam Man suggests, the norm of mastery is shaped in the U.S. by explicitly racial ideologies.

In other words, Ellis' story and Dederick's patent functionally sketch out the racial schematic that lies at the core of U.S. technoculture in the nineteenth century: the abstract labor of blackness in service of the ever-increasing supremacy of whiteness. These paraliterary creations help inaugurate the invention of an aesthetic of technocultural whiteness, one interested in extending "liberal human" sovereignty toward an absolute ideal of complete control over all things. The "liberal" here signifies a gradual and fiercely contested expansion of those rights first claimed for/by Man, that archetypically "human" subject. While it is difficult to fault the ethics of this liberalism (given the way we moderns tend to treat not-quite-human and nonhuman subjects) the expansion of this brand of liberty also represents an expansion of the ideologies and subject positions of what were archetypically a few wealthy white men. That is, U.S. speculative technoculture has a twofold engagement with the ideology of liberal humanism: on the one hand, the fantasy of speculative labor-saving technologies and attendant rise in human potential marks an expansion of the liberal humanist project into the realm of science and technology, basically making it possible for all humans (in principle) to be masters. On the other hand, the fantasy of mastery embedded in such narrative speculation reinstates white supremacy as one of the conditions of full humanness, such that in its hegemonic form, American technoculture works to equate whiteness and technological mastery.

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[25] Though I say "he" because, as mentioned in note 5 of this chapter, this figure is so often male (as the archetypal subjects of liberal humanism often are), similar formulations are taken up in feminist theorizations that work to open up liberal human subjectivity beyond the masculine, especially in theories of a technologically mediated variety, without critiquing the form of the subject itself; see Weheliye's discussion of Judith Butler and Sylvia Wynter for one general example of this, *Habeas Viscus* 22.

How'd We Get Here? A Methodology and Literature Review

Though it started life as a work of science fiction studies, this dissertation has since metastasized into something that engages with a variety of interdisciplinary studies. John Rieder's *Colonialism and the Emergence of Science Fiction* was one of my earliest models, while Mark Bould's work chronicling early black sf has been essential for shaping the core of this project. As such, this project's origins as a literary history of sf remain intact, as it follows the racial development of U.S. sf from its nineteenth century origins though to the so-called Golden Age of sf in the 1940s and 50s. It still shows, with as much specificity as I have been able to muster, precisely how the genre has engaged with race over time and should dispel any lingering sentiment in the sf and science fiction studies community that sf and race are separable discourses. I think it succeeds, in other words, in showing that sf is not, nor every has been, post-race.

In researching this topic, however, I've been drawn away from pure literary history into into broader, more theoretical discussions of technology and American culture. In particular, this dissertation has shaped up into something of an intervention into American Studies—especially with respect to one of its foundational works, Leo Marx's *The Machine in The Garden: Technology and the Pastoral Ideal in America*, but with an eye to the many works that have touched on the role of machines in American literature, like Mark Seltzer's *Bodies and Machines*. This intervention began as a mere polemical contention that sf should be accorded more status as a specifically American literature—that canonical American literature and the better works of American sf should be read together—but has since become much more central to my work: I have come to believe it is impossible to properly understand American culture without a keen sense of how race and technology intersect in the U.S.

My methodology thus owes a great debt to the work of scholars working in what is broadly called Black Studies—major works include much of Sylvia Wynter's output (obviously), Saidiya Hartman's *Scenes of Subjection: Terror, Slavery, and Self-Making in Nineteenth Century America*, Fred Moten's *In The Break: The Aesthetics of the Black Radical Tradition*, as well as many of Moten's essays (recently collected and expanded in his *consent not to be a single being* trilogy). This is in addition to important work drawn, in a less central way, from Hortense Spillers, Houston Baker, Henry Louis Gates, Jr., Frank Wilderson III, Jared Sexton, Erica Edwards, and Alexander Weheliye. Though this study is ultimately focused on theorizing the role of technocultural whiteness in the development of American literature and sf, it has only been able to rigorously approach this topic thanks to the insights and models developed in Black Studies.

The intersection of race and technoculture has recently received some sustained attention—Louis-Chude Sokei's *The Sound of Culture: Diaspora and Black Technopoetics*, Thomas Foster's *The Souls of Cyberfolk: Posthumanism as Vernacular Theory*, Lisa Nakamura's *Cybertypes: Race, Ethnicity, and Identity on the Internet*, J. Andrew Brown's *Cyborgs in Latin America*, Clarence Williams' *Technology and the*

Dream: Reflections on the Black Experience at MIT, 1941-1999, and Martin Kevorkian's *Color Monitors: The Black Face of Technology in America* all directly engage with the way race circulates in technoculture. These studies often focus on contemporary technoculture, theorizing the way that race and ethnicity function in a world saturated by technology. In doing so, they make a persuasive case for paying more attention to the way race continues to function in society even when the discourses of technoculture anticipate an end to the problems of race. Works like André M. Carrington's *Speculative Blackness: The Future of Race in Science Fiction*, Richard Iton's *In Search of the Back Fantastic,* Sandra Jackson and Julie Moody-Freeman's *The Black Imagination: Science Fiction, Futurism, and the Speculative*, Douglas Kilgore's *Astrofuturism: Science, Race, and Visions of Utopia in Space,* Adilifu Nama's *Black Space: Imagining Race in Science Fiction Film,* and Isiah Lavender's *Race in American Science Fiction* and *Black and Brown Planets: The Politics of Race in Science Fiction,* all likewise approach the issue of race and technology, but specifically in the context of sf narrative, effectively making the case for recognizing the presence and function of race in sf.

This project is intended to fill in some background to these various fields, to address the question of why this racial history has not found its way into more general histories of science and technology, and of sf in particular, and to sketch out a sense of where the genre of the human might go from here. To that end, each chapter examines two interlocking aspects of the race of machines: the whiteness of mastery, and the black alternative. These two themes thread their way through each of the texts I focus on as a sort of interpretive superposition of racial discourse and technological fantasy.

The whiteness of mastery responds to the way white supremacist ideology is challenged by an expanding technoculture—that is, the fears of the empowered subject faced with structural disempowerment. Technocultural disempowerment comes in different flavors. One, for instance, would be the displacement of (white) men by machines, either directly—through automation, as workers are replaced by machines—or indirectly—as new technologies obviate entire professions.[26] Another might be the issue embodied in the posthuman, as technology (understood as irrefutably external to oneself) becomes increasingly integrated into the human subject (and the subject's subjectivity), leading towards a sort of self-instrumentalization as Man increasingly takes on the forms of the machine, either to better compete with machines or to better realize the benefits of technology for the self. This becomes racialized, as I will show in Chapter 1, through the rhetorical conflation of slave and machine in antebellum U.S. literature; this equivalence means that replacing one's body parts with technology (through prosthetics, say) becomes a kind of miscegenation. As prosthetic enhancement becomes ever-more common (especially in the sense developed by Marshall McLuhan's work on media as prothesis, but also more literally in the development of everything from augmented reality to life-saving medical devices), new means of securing the sovereign white body are required.

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[26] A quirk of all the early pulp sf magazines, for instance, is the ubiquity of prominently placed ads touting the financial benefits of becoming a radio technician, a job which hasn't existed in my lifetime. Gernsback, of course, worked on radio magazines before founding the first sf pulp, and the reader of such magazines were the original archetypal sf fan.

My examination of the whiteness of mastery is grounded in scholarship about the development of a hegemonic American technoculture and its often-under-acknowledged relationship to white supremacy. For instance, in his book *American Technological Sublime*, David Nye describes the way a sublime affect undergirds major engineering projects throughout U.S. history, and how this technological sublime seems to be a feature distinctively to U.S. technoculture. He tracks the way that grand projects move from broadly participatory civic celebrations to more elite accomplishments—celebrations for the Erie Canal involved a parade not just representing but materially including all the craftsmen who helped build it, while later celebrations for the construction of ever-higher sky-scrapers were dominated by a political and cultural elite with little representation of the worker.

This shift in representation reflects the shifting role of labor and capital in the U.S. more broadly, but they also obscure a more consistent structuring element of white supremacy. Black labor is routinely excluded from all sublime accomplishments, and as the decades wear on the American sublime Nye describes increasingly takes on the characteristics of a utopian whiteness. The pristine diorama at the 1939 World's Fair display, for instance, achieve their clean presentation in part by eliminating any sense of waste, and by displaying no people. These stand in stark contrast to the racial-zoo style displays of ethnic peoples also present at that World's Fair and posit an influential mode of desire whose achievement of a sublime technocratic utopian space is predicated on the erasure of waste and bodies. That these dioramas were incredibly popular among the majority-white crowds suggests presumptive identification on the part of white culture with technocracy and the ideal of disembodiment.

Similarly, genre sf often expresses anxieties about becoming subjects who live under, rather than at the head of, benevolent technocracy. These anxieties are reflected in the many Marxist critiques of industrial (and later, post-industrial) society that focus on the way individual autonomy and identity is subject(ed) to market imperatives. That this subjugation is something to be feared—that the loss of a supposedly authentic subjectivity is to be mourned—circulates as a mostly unexamined assumption in both theoretical and speculative works. What is threatened is not subjectivity per se, but mass (white) access to the subjectivity of a certain genre of the human, Man. The fully human subject thus becomes defined as one who masters the machine rather than exists as subject to or piece within the machine. This is, in other words, an anxiety for those with access to full humanity who fear losing this access and the privilege that comes with it.

The desire for absolute mastery fits most comfortably into the American zeitgeist when articulated on an individual level. The Steam Man stories are structured such that their characters' actions have no discernible effect on the world beyond their immediate context; the World's Fair diorama's God's-eye view of utopia puts the individual viewer in a position of mastery; early (and juvenile) science fiction stories often posit their ego-ideal protagonist as an individualistic, rational genius, as John Huntington argues in *Rationalizing Genius*. But reality and speculation both point to the impossibility of total mastery for all subjects. When the human is defined by his (and later, her) technological mastery, where does that leave those who are mastered? Put isomorphically, when whiteness is defined again the enslavement of black bodies, where does that leave those who are (in danger of becoming) functionally enslaved? The whiteness of mastery in U.S. racial technoculture, then, theorizes from a position of presumptive empowerment what it is to become a race of machines, to be the non-person in the diorama or the “problem” that technocratic benevolences are trying to solve. It hardly needs to be noted that this is figured as a horror beyond all others. A sustained focus on race explicitly connects that horror to its source: the perceived reality of those people who are archetypically “problems,” who are defined by their structural position as “mastered” and by their exclusion from any field of “mastery.” In short, these narratives express irreducibly racialized fears.

The black alternative that I examine is the (representations of the) lived experience of subjects whose social existence has always-already been marked by disempowerment. Such texts examine the way technoculture *actually* looks from the bottom, as opposed to the speculative fears it manifests for empowered subjects. This aspect of technoculture is most often seen in science fictional works by authors who have been excluded from the presumptions of empowerment, who in some cases were literally treated as machines—Equiano, Douglass, Delany, Schuyler, and others in this study. Their texts speak to both the true horrors of being instrumentalized by the modern world (whether enslaved or merely dis/incorporated into someone else’s machine) and to the strategies and perspectives that emerge as a result. These works often track the daily realities of black life in a technocultural era—sometimes (especially in George Schuyler) with a defamiliarizing speculative spin. They contest the universality, the inevitability, even the desirability of the "human" as an ideological construct.

This alternative turns on the recognition of the continuity of subjection across emancipation (a la Hartman), across different regimes of racialized identity formation (a la Wynter), and across different utopian schemes (a la white/hegemonic anxieties). These continuities expose the inadequacy of the performative utterance as a means to freedom—merely declaring someone (or some population, or oneself) not-slave rarely therefore endows that person with humanity. One of the under-recognized things technoculture theorizes, in other words, is the precise distance between not-slave and full humanity, and one of the principal things this second aspect exposes is the performative potential that exists within that gap. Written from the perspective of being-the-machine, or on the lived experience of being reduced to abstract labor, of being a problem (to be solved, to be mastered), stories trafficking in this aspect offer an alternative sense of the performative potential of technoculture.

Rather than a stark vision of technological sovereignty, where one's word (or more fundamentally, one's intention, one's will) is transformed into material reality—a literalization of the performative utterance—this aspect plays on the erotic potential of being both subject and object. We see clear examples of this in works of and on black performance, as explored, for instance, in Jayna Brown's *Babylon Girls:*

> Taking to the stage was to embrace this condition of complete spectularization. … The artists' talent was her agile ability to navigate between and manipulate discursive terrains. Engaged in multiple directional strategies of perception, working within the hall of mirrors, the black female *flâneur* occupied a privileged

> vantage point from which to view the world. As she is gazed upon, she gazes back and it is her body that questions. (17)[27]

Offered instead is a variety of what black studies scholars from Huston Baker to Fred Moten have examined as improvisation. In this way, even texts that don't seem to be all that interested in explicitly technocultural issues nevertheless engage with themes of knowledge, freedom, control, and disempowerment that both drive and haunt white American technoculture. But whereas the first aspect of this study approaches the race of machines from without—from a position of mastery, and the fear of being mastered—this second approach contests the position of mastery in the first place. The very possibility of social life under conditions of instrumentalization functionally contravenes the technocultural humanist ideal that figures total autonomy, total sovereignty, complete mastery as preconditions of full humanity.

Put differently, a central anxiety of most white technocultural is that a one may be threatened by things beyond one's control, that one's sovereignty may be subsumed into something larger than oneself. Whiteness offers nothing to deal with this besides a relentless drive towards individuation—what I think of as hermetic sovereignty, as that which idealizes a complete lack of external impositions, of unwilled address, of complete mastery over externality. It is a lonely ideal. Texts written from a more improvisatory perspective, one open to addressability, to the wills and whims of nature and the community, can offer a profound rejoinder to this ideal. At the same time, texts written from a perspective that experience the denial of the benefits of what is always, after all, an incomplete sovereignty, can help situate the positive aspects of science, technology, and ideologies of progress in more balanced terms. Being refused sovereignty and lacking sovereignty are not the same thing, a distinction white technoculture often elides.[28]

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[27] Uri McMillan's *Embodied Avatars: Genealogies of Black Feminist Art and Performance*, offers an updated and expanded version of this line of thinking.

A Brief Bit of Structure

The remainder of the dissertation is composed of five chapters and an epilogue. The first chapter, "The Machine in the Garden was Black," engages in a sustained examination of the foundational work on American technoculture (and American Studies in general). Here, I look at the role of slavery, first in Leo Marx's own writing, and then in the broader discourses he lays out, working to establish the foundational conflation of slavery and machines in early America occluded by Marx, but really by the form of the pastoral itself, and particularly in the romantic figure of the shepherd. I do so by reappraising many of Marx's own sources—particularly Twain's *Huckleberry Finn*, Hawthorne's "Ethan Brand," and Virgil's first *Eclogue*—and supplementing this with some lesser-read American works—particularly one from Poe, “The Man That Was Used Up.” I also examine a corpus of slave-narratives to demonstrate and explicate the way the slave-machine trope circulated in abolitionist literature as well. This circulation, read alongside similar sentiments in white-authored tracts on machines (either pro or con), sets the tone for later engagements (positive or otherwise) with technoculture. Ultimately, I argue for understanding the pastoral shepherd as an unacknowledged predecessor of the posthuman.

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[28] I'm thinking here of Stefano and Moten's passage in *The University and the Undercommons*: "Yet the maroons refuse to refuse professionalization, that is, to be against the university" (31). White-authored technocultural texts, when focusing on issues of whiteness in a critical way, often fall into something of a Manichean oppositionality—one either embraces progress and all it entails, or rejects said progress in favor of its alternative. This blunt dualism is effectively attacked in Haraway's "Manifesto for Cyborgs," which refuses to refuse technoculture while still refusing the values commonly attached to that culture, but in literary texts a similarly-sophisticated approach seems to be the provenance mostly of non-white authors. The works of George Schuyler (Ch.3), Martin Delany (Ch. 6), and even Olaudah Equiano (Ch. 6) each draw out something of an Alternative that is neither beholden to the ideologies of Whiteness nor bluntly dismissive of everything that comes with that ideology. (I'm also thinking of Stina Attebery's work on Indigenous futurism and her use of the refúse/réfuse dialectic that she examines in her dissertation project.)

The second chapter, “Racializing Prosthetics, or, Blackness and the Edisonade,” conducts an extended close-reading of Ellis’s *The Huge Hunter, or The Steam Man of the Prairie* and further explores Zadoc Dederick’s steam-powered man. Here, I build on the first chapter’s argument to figure the history of slavery as a sort of technological institution that became the framework for discourses following the end of *de jure* slavery. I trace this trend through the immediate legacy of Ellis’s story as it was taken up by and repeated in later boy’s stories, such as the numerous *Frank Reade* and *Frank Reade, Jr.* “novels,” collectively called Edisonades. Drawing on work like Jacqline Rose’s *The Case of Peter Pan, or The Impossibility of Children’s Fiction* and Robin Bernstein’s *Racial Innocence: Performing American Childhood from Slavery to Civil Rights*, this chapter elaborates on the politics of American proto-science fiction’s juvenile origins. It places the various repetitions of Ellis’s story in a broader context of boy’s literature and the huge supply of western and adventure magazines and dime novels that formed the core of the Edisonade’s immediate context and eventual legacy. I situate these repetitions with a difference as performative iterations that solidify Whiteness as a central value of American masculinity.

The third chapter, “White Supremacy and Scientifiction, or, The Technology of Race,” looks at the development of race as a sort of technology in racial passing texts. I unpack the way speculative or fantastic passing stories engaged with the confusion of racial boundaries by and through fantasies of technological imbrication. The chapter covers the emergence of sf as a self-aware project, starting with Hugo Gernsback’s *Ralph124C 41+* and his “Scientifiction” magazine projects, and the bulk of the chapter is structured specifically around an analysis of race in this American pulp tradition and in similarly themed black-authored texts (that have not circulated in science fiction so much as in black studies). Two works form the center of this chapter’s engagement with race as a form of technology: George Schuyler’s *Black No More* and the story series *The Menace* from largely-forgotten science fiction writer David H. Keller, M.D. Both texts use the same *novum*—a process which can turn anyone phenotypically white—to contest and rescript the idea of racial essentialism. Race in both cases functions as a sort of “levering mechanism” for the smooth functioning of society (Coleman 178), making explicit the racial ideologies that are implicit in Edisonade stories, and ultimately working towards an ideology that can be described as racial color-blindness. Despite their similarities, however, these two works develop starkly divergent scripts, and Keller’s, in particular, explicitly works through a speculative color-blindness that would become implicit first in science fiction of the Golden Age and later in the currently dominant mode of American racial ideology, and setting up the development of a post-race ideology in U.S. sf.

The fourth chapter, “Posthu(e)man, or, Race and Rigor,” focuses on the so-called Golden Age of science fiction and the invisibility of race as a technocratic solution to the race problem, paying particular attention to John W. Campbell’s editorial influence. Under Campbell, I argue, the form of science fiction took on a decidedly rigorous affect. This allowed for the development of what Eduardo Bonna-Silva would later call “Racism Without Racists”—a highly individualized approach to identity rooted in economic ideologies that prefigure (and work through, culturally) neoliberalism. The chapter tracks this movement in two parts: the first focused on the aesthetics of Golden Age sf, epitomized in what was later called hard sf, and grounded by a reading of Campbell’s 1938 novella *Who Goes There?* and the robot stories of Isaac Asimov; the second focuses on the emergence of a decidedly sf identity that embeds the forms and prejudices of white supremacy in a putatively non-racial universalism, grounded in a survey of Campbell’s editorial writing (and one very revealing fan account). Together, these two sections demonstrate the ways in which Golden Age sf helped stage the cultural development of what would become a specifically neoliberal brand of racial ideology: post-race.

The fifth chapter, “Insuring Necessity, or, The Ambivalent Astronaut,” examines some ways sf (and sf adjacent) authors articulated alternatives to Campbell’s ideologies. It begins by examining the figure of the astronaut and reading its ambivalent masculinity as a symptom of a racial anxieties, specifically about the emergence of systems that, on the one hand, privilege the astronaut (and all the normative categories he epitomized in the 1950s and 60s), while on the other hand rested entirely on a disavowal of agency. The chapter is focalized through the figure of the astronaut as the arch-Edisonade hero who is also the arch-object inside a much larger machine, taking inspiration from the immortal Chuck Yeager's quip to reporters when asked if he was sorry to have been passed over for the Mercury program: "I've been a pilot all my life, and there won't be any flying to do in Project Mercury" (quoted in Wolfe, 100).[29] The tension inherent in the astronaut's simultaneous epitomization of technological masculinity—he was at the top of the pyramid—and technological impotence—he was basically at the mercy of the engineers—plays out in a variety of responses to the implications of cybernetics. This culminates in a reading of the short story often held up as the epitome of "hard sf": Tom Godwin's "The Cold Equations," which was largely dictated to him by John W. Campbell, which I read as an updated expression of the contradictions and horror first exposed by the *Zong* massacre in the late eighteenth century.

The dissertation ends on an epilogue, "Notes Towards a Fugitive Science Fiction," which opens with the guiding question: "What if science fiction was always black?" Here, I read Olaudah Equiano's 1789 autobiography as the speculative beginning of a fugitive science fiction—roughly analogous to *Frankenstein*'s place in the traditional genealogy of science fiction—and Martin Delany's *Blake, or The Huts of America* as the first fugitive sf novel—roughly analogous to *The Huge Hunter*. This mode of reading offers an alternative and supplement to the rubric of Afrofuturism that extends deep into African American literature and sketches a genre that moves according to a different set of tropes, that eschews the whiteness of mastery for a rigorous black alternative.

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[29] Tom Wolfe, *The Right Stuff*, 1979.

Chapter 1 – The Machine in the Garden was Black

Things are in the saddle,
And ride mankind.[30]

This chapter examines an issue that Louis Chude-Sokei calls a "flabbergasting aporia" in Leo Marx's work: his complete, almost pathological avoidance of any issues of race in the development of American cultures of technology. My purpose here is to dwell in this aporia, whose reach extends to most technology scholarship to date. I am less interested in identifying the ways Marx avoids race (though I will do so on the way to my argument) than I am on recovering the racial analysis that I will argue is implicit in his analysis. As I hope to show, foregrounding race transforms the manifest evasions of slavery into something else, into a sort of paralipsis, a place where Marx evokes that which he cannot discuss and, in doing so, exposes, highlights, underlines that which he cannot but discuss: namely, slavery. The flavor of evasion in *The Machine in the Garden* offer insights into the evasions in studies of science and technology more broadly, and so is worth exploring in depth.

There can be no doubt that the peculiar institution is oddly absents from this study of, among other things, slaveholders old and new. This aporia is best captured in a pair of quotations appearing in a chapter titled, simply, "Machine." Here, Leo Marx asserts that by 1829: "Apologists for the southern slavery system aside, there was not (nor would there be) any effective opposition to industrialization" (180). Later, near the end of the same section, he reiterates the point: “Aside from apologists for Southern slavery, these dissidents belong to small, ineffectual groups — socialist, transcendentalist, literary, religious — far from the centers of influence and power. Outside the South the pastoral ideal has little or no practical value as a political weapon against industrialism” (219). These two examples are the only places in Marx’s text where he brings up slavery unbidden[31]—and in both cases the term is isolated and dismissed in the same motion. This move occasioned some critiques, though not so much on the grounds of ignoring slavery as on the grounds of ignoring other important strands of the American literary tradition—specifically, the dismissal of seemingly everything coming from the South. [32] (It is particularly apropos that he does not elaborate on pastoralism in “the South,” when this space would, near the end of the nineteenth century, emerge as a site of unrelenting nostalgic pastoralism.)

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[30] From "Ode, Inscribed to W. H. Channing" by Ralph Waldo Emerson.

The rhetoric in these quotations is an especially representative illustration of his tendency to conflate a particular (admittedly influential) canon of American literature with the country writ large. This is perhaps the price of a project as ambitious as Marx’s, which aims at unpacking the fundamental themes of a literary tradition as diverse and diffuse as the United States’. But it also reflects a conflation common to the fields examined in this dissertation (studies of science fiction, science and technology, and American literature in general): the conflation of a white subject position with a universal one. In this example, the subject position secured by Marx's evasions somewhat ironically requires the suppression of another brand of white subjectivity, one contaminated too explicitly with the politics of race. The Southern slavery apologists, while rhetorically contained in these evasions, were nonetheless one of the dominant political voices in the era Marx examines, and "Outside the South" effectively takes half the country—and one of the primary players in what is arguably the United States' most important historical period: Civil War and Reconstruction—and shuts them out of his analysis. It leaves his argument incomplete, at the very least.

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[31] He mentions “slave” in the context of Shakespeare’s Tempest (57) and in his discussion of Twain’s Huckleberry Finn (319-41), and some version of the term appears in a few quotations from primary texts (on pages 54, 77, 137, 189, 201, 216, and 277), but the two examples quoted here are the only instances where he uses the term without first being called to it by a text under consideration.

[32] A 1965 review in *The American Scholar* by Paul Levine, for instance, critiques the narrowness of Marx’s examination (especially considering the length of the study in general). An article from about a decade later by Lewis Simpson notes: “Indeed, Marx rules out of his consideration, or nearly does, one whole area of American pastoralism—the Southern. … Why I don’t know” (408).

Marx himself has addressed this critique, though I can find no particular engagement with slavery or race as such. As he puts it in Afterword of the 35th Anniversary edition of *The Machine in the Garden*: "Since then [Bruce Kuklick's 1972 critique of the "Myth and Symbol" school,] scholarship in American studies has been dominated by a commitment to the primacy, in the study of American society and culture, of *difference*—of the marked differences, that is, in the experience of Americans as determined by their class, ethnicity, race, gender, or sexual preference" (382). He proceeds to partly own up to his role in this, acknowledging that were he to write the book "today" (circa 2000): "it would not be possible for me to write certain sentences in *The Machine in the Garden* that tacitly generalize about the thought or behavior of 'Americans,' unqualified by the explicit distinctions that an informed multicultural consciousness—and conscience—now would compel me to recognize" (382-83). He then mentions some more recent additions to the American canon whose work reflects on his central interest from a perspective that is not just white and male (as his examples are in the book that was published).

He nevertheless contends that his study does not, as it has sometimes been characterized, merely exemplify “an allegedly ‘holistic,’ universalizing tendency,” nor does it depict “American society and culture as if it constituted a single unified whole” (383). Rather, he argues, the study is concerned with a fundamental division in American society “between those who accept the primacy of material progress, and those who emphasize the less tangible aesthetic, and environmental ‘qualities of life’” (383). My own work here post-dates the rise of deconstructive and multicultural critiques by as long as those same critiques post-dated the work of Leo Marx and his contemporaries; as such I am less interested in what he calls “*difference*” than in a kind of post-poststructuralist reconstruction, or maybe something akin to what Jose Munoz calls “reparative hermeneutics” in *Cruising Utopia*: a reframing of the conflict as described by Marx from the perspective of a critical race critique, and specifically from a perspective shaped by the work and insights of black studies. That is, I do not intend to extend his analysis of the pastoral trope into a different canon; rather, I intend to unpack the latent racial forces that shape and drive the trope. My argument is that the aporia in *The Machine in the Garden* does not so much emerge from a lack of diverse perspectives or a tendency towards holistic unification, but rather functions as a constitutive lack.

To briefly summarize: Leo Marx’s famous argument pits “the dynamo” against the pastoral, seeing in this contest a fundamental structuring element of American culture.

He opens his study with an encapsulation of this contest in a moment drawn from Nathaniel Hawthorne's journals, in an episode from 1844 that Marx dubs the "Sleepy Hollow motif": Hawthorne, sitting in a quite copse of trees, spins out a pastoral description of the scene around him before a train-whistle interrupts his reverie. "What begins as a conventional tribute to the pleasures of withdrawal from the world—a simple pleasure fantasy—is transformed by the interruption of the machine into a far more complex state of mind" (15). This complex state of mind is what he defines as a heightened form of pastoralism, one which stands in contrast to "infantile wish-fulfillment dreams, a diffuse nostalgia, and a naive, anarchic primitivism" (11), and one which, for Marx, serves as a foundational theme in American literature and culture.

As my title suggests, I will argue that Marx's analysis suggests something like an equative between the machine and blackness, and between whiteness and the use of technology. This is obliquely implied in the grammar of both of Marx's evasive quotations, though to show this I will first move through some of the more straightforward implications. Both evasions imply the same structural logic, with southern slavery figured as standing in opposition to industrialization, and thus in opposition to the Machine. In the second disavowal, he even seems to align the southern slavers with the "small, ineffectual groups" of writers and revolutionaries whose "ambivalent responses…to the onset of industrialism" supply much of the material for his analysis ("Technology" 68). In setting aside the pastoralism (or, more specifically, the political opposition to industrialization) that had such currency in the American South, Marx is able to focus his analysis more precisely on industrialization and machinery in the canonical North. What this leaves out, however, is something later scholars have identified as the discursive relationship between race and machines: “race was central to how industrialization was conceived or made sense of during the nineteenth century in England and America” (Chude-Sokei 2). Basically, it ignores the fact that in our modern world technology and race grew up together.

There are two ideas implicit in Marx’s disavowals that I want to dispense with here: the first, that the defenders of a slave-owning society would be inclined to join the “socialists, transcendentalists, literary, [and] religious” groups in leveraging the pastoral ideal against industrialization; the second, and more fundamental, that slavery and machines are somehow structurally opposed. For the first thing, many of those other groups (whose work forms the basis of Marx’s analysis) were avowedly abolitionist, at least in their Northern manifestation. Even more conservative-leaning writers like Nathaniel Hawthorne were never less than ambivalent about the peculiar institution. Even if they and the southern slavery apologists used the same tropes, it seems unlikely that they would share much in the way of political goals. (Nor do I really intend to argue that Marx is suggesting otherwise, just that the fact that he puts them in close rhetorical proximity is telling, as is the general lacuna around issues of race in studies of the culture of technology in general; this could be explained by a shared political project.)

The second thing is a bit more subtle, though it is what I take to be Marx’s justification for leaving out the southern slave apologists: the southern pastoralists are ignored precisely because their version of the pastoral differs significantly from the Northern versions, and so including them in the study would necessarily dilute the force of his analysis, and cast doubt as to the applicability of the critique for America writ large. What the South wanted to do with the pastoral—defend the institution of slavery—is unconnected with the Northern deployments that Marx examines, which act as a stay against industrialization. Inasmuch as Southern slavery apologists embraced the pastoral, they would seem to necessarily oppose the Machine, rendering slavery and machine culture almost antithetical—the direct opposite of my chapter's thesis.

This opposition aligns, to an extent, with an old argument that slavery was on its way out anyway, that the Civil War was not essential to the end of slavery, and that the reason for this was the rise of machines—basically, that technology would obviate the need for a brutal and repressive system of labor exploitation, either by rendering it unprofitable or supplanting it altogether. Such an understanding of slavery and technology as fundamentally opposed also fits neatly with a larger progressive ideology that the increase of knowledge (through rational experimentation—science, basically) and the spread of the fruits of this knowledge (through commercial distribution—technology, basically) will necessarily lead to a more moral mankind. In its more extreme manifestations, like Auguste Comte's positivism, this connection became almost an article of faith.

As late as 1974, R. Keith Aufhauser can be found arguing against the canard that slavery was "associated with technological retardation" (37) by focusing on the economic details of the antebellum South to demonstrate the lack of correlation. He does so in an essay addressed to the "fair proportion of economic historians [who] maintain that the salvation of society depends upon changes in the techniques of production [i.e., in technological change that is identified with progress]" (36) who were apparently in attendance at the conference where he first delivered the paper. I won't tax you with the many present-day examples proliferating on the internet or in the presidential Twitter feed; suffice it to say the idea remains common.[33]

As Aufhauser argues, there are many reasons to doubt any opposition between slavery and technological progress. For once thing, Southern slavery and Northern commerce were intimately linked, and the presence of slaves as a low-cost labor option helped to drive down labor costs elsewhere, while even Northern whites benefitted from the structural racism that sustained racialized slavery. Practically speaking, the first viable designs for a mechanical cotton picker weren't patented until 1933 (by John Daniel Rust and his brother), and they didn't go into mass production until after the Second World War. Were slavery holding innovation back, one might expect a more or less immediate flourishing of technological innovation to follow emancipation; none did. Even today in the US, while much about agriculture has been automated or rendered much more efficient by machines (and, in turn, come to require a skilled labor force to operate these machines), there are still many products in which some part of the work

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[33] Around the same time a figure important to later chapters of this dissertation, science fiction editor John W. Campbell, was peddling a more popularized version of this argument. As described by the fan Joseph Green, "John edged into one of those discussions that frayed on my nerve ends, the general subject of slavery. He enjoyed taking the 'devil's advocate' position in almost any area, willing to defend even viewpoints with which he disagreed if that led to a livelier debate." The details of his argument follow the conventional racist form, but what I find most notable is the lone point of agreement between the fan and John W. Campbell: "The only thing we managed to agree on was that rapidly increasing farm mechanization after 1850 would have soon rendered slavery obsolete anyway, and it would have been better for the USA to endure it a few more years than suffer the truly horrendous costs of the Civil War." (Green, Joseph. "Our Five Days with John W. Campbell" in fanzine *Challenger,* Winter 2005-6. http://www.challzine.net/23/23fivedays.html)

(often near the end, when harvesting delicate fruits and vegetables) is done by hand—specifically, by the hands of migrant farm workers, a group whose political status has long languished somewhere below citizenship.[34]

In fact, according to Edward Baptist in *The Half Has Never Been Told*, slavery was an accelerating force in American industry prior to the Civil War. Baptist points to the deskilling of enslaved labor that was occurring—accelerating, really—prior to the Civil War, half-a-century before Ford's notions of the assembly line manifested in manufacturing. While, as one reviewer of his book dryly notes, the "relative efficiency of American slave agriculture and its causes have been subjects of sharp debate among modern economic historians" (Van Cleve, 1435), and some of Baptist's arguments have been empirically challenged,[35] there is little doubt that the intercourse between slavery and industrialization was waxing, not waning, when Civil War began.

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[34] It is notable that, Trump's recent acceleration of the mistreatment of migrants notwithstanding, this community has long been subject to a series of increasingly draconian regulations seemingly aimed at reducing their political potency. Where once (not that long ago) migrant farm workers were truly migrants—living elsewhere, usually Mexico, and legally migrating into the United States to work for a season, and then migrating back—their status has been rendered criminal by an ever-tightening border, leaving many former migrants as "illegal aliens"; their employers have not changed their practices, but the sort of mobilization that occurred around César Chávez's activism can now be stymied by the threat—and reality—of deportation, and by the fact that illegal immigrants they have less standing to file suit or demand protections in US Courts, or at least, the cost of doing so is to be exposed to ICE and the deportation machine both parties have been constructing for the last few decades. See Lisa Maria Cacho's excellent *Social Death: Racialized Rightlessness and the Criminalization of the Unprotected* (NYU Press, 2012) for a more formal and complete approach to this critique.

[35] See Olmstead, Alan and Paul W. Rhode, "Biological Innovation and Productivity Growth in the Antebellum Cotton Economy" in *The Journal of Economic History* 68.4 (2008), pp. 1123-71, for an examination of the science of cotton production, and the argument that cotton production grew largely as an effect of scientific progress; Baptist cites this source but doesn't really engage with it.

This implicit opposition notwithstanding, however, the connection between slavery and the machine—both as metaphors and both as concrete things—seep into Marx's argument throughout *Machine in the Garden*. In one sequence, for instance, he singles out an article published in *The Edinburgh Review,* Thomas Carlyle's 1829 essay "Signs of the Times," in which Carlyle criticizes the trajectory of modern society and focuses in particular on "the machine as the most telling 'sign' of modern life" (Marx 170). Marx appreciates Carlyle's cranky pseudo-luddite argument for its fluid evocation of machinery on two related level: both "as object (a technological fact)" and "as metaphor (a token of value)" (173). But more than that, he uses it to set up a more obscure work, "Defence of Mechanical Philosophy," penned by Timothy Walker in 1831 in direct opposition to Carlyle.

For Walker, at least by the end of his increasingly histrionic response, the machine comes to operate as nothing less than means by which God will lead humanity into a future of "the *otium cum dignitate*, in a higher sense than even Cicero conceived it" (Walker 126)—a life of leisure and moral improvement. This ideal is explicitly figured in terms of slavery and freedom: "So far from enslaving, it [machinery] has emancipated the mind, in the most glorious sense. From a ministering servant to matter, mind has become the powerful lord of matter" (Walker 125). This tension between "servant to matter" and "powerful lord of matter" echoes throughout Marx's study, and throughout American literature more generally.

Marx pays special attention to Walker's response to the Carlyle's conventional comparison between "the quality of contemporary culture with that of ancient Greece"

(*Machine* 188). Walker stipulates the Ancient Greeks' "high intellectual superiority," but rejects the argument that this is in conflict with technology. On the contrary, he argues (and Marx quotes, at some length):

> The Greeks themselves did not toil. Every reader of their history knows, that labor, physical labor, was stigmatized as a disgrace. Their wants were supplied by levying tribute upon all other nations, and keeping slaves to perform their drudgery at home. Hence their leisure. Force did for them, what machinery does for us. (189)

The connection between Greek slave labor (and by implication, Roman slave labor, and by further implication, the trans-Atlantic slave trade) and a future fueled by machinery is grounded in a conflation of laboring bodies and laboring machines. Somewhat obscured here, though important to my overall argument, is the way this also constructs the user of the machines as a kind of slave owner. The utopian vision here extends to a dismantling of Empire as well, as the institution of slavery is evoked alongside the imperial exploitation that also fueled Greek leisure, and it is at this point that the limitation of this utopian gesture becomes clear.

While it is conceivable that an advancing technoscientific regime could eventually supplant enslaved labor (indeed, the conveniences of modern life that I currently enjoy are only possible thanks to ubiquitous technology), it was always far less likely that advanced technology would blunt the imperial conquest then underway by most of Europe and America. On the contrary, as Ricardo Salvatore argues in "Imperial Mechanics: South America's Hemispheric Integration in the Machine Age," technological advances became one of the cornerstones of American soft power in its emerging empire: "It [the Panama Canal] was a spectacular machine that authorized the

United States to speak as the new hemispheric hegemon" (664). Technology freed Americans from drudgery, but that freedom wasn't contagious. Instead, it allowed America (as a political entity) to assume a position of mastery that could be "used, at each moment, to deploy U.S. claims to technological and cultural superiority" (663), and therefore to justify Empire. Similar ideologies of mastery over machines, examined in Chapter 2, were also used in post-Reconstruction and Gilded Age era technology stories (and eventually, science fiction) to likewise secure domestic white superiority over non-whites, and especially over the descendants of slaves.

The connection between slavery and technology was not unique to Walker. No less a canonical figure than Ralph Waldo Emerson, for instance, frequently evoked slavery and machinery together, though mostly as a metaphor for framing his thoughts on industrialization. Marx argues that, early in his career, Emerson "regards the new technology as an auspicious sign of the times" (231), though as John Kasson, in *Civilizing the Machine*, argues (somewhat contra Marx), Emerson was ambivalent about the effects of technology on its users. In an 1847 journal entry discussing the business leaders of the original Lowell factory town, Emerson sardonically notes that "They are an ardent race, and are as fully possessed with that hatred of labor, which is the principle of progress in the human race, as any other people. They must & will have the enjoyment without the sweat. So they buy slaves where the woman will permit it; where they will not, they make the wind, the tide, the waterfall, the steam, the lightning do the work, by every art & device their cunningest brain can achieve" (quoted in Kassan 124). Here a canonical American figure connects slavery and machines in an explicit, if sardonic, way.

A trip to England in the same year led to similar sentiments about the expanding industrial system across Europe: “The loom was improved further. But the men would sometimes strike for wages and combine against the masters … Iron and steel are very obedient…[were it] not possible to make a spinner that would not rebel, nor mutter, nor scowl, nor strike for wages, nor emigrate?’ (quoted in Kassan 126). For Emerson, an expanding machine culture was a danger because it threatened the full range of human expression: “A man must ever keep his eye on his servants if he would not have them rule him. Man is a shrewd inventor, and is ever taking the hint of a new machine from his own structure, adapting some secret of his own anatomy in iron, wood, and leather, to some required function in the work of the world. *But it is found that the machine unmans the user*. What he gains in making cloth, he loses in general power” (emphasis added; quoted in Kasson 126). It was through this lens that he framed his adamant opposition to the passage of the Fugitive Slave act, which as Kassan puts it “signaled the appalling moral torpor of materialism” (130).

In other words, what Leo Marx identifies as a tension between a pastoral ideal and an interrupting machine culture closely mirrors the tensions inherent in the ideology of slavery. As connected to technology, slavery in the US did more than just enabling the extraction of labor. It also functioned as a crucial factor in the development of whiteness, in the contortion of the subject position of master into a fantasy of absolute sovereignty—and, in its more enduring effects (detailed by Cheryl Harris in her article “Whiteness as Property”) became part of the legal basis for property rights in the United Sates in general. This trend reaches an apotheosis, or perhaps an inflection point, in the

Reconstruction Era with the 1868 invention of the Newark steam man and the subsequent publication of *The Steam Man of the Prairies*, one of the earliest science fiction novels written in the United States, examined in Chapter 2.

Marx misses this in part because he is more interested in the pastoral than in technology and sees it as the foundation for everything that follows. Indeed, as he says in the opening of his study: “The pastoral idea has been used to define the meaning of America ever since the age of discovery … The ruling motive of the good shepherd, leading figure of the classic, Virgilian mode, was to withdraw from the great world and begin a new life in a fresh, green landscape. And now here was a virgin continent!” (1). The persistence of the pastoral down through the ages is rendered complex—and distinctly American—by the conflict introduced by the Machine, which can stand in for Industrialization in general, but which also connects back to a much deeper pastoral theme of the conflict between untamed wilderness, on the one hand, and unrestricted civilization, on the other. The ancient desire for a middle place between civilization and savagery is, on Marx’s analysis, in direct and foundational conflict with the Enlightenment ideals of (roughly put) the progressive improvement of humanity through the unending accumulation of knowledge. What’s missing here, or rather what must be evaded, is that slavery is the necessary precondition of the pastoral.

Pastoral Slaves

This argument follows Paul Alpers’s 1982 essay “What is Pastoral?” in which he argues that the central figures of pastoral—the herdsmen—are meant “not to be characteristic shepherds and goatherds but rather representative singers and…representative men" (449); that is, "pastoral works are representations of shepherds, who are felt to be representative of some other or of all other men" (456). This mode of definition encompasses the many variations found within what is generally considered pastoral in part because "all the terms in this definition are subject to modification or reinterpretation, [so] pastoral is historically diversified and transformed" (456). For him, the pastoral is not realistic (he actually dedicates a paragraph at the end of the paper to addressing this idea, which he calls a misconception), but "the pastoral representation of human life is such that realistic claims and modes are part of its repertoire, its possibilities, its internal debate about the ways in which shepherds are representative of men" (460).

The ambivalent realism evinced here—not mimetic, but still true; not eternal, but concrete—is what we might call performative, after J. L. Austin's original formulation of the term and Judith Butler's elaborations vis-à-vis gender identity: that is, it is not grounded in a necessary reality external to the utterance, but neither is it a fantasy unconnected to such reality. It constructs reality, contributes to the repository of felicities, which through their concordance render a particular utterance properly performative. The pastoral, in other words, functions as a means of constructing a certain kind of identity, one whose contours can and do shift over time.

If, as Leo Marx implicitly contends, the pastoral is central to US identity, then there is much to be learned from the specific forms it takes. Marx focuses on the landscape (and the way this reflects something of a national unconscious); Alpers, in contrast, sees landscape as secondary, as an effect of the individuals within the landscape: “whatever the specific features and emphases, it is the representative anecdote of shepherds’ lives that makes certain landscapes pastoral” (459). The subtle shift in emphasis, from landscape to shepherds’ lives, changes how the intrusions of the Machine should be understood. For one thing, it emphasizes situatedness, making the fact that some of Marx’s leading examples come from slave-holders especially relevant.

The first enslaver in Marx’s study is (almost certainly) Virgil. Immediately following the discussion of the “Sleepy Hollow motif,” Marx casts back to antiquity for antecedent, and focuses on the *Eclogues* because, as he asserts: “Although Theocritus is regarded as the first pastoral poet, Virgil’s *Eclogues* are the true fountainhead of the pastoral strain in our literature” (19). The *Eclogues* begin with the encounter of two shepherds: one, a recently un-dispossessed shepherd/poet (Tityrus), the other his still-dispossessed friend (Melibaeus). Tityrus rests “at ease under the beech [tree], playing his pipe” (21), while the unfortunate friend pauses in his politically imposed exile, partly to chat, partly to stand in for all the chaos of political life back in Rome. There may be an element of the real in this poem: as Marx notes, the events of Virgil’s poem closely resemble events that unfolded under Octavian, who is thought to have tried to reward some of his successful generals with land expropriated from small landowners—

including, tradition says, Virgil himself[36]—and so in this foundational pastoral poem we already have a built-in tension between fiction and reality.

Though there is nothing that can be said to amount to a Machine in Virgil's poetry, this poetry nonetheless represents the fount of the more complex pastoral motif central to American thinking because of the way it sets up its bucolic scene. For Marx, the pastoral is established less by the (highly conventional) descriptions of the peace and abundance that accompanies a natural shepherding life than by the encounter of two people whose relationship to abundance and ease has suddenly been radically reconstructed: "No sooner does Virgil sketch in the ideal landscape than he discloses an alien world encroaching from without" (21).[37] That is to say, what is central to this portrait is the act of encroachment—by Melibaeus in Virgil, by the train whistle in Hawthorne—and the individual's response to this encroachment.

For Marx, the poet/shepherd embodies the pastoral ideal, something Virgil "itemizes" as: peace, leisure, and economic sufficiency (23). These qualities are only possible because, as Marx puts it: "In the pastoral economy nature supplies most of the herdsman's needs and, even better, *nature does virtually all of the work*" (emphasis added, 23). This last point, the idea that nature provides without mediation, is the core of the fantasy represented by the pastoral. The figure of the herdsman is interesting: for Marx, the Virgilian shepherd occupies the liminal "middle landscape" between wilderness and civilization, the landscape he identifies as pastoral. Following Alpers, if characters rather than landscape are the defining figures of the pastoral, then what Marx is identifying is the imbrication of the pastoral and a rhetoric of freedom and ease, benefit without cost, work without labor. An impossibility, to be sure.

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[36] Some dispute this, noting that the evidence which informed this traditional claim is largely a biographical reading of the *Eclogue* itself.

[37] It is incumbent on me to note that the first *Eclogue* has long been interpreted in this way, as the source of "Arcadia," though as Gregson Davis argues the conventional notion of "Arcadia" has more to do with a misreading, or perhaps over-reading, of the first *Eclogue*, at the expense of the rest of the cycle, and that this view doesn't accord especially well with the rest of the poems ("Introduction" in *Virgil's Eclogues*, trans. Len Krisak, Philadelphia, PA: U Pennsylvania P. 2010. See esp. xiv-xv). This distinction is largely immaterial for Marx's discussion, though he could have returned to a more thorough reading of the *Eclogues* to expand on the dynamics explored below, especially the contradictions of freedom for the individual.

Alpers expands on this encounter, drawing out some of the ambivalences that likely led Marx to favor this example for his foundational pastoral:

> Tityrus says, "ludere quae vellem calamo permisit agresti [he has allowed me to play as I will on a rustic pipe]." This line acknowledges the conditions of Tityrus' *otium* and accurately represents it. Not only does it indicate his dependence on his patron, but it brings out, in balancing "quae vellem" (what I want) and "permisit" (has allowed), the problematic relations of freedom and dependency. (451-52; translations are Alpers' and presented in brackets in the original article)

What Alpers draws out here is the ambivalence inherent in a sophisticated representation: Tityrus is the lucky one, the guy who got to keep his land and lifestyle, and yet as Alpers shows, even in this mythic fantasy his freedom is not absolute, as he is subject to the will of another. This ambivalence, the tension between absolute freedom and inevitable dependence, has little to do with the landscape as such—it is a man (presumably the emperor Octavian) who has dispossessed the shepherds, and who has reinstated one of them and not reinstated the other; that is, it is a man who "has allowed" "what I want" (to use Alpers' phrasing). The complexity—the literary quality—of this *Eclogue*, then, mirrors the complex pastoral that is the subject of Marx's analysis, in that it constructs a fantasy that is necessarily destroyed.

There is, however, another way in which the shepherd is interesting as a conventional figure in this Roman pastoral. As classicist Tom Geue puts it, “when Virgil tells us to sow our seeds, ‘we’ dutifully oblige, but by ‘we’, we mean the slaves who are doing it for us. Roman slavery is a remarkable mode of production in how brazenly it refuses to acknowledge who is doing the work, and how slickly it folds the slave agents into the sovereign body of the master.”[38] Geue’s point here is specifically about the *Georgics,* and as Alpers notes, “In Virgil’s works, pastoral and georgic are distinct—the latter conceiving of nature as the habitation of farmers—but in the Renaissance the two types merge in various ways” (459). But what is true in an explicit sense with the *Georgics* is implicit in the *Eclogues* as well, and especially relevant in post-Enlightenment examples of the mode. The itemized ideals Marx offers (peace, leisure, and economic sufficiency) are flatly impossible without something (which is an oblique way to say “someone”) to do the labor that enables your leisure, without the social stability that enables peace, and without the persistent self-delusion that can transform the labor of others into one’s own sufficiency. The ambivalences of the complex pastoral emerge from a necessary, necessarily repressed recognition of this dependency—thinkable in Virgil only as displaced onto the highest authority (Octavian), and broadly manifested in the modern world in the slave-machine metaphors detailed throughout this chapter.

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[38] Tom Geue. From abstract for paper “Marxing out on Fundus: Salvaging the Slave from Virgil’s Farm,” *Society for Classical Studies* annual meeting 147, “Marx and Antiquity” panel (posted online).

For Marx, the pastoral ideal matures into the American dialectic of machine and garden in the work of Thomas Jefferson (a more recent enslaver) who himself seems to both insist on the importance of unmediated engagements with the land while also believing, in an absolute sense, in the promise and possibility of progress, of which Machines are both an icon and a result. For Marx, Jefferson's approach is explicitly dialectical, constantly redefining the ideal of a "middle landscape" between nature and the city—something Marx defines in its ideal, "abstract embodiment" as "the concept of mediation between the extremes of primitivism and what may be called 'over-civilization'" (139-40). Jefferson is not so naïve in his sense of what "the land will provide," but he does seem to share with Virgil (and other Roman pastoralists—and Marx) a consistent evasion on the question of (as Alexander Hamilton might have rapped it) who's really doing the planting.

One thing an Alpers-inflected reading of the pastoral brings to the fore is the proliferation of different, largely isomorphic genres of "man": shepherd, herdsman, farmer, hubandman. With only slightly different emphasis of domain (sheep-centric, herding in general, agriculture, and household, respectively), each of these formulations draws on the same loaded metaphor for individualized freedom. Take the benevolent shepherd, for instance. Here is a man overseeing a docile flock, enjoying leisure while said flock passively improves (itself, but also the man), with a simple and wholly beneficial relationship to civilization—all is startlingly reminiscent of antebellum rhetoric justifying slavery (and post-Reconstruction nostalgia for the peculiar institution). No sheep will rise up and kill you in your sleep. No sheep will fare better on its own, away from the shepherd's paternal protection. No sheep has much use for the products it provides, and so shearing can hardly amount to theft.[39] It is the ideal metaphor of slavery viewed from the position of slave-master.

The crucial role of slavery in the pastoral is evident in the fiction that Marx examines as well. He offers later iterations of this same trope in Shakespeare, whose *Tempest* reiterates the pastoral ideal in what would become its distinctly modern mood, one where a primitive faith in productive tendencies of nature is tempered by a recognition that Gardens need tending—in this case, Prospero's survival depends on his ability to dominate Caliban, which Marx characterizes as an exercise of power that "rests upon art, a white magic akin to science and technology" (I find this use of "white" here to be rather overdetermined…). What this white magic and technology share, in Marx's view, is a presumption of "our ability and our need to master the non-human through activity of mind" (55). Slavery is an explicit issue here, as Marx includes a quote that identify Caliban as a slave ("Abhorred slave" cries Miranda [54]); Prospero is likewise characterized in terms of slavery as the fulfillment of "Hamlet's ideal: the man who is not passion's slave" (57). Marx does not connect either of these moments back to the actual trans-Atlantic slave trade already underway in Shakespeare's time, nor does their evocation of slavery set the stage for a more direct discussion when Jefferson's *Notes on Virginia* enters the discussion.

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[39] This assumes, of course, that we do not extend subjectivity to non-human animals.

Nevertheless, Marx's analysis here theorizes the role of slavery in his scheme, even if he does not acknowledge the implications of his reading. Caliban's threatening presence, Marx argues, "reminds us throughout that the dark, hostile forces exhibited by the storm are still active. We are not in Eden; Caliban must be made to work. He keeps us in mind of the unremitting vigilance and the repression of instinct necessary to the felicity Prospero and Miranda enjoy" (54). Prospero and Miranda's ambivalent reliance on Caliban clearly models, for Marx, one of the core ambivalences that would shape American pastoralism. And though he does not connect Caliban to the enslaved peoples whose labor fueled the European conquest of the Americas, Caliban's ambiguous status as unruly subject and object of command offers a model for understanding the role of slavery in Marx's study. The "white magic" that Prospero wields prefigures (to use a word Marx often deployed) the technological competence at the center of the figuration of Man3, and the ambivalence about this manifests across American literature, perhaps most obviously in Marx's most famous example, Mark Twain's *Adventures of Huckleberry Finn*

Marx dwells on the space of the idyllic, pastoral raft with run-away boy Huck and fugitive slave Jim, both of whom are withdrawing from a repressive society, drifting down the mighty Mississippi, taking in the landscape as they go, when suddenly they are set upon by the impersonal force of a steamboat that smashes their raft to smithereens:

> As [Twain] describes it, freedom aboard the raft signifies much more than the absence of slavery in the narrow, institutional sense. It embraces all of the extravagant possibilities of sufficiency, spontaneity, and joy that had been projected upon the American landscape since the age of discovery. The thought that this great promise was to be submerged in history (in his view a dreary record of man's lost hopes) gave rise to the image of a monstrous steamboat that

> suddenly bulged out of the night, big, scary, inexorable, and smashed straight through the raft. (330)

The conflation here at the beginning of the quotation is notable for its reversal of the disavowal in Marx's two southern apologists asides—"the absence of slavery in the narrow, institutional sense" is expanded into a broader fantasy of "sufficiency, spontaneity, and joy," linking these two concepts in a hierarchical relationship that would be better understood as reversed: the "broader" fantasy is in fact a specific type of the absence of slavery. On this reading of *Huckleberry Finn*, slavery becomes a subset of the anti-pastoral, an extreme type of the planned, insufficient, joyless intrusion of industry that motivates so much American art. The idyll of the pastoral—"the great promise"—is actively fading at the moment of Twain's writing. The loss of the pastoral (represented most clearly by the proliferation of transcontinental railways and the fast-approaching closing of the frontier, announced by Turner in 1893) looms over Twain's novel, poisoning the nostalgia that suffused the earlier, lesser tale of *Tom Sawyer*. But, as Eric Sundquist argues, there were other ways that things were in decline as well. Specifically, the rise of Confederate nostalgia and the increasing expansion of anti-black legislation, culminating in 1896's *Plessey v. Ferguson.*

For Sundquist, *Huckleberry Finn* can only be properly understood (and judged) "by reference to the renewed crisis over sectionalism and black rights that accompanied Twain's periods of composition and this struggle to redeem, even simply conclude, his deteriorating pastoral novel" (232). The deterioration of the pastoral follows directly from Huck's (and by extension, Twain's, and by still further extension, our) inability repress the reality of slavery. As Marx describes it, "Clemens is realistic enough, and faithful enough to the logic of his ruling metaphor, to admit the limitations of the raft. It lacks power and maneuverability. It can only move with the current, that is, southward into slave territory" (328). This implicit surrender to the forces of nature is, for Marx, one of the hallmarks of the pastoral in American literature, much as the surrender of nature to the forces of man is a hallmark of the Machine, though with his focus on landscape this is figured more passively as the lack of agency for the raft (vs. the steam boat)—"*It* lacks power and maneuverability. *It* can only move with the territory." The decreasing possibility of Jim's agency is likewise displaced onto the landscape, the southward descent into slave territory (as if the land itself wanted Jim enslaved). Things look a bit different if we focus on the characters.

Besides the obvious contrasts, it is notable that Huck, upon his escape, has technology, brings all sorts of tools to the island, while Jim, whose escape was far more conditional and precarious, has none. Huck could just float down the river to its end without much trouble, board a steamer for the head, float down again, *ad infinitum* but for the presence of the fugitive slave. Even in his fugitivity, Jim is tied to the fate of the would-be sufficient white male subject. The fundamental honesty of Twain's description comes from his exploration of the impossibility of the American pastoral, founded as it is on the repression of the knowledge of slavery, transmuted into a knowledge of freedom[40] which cannot acknowledge the thing which gave rise to it.

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[40] Fred Moten's "Knowledge of Freedom" (expanded under the same title in his collection *Stolen Life*) is very much on my mind as I write this, though his analysis resists excerpting or summary. I deal with it a bit more fully in the epilogue.

The steam boat scene is evocative, certainly, though it represents an interruption rather than a destruction of the pastoral. The pastoral ends in the extraordinary moment Huck decides “All right, then, I’ll *go* to hell” and tears up the letter that will (he thinks) return Jim to slavery. The rest of the action of the novel from that point forward is a perverted pastoral, an act whose unflattering machinery is on the surface, and whose innocence and appeal has soured. Following Sundquist’s analysis, the ending operates as a farce of race relations—Jim is already free, but Tom wants to free him: his escape has to come through the agency of a white boy. Huck, comic foil that he becomes when Tom imposes himself, just tags along, but does not in the end submit to the “sivilization” he rejected with the raft. Instead he heads West. In this way, Huck offers a subtle, honest, (dare I say) literary iteration of a character type that was common in the popular literature at the time: a precocious, competent, and above all free (white) boy who flew from civilization but brought his tools. The edisonade figures explored in Chapter 2 expand on this idea at detail.

For Marx, Huck reconciles two otherwise incommensurate subject positions: the Pilot and the Passenger; specifically, the pilot and passenger of a steam boat on the Mississippi.[41] Channeling a bit of Keats’ sentiment that Newton “destroyed the poetry of the rainbow by reducing it to a prism,” the Pilot’s superior technical knowledge of the

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[41] He discusses this on pp. 333-35, and also at more length in an essay entitled, appropriately, “The Pilot and the Passenger: Landscape Conventions and the Style of Huckleberry Finn” in *American Literature* 28.2 (1956), pp. 129-146

Mississippi—its currents, its sandbars, its dangers—inhibits his ability to perceive the beauty or splendor of the Mighty river. Huck mediates between the two:

> The boy is endowed with a knowledge of precisely those matters of fact which had seemed to impair the pilot's sense of beauty. He recognizes the menacing principle of nature that spells the destruction of steamboats and men. Mingled with the loveliness of the scene are things not so lovely: murderous snags, wood piled by cheats, and — what could be less poetic? — the smell of dead fish. Huck is neither the innocent traveler nor the initiated pilot. He sees the snags but they do not interfere with his pleasure. In his mind the two rivers are one. His willingness to accept the world as he finds it, without anxiously forcing meanings upon it (his language is lacking in abstractions), lends substance to the magical sense of peace the passage evokes. (334)

There is something of the improvisational in this reconciliation of the two poles of knowledge. There is a submission to those forces beyond oneself that is decidedly lacking from the ideals normally embodied in the figures of the American pastoral—contra Jefferson's husbandman, for instance, who exists at the nexus of the labor of others as a sufficient entity. He is entangled in the landscape, which is entangled in him through his vernacular speech (or, well, writing). He is content not to be a single being. On Twain's telling, the balance cannot last, as the pastoral is an idyll threatened by industry and slavery in unequal measure. Huck's withdrawal exposes a fundamental fantasy of the specifically technological ideal of man (what will become posthuman) of total independence, which is to say a total lack of dependence on others. Huck achieves what the pastoral subject tries for by rejecting the imperative to master the world. The complexity of Twain's pastoral renders Huck an implicit critique of whiteness, both in the narrow political sense of not-black and in the broader sense of a post-Enlightenment drive towards mastery over all.

Critical Whiteness

Similar critiques exist across American literature. Half a decade before Hawthorne's interrupted idyll, Edgar Allan Poe wrote a story focused on the imposition of technology into culture. Leo Marx doesn't have much time for Poe, which is unfortunate since this oft-neglected story, "The Man That Was Used Up" (first published in 1839), offers a rough-and-ready schematic of the relationship between race and machines prior to the Civil War. There is little of the pastoral here, though there is much of the Machine, and as such it functions as a kind of inversion of, or counterpoint to, Virgil's *Eclogue.* Its eponymous character is introduced as an ideal man—with a superior physical form—by our humorously naïve narrator, only to later be revealed as an amalgam of prosthetics attached to a wrecked (or "used up") body. These prosthetics are attached by his slave, and the story's satirical tone leaves little question as to how we are to take this state of affairs: the ideal man, if built from prosthetics, is no man at all.

Poe doesn't lay the blame for this deception on the proto-cyborg, at least not exclusively. Rather, Poe's satire targets the entirety of an emerging machine culture enabled by violent Indian wars and racialized slavery. In the social sphere circumambulated by our narrator the general is received ambiguously: everyone praises his valor and laments the viciousness of his Indian enemies who left him so used up, but always with an overtone of mockery or, as it is interpreted by the narrator, mystery. The narrator senses that something is off about this reception, and goes out in search of the truth, to little avail. Instead he encounters a wall of deferrals, his questions deflected with some variation on the theme of "This is a wonderfully inventive age!" (258, 259, 260).

This technophilic response is delivered with occluded irony (as it is clear to the reader, as to the narrator, that these moments are not quite right, but it is not clear how until the end). It evinces the sort of complex ambivalence found in many of Marx's other sources, establishing the fervor for technological progress as somehow fundamentally dishonest, and the peace and leisure of the inventive age as surface level only.

Poe's racialization of prosthetics becomes clear in the final turn of the story, when the narrator finally goes to the General's house. There he discovers "a large and exceedingly odd looking bundle of something" (261) that turns out to be the General himself. An "old negro valet" (260; read: slave) Pompey sets about assembling the General, attaching a leg, an arm, shoulders, bosom, wig, teeth, and an eye: "The manipulations of Pompey had made, I must confess, a very striking difference in the appearance of the personal man" (262). Throughout this transformation, one mystery persists, as the General speaks in a strange voice. It is solved when the General orders Pompey to install his palate: "Hereupon, the negro, grumbling out an apology, went up to his master, opened his mouth with the knowing air of a horse-jockey, and adjusted therein a somewhat singular-looking machine, in a very dexterous manner, that I could not altogether comprehend" (262). These manipulations are played for laughs, but they form a striking allegory of the fraught relationships among man, race, and technology in Poe's nineteenth century milieu.

The humor comes from two directions: first, from the narrator's naïveté, as he is the only man in the whole city (it seems) who has met the General without noticing the prosthetics—indeed, he heaps vigorous praise on the General's body upon their first meeting, praise the General repeats at the end, recommending the best manufacturer for each part of his reconstructed body as Pompey attaches them. Secondly, the story's broader satire targets the Jacksonian self-made-man trope then circulating in American politics, exposing the Jackson-like general as unmanned by his own violent, slave-owning life, portraying these supposed masters as beholden to their own devices. Pompey's role in the General's construction is instructively ambiguous, as on the one hand he is presumably the property of the General and therefore legally—ideologically—a tool put to use by the General; that is, inasmuch as we understand Pompey as non-agential property, he becomes just another part of the General's prosthetic body, that part that assembles and disassembles the rest. On the other hand, as Poe's invocation of "a horse-jockey" suggests, it is in fact the General who lacks agency in this scenario, as he is manipulated by his supposed slave.

The story's repeated invocations of this "wonderfully inventive age"—both in the voice of the General and in the half-serious voices of his faux-admirers—gestures to its opposite: the horror of an age of technology. Much like the horror (the horror) in Joseph Conrad's later *Heart of Darkness* (1899), Poe's body-horror comments less on the terrible realities of waging genocidal wars against native populations for the sake of colonial expansion (though there is room for us to do so) than on the costs of such practices for the civilization committed to them. Unlike Conrad, Poe is not engaged in a profound political statement about colonialism—his satire targets the men more than the society. Nevertheless, the story captures something prescient about the costs of technological innovation: how can one be a man, sovereign and proud, when totally dependent on something beyond oneself? This question is especially relevant when that "something" comes by way of an unruly and potentially treacherous racialized Other. Poe's story points to a tension that suffuses the American socio-technical imaginary: are we masters of our machines or slaves to them?

Other examples abound. Much of Melville, for instance, comments on the man-machine dynamic in terms that strong recall the master-slave dialectic. As glossed by Eric Sundquist, this famous Hegelian dialectic from *Phenomenology of the Spirit* (often translated today as the lordship-bondsman dialectic) holds that "the master's power is hedged by his discovery that his very identity *as a master* is bound to, and mediated through, another consciousness, that of the slave. The slave in turn, although he is in thrall to the master and lives to a degree for his enhancement, nonetheless wields power over the master by refusing to grant him autonomy and forcing him into a psychological posture of dependence" (41, emphasis in original). Most pastoral works deal with this tension through a repression of the knowledge of slavery (to which the knowledge of freedom is tied), while most machine-narratives (including but not exclusively science fiction) seek to reconcile the dialectic through a fantasy of total independence: mastery without slaves. What Melville does in, for instance, *Benito Cereno* is to construct a kind of parable of mastery, in which the supposed slaves and supposed captain are revealed to be merely performing their roles; in reality, the (formerly) enslaved are in charge.

Chude-Sokie discusses Melville's story "The Bell-Tower" as another example of the same dynamic, though this time featuring an automaton that kills its creator. As he notes, "More important than Melville's use of time to signify how, as Leo Marx puts it, ‘the laboring man becomes a machine’ is the fact of the ‘slave’ killing its creator” (93). To this I would add an emphasis on the lack of agency of the automaton, which is superstitiously regarded as a killer, but presented mostly as an insensible invention that was, if anything, the means of an elaborate suicide. This connects the machine to discourses of slavery (in which slaves were often ideologically reduced to the status of unthinking machine, see below). It also suggests, somewhat pointedly, that this murder-death-kill is an inevitable result of the construction of the automaton, a function not of choice but structure.

Nathaniel Hawthorne’s “Ethan Brand” offers a slightly different view on the whole system. As Marx notes, the Hawthorne’s story has little in it that readily appears to embody the machine: there is a lime-kiln, a venerable practice for making lime from limestone that was soon to be replaced by more industrial techniques; there is a minor character who was mangled by a machine in his back-story; and (Marx tells us) there are Hawthorne’s own notes about seeing a factory suddenly emerge from a forest one day, near other notes about characters who reappeared a decade later in “Ethan Brand” (265-77). To this Marx adds the mythic dichotomy of fire and sun—one the gift of heat and industry, the other a God-given endowment of warmth and life—which embeds itself into the limekiln and pastoral descriptions, especially near the end of the story. For my purposes, what is especially interesting about the story is the way it traffics in what Toni Morrison famously called an “Africanist” presence in *Playing in the Dark: Whiteness and the Literary Imagination*, particularly in the denouement.

The story centers on a lime-burner, Bartram, and his son, both of whom are set upon by the eponymous Ethan Brand, a former lime-burner who used to work at the same limekiln. Brand has been absent for more than a decade, though his legend has persisted; it is variously explained that he went crazy or possibly summoned a demon from his kiln, but in any event, working alone at his kiln he became obsessed with the notion of an Unpardonable Sin. He left to go on a quest to find this sin, and has returned successful, at least in his own estimation.

A motley crew of townsfolk come out to see Brand for themselves, and we are treated to a number of vignettes: there are some former (and formerly respectable) acquaintances, all quite fallen by the time of the story, united by their devotion to a "black bottle" and its presumptively alcoholic contents; a sadly deranged old man whose daughter Brand seduced away in scenes presumably lost to the other chapters of this "abortive romance"[42]; a traveling "German Jew" who puts on a rather lame spectacle with his disappointing diorama, and a dog straight from Faust that chases its own tail and inspires an "awful laugh" from Brand that drives everyone off soon enough. Brand then takes over the job of tending the fire (as Bartram "had been making acquaintance with the black bottle above mentioned") and sends everyone to bed. In the night, he reflects on his journey, his success, and the true nature of the Unpardonable Sin. Determining that "My task is done, and well done!” Brand throws himself into the kiln, burning up and leaving, strangely, a skeleton of “snow-white” lime: “Within the ribs—strange to say—was the shape of a human heart.” Brand’s immolation merits little reflection (though Bartram does take a moment to wonder if he had a “heart made of marble”), and redounds to the profit of Bartram, who is “half a bushel the richer for him.”

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[42] This daughter is referred to as "the Esther of our tale," and I am not ashamed to admit I chased down a number of strange leads trying to parse the significance of the Biblical reference before I figured out what was up here; there is also a mention, re: the drunken doctor whom "we introduced as paying a professional visit to Ethan Brand during the latter's supposed insanity" that's clearly from something excised here. This is not an original reading, I'll note (hence its consignment to a casual footnote) but I did figure this out myself before I noticed it in some other studies. (Also the story's subtitle is kind of a give-away.)

For Leo Marx, Hawthorne’s story is analogically concerned with the effects of the machine, represented by an intense fire (Prometheus’s gift) in the limekiln. Immediately after Brand’s self-immolation, there is an extended description of the pastoral scene surrounding his absence, replaying the Sleepy Hollow motif that, for Marx, is an all-too-conventional instance of pastoral language and should therefore be understood as an ironic and ambiguous engagement with the trope of the Machine in the Garden. This particular analysis seems to attract criticism (John Lark Bryant’s 1975 review in *American Studies* is especially pointed in this regard), and it is easy to see why: there’re hardly any machines! The analysis remains persuasive, I think, because while the machine is not quite what’s at stake here, it is a symptom of the larger disease Hawthorne diagnoses.

As the overdetermined coloring of Brand’s skeletal remains might suggest, this story works to critique whiteness, and seems particularly interested in the strand of whiteness connected to the Enlightenment project, the thing Hawthorne (through Brand) calls the Unpardonable Sin: “The sin of an intellect that triumphed over the sense of brotherhood with the man and reverence for God, and sacrificed everything to its own mighty claims!” For Marx this describes “the very principle for which he undertook the quest: the desire for knowledge as an end in itself" (266); I would argue that the hyper-individuation of this desire is the true Unpardonable Sin. Later, as Hawthorne builds up to the explicit moral of Brand's tale—"that his moral nature had ceased to keep the pace of improvement with his intellect"—he describes what this quest for knowledge had done to Brand (beyond literally hardening his heart): "He had lost his hold of the magnetic chain of humanity. He was no longer brother-man…he was now a cold observer, looking on mankind as the subject of his experiment, and, at length, converting man and woman to be his puppets, and pulling the wires that moved them to such degrees of crime as were demanded of his study."

The "magnetic chain of humanity" echoes contemporary theories about mesmerism (which was alternately called magnetism, as associated with animal magnetism), theories that posited a kind of counter-factual connectedness across oceans, times, and death, but which often found demonstration in various forms of hypnotism—indeed, this is a recurrent concern of Edgar Allan Poe's contemporary science fiction, much of which concerns fantastic (but not too fantastic) experiments with mesmerism. The connection to mesmerism is extended as Brand releases the chain of humanity to instead pull the wires that moved people: his instrumentalization of people, in other words, requires the severing of ties to others. The immanent critique of slavery here is clear, though probably not deliberate on Hawthorne's part—he did, after all, once write that "I find myself more of an abolitionist in feeling than in principle." This does, nevertheless, deliver a trenchant moral fable about the costs of, if not slavery per se, at least the ideologies that undergird slavery.

The costs of self-isolation are made explicit by Bartram's son, whose "tender spirit had an intuition of the bleak and terrible loneliness in which this man had enveloped himself" when he looks on Brand for the last time. Brand himself evokes this severing at the moment of immolation in a non-poetic ode to "Mother Earth," whose bosom he rejects, and "mankind," whose "brotherhood I have cast off." To the "stars in heaven" he merely bids farewell; their shining "as if to light me onward and upward!" is a complex evocation—on the one hand clearly representing God and heaven, in contrast to the earthly (hellish?) fire he chooses to embrace, on the other a metaphor for his improvement, even if he chose another source of light. This, it seems to me, is the moral heart of the story: that the single-minded pursuit of "improvement" in the Jeffersonian sense, the cultivation of one's self and one's holdings for no reason beyond improvement itself—improvement as its own end—requires the destruction of the human.[43]

Brand is associated with whiteness, both in the overdetermined ending image and in contrast to the people of the town. Bartram, the most direct foil for Ethan Brand, is "begrimed with charcoal" throughout the tale, while the three fallen acquaintances seem to be spared Brand's horrible fate despite their manifold failings in part because they are tied to "the contents of a certain black bottle, in which, as they averred, he would find something far better worth seeking for than the Unpardonable Sin." For each of these men, as for Brand, the drive of improvement has not worked out especially well. While

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[43] In this sense, Brand enters the story on the cusp of becoming posthuman, and his transubstantiation echoes, faintly, in Hans Morevac's strange fantasy of a mind losslessly transferred to a computer (the opening anecdote and exemplary target of Katherine Hayles' critique in *How We Became Posthuman*).

Brand embraces his fate, each of the men were instead displaced by the Machine. The first, a stage-agent, was felled by the advent of railroads, which largely wiped out the stage-coach industry (an industry, it is worth nothing, that was a Hawthorne family business). The second is a former lawyer who "had come to be but the fragment of a human being, a part of one foot having been chopped off by an axe, and an entire hand torn away by the devilish grip of a steam-engine." Perhaps like the Used Up Man in Poe's story, Lawyer Giles still merits the courtesy of a title, though he eschews prosthetics and is instead undeserving of scorn as he "asked nothing in charity, and with his one hand—and that the left one—fought a stern battle against want and hostile circumstance." He is not, in other words, quite Used Up, despite his losing battle with a Machine.

The third is a village doctor whose alcoholism should have left him quite ostracized: "Brandy possessed this man like an evil spirit, and made him as surly and savage as a wild beast, and as miserable as a lost soul." Of the "three worthies," the doctor is the one least obviously displaced by the machine. His vice and his downfall are explicitly tied to drink, not technology. In him we instead have a failure of science, as in contrast to Brand he has eschewed scientific improvement, and finds himself kept around because he is endowed in the minds of the villagers with nigh supernatural healing powers. By so exceeding science he finds that "society caught hold of him, and would not let him sink out of its reach." He is, in other words, incorporated into the machinery of society, even as a savage and wild beast, because there is supposedly use-value in him yet; his scientific training has not made him a master, but its absence has instrumentalized him.

For each of the three acquaintances Brand encounters, the “black bottle” operates as a kind of prosthetic, as disability and crutch simultaneously. Symbolically, the bottle is analogous to the “valet” in Poe, to the automaton in “Bell Tower,” and to Babo in “Benito Cereno”—a tool that masters its masters. Brand takes no part in it. He has chosen a purer vice, one whose end is whiteness. There is something sardonic in the ending of the story, inasmuch as Brand’s final act is a kind of sacrifice. He is not mourned, not honored, but has instead become an element of commerce. Bantham, the off-white, charcoal begrimed father, benefits materially from Brand’s conversion into whiteness, from Brand’s quest to achieve the supreme end of self-instrumentalization, a benefit he passingly recognizes and doesn’t acknowledge.

Mere Machine

The slave-machine metaphor had currency outside of literary ruminations on the knowledge of freedom as well. While technology was clearly understood in white discourses by analogy to slavery, slave narratives likewise drew on the analogy to explain the horrors of enslavement, further testifying to the relationship between race and technology in this period. In those instances where machines—as literary devices or subjects—are used to illuminate race, these uses traffic in and support a cross-figuration of race and technology in terms of the condition of slavery (and by extension, the condition of freedom).

The earliest example of machine-slavery metaphor that I've found in slave narratives is from 1831, the same year Timothy Walker evoked ancient slaves to defend machinery, though the metaphor persists well into the twentieth century. Often, the machine metaphor works as something of a trope. The first example sets the tone:

> The Slave grovels in the dust, and passively yields up his body to the degrading lash; resistance he feels is useless, and only increases the miseries of his condition. Animated by no hope, and bound to his employer by no ties of reciprocal interest, he drags on from day to day his brutalized existence, and looks forward to death as the only termination of his woes. He sinks into a living machine whose actions are guided and enforced by the will of another, and his words and looks correspond with his mental and bodily abasement. (Warner 13-14)

This is an especially evocative example of the affective work slave narratives set out to do. As Saidiya Hartman demonstrates, many slave narratives functionally empty the black body of any agency or subjectivity, inviting the putatively white reader to adopt the slave's subjectivity (partly to inspire empathy, but also to better stage their spectacle). This passage seems written to resist this tendency, describing "the Slave" as an active agent whose subjectivity is drained through the condition of slavery. Throughout (and in contrast to many later examples), the figure of the slave is active: he grovels, he yields, he feels, he drags, he looks, and finally, he sinks. This early example's diction also presages the more conventional understanding of laboring machines (in particular, robots) as metaphors for the conditions of wage labor, particular through its choice of "employer" to describe "the Slave's" bondage, rather than a more conventional "master" or "owner." This places slavery on a continuum of labor that is linked, *in extremas*, to the labor of free/white folks.

The paradoxical pairing of “living” and “machine” here works to expose slavery as an unnatural condition. It draws on the trope of machines as an arch-metaphor for objects that lack subjectivity without reducing black bodies into objects; instead, it draws on (or, given how early it appears in the literature, perhaps introduces) the horror of becoming-machine. Here “the Slave” is not just like a machine (simile) or understood to be a machine (metaphor) but is actively and perpetually becoming-machine (performative). The transition is notable as well for the way it draws on and shapes Man’s relation to machines, which are likewise “animated by no hope” (animated instead, presumable, by a water mill or steam engine), likewise bound by no reciprocal interest, likewise acting and guided by the will of another. The contrast between Man and machine here situates “the Slave” as Man degraded into Machine. This framework does nothing to challenge the subject position of mastery, still figuring it as superior to an abject other, but not properly defined in contrast to machines in addition to enslaved humans.

Other examples make use of the machine metaphor in a more conventional sense, such as this excerpt from 1835, in which man is also reduced to machine, this time through usage rather than existential collapse: “Look at the 2,250,000 *immortal beings* used as *property*, as machines for making money” (Anon. 28, emphasis in original).[44] Another example, this one from 1845, make the objectification of the metaphor explicit:

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[44] This entry is signed “W.” and the section is titled “What has the Church to do with Slavery?” in the *Anti-Slavery Record* Vol. 1 for 1835: 28-29.

“He is a mere instrument—a means in the hands of another for the acomplishment [*sic*] of an end in which his own interests are not regarded—a machine moved, not by his own will, but by another’s. In him the lawful distinction between a person and a thing is annihilated” (Clark, Lewis 88). In contrast to the first example, the machine metaphor is used as a static category of comparison, or perhaps hyperbole, but in any event is not as part of the continuum between Man and what Man could become.

An interesting deployment (often credited to Frederick Douglass) in the 1852 collection *Uncle Tom’s Companions* extends the description to slaveowners, through the character of the languid and permissive slaveowner Augustine St. Clair in *Uncle Tom’s Cabin*: “What a graphic portraiture is St. Clair. How like many of those we meet with. A man of great capacity but weak energy—one who might do great things if he could by rouse his soul from the physical torpor which hangs about it—a powerful thinking machine, without the strength to turn thoughts into facts—a human atom among the crowd who float down with the strong current which they have not the current to breast” (193). Here almost every metaphoric resonance is inverted—the machine thinks rather than labors, it describes the white rather than the black man, it is a sign of wasted capacity rather than an unjust exploitation of capacity—but the core remains the same: St. Clair is degraded by his association with the machine. Indeed, much as the institution of slavery can be figured as a reduction-to-machine, this example shows that the same decline can apply to those who benefit from the institution, in a variation on a common abolitionist argument.

The machine-cognitive transit is bridged even more explicitly in an example from 1854 on the role of education (or more precisely the enforced lack thereof) in maintaining slavery: “as for the mind, that was not wanted, so the less said about that the better—let it sleep: machines with minds are apt to have a will of their own, which might run counter to their owner’s will—by no means enlighten that! State laws say you must not do it, so keep the mind in ignorance by all means: do not let the machine suspect that it has one” (Pennington 114). This example is notable for the total poetic conflation of human and machine, for the explicit equivalency it draws between technology and enslaved labor. There are intimations here of the paradox of a thinking machine, which is always-also necessarily the unruly, disobedient, resistant machine.

A more explicit metaphor of machine resistance is broached in the *Memoir of Pierre Toussaint*—no relation to the famous Haitian revolutionary Toussiant L’Ouveture beyond that which “accidentally arises from similarity of name, color, and being born in slavery, and on the same river” (6)—also published in 1854. This memoir, written by Hannah Farnham Sawyer Lee (a white woman and author of numerous other books), is built partly from material in Toussaint’s sister’s diary and partly from her own command of the conventions of pseudo-abolitionist literature. Its depictions of slavery are largely in keeping with the sentimental tradition of *Uncle Tom’s Cabin*, whose popularity probably had some influence over the commission of this book. Against bucolic descriptions of kind slaveowners and well-managed plantations, and the reader’s own knowledge of the imminent revolution, Lee describes the emerging revolutionary situation as an outgrowth of the noble revolution in France, and identifies the source of the conflict on the island, which did not include the enslaved population: “No fears were entertained of the slaves; they were considered as machines in the hands of their masters, and, without principles, wills, or opinions of their own, they were neither dreaded nor suspected; and so the contest seemed to be between the nobility and the free people of color” (12).

Here the equivalency between enslaved populations and machines is drawn out in menacing terms. This description plays on Southern fears of insurrection that had been stoked by the Haitian revolution, linking these fears to the misapplication of machine metaphor. The machine, in this case, is less of an abject category than it appears to be in slave narratives written by formerly enslaved African Americans and Afro-Caribbean authors. Deployments of the machine metaphor are relatively consistent across white and black authored texts, with the machine standing in for the forces of dehumanization writ large. One consistent difference, however, is the nature of what is lost by becoming-machine: slave narratives (especially those written by black authors) routinely figure the transformation as a loss of subjectivity, while the white-authored deployments figure the transformations as a loss of vitality, potency, and mastery. In other words, what for black-authored texts is figured as the loss of very possibility of a meaningful life is, in white-authored texts, merely the loss of sovereignty. This conflation remains an important element for white hegemonic anxieties, as I discuss next chapter.

One of the most notable examples of a slave-machine metaphor appears in the works of Frederick Douglass, whose hugely popular 1845 *Narrative of the Life…* makes no mention of machines, but whose 1855 expanded autobiography, *My Bondage and My Freedom*, includes five instances of the word machine: of these, two are literal, (one describing a windmill, and one in reference to a washing-machine), one is both figurative and positive (describing the smooth workings of a New Bedford port, far preferable to the coarse ports worked by enslaved men in the south); while the final two are figurative and negative. The first of these situates slavery and machines as synonymous, as Douglass talks of "The possibility of ever becoming anything but an abject slave, a mere machine in the hands of an owner" (301). The second appears in a passage extracted from an 1850 lecture, making use of the same alliteration: "Its [slavery's] first aim is to destroy all sense of high moral and religious responsibility. It reduces man to a mere machine" (431). It is this alliterative phrase that emerges as the conventional, clichéd expression of the machine metaphor in nineteenth century America.[45]

By 1892, his further expanded *Life and Times of Frederick Douglass* contains ten instances of the word machine, repeating his earlier uses and offering one interesting variation where he compares the (now nominally free) labor of African Americans with machines in a more positive sense: "Machinery may continue to do, as it has done, much of the work of the North, but the work of the South requires for its performance bone, sinew and muscle of the strongest and most enduring kind" (525). His comparison, perhaps trafficking in the same terrain as the myth of John Henry, equates black labor and machine labor. The expansion of this specific metaphorical trope is interesting, as it suggests an expanding circulation of machine metaphors for slavery as machine culture grew in influence. The inconsistent deployment—negative here, positive there, neutral in still other places—is representative of the machine metaphor across nineteenth century slave narratives.

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[45] See, for instance, Israel Campbell's 1861 *An Autobiography. Bond and Free…* ("a mere machine" [283]) and John Relly Beard's *The Life of Toussaint L'Ouverture, the Negro Patriot of Hayti, etc.* ("a mere labouring machine" [18].)

Perhaps the most significant nineteenth century example, in terms of present day canonicity, is Harriet Jacobs' description of the condition of slavery in *Incidents in the Life of a Slave-Girl*: "These God-breathing machines are no more, in the sight of their masters, than the cotton they plant, or the horses they tend" (16). This passage is noted by Amandine Faucheux and Isiah Lavender III for its resonances with cyborg theory, in what they call a "strange and prescient cyborg metaphor" that "creates a point of convergence" between black culture and technology (34). They read this moment as a sort of "technological trickster" (34)—a place in the text where Jacobs utilizes the metaphoric resonances of a machine metaphor to trouble naturalistic distinctions between categories of being. Read in a broader context of nineteenth century deployments of the machine metaphor, this moment is less strange or prescient, less point of convergence than an especially poetic deployment, playing on the logic of U.S. conceptions of technology that is always-already entangled in the history of slavery. Jacobs' deployment is notable for its effectiveness and originality, but this is in keeping with the high literary status generally afforded to her narrative, as she takes what was becoming (or maybe had become) a cliché and transforms it into art, breaking the cliché open to get at the raw power inside. What seems precocity in isolation becomes, in context, an especially successful iteration of the themes that later reappear in the literature of and around science fiction.

Delusions of Mastery

In short, the pastoral, which for Marx operates as a kind of mythic counterweight to the march of technological progress, is not in the end opposed to technology. In fact, what the recognition of Greek (and Jeffersonian) slavery does is show us that the pastoral modes that emerge in each tradition have the function of obscuring the ways in which leisure is founded on the back of exploitation, a way to deny one's dependence on something outside of one's control. The pastoral, especially in the south, explicit does this work, diminishing the horrific costs of slavery by focusing on the "traditional" and "genteel" life it enables for white southerners. It can do the same for machines.

Taking the machine in the garden to be allegorically linked to black bodies, its irruption stands less as a threat of the destruction of the garden than as an exposure of the state of the garden, the condition of the garden's possibility. The constant irruptions of blackness in ante-bellum American Literature that Toni Morrison argues are a crucial element in most canonical American literature function much the same way that the irruptions of technology, industry, civilization do in Marx's analysis. In this way, I think that Marx is fundamentally correct in what he identifies; his evasion of blackness in general and slavery in particular, then, speaks to an aporia of an almost Derridean type: he does not speak of slavery because he cannot but speak of slavery.

He's not alone. By way of an example: John Kasson, in *Civilizing the Machine*, argues (somewhat contra Marx) that what Jefferson really embraces is a sort of technologized pastoral, as "he was not only delighted in the use of various mechanical contrivances and labor-saving machines around his house and farm at Monticello … but

… was an enthusiastic plantation manufacturer as well … [returning to Monticello in 1794] to become not only a farmer but a nail maker" (24). Let us pause to acknowledge that Jefferson was a nail maker in precisely the same way he was a farmer: that is, not one, but the owner of some who were. Jefferson's own letters on the matter perform what is by now a familiar evasion, speaking of one machine which "may be worked by a girl of twelve years old," and another that will produce enough cotton to clothe his family for a year when "worked by two women and two girls" (qtd. on 25). Everything from the passive construction ("be worked by") to the elision of the status of "women" and "girls" contributes to the delusion of mastery.

This delusion, which is as real in its effects as any Newtonian law of nature, is the ultimate aim of the simple pastoral in American fiction, and its interrogation is the effect of the complex pastoral. The American pastoral is the privileged space of affluent white men (and slightly less privileged space of affluent white women), something Leo Marx (perhaps unwittingly?) explains in a reflection on the status of pastoralism in American Studies:

> All of these new developments suggest the need for a serious reconsideration of pastoralism. We need to look at this collective mentality in both its synchronic form, as an ancient and recurrent response to the more or less steadily increasing power and complexity of organized society, and in its diachronic form, as it has been adapted to the distinctive character of advanced industrial society in the United States. In what follows I shall argue that pastoralism, so far from being an anachronism in the era of high technology, may be particularly well suited to the ideological needs of a large, educated, relatively affluent, mobile, yet morally and spiritually troubled segment of the white middle class. ("Pastoralism" 40)

The privileged folks for whom pastoralism is particularly well suited are those best situated to benefit from invisible labor. The pervasive links between pastoralism and

Thomas Jefferson (as pervasive as the links between Thomas Jefferson and an American articulation of freedom) underline the subject position necessary for the ideological absenting of labor. And it is this, finally, that connects the early American context of Marx's study to the later context of the posthuman.

There's a moment in Katherine Hayles' *How We Became Posthuman* where she drifts away from her central foci—how information lost its body, how the cyborg was created as a technological artifact and cultural icon, and how the human is giving way to a different construction called the posthuman (2)—and into something like a subjective meditation. This happens as she reflects on the materiality of her own archival work, finding herself drawn to the elusive figure of Janet Freed, "an assistant to the conference program" and the person principally tasked with "turning these men's (and a couple women's) words into type" (81). She finds significance in the misspelling of Freed's name in a multiply-mislabeled photo (where she's listed as "Janet Freud"), and then moves into a more general interrogation of the politics of cybernetics:

> What are we to make of Janet F. … ? Thinking of her, I am reminded of Dorothy Smith's suggestion that men of a certain class are prone to decontextualization and reification because they are in a position to command the labors of others. "Take a letter, Miss Freed," he says. Miss Freed comes in. She gets a lovely smile. The man speaks, and she writes on her stenography pad (or perhaps on her stenography typewriter). The man leaves. He has a plane to catch, a meeting to attend. When he returns, the letter is on his desk, awaiting his signature. From his point of view, what has happened? He speaks, giving commands or dictating words, and things happen. A woman comes in, marks are inscribed onto paper, letters appear, conferences are arranged, books are published. Taken out of context, his words fly, by themselves, into books. The full burden of the labor that makes these things happen is for him only an abstraction, a resource diverted from other possible uses, because he is not the one performing the labor. (82-83)

This interlude is notable for its specificity and evocativeness, for its clever use of the passive erasure (last seen in Jefferson, above), and for the deconstruction thereof. But it also offers a provisional answer to one of the unstated issues in *How We Became Posthuman*, namely: *why* did information lose its body?

Hayles is very clear in her history as to *how* information became theorized as independent of any material substrate, but the intellectual forces leading to this shift are left largely outside the scope of her study. Approaching this history in the light of Wynter's intervention in the history of the human, it becomes clear that the transformations of epistemology and even ontology that systems theory and information science represent were less cause than effect of a transformation of the human. As noted in the introduction, Norbert Wiener named the emerging scientific field "cybernetics," after "the Greek word *kubernetes*, or 'steersman,' the same Greek word from which we eventually derive our word 'governor'" (15). This metaphor indexes the intellectual shift that imagines power as the ability to direct large forces with small commands and suggests that the science(s) that constituted cybernetics emerged from a genre of human that likewise privileged an abstracted command with material effects. In the early U.S. context, I propose, that genre's privileged form was called the husbandman.

The husbandman, a favored term of Jefferson's to refer to the noble farmer of his pastoral ideal, is explicitly (etymologically) the master of his household, and in these texts does more work than merely indexing the profession of farmer. A husbandman is the patriarchal center of a network of labor, one which sometimes extended (at least in the polite fictions used to excuse slavery) to a man's enslaved laborers. The husbandman is not self-sufficient, in other word, through purely his own means; but, it is his exertion, his labor (increasingly understood as cerebral, managerial) which comes to count as the "real work" that all the other, non-Man (with a capital M) bodies simply enact. Poe's "Man That Was Used Up" offers a burlesque of this man, but those anxieties begin to fall away from technological tales after the Civil War.

Other founding fathers echoed the valuable potential of Jefferson's new revenue streams that could employ "women, children, and others, without taking one really necessary hand from tilling the earth" (in the words of George Washington), generally without specifying from whence these women, children, and others may come. Alexander Hamilton seems to be one of the few founding fathers to be explicit about the source of this "extra" labor, noting in his 1791 *Report on Manufactures* that "The husbandman himself … experiences a new source of profit and support, from the increased industry of his wife and daughters, invited and stimulated by the demands of the neighboring manufactories." The assumption, in Hamilton, that this extra labor comes from within a family unit, is contradicted by the sheer volume of people employed in, say, Jefferson's home factory, though it is interesting to note the convergence of a "traditional" family system (organized around the patriarch) and the enslaved labor networks (organized around the master). More important, however, is the implication in Hamilton that the husbandman's "wife and daughters" are resources to be directed—the pastoral imperative to occlude the labor of slaves is related to the patriarchal imperative to structure the family (and by extension, society) around the proper male subject.[46] Though my study is less focused on gender, I want to note that the development of this ideology of "white magic" over perverse things unfolds almost exclusively in the realm of cultural products aimed at men or boys.

The machine is opposed to the pastoral in the same way that slavery (which, in the trans-Atlantic context, comes to stand alongside blackness) is opposed to the pastoral. Southern apologists did not oppose industrialization because it threatened their peculiar institution, but because the embrace of machines would lead to an embrace of blackness. Huck and Jim can't reside forever in their drifting pastoral marronage because Jim is black, and the realities of acknowledging that destroy the ideal. So why do this? Why spend so much cultural effort on an act of impossible repression? To answer in the key of Alpers, the answer has to do with identity construction. The machine metaphor, opposed to the garden and otherwise, forges an early and persistent connection between whiteness and mastery of machines—the fantasy of the shepherd peacefully living with all needs met "by nature" merges, in the American context, with the idealization of the husbandman as self-sufficient, moral, and generally the ideal figure to constitute the new country.

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[46] This, it should be noted, goes back to Aristotle, who likewise considered women and children as household dependents, just like slaves; thus, the only real "person" was the male head of household, at least in the narrow, civic meaning that seems to have pertained in classical times. Notably, people could move in and out of this category (as they were subject to punitive enslavement or freed for good service; as they grew from boys to men; etc.), a legal understanding of person that the biological grounding discussed in the introduction would preclude.

Chapter 2 – Racializing Prosthetics, or, Blackness and the Edisonade

When Zadoc Dederick unveiled his Steam Man to the crowds in Newark, New Jersey, it is unlikely he knew the role he was playing in the founding of a new genre. The exhibition, which later went on tour to New York and elsewhere, must be counted a practical failure, since there is no evidence that any devices beyond the prototype where ever manufactured—indeed, it is unclear whether the prototype ever really worked at all. Some accounts of the device suggest that it only ran while in a harness, lifted from the ground.[47] It was brought to Broadway in New York City around March 21st, 1868 occupying the "rooms in the opposite house" from the ashes of what had, until recently, been P.T. Barnum's American Museum.

The case of the Newark Steam Man offers an interesting insight into a moment when science, fiction, technology, and imagination were beginning to enter into a new formal relationship, a point of inflection where (as discussed in the introduction) the slow emergence of something like photography, whose material conditions of possibility had been reached decades prior to the first working prototype, shifted towards the insistent development process of speculative technoculture, where desire often far outstripped material possibility. Its material failings aside, as a speculative endeavor the Steam Man must be counted as a rousing success. Its conflation of engineering and human labor would spark the imagination of one of the most successful authors in mid-nineteenth century America: Edward Ellis, whose dime novel *Steam Man of the Prairies* would come to inspire a flood of imitations. These books, in turn formed the first coherent sf tradition in American literature.

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[47] As a semi-credulous reporter put it: "It was the original intention of Mr. Dederick to have exhibited the steam man to-day in full running motion, but this he says would not be permitted by the insurance company. He says that he can easily accomplish a mile in two minutes on a level course, and offers to test this on Long Island Course as soon as the weather gets fine." There is no indication that Dederick ever made good on this boast. Report excerpted by the *Saturday Evening Post* from the *New York Express* on March 21, 1868, and quoted here: https://www.saturdayeveningpost.com/2016/03/the-steam-powered-robot-of-1868/

It is often noted that this tradition forms something of a repressed branch of the genre, as the stories' formulaic mass-market appeal often play to the lowest common reader, with little effort spent on overarching coherence, character growth, or novel world building. The tradition lives on in the space opera and adventure-tale flavors of pulp (and later) sf, and such stories are accorded less prestige, rarely appearing in any "best of" anthologies despite their tremendous (initial) popularity. It is also often noted that stories are as violent, racist, and imperialistic as anything else written in the nineteenth century. What is less often acknowledged is the way these two features intertwine to form the racial background of sf. In this chapter, I examine a few of these early stories to explicate their racial politics, and gesture towards the ways this politics gets reproduced (and passes unacknowledged) into much later texts.

The core of my argument is that much like the rest of country following the Civil War, the dime-novel boy's stories were shaped by the existential crisis that was slavery and its formal dissolution. The compromises that ended the Reconstruction and ushered in an era of racial violence and new regimes of formalized discrimination effectively secured white supremacy against the loss of its constitutive Other: the enslaved African. At the same time, the technological trends identified by Leo Marx (and elaborated on by scholars like Mark Seltzer) continued apace, likewise threatening to displace traditional facets of identity and diminish the delusions of mastery and self-sufficiency characteristic of hegemonic whiteness. The Steam Man, material and fictional version alike, appears at the nexus of these two crises, and works to contain the threat to identity—a specifically white, male, hegemonic identity, though one that many "genres" of people could be invested in.

In the context of post-emancipation American whiteness, issues of agency come to the fore. In the latter nineteenth century, Mark Seltzer sees a growing trend of juxtapositions between bodies and machines, a piece of "how the uncertain status of the principle of locomotion precipitates the melodramas of uncertain agency and also what amounts to an erotics of uncertain agency" (17-18)—an especially relevant concern given the Steam Man's locomotive *raison d'être*. This uncertain agency precipitates a crisis in American masculinity in the late nineteenth century, but it has roots stretching back at least to the Luddite movements of the early nineteenth century. In the American imaginary, this crisis was contained (at least potentially) through both the institution of slavery and the reality of the frontier. Slavery allowed former debtors to become like kings with vassals bound to their wills or, in other words, worked as a backwards-facing solution to the crisis of modernity. The frontier, with its attendant myth of progressive self-determination, also mirrored the modes of sovereignty of old Europe, this time emphasizing land-ownership as a basis for power. Ellis's story suggests lighting out to the frontier as a strategy for managing the crisis of the Reconstruction, one suggested as well by the proliferation of Westerns at the time.

Bill Brown offers a brief reading of *The Steam Man of the Prairies* that gestures at the way Ellis imagined his creation in the context of a newly reformed empire-nation. For Brown, Ellis's story circulates alongside other, later narratives of imperial labor figured as prosthetic enhancements, a focus that leads him to argue that the most important aspect of Ellis's novel is "the way the novel responds not, for instance, to the loss of slave labor, but to the notorious loss of limbs suffered by Civil War soldiers" ("Science Fiction" 132). In the context of America's accelerating settler-colonial policies, the Steam Man functions as a prosthetic for the bodies broken by the Civil War, speculatively enabling those damaged by the war to reclaim what was seen as America's destiny. While for Brown the Steam Man's blackness indexes some anxieties about racial strife—"in its occasional moments of breakdown, a kind of technological frenzy, the Steam Man may be said to embody the threat of the slave's (or the recently freed slaves') violent recalcitrance" ("Science Fiction" 131)—in the context of Dederick's patent and later iterations of the Steam Man trope, the implicit race of the this machine takes on greater importance.

Clearly, the Steam Man functions as a prosthetic enhancement for its creator, but as we saw with Poe's "The Man That Was Used Up" in Chapter 1, prosthetics and race are not separate issues in American culture. Unlike actual Civil War era prosthetics, and unlike the prosthetics in Poe's story, the Steam Man represents an idealized prosthetic enhancement for men (or a nation) injured by war; it is not, in other words, merely a corrective. Conflating blackness, invention, and prosthetics, the *Steam Man of the Prairie* reforms what counts as valid white masculinity, extending the white inventor's powers through a device of his own making. In this sense, the machine does not just passively represent a recently freed slave labor force—one that was prone to moments of unruly disobedience, and in need of careful white control—as Brown contends. Rather, the Steam Man scripts a transitional moment in the politics of labor and mastery, a new mode of control which could operate independently of the legal ownership of racial Others, though figured in terms that strongly recall what it seems to push past. In other words, the making of technical mastery as a late nineteenth century value of white masculinity depended on the racialization of the machine as black.

This process is embedded in the journey of *The Steam Man of the Prairie*'s hero, Johnny Brainerd, the young, disabled inventor of the Steam Man. Johnny is described as a "deformed boy" (15), "hump-backed, dwarfed, but with an amiable disposition" (18), and only his ability to manage his mechanical "monster with rare skill" (16) opens up the prairies to him. Shortly after inventing the Steam Man, Johnny meets "Baldy" Bicknell—so called because he has been scalped by Indians[48]—who sees in Johnny's Steam Man an opportunity. "Baldy" summons up a couple of his ethnically stereotyped friends: a Yankee, blandly drawn, and an Irishman drawn in a deeply prejudicial manner (constantly draining bottles of whiskey, picking fights, and longing for a future back in Ireland with as many children as he can afford, etc.). Together, this group ships the Steam

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[48] As I noted in my introduction, I use "Indian" here advisedly, in part because it is how these novels routinely describe the Native antagonists, but also to index the way these stories engage with native culture. The flattening of native cultures and people into the generic category of "Indian" is one part of the genocidal attitude that Americans (especially white Americans) and their government maintained with respect to Indigenous peoples in the U.S. This flattening was performed and embellished in Westerns of all variety, including and especially in the edisonades under consideration here.

Man to the very edges of civilization (somewhere in Missouri), and once there, reassemble the device and set off for an untapped gold reserve deep in Indian Territory.

These characters represent something of the variety of white perspectives which circulated in the US after the Civil War: the Yankee can stand in for the Union; the Irishman a then-extant ethnic “other” that would, eventually, be figured as white; and “Baldy” represents a figure of the danger and romance of Westward expansion. Johnny, in his semi-disabled state, offers an especially overdetermined character: he can stand for the defeated southern confederates, injured but ready to mature with the help instrumentalized labor; or (given his youth) he may make more sense as a figure of American futurity, injured through no fault of his own and as such potentially held back from his rightful place; or his deformed figure could parallel a deformed/damaged/threatened white masculine identity. In each case, Johnny (and the identities he embodies) need to rely on external power—slaves and/or machine/ In part, the plot of this story works through the trauma of the Civil War, especially as it relates to the American project. In a war where brother fought brother, the former racial unity which undergirded white American identity was damaged.

If, as Bill Brown notes, the Steam Man functions both as a racial figure of near-perfectly exploitable labor and as a prosthetic extension for a boy whose physical body is compromised, then we can read its deployment here as not just correcting a specific physical deformity, but as an attempt to reconcile some cultural or ideological “deformities” as well. The diversity of characters is belied by the absence of any black characters (expect as displaced onto the non-speaking object, the Steam Man), and suggests that, to the extent this quickly produced novel can be said to have a politics, it works to reunify disparate white perspectives around Westward expansion. This is particularly important given tension between a relentless Westward expansion and the volatile political balance between existing slave and non-slave states. In this way, the disastrous consequences of westward expansion cast a shadow over what had been seen as America's destiny; texts like *The Steam Man of the Prairies* work to make this narrative manifest once again.

We learn early in the narrative that Johnny's father was killed by a steam-engine explosion some five years prior to the novel's beginning. If we take the 1868 publication date as the date for the narrative, then Johnny's father would have died in an explosion in 1863, or right in the middle of the Civil War. This can be read as an analogic reworking of the Civil War: the violent death of Johnny's father is not the result of open warfare, as one might expect given the circumstances (and as might be a familiar reality among the boys Ellis taught) but is rather the result of some technical failure. Johnny succeeds where his father failed and does so despite his youth and deformity. His encounter with "Baldy" fuels his desire to escape peaceful domesticity, conforming to the trend immortalized in Leslie Fiedler's *Love and Death In the American Novel*, though Ellis, like later edisonade authors, spends little time worrying about the escape, dwelling rather on the adventures and successes that follow.

Johnny and his team meet with success thanks largely to his preternatural skill with machines; in all other ways he is a naïf. Although he does operate the Steam Man, Johnny is more of an observer than a participant, following the lead (or orders) of

"Baldy." As the narrative progresses, Johnny does manage to grow into a more traditional masculine role. Late in the narrative, for instance, he briefly leaves the other men (who, as full-grown and able-bodied, are busy doing the actual work of mining the gold) in search of water for the Steam Man. At one point, he exits his Steam Man only to be trapped in a tree by an especially confrontational bear. After much waiting and worrying, Johnny succeeds in shooting the bear dead, all without the help of his Steam Man. When he returns, he discovers that in his absence (or more precisely, in the unexpectedly long absence of his Steam Man), his friends have fallen under a sustained attack by the local Indians, and Johnny must rescue them with the help of his Steam Man.

In other words, his device enables Johnny to head out West for fun and profit, while its overwhelming technological superiority allows Baldy and associates to extract wealth in otherwise forbidding territory, but even though this device is crucial to their survival, it is no more effective than its operator, failing in concert with its operator, usually as needed by the demands of the plot. Besides his ill-advised adventure with the bear, Johnny also barely manages not to send his Steam Man careening off a precipice, runs out of fuel and water, and narrowly avoids being captured by a rival prospector. The narrative forms an uneasy sort of bildungsroman, tracking the young man's growth and return, but linking these explicitly to a static technological prowess, naturalizing this prowess in the process.[49]

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[49] This theme is hardly restricted to trashy boy's stories. The reliance of (white) men on Western technologies and superior knowledge is a well-worn trope in colonial adventure fiction. A text like H. Rider Haggard's *King Solomon's Mines*, to pick but one example, turns on the expeditionary force's ability to parlay their unfamiliar technology (guns, in particular) into dominance, to exploit a sort of knowledge

As the bear-killin' episode shows, Johnny's adventures also endow him with more traditional masculine traits, but the lesson is ambiguous: he defeats the bear, but the moral he seems to have learned was not to leave the source of his power behind. Even this lesson is challenged when Johnny steers them into a "narrow valley" which ends in a blind alleyway on their way back to civilization; although the Steam Man is a marvel in any number of ways, he is unable to ascend the steep sides of the valley, and as night falls, the party decides to turn the Steam Man around and backtrack in the morning. Johnny gets to stand guard for the very first time, and he soon falls asleep. In the night, Indians discover the camp, and roll boulders in the way of the party to block any escape. When Baldy wakes up and notices the dilemma, he assumes that they are as good as dead; even with his long experience on the prairie he can think of no way out: "It was the tightest fix in which he had ever been caught, and his mind, fertile as it was in expedients such as crises, could see no way to meet the danger" (23). Eventually, inevitably, Johnny concocts an escape, turning his Steam Man in to a walking bomb. This the analogical reworking from the story's opening—casting Johnny's father as the victim of a steam engine explosion is brought to a sort of positive closure. The explosion now ensures the safety (and profit) of himself and his compatriots, all of whom manage to escape with the

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arbitrage. On the American side, the time-travelling protagonist of Mark Twain's *A Connecticut Yankee in King Arthur's Court* does much the same thing, though without anything but his advanced knowledge (colonizing the subjects of the author and protagonists' British ancestry in the process…). In a more speculative vein, the Martians in H.G. Wells's *War of the Worlds* have attenuated bodies and hypertrophied heads and are dominant thanks to their superior mechanical creatures (though also entirely dependent on the same, forming something of a critique of this mode of power).

gold they got from the mines. The Steam Man enables the adventure, but its destruction – the white party's willingness to throw it away – enables their successful conclusion.

Put schematically, Ellis offers a rough sketch of one way to deal with the rupture of the Civil War: white solidarity (across ethnic lines), enabling the expropriation of wealth from Indian territory (and the rampant but apparently unproblematic destruction of Indians in said territory), all enabled by a silent, black, disposable mechanical partner. Despite its fantastic origins, this structure broadly describes the reality of American Westward expansion through the late nineteenth century, as white civilization progressively moved into "untamed" spaces, displacing native populations and extracting wealth along the way, all with the aid of an ever-accelerating series of technological advancements. The black, mechanical Steam Man literalizes a philosophical conflation between black bodies and instrumentalized labor, and its maker is established as the director of this labor. It inaugurates a radical aesthetic of whiteness by conflating the director of labor with the position of slave-master.

Birth of a Genre

The Steam Man of the Prairies unwittingly established a series of conventions that would eventually become generalized in a genre retroactive dubbed "edisonade." Mostly set beyond the frontier—initially the U.S. Western frontier, later expanding to more exotic locales—these books rehearse the conquest of the West in exhaustive, repetitive detail. The Steam Man explicitly links the history of sf in the United States and the history of the Western as a US genre. The irruption of technology into the Western lends this technology—and more particularly, the cultural imaginary borne of this technological imaginary—with what Bill Brown calls: "its 'mythology effect' – with the *presumption* that the West already exists as shared knowledge, with an absence of detail that insists on familiarity" (*Reading* 33, emphasis in original). While the insistent familiarity of the Western might seem out of place in sf texts (which are, for scholars like Darko Suvin, defined by their *de*familiarizing effects), this effect is an important and often underacknowledged facet of the genre.

New printing technologies, alongside newly developed paper manufacturing technologies, allowed for the mass publication of texts at a rate and volume never before achieved, giving rise to one of the first modern mass media forms. These stories were designed as perishable, consumable goods, and were frequently passed around (especially among boys and young men), all features designed to cater to a mass readership, itself an artifact of rapidly increasing literacy in the US in the nineteenth century—in this way the very form of the *Steam Man of the Prairies* was a sort of technological marvel. The earliest dime novel publications were distinguished from the familiar magazines and periodicals of the time by their size (many early versions were pocket-sized, for easy carrying) and by their content, which featured an entire narrative, rather than multiple stories in serialized extracts.

This narrative cohesion lent itself to a different sort of formulaic writing, one often written on the covers of the stories themselves. Mass printable woodcuts and carefully advertised printing-house branding made the stories legible as commodities. Previously, most novels written for serialization in magazines often fell into four-chapter arcs, ending on cliff-hangers and printed with staggered beginnings and ending (so that a reader, compelled to finish one story, would start another in the same issue, thus compelling them to buy the next issue, and so on *ad infinitum*). In contrast, dime novels featured just one complete narrative, with all the closure that implies. This led to a new sort of serialization, one built around familiar characters, settings, and tropes—or, in a word, around brands.

When Ellis wrote his *Steam Man of the Prairies* in 1868, he was already an established bestseller. His first novel *Seth Jones; or, The Captives of the Frontier*, published when he was just nineteen, sold more than a half million copies, and was translated into 11 languages (Brown *Reading* 165). This initial foray was successful in part because of the writing (which was accessible and clear-cut), in part because of its low price point, and in part because of a large and successful marketing scheme: "Soon after the book was purchased [by the publishers], posters started showing up with the question 'Who is Seth Jones?'" (quoted in Brown *Reading* 27). The advertising campaign was a success, and the run-away success of *Seth Jones* helped to establish the dime (and later, half-dime) novel "as a profitable business" (Brown *Reading* 165), and cemented the young Ellis as a popular, reliable dime novel author. Ellis soon signed a contract to produce four novels a year, a pace he exceeded several times over in later years, as he ultimately wrote and published hundreds of books under both his own name and a variety of pseudonyms.

Ellis was also an educator. Reaching the position of vice-principle while still a teenager, he is described as "a teacher who enjoyed a legendary popularity with his students” (Brown *Reading* 165), a trait which seems to have made him especially attuned to the interests of what would become the dime-novel’s principal audience: adolescent boys.[50] He maintained a life-long interest in shaping American cultural values, publishing not just innumerable dime novels (mostly though not exclusively Westerns), but also a staggeringly long list historical, biographical, and scientific textbook series; his biography of Thomas Jefferson was actually a standard text well into the 1950s. While *The Steam Man of the Prairies* seems to have been his only foray into proto-sf—there is some speculation in Brown and other sources that he planned to write future installments, though none are known—it was written at an auspicious moment, connecting and formalizing racial and technocultural currents that were in the air in 1868, and putting this in a form ripe for massification, both materially and culturally.

Not only were dime novels printed and purchased in bulk, but their more popular and distinctive titles were often reprinted, often in slightly variant forms. *The Steam Man of the Prairies*, for instance, was initially printed in 1868 as the 45th issue of Beadle and Adams’s “American Novels” series. This “book” is bound much like a pamphlet or chapbook and has relatively small dimensions, allowing it to easily fit in a pocket. It was reprinted numerous times (starting in 1876 and continuing well into the 20th century) as part of the “Beadle’s Half-Dime Library” (these were printed in a broad, newspaper-like format, cheaper to produce but harder to carry in your pocket). It was reprinted in 1885 (with a colorized cover) in the inaccurately-titled “New Dime Novels” series. It was reprinted in Britain in 1894 (called “The Iron Hunter or The Steam Man of The Plains,” but featuring a color version of the original cover) by the Aldine Boy’s First-Rate Pocket Library.[51] Despite its many reprints, the novel never reached its full potential—that would have to wait for other printing houses who didn’t have the pull of Ellis’s name but did have the ability to vicariously capitalize on his success.

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[50] As J. Randolph Cox notes, “There have been few studies of the readership of dime novels,” though he does extract some meaningful inferences from “the advertising and contemporary press reception” of the earliest Beadle books, as well as from the “advertising for other titles and series on the publications themselves” (xx-xxi). Based on these inferences, he notes that while dime books initially appealed to “literate adults . . . in time the general level of readership shifted to boys ages eight to 16 years old.” We can also infer, from the technologies that enabled the dime-book boom—“Railways which linked the farthest regions of the continent made an effective distribution system possible and helped create companies whose purpose was to get as many publications to as many stores in as many cities as possible” (Cox, xx-xxi)—that these stories would have been available across the country, wherever there was a railway nearby.

These copycat stories followed in the wake of an 1876 reprint, which coincided (presumably on purpose) with the 1876 Chicago World’s Fair. A rival publishing house, Frank Tousey, borrowed the idea and published their remixed version in the “Boys of New York: A Paper for Young Americans” series. This story, titled *The Steam Man of the Plains; or, The Terror of the West* and credited to Harry Enton (pen name of Harold Cohen), and was the first of many stories featuring Frank Reade, the inventor of their Steam Man. The Tousey house made good on the promise of future issues as well, publishing numerous adventures with the Steam Man, with Steam Horses, a Steam Team (of horses), and so on, eventually spinning the series off into the hugely prolific Frank

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[51] Lovece, Joseph. *Dime Novel Robots, 1868-1899: An Illustrated History and Bibliography*. Self-published / through Amazon by Joseph Lovece. 2015. 44-127. Print. This source is a fan-made compendium, with some doubtful (or at least, unsourced) claims, but numerous delightful images of dime novel covers, which are my principle source for these reprints, though I have tried to verify everything against the primary archival source (principally the USF and NIU dime novel digitization collections).

Reade, Jr. series. That series, credited to the house pseudonym "Noname" but mostly written by Luis Senarens, began its run with *Frank Reade, Jr. and His Steam Wonder* in 1882, and soon included a Steam Man story of its own: *Frank Reade, Jr., and His New Steam Man; or, the Young Inventor's Trip to the Far West*.[52] These stories were collected and expanded starting in 1892 in the *Frank Reade Library*, which ran for 192 issues and is described as the "earliest serial publication devoted solely to sf" by the *Encyclopedia of Science Fiction* ("Frank Reade Library").

As the publication titles might suggest—especially "Boy of New York: A Paper for Young Americans"—these stories circulated as a piece of what Mark Seltzer calls "the mass literature of boyhood, adolescence, and the making of men" (4), and form an oft-unacknowledged branch of science fiction's genealogy. Inasmuch as genres can be thought of as marketing phenomena, the creation of a new market requires a strong dose of the familiar, a sort of thematic skeuomorph. Ellis's tale offers an initial idea couched in the familiar terms of the Western and was published in a visible and widely consumed venue. It inspired imitators who copied those elements that seemed to (or were thought to) attract an audience. Over time, this skeuomorphic genre evolves, and to the extent that this process is successful, these copied elements begin to transcend the particular texts in which they are deployed to become something of a shared imaginary, a communal site of narrative resources and audience expectation. Intense production quotas and the ever-present profit-drive apply the necessary heat and pressure to forge this imaginary into a fully-fledged genre.

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[52] Though this series started in 1892, many of its early stories were reprints, including *Frank Reade, Jr., and His New Steam Man; or, the Young Inventor's Trip to the Far West* (Senarens 1892). It is not clear when this particular story was first printed, though the first *Frank Reade, Jr.* story (*Frank Reade, Jr. and His Steam Wonder*) was originally published in 1882. Textual clues are difficult to parse as these stories exhibit only limited continuity, but the first Steam Man story for the *Jr.* series seems to have been published soon after the *Steam Wonder*, perhaps as a nostalgic gesture. In any event, it was selected as the first entry of the *Frank Reade Library*, and so functions, much like the first *Frank Reade* story, as an introduction to these characters through the lens of the Steam Man.

For his part, Ellis did not explicitly participate in the development of a genre, nor write a story especially for boys. But his isolated story, combined with the social pressures of the time, produced an exemplary popular response to what Seltzer calls "disciplinary individualism and machine culture" (5)—that is, a popular response to life in the machine age, written by a teacher, and (judging from its various publication venues) avidly consumed by boys and young men. Ellis's particular genius does not have much to do with aesthetics, irony, of other typically literary superlatives, but it goes beyond a preternatural ability to churn out words. His story taps into a deep current of American masculine culture, one enraptured by the ideal of the self-made-man.

When Ellis published his lone Steam Man story, it started something that John Clute and Peter Nicholls would later dub the "edisonade" in the 1993 edition of their *Encyclopedia of Science Fiction*. The term was created as an analogue to "robinsonade," an eponymous term describing the many desert-island stories which sprung up in the wake of Defoe's *Robinson Crusoe*. Unlike robinsonades, however, edisonades are not derivative of a particular canonical text, nor is John Clute's term as normative as robinsonade. Rather, edisonade derives its name from the stories' depictions of heroic inventors, much in the vein of popular public persona of Thomas Alva Edison. As Brown notes: "The success of the Frank Reade novels coincided with the national celebrity of

Thomas Alva Edison (1847-1931), who established his ‘invention factory’ in Menlo Park, New Jersey, in 1876, invented the phonograph in 1877, and instantly became American’s favorite ‘wizard’” (360). Edison cultivated an image of himself as the inventor extraordinaire, a consummate tinkerer, brilliant machinist, and generally all-American genius. Edisonade tales circulate around male protagonists who are, in turn, singularly gifted inventors, tinkerers, and machinists. These characters regularly invent something, take said invention out over the frontier, get into scrapes, and make it out again in one piece. They are tales of an individual’s self-improvement through the careful mastery of machines. This expertise is not simply competent tool-use, though that is implied, but a larger process of developing expertise in the design and application of new technologies—Horatio Alger for the engineering set.

Ultimately, these stories mediate the developing relationship between racial, scientific, and technological discourses in the United States following the Civil War. Ellis’s tale marks a moment when, in the wake of emancipation and the early promises of Reconstruction, the former economic base built on enslaved labor slowly transformed into what became nominally-free forms of wage labor, supplemented by an increasing adoption of mechanical labor. The edisonade stories and related cultural artifacts index a shift happening across the country as old forms of mastery, structured by the institution of chattel slavery, were co-opted by and transformed into new narratives of mastery over machines. In these edisonades, the relationship between mastery and labor, once embedded in the paired white/black and master/slave dichotomies, is displaced onto machines. Put simply, in these edisonades, machines have a race.

Technological Blackness

Blackness and technology were already conflated, especially in the realm of popular culture, prior to 1868. Joice Heth, P.T. Barnum's first success as a showman, represents one early conflation. Heth—black, disabled, and enslaved—was either purchased, rented, or otherwise secured by Barnum in 1835. Barnum notes her striking appearance in his autobiography, commenting that "she looked as if she might have been far older than her age as advertised" (quoted in Chude-Sokei 2016, 22), an appearance that he used to his full advantage, promoting her as a human artifact, as George Washington's mammy. Heth's enslaved body is broadly understood to be the foundation on which Barnum built his career as a showman. As Louis Chude-Sokei describes it, "[s]he was his introduction into an American public life that he irrevocably changed and a media culture that some argue—including him—he essentially invented" (22). On this point, Chude-Sokei agrees with most accounts of Barnum's rise, but he pushes the "origin moment" from the first meeting between Heth and Barnum to some four months later, when Barnum placed Heth alongside another curiosity: the Mechanical Turk. The Turk was purportedly an entirely mechanical device that could play chess at a fairly high level. Almost certainly operating by some diminutive chess prodigy or professional, this device has a long history of challenging Western assumptions or the distinction between mechanical and human.[53]

Chude-Sokei favors this moment for his origin because of what followed: Barnum, facing declining attendance, either had a story planted in a local newspaper, or planted it himself, claiming that Heth was not in fact human, but rather an automaton cleverly disguised as a human. “The exhibitor is a ventriloquist,” the notice read, “and all conversations apparently held with the ancient lady are purely imaginary, so far as she is concerned, for the answers and incidents purporting to be given and related by her are merely the ventriloquized voice of the exhibitor” (quoted in Chude-Sokei 24). For Chude-Sokei, this invocation of ventriloquism is crucial, because it links the supposedly-mechanical Heth to the tropes of the minstrel stage, “merely a black mask for white voice” (24). Heth and the Turk made for a complex diptych: one, a slave purported to be a machine, the other, a machine purported not to be a human. The interest in both was motivated by the confusion between human and machine. Visitors flocked in to determine whether the slave was human, and whatever their conclusions, it was part and parcel of an overdetermined project going back centuries.

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[53] One of Edgar Allan Poe’s earliest attempts at the detective genre comes in “Maelzel’s Chess Player” (1838), a detailed debunking of this device. Poe explains how the device’s various features work together to make a plausibly mechanical device that could nonetheless fit a full-sized human. As a later scholar has pointed out, the man inside the device was probably a double-amputee who wore prosthetics in public (something that would seem to appeal to Poe’s macabre sensibilities and which certainly dovetails quite nicely with his “Man That Was Used Up”). What is more interesting here, though, is the way Poe flatly dismisses the idea that the machine could be real, noting (with specific reference to Charles Babbage’s inventions) that there is a difference between routine processes and something as complex as Chess.

Barnum himself credits the pair with his success, as the Turk, “somewhat prepared the way for this announcement, and hundreds who had not visited Joice Heth were now anxious to see the curious automaton; while many who had seen her were equally desirous of a second look, in order to determine whether or not they had been deceived. The consequence was, our audiences again largely increased” (24). This example suggests how closely blackness and technology were situated in the American cultural imaginary, while the claims of ventriloquism suggest the potency of white mastery (in this case, of a particular kind of aural performance) when enabled by and routed through the black-mechanical nexus.[54]

Another early conflation, related by Hershini Bhana Young, appears in the form of Tom Wiggins, another disabled slave. Wiggins was blind, and had a beautiful singing voice, virtuosically performing works from any tradition including, importantly, works by major Western composers like Vivaldi. Such masterful performances threatened to undermine the racial hierarchy:

> If a commodity, and a grotesque commodity at that, could perform with such grace, did it mean that Western aesthetics did not signal the presence of a superior subjectivity or that slaves, in fact, possessed a comparable humanity? The way around this contradiction that shook racism to its core was via the evacuation of meaning from Wiggins’s performances. His art was reduced to one of mere imitation, to an unintelligent parroting of sounds. His performance was emptied of

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[54] Automata were hardly unique to the U.S., of course. In the British context, these devices are often much more explicitly linked to the expansion of industrial labor than racial identity. See Tamara Ketabgian’s *The Lives of Machines: The Industrial Imaginary in Victorian Literature and Culture* (Ann Arbor: U of Michigan P, 2011), Kevin LeGrandeur’s *Androids and Intelligent Networks in Early Modern Literature and Culture: Artificial Slaves*, and Allison Muri’s *The Enlightenment Cyborg: A History of Communications and Control in the Human Machine, 1660-1830*, for in depth analyses. Work like Lisa Gitelman’s *Scripts, Grooves, and Writing Machines: Representing Technology in the Edison Era* excavates a related discourse around the notion of “automatic” processes in general.

> deeper meaning, his genius the result of simply duplicating the sounds around him without understanding what they meant. . . . In essence, he melded the body and technology, the commodity and personhood, through his performance of a human phonograph that prefigured the actual mechanism itself. (Young 53)

Where for Barnum the conflation of slave and mechanism was a point of tension he could exploit to generate popular interest, in the case of Wiggins we see slave-as-machine deployed to secure white supremacy against the evidence of an audience's senses. These ideologically necessitated contortions to speculatively contain talented, enslaved persons prepared the way for a broader conflation of race and technology, this time explicitly as a means for securing racialized mastery.

The historical Newark Steam Man and Ellis's *Steam Man of the Prairie* combine these impulses. Ellis's description of his fictional device, with its "painted black" face, resonates with Dederick's patent application, as both draw on tropes of the minstrel stage to contextualize their fantastical invention. The minstrel performance of blackness works to exploit as it contains the potentially radical effects of black culture for American society. The deployment of black caricature on the patent is not born out in the material device itself. Neither is the cover art for Ellis's story particularly reminiscent of any minstrel tropes. That is, the blackness of the Steam Man is not the purpose of the device in the way it was for blackface performance. Blackness is not the key structuring feature for either invention; rather, it is a secondary feature, a source of resonance, linking the mechanical, masterable labor of the Steam Man to tropes of black servility and labor, but leaving the focus on the device's inventor and user—a figure who, in both cases, is one and the same.

Eric Lott argues that white performers in blackface were able to perform more radical critiques than similar performers in less racially charged guises; they were also a means for acknowledging black cultural forms in venues palatable to white audiences, especially in the North. What made these performances palatable was, at least partly, the white performers underneath that black masks: their performances kept the realities of what Lott calls America's "racial unconscious" at bay, containing blackness by taking it out of context, or rather by placing it in a new context where its joyous and entertaining elements could be enjoyed without having to confront less pleasant realities.

The link between speculative laboring technology and tropes of the minstrel theatre come into focus when read alongside Sylvia Wynter's analysis of the anxieties of mastership and the strategies of minstrelsy:

> For mastership here is not an intrinsic characteristic. It is not the blue-blood category of the feudal order which existed as an index, as an unquestioned attribute. Rather there is a place of the NORM, the *Norm of mastery*, of which white skin is merely a sign. Thus mastery, the experiencing of the identity of being master[,] can be lost. If one fails by one's action to act so as to occupy the Place of the Norm, one can be displaced from the Norm, can fall into being the Non-Norm, in this case, Sambo." (151-52, emphasis in original)

This is the source of resonance between the patent's deployment of racialized iconography, Ellis's textual description, and the Steam Man illustrations for later iterations of the story (discussed below): they all serve to forge a speculative link between techno-competence and a racialized "Place of the Norm" of mastery. They are evidence of a shift—a potential, speculative, desired shift in the Norm of Mastery—one that ultimately privileges technology use.

In other words, the form of the first sci-fi invention[55] in American letters was wildly overdetermined. *Of course* it was an ambulatory prosthetic device, *of course* it was deployed just as formerly enslaved people were traveling, en masse, deliberately flouting the various now-defunct laws limiting black mobility—as Saidiya Hartman puts it: "Locomotion was definitive of personal liberty" (151). Mark Seltzer also, as noted before, argues that "the uncertain status of the principle of locomotion precipitates the melodramas of uncertain agency and also what amounts to an erotic of uncertain agency" (17-18), though he does not link this observation (about later nineteenth century literature) to the mass black perambulations that followed the Civil War, or the many repressive responses that followed as Northern troops withdrew. In the wake of this withdrawal, white Southerners worked, legally and otherwise, to rebuild their defeated racial regimes, containing and harnessing the power of black mobility much the same way *The Steam Man of the Prairies* does.

Following one strand of Saidya Hartman's analysis in *Scenes of Subjection*, we can see anxious deployments of racialized tropes as a piece of larger transformations following emancipation. As Hartman argues, emancipation ultimately precipitated less of a rupture in racial politics than a restructuring of the plantation model, as newly freed

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[55] The term "sci-fi," for those not in the know, is generally understood to be vaguely derogatory, at least in the academic context (where it is often pronounced "skiffy"), indexing all the cheesy excess of the pulps, the crass commercialism of popular appropriations of science fiction that, at its most aesthetically and politically enlightened, the best sf transcends. I use it here for this very indexing quality; Ellis's story and Dederick's patent are both pretty risible, at least from serious aesthetic and political perspectives, and as I argue below and throughout, this aesthetic and political tradition will in fact ground much of what later became dismissed as "sci-fi"

African Americans were incorporated into systems of “burdened individuality” (132), a system which shifted the onus of controlling black labor on to the black body: “From this vantage point, emancipation appears less the grand event of liberation than a point of transition between modes of servitude and racial subjection” (6). Freedom, in this case, meant a freedom to work (often for a former slave master), freedom to control oneself (in ways determined by the social and cultural, and eventually legal, codes established and enforced by former slave owning class). If many of the effects of slavery were reconstituted by other means, was the Norm of mastery similarly reconstituted? What happened to the ideologies of mastery which were once defined by (a usually explicitly white) man’s ability to control a population of slaves?

The racialization of the Steam Man suggests that, much as subjection was transformed (not destroyed) for black populations in the Reconstruction, so too were the conditions of white mastery. And, just as this transformation did not radically alter the conditions of blackness, neither did it radically restructure the relationship between whiteness and control. Hartman notes: “When we examine the history of racial formation in the United States, it is evident that liberty, property, and whiteness were inextricably enmeshed” (119). The Steam Man stories gesture to one way by which this collection of tropes became enmeshed. Specifically, they dramatize one vector by which white mastery is rearticulated through a technocultural lens, as the property of former enslavers was analogically transformed into a proprietorial knowledge of technology. This mastery over machines (which enables mastery over the frontier, over space, over science, etc.) transforms the older forms of master-slave relationships while maintaining the core values of supremacy, control, and sovereignty—terms which derived much of their semantic weight from a comparison with some opposite, enslaved state.

Under slavery, mastery was demonstrated through spectacular, often violent, demonstrations of power-over:

> In these instances, the exercise of power was inseparable from its display because domination depended upon demonstrations of the slaveholder's dominion and the captive's abasement. The owner's display of mastery was just as important as the legal title to slave property. In other words, representing power was essential to reproducing domination. (Hartman 7)

With the abolition of slavery rendering such representations of power (nominally) illegal, the persistent violence of state and individual actors continued, but operated differently. Think, for instance, of the infamous notice published in 1919 by the Jackson, Mississippi, "Daily News": "John Hartfield Will Be Lynched By Ellisville Mob At 5 O'CLOCK This Afternoon—Governor Bilbo Says He Is Powerless to Prevent It—Thousands of People Are Flocking Into Ellisville to Attend The Event—Sheriff and Authorities Are Powerless to Prevent It."[56] Though this is clearly a display of white terrorism against the black community intended to bolster white supremacy, the power/domination it represents is figured as natural, inevitable, uncontrollable. In other words, domination is signified obliquely, as the transparent illegality of this spectacle of a death foretold is masked by a rhetoric of powerlessness, broadcasting (on a lower frequency) the willingness of law enforcement to allow such extrajudicial violence. But while terror is a form of power, it does not lend itself to demonstrations of mastery.

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[56] This headline from the June 26, 1919 issue of Jackson (Miss.) *Daily News* was reprinted in the August 1919 issue of *The Crisis* (Du Bois, 208).

As representations of power shifted after emancipation, a parallel shift in narratives or conceptions of mastery occurs, one which reenables an optics of spectacular mastery, refiguring an older understanding of white supremacy—demonstrated and secured though slave-ownership – in response to new material potentialities. At the same time, ideological struggles over the role of Northerners in Reconstruction—whether the North was entitled, or obligated, to help fashion a new racial order in the recalcitrant white South—energized these racialized depictions of technology and profit. Much like colonial sf that dramatized exploits in distant lands and “has less to do with the sharing of real wealth than with the reading public’s vicarious enjoyment of colonial spoils” (Reider 27), the blackness of the Steam Man reaffirms for white readers the benefits the existing racial hierarchy; it helps these young white readers become more fully vested in the project of white supremacy. The Norm of mastery, then, indexes not only those who owned slaves, but also those who were hired as overseers to direct slaves, those who patrolled to police slaves, even extending to those who passed and enforced legislation in the North that ratified and maintained the property status of slaves—that is to say, everyone implicated in the maintenance and stability of slavery; or, basically, everyone white. Indeed, following Cheryl Harris’s argument in “Whiteness as Property,” the institution of slavery was crucial for the development of whiteness, not just as a personal identity, but as a legislative and political category (see especially Harris 1715-21).

Emancipation disrupts the usual circulation of this Norm of mastery; fanciful images, such as that on Patent #75874, help to stabilize this Norm.

While representing power remained essential to domination, the terms of domination had changed, and so the representations of power changed as well: "Although no longer the extension and instrument of the master's absolute right or dominion, the laboring black body remained a medium of others' power and representation" (Hartman 120). Ellis's story encodes one such example where a black (cast-iron) body explicitly functions as a medium for the white inventor boy/young man to project power into places where his unmediated self would otherwise founder, despite the fact that this mastered body is not an explicitly racial subject, but an implicitly racialized machine. Even implicit, the decision to offer any racial coding to the machine is curious; the decision to code it as black, curiouser still.

As both the newspaper and accompanying image (attached to the front of the patent application; see Figure 2) show, the actual Steam Man was designed to "give it as nearly as possible a likeness to the rest of humanity," which in this case does not match the appearance of the schematic. It is not clear whether these schematics were drawn by Dederick, his partner Isaac Grass, or some third-party draughtsman. What does seem clear is that to the extent the Steam Man is a "man like any other" he is "white"—the otherwise non-functional white enamel doing work to bring the device in line with a certain set of racial codes for its public launch. To the extent that the device represents an essentialized labor—that is, when depicted as a schematic representing the essential (and patentable) features of the device—the Steam Man is black.

It is worth underlining here: the caricatured features of the black figure in the schematic are neither functional nor represented in the aesthetic features of the final device. Rather, they link the mechanical, masterable labor of the Steam Man back to tropes of black servility and exploitable labor, suggesting a visual concordance between harnessing steam power (and all its explosive potential) and harnessing racialized, labor. Perhaps merely intended to inject a touch of levity into what is, after all, a faintly absurd endeavor, the humor of the patent is nonetheless instructive.

The Norm of mastery reconstituted by the Steam Man stories remixes different aspects of American slavery and formulations of whiteness to offer a new, forward-looking iteration of white mastery. Two aspects in particular find purchase in the trope of the Steam Man: the first, slavery as a means to economic development, especially evident in Northern political support of the peculiar institution; the second, more prominent in the South, the trope of slavery as the condition of possibility for Southern gentility. In the former case, a broad reliance on the economics of slavery slips neatly into imaginative mechanical alternatives. Machines could provide a less volatile, unruly labor source whose only major drawback, in the world of the mid-nineteenth century, was that the technology did not yet actually exist. This seems to have been Dederick's thinking, at least. In the case of Southern gentility, the Steam Man stories forge a less obvious, but no less important, connection between a former culture of enslavement and a future full of machines. Southern claims to gentility can be understood as an aspect of the economy of honor inherent to slavery: "What was universal in the master-slave relationship was the strong sense of honor the experience of mastership generated" (Patterson 11). The creator and operator of the Steam Man likewise secures his own honorable position in society by means of his exploits. His gentility emerges as a function of his overwhelming technological prowess. By linking the speculative logic of technological advancement with the racial logic of American slavery, the Steam Man offers a way forward for both of these logics as a newly individualized form of mastery. The black Steam Man secures the individual fortunes of its edisonade creators and, through the manifest superiority of the prosthetically-enhanced young man, secures an old form of honor by new means.

Ellis's story, in particular, picks up on the Norm of mastery, dramatizing its attainment by a physically non-normative ("deformed") white character. Following Ellis's lead, this technologically-enabled Norm disseminated out into a broader, nascent genre, as the trope of the Steam Man was reproduced in a series of dime novels during the later nineteenth century. Taken together, the early edisonades function as cultural artifacts of and for young white male readers, that is, presumptive hegemonic subjects These stories reflect broader, often deleterious, efforts to resolve racial issues in such a way as to maintain or reinvent white supremacy. Both Ellis's book and Dederick's patent for the Steam Man were published in 1868, at the height of Reconstruction. This context is important because it suggests something about the racial, technological, and political landscape out of which both texts emerged. Neither man was a former slave owner coping with a newly imposed racial and labor landscape. Rather, both were white men living in New Jersey imagining a future in a country where the role of race (theirs and others') was in flux.

Collectively, these stories rehearse a new mode of adventure in the form of technological domination for boys who have been simultaneously stripped of a racist birthright (that of explicit mastery over black bodies) and endowed with a newly universalized racist history (after emancipation, the material barriers to explicit mastery, viz. living in a slave state with the means to afford a slave, were no longer relevant, allowing whites of all regions and classes to imagine themselves as dispossessed masters). At the same time, the spread of industrialism introduced a new set of anxieties into the national consciousness: an agency panic described in Mark Seltzer's *Bodies and Machines* to be the result of shifting modes of production—the rise of mechanization deskilled much of industrial labor, and in the process introduced tension in the notion of the "self-made man" model of identity.

Slavery forms the context in which the conflation of property and person actuate this anxiety. Becoming-thing registers as a horror inasmuch as "we" treat our things abysmally, something "we" can do because things have no rights, and rights make the Man (this is the core of Man1's ideology, as Wynter describes). The quiet obsession with "making"—dramatizing moments of invention, structuring stories around mechanical malfunctions and quick, clever fixes, centering the tinkerer—points a way out of industry-induced agency panic. In contrast to the structural separation of an Aristotelian master-slave, persons-things dichotomy, the edisonades rehearse a more active process, a continuous performance. Things are passive; to defend against becoming-thing, one simply needs to actively build. As John Clute puts it, a "single, revelatory maxim can be discerned fueling the motor heart of the edisonade: the conviction that to fix is to own" (Clute, "edisonade").

The correlation between fixing and owning was codified into American law, culture, and ideology by way of the *Homestead Act*. Signed into law by Abraham Lincoln in 1862, this war-time legislation represented a massive, egalitarian turn in the politics of Manifest Destiny, shifting the sale of government land (nearly always seized, through violence or deceit, from Native American inhabitants) away from a parcel auction system (which heavily favored businesses and wealthy individuals). One needed only to be "the head of a household" or "over twenty-one years of age" (if unmarried) to make a claim to a parcel of government land, so long as "said entry is made for the purpose of actual settlement and cultivation, and not either directly or indirectly for the use or benefit of any other person or persons whomsoever" and that the claimant can "prove by two credible witnesses that he, she, or they have resided upon or cultivated the same for the term of five years immediately succeeding the time of filing the affidavit aforesaid, and shall make affidavit that no part of said land has been alienated."[57] The requirement for demonstrable improvements ("cultivation"), coupled with the requirement that the claim not be for anyone besides the claimants, offers an archetypical American expression of agency and freedom. For the following three-or-so-decade, the form of agency outlined by the *Homestead Act* stood as an ideal contrast to the realities of life in rapidly industrializing cities. It is into this context that Edward Ellis wrote the first edisonade story, one which channels the fraught racial politics of the early Reconstruction era, the pedagogical impulses of a popular teacher, and the imperial longings of a recently riven nation, and it is this context that shapes his long-term influence.

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[57] https://www.ourdocuments.gov/doc.php?flash=false&doc=31&page=transcript – There legislation contained a lot of language specifying the citizenship status of claimants, particularly that "they have never borne arms against the State"—and a distinctive lack of language otherwise describing the claimant, legally opening the way for any adult (21 or older), white or black, male or female, to claim the land. This doesn't mean that the settlement patterns were especially egalitarian in practice—most "heads of household" were men, for instance, but it is an interesting thing to note in this history of American egalitarianism, and perhaps a taste of the legal forms of post-race, discussed in Chapter 4.

Generalizing Mastery

Ellis describes the Steam Man in his story as “made of iron, painted a black color, with a pair of fearful eyes, and a tremendous grinning mouth” (12). Certain casts of iron can be black, perhaps suggesting that the cover art is a gesture towards the realistic appearance of a metal man (see figure 3 for the original cover cart, and figure 4 for a later reprint with similar design elements). However, as I noted before, the description in the text contrasts strikingly with the newspaper accounts and the actual appearance of the Newark Steam Man (figure 2). Dederick, when putting his device on public display, took pains to code the machine as white. Brainerd doesn’t do this; in fact, rather than leaving the dull, darkish color of untreated iron, which would serve to link the invention more closely with trains and other “improvements in steam carriage,” Ellis’s inventor deliberately paints his Steam Man the color of the racial Other. This racial coding brings the operation (and disposal) of the Steam Man in line with earlier “demonstrations of the slaveholder’s dominion and the captive’s abasement” (Hartman 7), while suggesting an analogical reworking of racialized mastery post-emancipation. The effectiveness of this trope—the equation of black man and man-shaped machine—is evident in the cover art of the stories. Ellis's is only broadly racialized—i.e., just the color but none of the iconic morphology of the minstrel stage tropes. Later Steam Man stories, written by different authors and published by different publishing houses, don't bother with the visual descriptions of the Steam Man, but their covers adopt a more clearly/characteristically racialized visual trope.

The cover art for the 1876 story *The Steam Man of the Plains; or, The Terror of the West*, a rough clone of Ellis's tale, draws on caricatured depictions of blackness for its Steam Man (see figure 5). The black figure, with a dandy top hat and bit in his mouth (literally harnessing its energy, also possibly indexing the iron bits used as punishment for unruly slaves), reads as a contained Zip Coon—an arrogant, ostentatious figure first played by George Dixon in 1834, who typically dressed in high style and spoke in a series of malapropisms and puns that undermined his attempts to appear dignified. This containment of the "coon" archetype also works to contain the agency that African American's exercised following the end of the Civil War, movements which by 1876 were largely curtailed through various ad hoc local and state rules, many of which would eventually be codified into "Jim Crow Laws." In 1876, this bridled black figure suggests the same politics on display in Ellis's story and Dederick's patent: a fantasy of managing black mobility in the service of white enterprise. The first Frank Reade, Jr. story, *Frank Reade, Jr. and His Steam Wonder*, from 1882, copies the cover art from the first Frank Reade issue, adding a few new touches that reflect the different content of the two stories (see figure 6). Note, in particular, the black character in the cart—this is Pomp, a character who will stick around long after the black Steam Man has faded from the narrative fore.

As the cover art of the first *Frank Read* and *Frank Reade, Jr*. issues make obvious, the mass production schedule demanded certain shortcuts, and copying was commonplace. Under these conditions, working creatives, especially those with tight deadlines and few chances to revise or experiment, will pull from anything they can for inspiration and guidance. Nathaniel Williams offers one especially compelling account of this practice in his reading of 1896's *Frank Reade, Jr., in Cuba*. Many of the details that served to provide motivation for the characters in the story "are likely predicated on reports in the New York press immediately prior to the novel's serialization beginning in June 1896," especially reports of the measures taken by Spanish general Victoriano Weyler that were "denounced repeatedly in the *New York Times* in early 1896" (293-94). These sentiments, evidenced by newspaper editorials and likely circulating broadly at the time, are themselves inflected by the implicit politics of the Frank Reade, Jr., stories, such that this tale "plays out the imperial imaginary in its most benign, altruistic sense. The Cuban insurgents embody the same independent spirit valorized by the Edisonades' master narrative" (295).

The turn-around between *New York Times* editorial and *Frank Reade, Jr., in Cuba*'s serialization measures in months, and this rapid pace of production complicates any analysis of the politics of mass-produced work, which besides being the product of many different people, is also often unknowingly beholden to (or at least, susceptible to the structures of) extant cultural tropes—indeed, this may be one of the principle ways that some semi-isolated feature becomes a trope in modern culture, whether that feature be a plot development or a racialized caricature. It is for this reason that we should attend to those features that do (or do not) get copied and repeated, and how these repetitions diverge from some original inspiration, both replicating and revising their source. [58]

The *Frank Reade* stories mark an important node in the transformation of Ellis's individual tale into a larger cultural theme. Written by Harry Enton (possibly a pen-name of Harold Cohen),[59] they too feature a young man and his Steam Man invention, and, as in Ellis's earlier version, the inventor is a sixteen-year-old boy. Unlike Ellis's Johnny, however, Frank Reade is a whole, healthy young man, and his cousin, Charley, is a Missouri farm boy and budding frontiersman, much like Ellis's "Baldy," though without the scars of frontier exploration.

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[58] A talk given recently by Robb Shoberg (2014) illustrates some realities of commercial art production. Shoberg is a video game producer who spoke at length about his work. One anecdote stood out, recalling how a senior designer asked him to add a "Boba Fett thing" to an almost completed helmet design. This reference to a well-established (and beloved) bit of Star Wars character design offers a clue into how easily memorable features can get thoughtlessly replicated—not quite accidentally, but neither as the result of careful consideration. Writer and professor Nalo Hopkinson (2016) offers a related anecdote at various talks, recalling a time she wrote a story featuring predominantly black characters only to realize (after the fact) that she had accidentally written a book full of "magical negro" figures. She did a significant rewrite of the novel before it was published but has kept the anecdote to emphasize how easily one can fall into broadly circulating, negative representations, and why it is therefore important to be vigilant during revisions. This strikes me as relevant to the current discussion of dime novels, especially in light of the rapid output expected from the authors whose work made these monthly (sometimes weekly) publications possible. Given their production schedule, they were unlikely to have much time for revision, much less reflection. Such collaborative, institutionalized stories were the result of many rapid decisions by many different people, and as such offer insight into the collective Id of both their producers and culture.

[59] There is some debate on this point, as Paul Green notes (2016, 100); E. F. Bleiler's indispensable and authoritative compendium, *Science Fiction: The Early Years* (1990), seems to be the origin of the Cohen claim (548).

Like Johnny and “Baldy,” these two figures are physically differentiated – Frank is slight and not particularly hardy, while Charley is large, an expert marksman and outdoorsman. However, neither boy is depicted as more suited to adventuring (or, more able to survive their adventures) than the other: Frank gets into trouble when he is somehow unable to use his Steam Man, Charlie gets into trouble when he is outnumbered or outgunned, but each makes it through unscathed in part because of help from the other and in part because his own exceptional abilities. Charlie is always able to shoot or punch his way out of a problem, while Frank always has some invention up his sleeve. The two boys form a more balanced pair than we see in Ellis’s story. Frank, the consummate tinkerer, is equal to Charley, the consummate physical specimen, suggesting that they each perform valid modes of hegemonic masculinity. In other words, this masculinity is no longer characterized exclusively by physical prowess; the ability to control technology is offered as an equal and valid alternative. The end result of both modes is the same: dominating (racial) Others through superior forms of control.

Enton’s stories also lack the clean teleology of Ellis’s story: while Ellis’s heroes go out for wealth and return to their former lives considerably enriched, in the first Frank Reade story, Frank is persuaded to go on his adventure with minimal prompting (none of which involves the promise of monetary reward). Charley offers Frank no clear agenda, he merely has to suggest they “go out on the plains hunting and roving, dashing around in style, and racing reds half to death” (2), and Frank is immediately persuaded. During their adventures, they save some good white people, defeat some evil white bandits, and sociopathically slaughter dozens of Indians who were colluding with said white bandits.

A slightly different racial schematic emerges in these stories, as evil whites direct Indian antagonism in much the same way that Frank Reade directs his black machine, suggesting a universal structural position of whiteness with respect to racialized labor: good or evil, it is the white "brains" that direct the racialized brawn. As the story unfolds, there is one woman who is rescued and menaced and rescued again. There are noble sacrifices and close shaves, and so on until Frank and Charley decide to return home. Like Johnny et. al., Frank and Charley's adventures translate into considerable wealth, though this was not their initial goal: the treasure they receive was bequeathed by a dying character whom they had saved earlier in the story, and is picked up almost as an afterthought.

Enton, like Ellis, includes no black characters in his story, but he also drops the "painted black" description of the Steam Man: the device is merely a "metallic imitation of a man" (2). The fact that his Steam Man is hardly described at all suggests that explicitly racializing the machine is no longer necessary. This does not mean that the connection had lost its currency—as noted above, the cover traffics in common racialized tropes in its depiction of a black figure for the Steam Man. Rather, this suggests that the connection between blackness and the Steam Man was becoming implicit; it was understood to be black in a way that did not need to be laid out in the text. More to the point, it means that the race of the machine was becoming invisible, though no less potent. In fact, there is no reason to believe that Enton was particularly aware of or concerned about the Steam Man's appearance (especially given his scanty description).

The cover artist would then be picking up on already circulating valences linking this proto-robot with race.

A further iteration, written by Luis Philip Senarens (1892) under the house-pseudonym “Noname” and titled *Frank Reade, Jr., and His New Steam Man; or The Young Inventor’s Trip to the Far West* retains the scanty description of the Steam Man, and his cover artist copied the racialized form of the mechanical man. The Frank Read, Jr. stories are the most prolific of the early edisonades, and introduced the painfully written Pomp, (short for Pompey, gesturing to the “coon” stereotype’s pretensions while also echoing the name of the “old Negro valet” in Poe, discussed in chapter 1), a character who will stick around long after the black Steam Man has faded from the narrative fore. This thinly drawn caricature is a happy servant of the Reade family, and often accompanies young Frank Reade, Jr. on his adventures. In contrast to the ambiguous status of Poe’s Pompey, whose jockey-like manhandling of his master casts doubt on whether he can be understood as merely a component in the General’s larger prosthetic system, Senerans’s Pomp is superfluous to Frank Reade, Jr.’s ability to extend himself technologically. Although Pomp does do work (he is a capable servant at times), he rarely functions as an explicit extension of Frank’s will in the way a slave presumably would; rather, he’s mostly good for getting himself into trouble (thus providing the plot an excuse to move forward) or risking life and limb to get Frank back to his various machines (thus allowing Frank to win the day). There is no suggestion that Pomp could ever be as competent with Frank’s tools as Frank is.

Always written in heavy dialect, the introduction of Pomp into the edisonade arsenal suggests a final evolution of the explicit relationship between blackness and labor: Frank’s masculine mastery has now become a function of his technical hyper-competence—the shift in his companionship reflects the fact that technical mastery no longer needs to be shown as equivalent to other, older forms of control: it is a power in and of itself. Frank Reade, Jr., wealthy, young, married, strong, a crack shot, and generally unflappable, is as physically exceptional as he is tech-savvy. He no longer needs to dominate Pomp (or some black slave stand-in) in any spectacular manner, exerting his power through mechanical means instead.

Frank has control over Pomp because they each occupy their “natural” place in the new technocultural hierarchy, one which replicated the old hierarchy with high fidelity. Pomp has some individuality, but it is circumscribed by his status as a grateful servant, burdened by his obligations to the Reade family in general and to Frank, Jr., specifically, who saves Pomp with some regularity. Pomp is there mostly to ratify the correctness of this way of being, showing that mechanical mastery is not just coherent with white supremacy, but a means of securing the racial hierarchy. The correctness of the racial hierarchy (Frank superior, Pomp subservient) is likewise validated by their respective abundance or lack of techno-competence, which was shaping up to be a key twentieth-century skill. This mode continues long after the first four stories, each of which centers on a new and improved Steam Man. As the series grew, the Steam Man was gradually replaced with less anthropomorphic forms of fantastic transport (first “Steam Horses” and a “Steam Team,” but soon devices with such colorful names as "electric air canoe" or "electric cruiser of the lakes"). Steam fades in favor of electricity and eventually (if we track this mode through later science fiction) nuclear power. What remains is the relationship between whiteness and technological mastery.

In terms of refiguring slavery, this iteration of the Steam Man story downplays the economic advantages of edisonade identity (though Frank Reade, Jr. is clearly well off), instead focusing almost exclusively on the honorable exploits enabled by techno-competence. The potential utility of machines as a replacement for human labor (slave or wage) was, by the late nineteenth century, obvious to all involved. These stories, then, offer a way to secure the honor of young men whose agency might otherwise have been compromised by the body-machine complex, showing how hegemonic white masculinity can thrive under new conditions. This suggests that machines can, in fact, serve as the basis for a new sort of gentility, one that can be embraced by white men of any class, and in any region of the re-United States.

By the early twentieth century, there was no longer much market for Steam Men, but the edisonade mode persisted. Projecting outwards from this brief genealogy, the edisonade takes on the general characteristics of Ellis's work, but without the specific, Reconstructive aspect. Generally, Edisonades feature young protagonists, generally they are independent (either because they are orphaned or because they are independently wealthy), and generally these young men leverage their God-given hyper-competence to first get into and then out of all sorts of trouble. They exhibit, in other words, a fantastic freedom of movement that secures their status as Man, as sovereign, self-possessed individuals.

Like Johnny, they resist any attempts to militarize or otherwise mass produce their inventions. This mirrors the politics of the *Homestead Act* inasmuch as the inventions remain a personal extension of their engineering prowess, a sign of their own improvement, rather than a piece of commercial technology that they just happen to use. While they rarely destroy their machines in the end of their stories, sequels tend to suggest that even after the Edisonade hero finishes his quest, he keeps his inventions for himself—even Frank Reade, Jr., who has access to his father's device, opts to build his own, besting his father's in the process.[60] Technological mastery is a path to personal financial independence, a way of marking one's own sovereignty, more than any social good in and of itself; a new means to an old end. That the edisonade heroes often use their device to rescue menaced pioneers (especially in early stories) only serves to reinforce the message of personal autonomy: it is not the technology that is good, but the operator who extends himself with technology who is good. The fact that his operator is invariably white passes without comment, but not without notice.[61]

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[60] Frank Reade, Sr. offers an assessment to this effect, perhaps something of a meta-commentary on the new series and its new young writer, as well as a taste of series' decided lack of subtlety: "Well, young blood is the best after all. I must say Frank, that I am beat. There is no doubt but that you have improved upon my Steam Man. I congratulate you" (3).

[61] Echoes of this form persist even today. Martin Kevorkian has examined numerous ways that technologically adept black characters in films like *Die Hard* (1988) and *Mission: Impossible* (1996) functionally amount to input/output devices for the white male leads, a trend we can connect back at least to Barney Collier (Greg Morris) in the original *Mission: Impossible* television series (1966-73). Edisonade analogues persist to this day as a more general model for popular cultural vehicles, most obviously in Tony Stark and his various Iron Man suits. Indeed, in the recent film series, the *Iron Man* franchise is almost a prototypical edisonade: it features a singularly brilliant inventor whose device is principally a form of personal transportation and protection, but which also has tremendous martial potential, and which enables its inventor to secure his sovereignty against the impersonal forces of capitalism; he even refuses to sell his invention at the end of each film, a common trope in edisonade stories. The only real deviation is his age (most edisonade heroes are teenagers or very young adults), but Stark's alcoholism (more prominent in the

Teaching Techno-Supremacy

One final valence I would like to highlight here: as books generally marketed to young men, these works operate as a way of both defining and projecting hegemonic culture from generation to generation. Take, for example, the early twentieth century Roy Rockwood "Great Marvel" series: these books are explicitly aimed at a juvenile male audience, and feature two young orphans, with their eccentric genius foster parent and a black servant (named Washington), who collectively do all things you'd expect adventuring edisonade heroes to do (flying through the air to the north pole, getting lost underground, and so on). These books were produced as handsome hardbound gifts and marketed as especially appropriate for growing boys.

Roy Rockwood was a house name for Stratemeyer Syndicate publishers. These books tapped into a burgeoning market for salubrious boy's fiction, part of a broader movement that called itself "boyology"—a collection of masculine training cultures aimed at producing suitably and appropriately gendered men, the best known and most enduring incarnation of which is probably the Boy Scouts. The first Roy Rockwood book (published in 1906 and baroquely titled, in the edisonade way: *Through the Air to the North Pole; or, The Wonderful Cruise of the Electric Monarch*) introduces two rugged and resourceful orphans, riding the rails. Their life mostly consists of bumming around

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comics) and irreverent playboy affect (more prominent in the films) lend him an arrested development that lines up well with the typical edisonade age-group.

on trains until an accident brings them to the home of genius professor Amos Henderson who, as it turns out, has just invented an airship and decides to take the two young men under his wing. In many ways the story (and its sequels) unfolds much like the countless Horatio Alger stories of the preceding 19th century, with the added wrinkle of a high tech framing device which propels the narratives and the professor's determination to train the orphans to be not just respectable middle class citizens, but hyper-competent engineering types, with the scientific knowledge and technological know-how to thrive in a rich, dangerous, fantastical world.

This wrinkle connects the Rockwood stories back to the nineteenth century edisonades and forward to science fiction, but also suggests something about the market for science fiction at the turn of the twentieth century, when these stories were first published. As Jacqueline Rose argues in her foundational work *The Case of Peter Pan, or The Impossibility of Children's Fiction*, "if children's fiction builds an image of the child inside the book, it does so in order to secure the child who is outside the book, the one who does not come so easily within its grasp" (Rose 2). Literature for children, in other words, is a matter of an adult construction of the Child whose existence is less a matter of reality than a function of what adults (writers, reviewers, publishers, purchasers, and bedtime-story-readers) want the child to be. The Rockwood books contain many of the trappings and tropes of earlier dime novels, but instead of forty-five thousand words printed in tiny columns on the cheapest folio-size paper available, these forty-five thousand word stories are printed in large, sparse lettering, often filling more than 200 pages of a handsomely bound volume, complete with illustration and advertisements for other, equally wholesome fare for growing boys. The durable paper, swanky covers, and explicitly pedagogical impulses of the stories serve to distance them from the lower-class dime novels they nevertheless resemble.

The Rockwood books represent a moment in which the tropes of earlier science fictional stories are distilled into an ideal, child-appropriate, child-shaping form. One element of these stories in particular stands out: the black character Washington. He works as the professor's servant and is both docile and physically gifted. He is routinely, almost ritualistically depicted as intellectually inferior, indexing the minstrel "coon" caricature also indexed in the cover art the *Frank Reade* and *Frank Reade, Jr.* stories, and in the *Frank Reade, Jr.* character Pomp. These scenes uniformly involve some crude malapropism, with the professor or orphan boys correcting him, but only after finding some way to make fun of his mistake. As the series unfolds, these scenes more and more commonly involve just Washington and the boys, and often come with admonitions to stop trying to use words that are beyond his ken. Such scenes channel comedic tropes of the black-face minstrel stage and rehearse white supremacy in a crude but effective manner. They are often entirely beside the point, interrupting infodumps (as the long, technical, expository passages common to science fiction are sometimes called) to instruct the putatively white reader in the proper way to integrate racial politics into narratives of high-technology.

Individually, these scenes function as moments of racist comedic relief; collectively, they function more along the lines of "scriptive things." These repeated moments are geared towards inculcating a particular structure in the white boy's performance of white masculinity, scripting a dismissive attitude towards the very notion of black technological modernity, securing white supremacy in a context of high-technology and its fantastic uses: a new Norm of mastery. It also, through contrast, structures the white reader as inherently competent with and around technology, indeed, elevating technological competence as the professor's greatest gift to the orphans.

This scriptive element of the Roy Rockwood stories seems clearly geared towards making a certain kind of boy, but it is not an invention of this explicitly juvenile book series; rather, it is one of the elements that the Rockwood publishers drew from a the larger edisonade tradition. Pomp, the black caricature in the Frank Reade, Jr. stories, is also written in heavy dialect and is similarly incompetent around machinery. His function in the stories, however, is often more narratively focused than Washington's ritual incompetence: Pomp's loud and bumbling nature often serves to create the crisis that Frank Reade Jr. must then solve, occasionally by making strategic use of Pomp's stereotypical qualities (the most positive of which are associated with evolutionary theories of the physically gifted savage). He functions as an icon of the anti-technological nature of blackness, but unlike Washington, Pomp's incompetence mostly manifests passively—Pomp simply *is* incompetent, while Washington is repeatedly *shown to be* incapable of technological competence.

What in earlier edisonades is taken for granted is, when yoked to the pedagogical impulses of children's literature, selected as an appropriate moment for instructing children in the proper attitude towards race and technology, just one part of a larger formula which turns on Frank Reade Jr.'s ability to master any situation through creativity. In other words, the ideology developed by edisonades, from the Steam Man stories to their latter-day inheritors, is one of a highly structured universe, of the primacy of control—both of self and of others. These stories turn on the Man’s (or, later boy’s) ability to use their intelligence to direct the forces of the world to their own ends. This scripting is distinct from black forms of improvisation in that it always resolves crises into some sort of system which can then be controlled—that is, it is a totalizing move. In this way, the edisonade works out what I call an aesthetic of “whiteness”: hyper-competent, controlled, and technological.

In its mass market forms, edisonades can be seen as a sort of mythic enactment of the Myth of Progress, a way for young American men who have perhaps been touched by the unpleasant realities of life in laissez-faire capitalist society, and whose lives are shaped by rapidly developing technological regimes, to make sense of their place in the world. These juvenile sf pieces work as a sort of algorithm of white supremacy, projecting the forms of white mastery into an uncertain but technologically saturated future. These stories script a particular mode of engagement with technology grounded in a racialized ethic that allows them to perform a sort of inverse of Darko Suvin’s famous “cognitive estrangement” (2): taking strange, uncanny developments and recasting them as masterable opportunities for the right kind of man.

Chapter 3 – White Supremacy and Scientifiction, or, The Technology of Race

In the opening editorial to the inaugural issue of *Amazing Stories*, Hugo Gernsback extolled the virtues of the tales in his new magazine, claiming that they do not just "make tremendously interesting reading—they are also instructive. They supply knowledge that we might not otherwise obtain—and they supply it in a very palatable form" ("A New Sort of Magazine" 3). Subsequent editorials refined and expanded the virtues of scientifiction, arguing that the best of such stories will "prove an incentive in starting some one to work on a device or invention suggested by some author of scientifiction" ("The Lure of Scientifiction" 195), and that "it should never be forgotten that the educational value of the scientifiction type of story is tremendous" ("Fiction Versus Fact" 291). In other words, for Gernsback, scientifiction was more than a form that pictured fantastical technological solutions to life's problems; it could actually help to bring these technologies to life. It could do so by inspiring readers to new lines of research, tinkering, and invention, by priming its audience for the technoculture that was to come. In this chapter, situated at the dawn of sf 'proper'—that is, the moment when the genre emerged as a known and named thing—I want to take Gernsback's vision of sf's instructive capacity seriously to explore the ways sf approached one of the biggest problems of the day, what W.E.B. Du Bois famously called "the problem of the color line" (1).

While it is something of a critical commonplace to note that sf is "largely 'color-blind,' depicting racial discrimination as a relic of the past and races as a biological fiction" (Lavender 18), some early sf, mostly published in Hugo Gernsback-helmed “scientifiction” magazines between 1926 and 1935, responds to the “problem of the color line” by explicitly reframing race in technological terms—that is, by imagining race as subject to some mad inventor’s newest technological device. These imaginary technologies render race inessential, something that can be changed with the touch of a button. In doing so, these tales of technologically mediated race can destabilize social hierarchies predicated on a fiction of racial fixity. But rather than leaning into the revolutionary implications of imagining race as technology, scientifiction tales work to close the rupture in racial essentialism. The ways that they do this collectively prefigure a more general solution to racial strife: color-blindness. In other words, sf’s frequent depictions of color-blind futures are not just a trope or a description of what sf authors believe the future will be, but in fact function as a strategy, as a solution to the problem of the color line.

This color-blind approach works a lot like evasion, pushing race into the background so as to avoid the difficult conversations a mature discussion would entail—as Mark Bould puts it, “if race was going to prove unimportant, why even bother thinking about it, when energies could instead be devoted to more pressing matters, such as how to colonize the solar system or build a better robot?” (177). The color-blind approach of sf is more than mere evasion, more than a way to define the genre’s concerns as technological rather than social or bodily, and more than a way to cater to the racial anxieties of the genre’s presumptively white readership (though it is all those things). Rather, sf’s supposedly color-blind vision of the future scripts a particular kind of response to the problem of the color line, one characterized by a careful balance of erasure and misdirection, refiguring the pastoral evasions of earlier American literature in technocultural terms.

To better understand the history of sf's color-blindness, this chapter looks at a collection of early sf stories I call "techno-passing"—that is, stories that have, as their technological *novum*, a fantastical technology that changes one's appearance from phenotypically white to phenotypically black or vice versa. These stories are especially useful for probing the role of race in early sf because their racial themes are explicitly laid out, rather than sublimated into the parables of aliens or robots that passed for racial engagement in much post-Gernsback genre sf. This explicit engagement with race helps to make sf's racial politics more obvious and constitutes an unacknowledged branch in the genre's lineage. These engagements with race are especially important because they are less grounded in the racism of popular culture (like the colonial racism of adventure stories or the neo-slavery racism of the boy's stories examined in the previous chapter) than in a response to contemporary race science.

These stories respond to late nineteenth and early twentieth discourses around racial science: they follow from popular texts like Lothrop Stoddard's *The Rising Tide of Color Against White World-Supremacy* and Madison Grant's *The Passing of the Great Race, or, The Racial Basis of European History*, which drew on (dubious) racial science to describe and polemicize about racial history and politics; they respond to the work of black intellectuals to reframe, reinterpret, and popularize actual African history; and they work to contain the breakdown of the biological basis of race—a centrally important feature of naturalized racial distinctions since the sixteenth century (as I discuss in the introduction)—from some corners of the scientific community, especially with respect to vertilago, a skin condition that alters pigmentation, discussed in the stories below. These stories also follow in the wake of works like Mark Twain's *Puddin'head Wilson*, where the new science of fingerprinting ultimately exposes a racial masquerade, as well as the numerous passing novels that highlight the socially constructed nature of race. Racial color-blindness eventually emerges as a response to this exposure, and eventually leads to the emergence of "post-race" ideology, as I will discuss next chapter.

The color-blind approach common to later sf did not spring forth fully formed, but rather can be traced back to the overt racism that structured early genre sf. Racism is encoded in the DNA of early American sf in much the same way that colonialism structures the early British sf John Rieder analyzes in *Colonialism and the Emergence of Science Fiction.* By looking at the way early sf pulps theorize race, we can get a sense of how these marginal publications helped to script a theorization of race that later becomes embedded in science fictional discourses; discourses which, by the dawn of our current century, are tough to distinguish from technocratic discourses writ large. American sf emerges at a time when, as Saidiya Hartman puts it, "the abstractness and instability of rights make possible their resignification" (122-23). Techno-passing stories address this instability and participate in a resignification of racial hierarchy—genre sf uses the techno-passing trope to reinscribe the familiar hierarchy, though George Schuyler's 1931 techno-passing satire *Black No More* and an earlier short story from Robert Bagnell in *The Crisis* magazine, "Lex Talionis," demonstrate the subversive range of potential rewritings.

It is easy enough to reduce sf's early racism to its historical context—and certainly, much of the casual racism of the early edisonades and their immediate sf descendants can be seen as a reflection of the racist tropes of late-nineteenth and early-twentieth century popular culture writ large. But, as I've previously argued, putting racism in the context of technocratic fantasy, as pulp sf does, also performs a particular sort of work, resignifying the rights of Man—that is, the subject of liberal humanism; he whose rights are self-evident—as technocratic. Hugo Gernsback's eponymous character in *Ralph 124C 41+* (1911) is a case in point: a universally recognized genius, Ralph drifts through a series of melodramatic happenings, saving what- and whomever he deems valuable through the deployment of high-tech inventions that allow him to master any situation. The '+' at the end of his name is especially significant as he is "*one of the ten men on the whole planet earth permitted to use the Plus sign after his name*" (1, italics in original), marking Gernsback's *übermensch* as superior in a public and almost instantly recognizable way—not quite the visual mark of positive difference that whiteness was, but a rough literary equivalent. The plot of this serialized story often pauses for extended descriptions of the fictive science behind his fanciful inventions, explaining to the (only slightly less superior) reader what their hero is doing, implicitly involving them in the currents of technological mastery that Ralph embodies. This somewhat awkward narrative tendency gives the story the explicitly didactic, and implicitly political, function that Gernsback later formalized in his editorials.

Techno-passing stories in pulp sf magazines organize racism into technocultural narratives, often featuring a protagonist with which presumptive readers could easily identify, and whose position with respect to the technocratic ideal is also a position in an explicitly racial hierarchy. As John Huntington notes, though the figure of the genius often forms the center of classical sf texts, the genre works less to emphasize this genius's exceptionality than to naturalize a genius-centric world: "The science fiction imagination . . . trusts that a technocracy will inevitably be also a meritocracy. The genius, science fiction's version of the technocratic hero, does not have to *earn* status. The achievements of the genius, like the 'works' of the Calvinist elect, merely confirm the correctness of the technocratic selection" (Huntington 4, italics in original). This is one way that a putatively progressive, forward-looking genre is able to refigure socially conservative positions: by relegating racial issues to the background, color-blind sf effectively confirms the correctness of the existing order. Contemporary racial problems will be fixed in the normal course of things; no need, then, to give them any further thought.

Early scientifiction stories helped to establish what counted as an important technocratic problem and what didn't. These decisions are necessarily political: "Popular science fiction, both in individual works and in its conversation with itself as a genre, is a thinking through, in a way impossible to the technocrats themselves, of the oncoming paradigm" (Huntington 6). In the case of early sf, that "oncoming paradigm" threatened the existing racial order by challenging white supremacy. In the pulp techno-passing stories examined below—Mort Weisinger's "Pigments is Pigments," Kathleen Ludwick's "Dr. Immortelle," Charles Gardner Bowers' "Black Hand," and David H. Keller's four part story series "The Menace"—the threat to white supremacy posed by emerging black middle and creative classes is contained by reimagining race as a form of cultural technology that validates the contemporary racial hierarchy. Reading these techno-passing stories together can help to desublimate the prehistory of sf's racial color-blindness, while reading them against Schuyler's politically subversive techno-passing novel can suggest some alternatives to naïve color-blindness.

Passing in Early Genre-SF

At the same time that Hugo Gernsback was first formalizing "scientifiction," the Harlem Renaissance was bringing black culture into contact with white hegemony in potentially dangerous (to white supremacy) ways. In some Renaissance texts, passing—the transgressive potential for some light skinned African Americans to visually pass as white—functioned as an icon for the anxieties of the shifting racial landscape. Transferred to technoculture, these anxieties are less about the instability of racial essentialism than about the danger they posed to the existing structures of social power. Much like the Steam Man stories in chapter 2, these narratives are used to reclaim and resituate shifting racial structures to preserve whiteness. Unlike passing narratives such as James Weldon Johnson's *Autobiography of an Ex-Colored Man* (1912) or Nella Larsen's *Passing* (1929), which focus on black characters who, by accident of appearance, are able to move through society as white people, the characters in techno-passing stories are unambiguously white or black prior to technological intervention. The technology that enables (or forces) them to appear as members of a different race creates a sudden, violent rupture in their own identity and constitutes an equally sudden and potentially violent threat to the hierarchy grounded in that identity.

In the earliest American techno-passing story I know of,[62] "Lex Talionis" by Robert W. Bagnall, the violent of rupture of identity is the explicit *raison d'être* for the techno-passing elements. This story was printed in the April 1922 issue of *The Crisis* magazine, the publication of the NAACP (of which Bagnall was a prominent member) and uses techno-passing to enact a violent revenge fantasy. The story is told by a Doctor Townes to our narrator. Both characters seem to be white, though they are racially open-minded, and the story starts when the narrator inquires after "old Czar Langston, the proud Southerner" whom they knew in college, and who had since become a prominent lawyer (256). Doctor Townes offers a newspaper clipping that describe the mysterious disappearance of Langston, and then explains the full story. He reminds the narrator of Flournoy, a mixed-race man of considerable athletic and intellection renown, and fellow alumnus of the narrator and Townes, who lived in the same town as Langston, though the two never mixed socially: "Langston, you will remember, always hated colored people … saying that such cattle as Flournoy had no business in the university" (256). Langston brutally assaults and kills Flournoy's sister, soon after which their heartbroken mother dies as well; because he is a prominent white lawyer and she was a black girl (and no one witnessed the crime, though Flournoy's sister did live long enough to explain everything), Langston goes unpunished. No one besides the family and Doctor Townes even knows how she died (a secret Flournoy insisted Townes keep).

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[62] Much thanks to Isiah Lavender III, who put me on the trail of this story at an ICFA conference some years ago. Also thanks to his student (whose name I never got) who first found it in one of Isiah's classes.

Flournoy withdraws from society, but not, as it turns out, simply to mourn. Instead, Flournoy develops "a chemical solution … which would turn human skin permanently black, with the blackness of a Negro." He captures Langston and spends weeks perfecting this solution with Langston as the test subject, all while "he pointed out to the helpless Langston in full and graphic detail what awaited him as a Negro. The white man's mind gave way under the strain when he first looked into the glass and saw himself black with kinky hair" (259). Thus transformed, Langston is released back into town where he creates a scene at the Langston offices and house, and then breaks into his own bedroom and, as the newspaper article Townes provides put it: "*Negro Brute Tries to Assault Wife of Missing Attorney*." For this offense he is burned to death, and Townes sums up the moral: "*Langston's relatives and friends had burned him alive because he dared to take his own wife in his arms*" (259, italics in original). This deliberate and violent reversal of racial fortunes (later played out for similar effect in Schuyler's much longer novel) is a function of the revenge fantasy, and also probably a strategy for making the horrors of lynch mobs more legible to any white audience members. In any case, it illustrates the stakes of racial reversal. One of the biggest issues for the early NAACP was the lynching epidemic, and presumably the goal of such a story would be to motivate white voters to enact meaningful legislations to combat the practice. Its effect in genre sf, however, seems to have been to highlight the necessity of defending whiteness, and the costs of failure.

The techno-passing stories of genre sf work to reify the existing racial order, variously suggesting the naturalness of and the danger posed by changes to racial hierarchy. They do so by developing an understanding of what Beth Coleman would later call “Race as Technology.” Her understanding of race and technology is predicated on the idea that “[t]echnological agency speaks to the ways by which external devices help us navigate the terrain in which we live” (177). Following the collapse of the Reconstruction, a racial system developed in America that functions like a “‘levered mechanism,’ a thing that is not the main engine of a system but rather an internal part that keeps all running smoothly” (178). The influx of African Americans from the rural south to the urban north during and after the First World War threatened racial mechanisms (geographic and ideological) that allowed American society to function as smoothly as it did, at least for white folks, as evidenced in no small part by the variety of racialized legal regimes (known colloquially as Jim Crow laws) that sought to secure a racialized hierarchy against a shifting social order.

The early techno-passing stories meditate on this theme. In the genre sf pulps, the notion of whiteness as a technological property shows up in Mort Weisinger’s 1935 “Pigments is Pigments,” for instance, which tells a brief story of an inventor, Bob Raynell, who exacts revenge on his erstwhile business partner Max Dribben by turning the greedy capitalist black, literally taking his whiteness for ransom. The capitalist readily offers half of his fortune to get his whiteness back, though he is displeased by the results: “It was true. His face was a snowy white. He gasped. ‘From negro to albino,’ he muttered to himself, savagely” (1213). In a panic, he offers the rest of his fortune to be turned a “normal” shade of white, a bribe that Raynell accepts before explaining the process, emphasizing that, had Dribben simply waited, he would have turned a “normal” shade of white without intervention. The story is played for laughs (Dribben admits Raynell’s superiority, and Raynell gives back the second half of the fortune), but its humor is instructive. As Cheryl Harris argues, whiteness functions as property in American jurisprudence, a legal paradigm that figured racial passing as a form of theft. In practice, this property often takes the form of relatively intangible access to opportunities but, intangible or not, the price it commands is significant. The humor of the story comes from the inventor’s ability to manipulate the capitalist’s “possessive investment” in his own whiteness (to use George Lipsitz’s formulation), first by literally taking away his whiteness, and then by extorting a second payment when the “cure” proves too effective.

The ironic twist at the end posits the inventor as a figure who understands and manipulates whiteness better than his inferior foes. Its *novum* also papers over the rupture in racial essentialism caused by vitiligo (which results in a loss of skin pigmentation, and whose cause is still unknown). Inasmuch as whiteness is figured as a static, legal category—which it must be if it is to be property—then any scientific fact that challenges the stability of skin color as a marker of race poses an ideological challenge to white supremacy. Weisinger’s story offers one strategy for responding to this challenge, by embedding it in a tale where racial ambiguity is a joking rather than a serious matter. This tactical trivialization extends from the title (a nonsensical pun on the more famous Ellis Parker Butler story short “Pigs Is Pigs,” first published in 1905) all the way to the final line, where the title is delivered as a punchline: “‘I learned another thing today, Bob,’ laughed Dribben, considerably relieved now. 'What's that?' asked Raynell. *'Pigments is Pigments!*'" (1254, italics in original). Butler's story famously pokes fun at a railway agent's literalism and is itself built on an absurd literalist premise.[63] This punning reference suggests that any racial anxieties induced by vitiligo are merely absurd, overly literal extrapolations. As Wynter suggests in "Sambos and Minstrels," discussed earlier in the chapter, whiteness is a mark of mastery, but one that is dependent also on one's actions, which can bring one closer to (or further from) the Norm of Mastery of which white skin is only one sign. Raynell's actions compel Dribben's, but there is little question that both men are white – even when Dribben is visually black, he has both the means and the motivation to get himself changed back. Raynell, in other words, secures his whiteness through the technical mastery of race, while Dribben re-secures his thanks to his wealth and, importantly, the consent of Raynell. The status of whiteness remains unchanged while the men's status with respect to whiteness has been altered only to privilege the young engineer over the capitalist.

A less absurd example, Kathleen Ludwick's 1930 short story "Dr. Immortelle," implicitly incorporates conservative racial politics into a narrative with considerable racial instability. This story follows a more overtly romantic trajectory, clearly indebted to *Dracula* but spun to be scientific rather than supernatural. The plot pivots on the self-sacrifice of an old slave, Victor de Lyle, who was turned white by his mad-scientist master a century or so before the narrative begins. The master discovered a way to stay alive indefinitely by transfusing himself with the blood of children; he forces his slave to undergo the same treatment, slowly whitening him by transfusing him with the blood of docile white children. By the narrative present, they have settled in a town and employed a beautiful white woman who is the love-object of the story's narrator. The woman's beauty and goodness eventually works on Victor, who chooses to kill his master and himself rather than harm the white woman. The story ends with the narrator congratulating himself on his good fortune in landing such a superior bride.

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[63] Briefly: In "Pigs Is Pigs" a man gets into an argument with a railway agent who tries to charge livestock price ($0.30) rather than the domestic animal price ($0.25) to ship a pair of guinea pigs—as he says, "pigs is pigs," and so, guinea or otherwise, he wants to charge livestock price. The guinea pigs are left together in the warehouse as the dispute winds its way through the relevant bureaucracy, while their population grows exponentially, itself an absurd and humorously literalized extrapolation of population growth.

The racial transformation of the story does touch on the history of racial mixing in the US inasmuch as it shows such "whitening" to be a function of the desires of evil white masters, but it frames this history in such a way as to neutralize (or neuter) the former slave: Victor, despite his whiteness and perpetual youth, does not desire the woman for himself, but rather works to secure the desire of a white couple by taking himself out of the picture. The story functions as an inversion of contemporary discourses of black men's supposed sexual aggressiveness. These discourses, which often underwrote the extrajudicial violence of the lynch mob, are inverted but not subverted: Victor, the "black" man, still dies for the sake of a white woman's virtue. Though race may shift through technological means, the racialized character's structural position vis-à-vis the white characters never changes.

Framing racial purity in this way serves to reinscribe racial hierarchies by other means, echoing the legal and cultural efforts Saidiya Hartman describes in *Scenes of Subjection*:

> The cultivation of proper conduct exceeded admonishments about duty and defiance; indeed, what amounted to the self-immolation of the free individual was required for the reconciliation of former masters and slaves. Not only were the freed encouraged to be subservient, obedient, and humble and remain with their former owners until death, but also they were asked to refrain from asserting their liberty in every meaningful and imaginable way. (149)

Ludwick extends this notion to include even those whose race is technologically mediated—that is to say, she rearticulates an older mode of subjugation in light of race's (technological) constructedness, repeating a move described by Hartman as replacing "the whip" with "the will": "In the case of the freed, the cultivation of conscience operated in the whip's stead as an overseer of the soul, although the use of compulsion was routinely employed against those seemingly remiss in their duties" (126). Skin color aside, Victor nonetheless continues to act like a "proper" black man, disciplining himself for the sake of white-centric propriety.

A third story, also brief, introduces a surprising note of sophistication to the techno-passing trope. Charles Bowers' 1931 story "The Black Hand" offers a quick narrative about a new surgical procedure, as an executed black man's hand is transplanted onto a white artist amputee. Though medically speaking the operation is a total success, the artist eventually becomes unhinged, first losing his air of refinement, then becoming a serial killer (exclusively targeting black men), before being committed to a mental hospital where he finally kills himself by severing the artery on the offending hand. Interestingly, the psychiatrist's report that relays this information blames the artist's breakdown purely on the psychological trauma associated with the miscegenated hand rather than a biological reaction.

A generous reader could take this as a parable condemning white intolerance, though the story doesn't quite support such a reading. That is, in the context of early twentieth century white supremacy, the story reads as a reactionary parable about the dangers of miscegenation, even when said miscegenation is performed for the benefit of a white genius. But the story's "scientific" conclusion ultimately does lay the blame for the white man's insanity at his own feet: "Summary: A patient with a negative psychiatric history became criminally insane following a graft of a negro's arm, although the operation was a physical and physiological success. From this we may conclude that it is advisable for a surgeon to consider the mental, as well as physical, aspects of any such similar operation" (923). The psychological, rather than physiological, explanation functionally acknowledges the groundlessness of anti-miscegenation fears, while the passive voice of this conclusion ("it is advisable for a surgeon to consider…") rhetorically erases any agency that may be exercised to try to change this psychology.

The Technology of Whiteness

Each of the preceding stories presents one aspect of a technocultural engagement with the notion of whiteness: its violent boundary-policing, its property value, its naturalized structural position, and its anxieties, respectively. At stake in all three is the notion that new technology—which we can read as a metonym for modernity—exposes the constructedness of race. Following Coleman, we can understand race to function as a sort of technology in these stories, and as Coleman argues, this acknowledgement can be used to destabilize racial discourses, though for these sf stories the potential instability of race represents an anxiety to be contained rather than a potential to be exploited. Each story offers a strategy for dealing with this anxiety, but it is the earliest, lengthiest, and most sophisticated example of techno-passing in genre sf that best articulates a programmatic response to the technology of race: David H. Keller's "The Menace." This sequence of four loosely connected stories, published together in the summer 1928 issue of *Amazing Stories Quarterly*, depicts the various conspiracies of a group of black scientists and entrepreneurs called "THE POWERFUL ONES," always printed in caps.

David H. Keller, M. D., is one of those mostly forgotten early sf forefathers, a prolific writer for Gernsback who never quite made the jump to paperback sf and the genre's collective memory. His body of work deserves more consideration than it has hitherto received, though not because it stands out stylistically or politically from the mass of early pulp sf. Rather, Keller (described by R. D. Mullen as "a psychiatrist whose professional work was mostly at insane asylums and whose crude stories on psychological and sociological themes made him for some years the most popular contributor the SF pulps" [268–69]) played an important role in the development of pulp sf's underlying cultural conservatism because his writing is plain and quite explicit about its politics.

"The Menace" was enthusiastically received by Gernsback even though it almost completely contravenes the Gernsbackian ideal: at first blush, it is not clear what the story offers in the way of a technological idea that will "prove an incentive" for some future inventor. Its fantastical technologies are all developed and deployed by THE POWERFUL ONES rather than the odd protagonist, Taine, and they are threats rather than exciting possibilities, needing to be circumvented rather than deployed.

For instance, in the first story Taine is called on to infiltrate the mysterious POWERFUL ONES after some unknown white corpses turn up and a few government agents disappear. He poses as a light-skinned black millionaire, eventually discovering that THE POWERFUL ONES were formed out of a desire to find a technology to turn themselves phenotypically white. They first invented a device that converts sea-water into gold, and then used that unlimited funding to underwrite the rest of their plan. By the time Taine is subjected to their monologue, they have successfully developed a serum to turn themselves apparently white and using this new technology have managed to infiltrate elite American society, amassing great privilege and influence that they have used to found and fund new projects, all aimed at the eventual goal of social equality. If this seems like an oddly progressive project for criminal masterminds, Keller does not present it as such. The editorial note at the beginning of the story promises “you will follow the adventures of the arch villains breathlessly until the end” (382). What the story delivers is a group of evil geniuses who scheme not for wealth (THE POWERFUL ONES have an infinite supply of gold, after all) or power. Their ambitions are greater than any of that: they aim to destroy whiteness.

The absurdity of this plot is partly by design—later accounts of Keller note his willingness to engage in satire and humor[64]—and partly evidence of a tendency identified by George Lipsitz: "that white Americans are encouraged to invest in whiteness, to remain true to an identity that provides them with resources, power, and opportunity" (vii). The value of investing in whiteness is made clear by THE POWERFUL ONES' single-minded determination to steal it for all African Americans, even when they have already attained a lush and privileged lifestyle as wealthy and apparently white elites.

This first story makes for especially strange reading for the modern scholar because it incorporates a fairly sophisticated attack on the concept of racial essentialism and its corollary white supremacy. The scientist who developed the race-changing technology, for instance, argues that "the difference between the negro and the white is mainly a matter of pigment" (388), and the tremendous success of those who have taken the serum at infiltrating the highest levels of commerce and society, to say nothing of exceeding the white world's technological and scientific achievements, should properly read as an indictment of the regressive racial legislation of the day. The implication is that, freed of the social constraints of race, African Americans would outshine all others. Add in the leader of THE POWERFUL ONES, a powerful black woman whom Taine calls "Ebony Kate" and who scorns her followers for their desire to be white, and you have all the makings of a black power fantasy.

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[64] Sam Moskowitz notes the role of humor in "Kelleryarns" (the title given to Keller's apparently distinctive blend of humor and moral awfulness) in his generous introduction to *Life Everlasting and Other Tales of Science, Fantasy, and Horror*, an anthology of Keller's stories that does not include most of his earliest, more offensive stories.

The fantasy, though, is played for laughs. The stories function as satire, apparently intended to undercut the issues they raise. What reads today as honest critique was likely read by original audiences as a joke. Just as in “Pigments is Pigments,” the notion that racial difference is merely a matter of pigment is laughable. The strangely un-heroic Taine works as a parody of the Gernsbackian *übermensch* because no such heroics are needed: the threat is ridiculous, pre-destined to fail. The force of this satire comes from the script it offers to the technocratic reader for how to engage with any apparent threat to white supremacy: treat it as absurd.

Across the four stories, the geniuses are uniformly the black men and women struggling against their position in society, while Taine, whom we are invited to call the hero of the stories, is a smallish and somewhat effeminate man who, at different points, is able to pass both as an “octoroon” (a person with a one-eighth black ancestry) and as a charming young woman. He overcomes the hi-tech inventions of the evil POWERFUL ONES variously through luck, race-baiting motivational speeches, deceit, and sabotage. He goes about his missions with literally unlimited funds (provided by a panicked US government) yet invents no earth-changing technologies; he is not particularly strong, nor smart, nor attractive. He is simply white, which means he can be anything that he chooses and that what he chooses will invariably be right: “It seems there really is a controlling destiny. Every time these criminals started to harm our country it ended in good. It makes me more of a Presbyterian than ever” (Keller 431).

Thus, Keller’s rebuttal to pages of compelling evidence of racial injustice is nothing more than a literal tom-tom, played when Taine first reaches the inner sanctum:

“He looked at the men seated around the table. Without exception they seemed to be autocrats of the business world, cultural leaders, Chesterfields: yet all of them were gently moving their heads and bodies in harmony with the rhythm of the drum-beat” (387). That is, apparently, all it takes to be racially compromised in Keller’s world.

This minimalistic rebuttal plays on a long history of literary representations of African drumming, most notably the interminable beating of drums in Joseph Conrad’s *Heart of Darkness*. The drumming that Conrad dramatizes was, in fact, a misinterpreted communication technology. James Gleick, in a history of information technology, notes that the early accounts of “talking drums” came at a time when this African communication technology was the fastest in the world: “For now, in fact, no one in the world could communicate as much, as fast, as far as unlettered Africans with their drums” (18). African long-distance communications devices were, ironically, interpreted in Western culture as the archetypical sound of savagery, perhaps in part thanks to their role in slave uprisings. They are then redeployed here by Keller to undermine the notion of black technology. The drums misunderstood by early ethnographers get encoded in this farcical scene as emblems of the very impossibility of black technological modernity.

Later, when things inevitably go sideways (Ebony Kate was on to him the whole time, it turns out), Taine interprets the rhythmic response:

> Your race can change the color of their skins but they cannot change the color of their souls. No matter how white they may become, they will always remain black inside. When the tom-tom sounded a while ago, these white men of education and refinement and wealth swayed in their chairs and inside them their souls fell at your feet to worship you and your snake. I have seen that sort of thing on the Congo. A sea of white-wash cannot change you. The race was made black and will stay black. (390)

The weakness of Keller's argument here is self-evident; what is interesting is that he and his readers seem to have found it compelling. Even narratively it is all for naught. Taine is improbably left on his own, he slips his bonds, randomly (but "firmly," we are assured) punches a bunch of buttons on a table, slides down a barely-obscured escape chute, and finds himself safely away from the devastation wrought by his button-mashing: the headquarters of THE POWERFUL ONES is completely destroyed. The story ends with Taine heading home to San Francisco: "You can send me a check for any sum you think the job was worth to you" (391). The value of obtaining whiteness may exceed all the gold in the world for black folks, but its maintenance bears no cost at all.

The following three stories unfold along similarly ludicrous lines, with new existential threats and new improbable victories. In the second installment, "The Gold Ship," Taine is called in to investigate the mysterious source of the gold that is suddenly offered to the US by all of its debtors. He goes undercover and thwarts THE POWERFUL ONES once again, this time by hiring Bill, "the best female impersonator in the world; really he is clever, and this time he went by the name of Angeline Pleasance, a half breed from Asia. She had a lot of jewelry and I bought her some more and a new wardrobe and I dressed up as her maid. It was the first time I had done anything like that, but I had a good teacher and we sure made a hit" (399). The gender-bending solution serves much the same function as the absurd climax of the first story: it seems calculated to be ridiculous, thus minimizing the apparent menace posed by threats to white, and now masculine, supremacy by the devious practitioners of blackness.

In the third story, "The Tainted Flood," Taine is called in again to thwart THE POWERFUL ONES, this time by discovering their plan to turn a sizable portion of the population of the Eastern seaboard black by means of a chemical poured in the water supply. At one point, Taine is tasked with proving that the chemical really will turn people black. Eventually, a young man elects to try the concoction, and he does in fact turn black. The response of another man in the room is indicative of Keller's approach:

> Oh! I know that you think it is brutal of me and all that, but I could not help it. You could not have helped it either if it had hit you the way it did me. I know the boy. For a year he has been in love with an octoroon, a nice girl and all of that and almost white. She would not marry him because she did not want to spoil his life and he would not live with her unless they were married. That was why he wanted to make the experiment—he thought that if he was colored too, she would marry him. She might have if he were just a little bit colored—just a shade off white like she is, but he turned black. I saw his face as he went out and it hit me all of a sudden that she would never recognize him as Jamison, her former white lover. He will never be able to explain it to her, how it happened. She is almost white and do you think she would marry a black man? He was brave and in love and all that sort of thing but fate has played him a sorry jest—I am sorry that I laughed——but—I——just——couldn't——help it! (407)

The currents of love, authenticity, sacrifice, and tragic social constraint that drive more literary examples of the passing narrative are reduced in Keller's universe to an extended guffaw. The apparent horror of being turned black is undercut by uproarious irony. Nothing more is said about the young man or his decision, nor is the man who delivers this speech reprimanded. His explanation seems to suffice.

The final story, "The Insane Avalanche," is especially notable for the length to which it takes Keller's racist satire, bending techno-passing to eugenic ends. In this story, THE POWERFUL ONES scheme to turn most Americans insane. By the time a few remaining scientists figure out what to do, the plan has almost succeeded: "The day the work [of containing the insane people] was started it was estimated that there were one hundred and ten million insane and one million sane people in the states” (413). Only the most superior people manage to stay sane, and they are faced with an impossible decision: be crushed under the pressures of caring for so many insane people or do something immoral to resolve the situation. Everything looks hopeless until a strange quartet of scientists—a senior researcher and his three research assistants, two men and one woman who form a farcical *ménage à trois*—discover a wasp venom that can put mammals into a state of suspended animation, thus providing the remaining sane people an ethical way to contain the madness.

In a final, desperate bid to have their ultimate revenge, the remaining core of THE POWERFUL ONES return to America and replace the sleeping potion with its opposite, hoping to wake the hundred million sleepers who will then overrun the country. They think they have succeeded (they received reports of waking sleepers before fleeing the country) and return to their island hideout, where they had left their former leader, Ebony Kate. In the meantime, Taine has tracked them to the island. When he tells an increasingly senile Kate of his plans to kill the remaining POWERFUL ONES as revenge for their deeds, she decides to do it for him, keeping his hands (and soul) clean: “You are a Christian man, Mr. Taine. Please don’t go to your God with blood on yer hands” (416). When Taine returns to America he learns that the waking potion worked, but that sleepers soon crumbled into piles of dust and/or spontaneously combusted, leaving the country clear for the superior people to spread in endless waves of small-town communities, free from any sort of menace: “For nearly forty years every person that was criminal, alcoholic, syphilitic or with psychosis was put to sleep. They had no children. Only the superior adults, perfectly clean in soul and body, were allowed to marry" (431). This resolution is clearly informed by eugenic thinking contained in popular semi-scientific tracts like Madison Grant's 1916 *The Passing of the Great Race* and Lothrop Stoddard's 1920 *The Rising Tide of Color*. Any non-insane, non-criminal black people were given a thousand dollars each and shipped back to Africa, enacting an old solution to America's racial problems and also implicitly suggesting that anyone who opposes such a solution—white or black—would clearly be among the inferior people taken out of the equation in the natural course of things.

Once again, a series of absurd solutions present themselves in a most perfect way—perfect, that is, so long as the reader identifies with the superior one percent of survivors, which Keller seems to presume will be the case. The story ends with a scenario so far-fetched and condescending that it may have driven E. F. Bleiler to label this series "probably the most offensive to be found in early science fiction" (212). Kate stows away on the Taine's rescue ship, eventually begging to be taken along. She ends the narrative working as a mammy for Taine's grandchildren: "In the years that followed, Ebony Kate delighted in telling the little Taines how their grandfather and she had fought those white-black-boogers. Whenever they asked him for the truth of the stories, he always said that old Mammy knew as much about it all as he did" (431). This resolution functions as white supremacist wish-fulfillment on multiple levels: the undesirables are all gone, a narrowly idealized small-town, white, middle-class lifestyle is now the only lifestyle, and throughout it all the racial hierarchy is preserved. Taine never has to make overtures to

Kate: she comes crawling (almost literally) to him. She is unhappy inasmuch as she has resisted her “natural” position and contented once she submits. Taine’s good humor with respect to the Mammy figure does little to undercut the racist overtones; indeed, it invokes the pastoral nostalgia then circulating about life under slavery. Whatever absurdity precedes this closure, this final domestic scene makes it clear that the politics of Keller’s post-racial American future closely mirror those of its pre-emancipation past.

Keller was not merely possessed of a retrograde racial attitude towards African Americans: in his other stories he proves himself to be just as deeply anti-feminist, anti-‘oriental,’ anti-labor, and generally anti-change as he is anti-black in “The Menace.” And he wrote many, many other stories; in fact, the few biographical and bibliographical sources about him make a point of noting his prominence in the early pulps. By 1928, just two years after Gernsback began publishing his scientifiction pulps, the introduction for “The Menace” calls Keller: “Our well-known author, who has endeared himself to the hearts of AMAZING STORIES readers” (382). Despite pedestrian writing and absurd plotting, as well as the lack of rigorous scientific and/or technical grounding that would become characteristic of sf under Campbell, this narrative trope was popular enough to sustain four stories and be reprinted, in its entirety, in 1933, speaking to the power of Keller’s vision for the security of racial division, at least among *Amazing* readers. How did such a curmudgeonly conservative catch on in the early days of sf fandom? In part, I think, because he offered a vision of the technological future in which white supremacy was challenged but ultimately not overthrown. The technology he previews is less a technique for racial passing, or gold creation, or anything of that sort; it is rather a vividly imagined future in which superior, selected (read: white, heteronormative, "Presbyterian") people will win the day in the normal course of technological progress. It is, in other words, a clumsily written restatement of white supremacist doctrine for a technological age.

Race as Technology

While Keller and the other sf pulp writers deployed the notion of racial technology in a sort of racist rear-guard action, the notion of race as a form of technology circulated beyond the political purview of white supremacy. George Schuyler's satirical Harlem Renaissance novel *Black No More* is also a techno-passing narrative, though it was printed for a vastly different audience. Both Keller and Schuyler built their stories around similar themes—R. D. Mullen even suggests that "The Menace" may have had "some slight influence" on Schuyler, given Schuyler's documented engagement with some of the more canonical sf of his day, and the similarity between his "Black-No-More" *novum* and the POWERFUL ONES' invention in the first installment in "The Menace" (269). For both Keller and Schuyler, the idea of race as a constructed performance undergirds the narrative, despite their disparate political goals (white supremacy in Keller's case, and something approaching an egalitarian socialist critique, in Schuyler's).

George Schuyler's take on techno-passing in *Black No More* also seems to work from some of the same social assumptions as Keller's: that contemporary racial politics threatened the support structure of American society in the early twentieth century; that an advancing technological culture imperiled notions of racial essentialism; and that a black man in possession of a white body must be in want of a scheme. But whereas Keller’s satire targets threats to white supremacy, Schuyler uses the instability of race to skewer all racial politics, which he depicts as built upon flawed essentialist understandings of race, targeting both black and white racial leaders. If Schuyler’s story explores themes that are consonant with the white supremacy in Keller’s story, it does so in a way that effectively deforms the base on which white supremacy was built: for instance, given the choice, almost every black person in the novel chooses to become white, and almost every white person strives to demonstrate their own authentic whiteness, doubly confirming the superior value of whiteness. This is not, however, because of some irrational desire for whiteness itself, nor because of any *innate* superiority, but rather because of the material benefits that come from possessing whiteness and the material harm that comes from lacking it.

Black No More loosely centers on Max Disher, a young black man who is the first official patient of Dr. Crookman, inventor of the Black-No-More procedure. Disher sells his story to a journalist early in the novel and takes that money to start a new life in Atlanta as a white man. He soon realizes that “this Black-No-More treatment was more of a menace to white business than to white labor. And not long afterward, he became aware of the money-making possibilities involved in the present situation” (59). This discovery leads him to join a white supremacist group as an anthropologist, where he becomes a powerfully influential member simply by writing (and later, speaking) the fears of his white audiences. Eventually, he takes his skills to various business concerns, helping them stoke racial tensions as a way of breaking unions—quite a trick, since there are fewer and fewer visibly black people to be demonized in the first place. Throughout, we are treated to scenes of powerful people—black and white—whose wealth was built on the existing race system and who are all desperately trying to preserve their power in the face of a shifting racial landscape.

Structurally, Schuyler's plot is almost an exact reversal of Keller's: where Keller deflates racial fears by ridiculing the notion of racial instability, Schuyler depicts the politics of racial authenticity itself as ridiculous. Near the end of the story a couple of white supremacists take Disher's logic to its extreme, compiling a genealogical history of everyone in America to definitively separate the true whites from everyone else. What they don't realize until too late is that they themselves have distant black ancestors, a revelation splashed across the front page of every newspaper in the country, putting them ironically among the very few known "black men" under a one-drop rule regime. In their attempt to flee, they are captured, in blackface, by a lynch mob; they manage to wipe away their makeup but are recognized, and in a profound tonal shift from farce to horror, are graphically lynched. In this final ironic twist, the instability of race punishes those whom it once served. This scene in Schuyler's story underlines the unnaturalness of contemporary race relations and works to make that contingency a source of discomfort for the white reader. It also links the absurdity of authenticity in the preceding chapters to the brutal realities underlying such absurdity for those subject to its judgments.

While for Keller "you were born black and will stay black," in *Black No More* there is no essential blackness, or whiteness, in the body or the soul. Disher becomes, for all intents and purposes, indistinguishable from a white man—indeed, his racial consciousness allows him to be a *better* white man than most. This seems to parody the race-man rhetoric of figures like Booker T. Washington, who utilized what Houston Baker calls “mastery of form” to appeal to white audiences (33). Disher uses his understanding of white people’s fears, and his willingness to let go of his “authentic” racial self, to play the role of white supremacist in virtuoso fashion. He occupies his white body with full knowledge of the inessential character of race, which gives him a privileged understanding of just how much whiteness is worth, and like most people with a privileged understanding of wealth, he is able to invest for greater yields than those with less fiscal/racial sophistication.

Disher is principally employed by business interests in the second half of the novel, suggesting that race is not so much a technology for making society run smoothly as it is a technology for serving the interest of capital writ large. Not only does the smooth functioning of the racial hierarchy have value for those possessed of whiteness, but it also has value for those invested in the structure of whiteness, and in particular a value for a technocratic elite who use race as a screen for capitalism’s more outrageous excesses. Disher is successful at his post-race baiting thanks to whites’ drive to demonstrate their whiteness. Disher’s mastery of racial form alongside his newly acquired whiteness helps to expose the way that race, for Schuyler, is a technology of and for class oppression. *Black No More* makes manifest the way whiteness functions not as a neutral norm, but as a technology of accumulation, at least in the hands of those with the proper race consciousness. Race, in this techno-passing narrative, is not the natural order of things, but neither is it principally a way to oppress black folks; rather, as Coleman suggests, it is a sort of “levered mechanism” in the larger capitalist machine, one which, as it turns out, doesn’t actually need racialized people so much as the fear of racialized people. For Schuyler, race is just one of a variety of potential technologies for sorting people in this way.

The stakes of racial authenticity differed significantly across Keller’s and Schuyler’s audiences. Keller’s stories circulated among a primarily white and male readership of pulpy gadget stories, while Schuyler’s circulated among a presumptively black (or presumptively-able-to-recognize-caricatures-of-prominent-black-figures) readership. For Keller’s audience, the notion of racial essentialism was common sense, so much so that challenges to it could be parodied with very little work. For Schuyler’s audience, racial essentialism was by no means obviously true, but it nonetheless accounted for much of the vogue for black art during the Harlem Renaissance, a fashion rooted in a notion of (untutored) black experience as fundamentally different from the Modern (white) experience.

The stakes of *Black No More*, then, go beyond parodies of racial purity (though the book is farcically dedicated to “all Caucasians in the Great Republic who can trace their ancestry back ten generations and confidently assert that there are no black leaves, twigs, limbs or branches on their family tree”). The satire in *Black No More* rests on a troubled notion of authenticity, extending the critique Schuyler advances elsewhere. His 1926 essay “Black Art Hokum,” for instance, decries the idea that there is an authentic blackness on display in black art, the position taken by Langston Hughes in his more famous response, “The Negro Artist and the Racial Mountain.” That Schuyler attacked the notion of authentic “Negro Art,” and that Hughes felt compelled to defend the existence and value of an authentically black experience, at the same time that Keller—a reactionary white doctor who wrote silly gadget stories—felt compelled to defend the notion of racial essentialism, all speaks to the shifting racial landscape.[65] An ascendant culture of technology provides the metaphor both for race and for its deformation.

Passing was less an exercise in mastery over the technology of the racial self than a means of thinking through the technologies of the racial self (and Other) in the context of a changing racial landscape. Passing marks both a reification of Man and a challenge to the hegemony of the human. For Alexander Weheliye, “The volatile rapport between race and the human is defined above all by two constellations: first, there exists no portion of the modern human that is not subject to racialization, which determines the hierarchical ordering of the Homo sapiens species into humans, not-quite-humans, and nonhumans; second, as a result, humanity has held a very different status for the traditions of the racially oppressed” (8). Rather than mastering, passing hacks the technology of race, challenging the ontological grounds on which stands Man, the liberal human subject who, as Wynter puts it, over-represents himself as humanity writ large. At the same time, the desire for and anxiety about passing reinstates humanity on familiar terms, acquiescing to the hierarchy Weheliye describes.

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[65] Hughes even deploys the same icon of racial essentialism as Keller, the tom-tom drum: “But jazz to me is one of the inherent expressions of Negro life in America: the eternal tom-tom beating in the Negro soul—the tom-tom of revolt against weariness in a white world, a world of subway trains, and work, work, work; the tom-tom of joy and laughter, and pain swallowed in a smile.” Hughes’ use is less absurd than Taine’s, and the essential quality he describes is more complex than Keller can handle, situated between the black experience in America and a more fundamental-sounding Negro soul, but the essentializing notions that Keller draws on also clearly had a life in the realm of black representation.

Keller's satire on the threat of passing soon passes out of the collective consciousness of the sf community, living on only in the occasional encyclopedia entry and (often inaccurate) brief note in literature concerned with recovering the history of race in sf. However, the general form of his solution to the problem of the color line—an assertion that racial division and anxiety will naturally disappear on the way to technocratic utopia, and the corollary that worrying about it is absurd—remains with the genre. Schuyler's take on the issue persisted, though his anti-essentialist Marxism had less effect on the trajectory of African American art than did the rebuttals it generated. We know *Black No More* was read in the early sf community—it received a very positive review by C. A. Brandt in the pages of the February 1933 issue of *Amazing Stories*[66]—and while it is not clear to what extent Schuyler influenced later sf writers, it is clear that his vision of the technology of race stands comfortably, if appositionally, alongside Keller's in the genre's early engagement with race.

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[66] "This book 'Black No More' is one of the most amusing books I ever read. True, it is a cruel satire on our present civilization. Mr. Schuyler, a well known Negro writer, does not spare any one, neither the leaders of his own race, nor the whites nor their respective sympathizers. Most amusing is the take off on the Ku Klux Klan, with the absurd trifles resurrected and elaborated in the 'Nordic Knights.' The book will be poison to some people and an exceedingly bitter drink to quaff, because truth is always unwelcome and there is an awful lot of truth in this book. I recommend it with all my heart" (1048). C. A. Brandt's endorsement was significant. When he entered the formal sf community, he was hailed as "the greatest living expert on scientifiction…There is not a work of this kind that has appeared during the last fifty years, with which Mr. Brandt is not fully conversant. This is, of course, a tremendous asset to a publication of the type of Amazing Stories, and one which assures you of getting the best that can be had at all times" ("Experts" 380). Brandt's reputation persisted, as Gary Westfahl notes, long after his former boss had much reason to inflate his prominence: Gernsback describes him thus in 1962: "I considered Brandt the greatest authority on science fiction anywhere at that time" (quoted in Westfahl, 90n8).

In this way, the constructed nature of race allows for an imagined solution to the problem of the colorline: we will soon overcome our petty differences through a reification Man into its most liberal category, a sort of racial singularity that dreams of the day when the project of racial deconstruction is complete, and everyone can be white. However, the lurking conservatism in Keller's part of the sf genealogy also underscores the way that Man in genre sf often amounted to "that thing that white middle-class males imagined themselves to be."

As explicit engagements with race fade from the pulp sf scene, a white male subject position—characterized by mastery, agency, and cultural centrality—is reified into an archetypal, ideal, and necessarily post-racial vision of the human. In this way, the disarticulation between whiteness and white bodies (presaged by the performances that Sylvia Wynter discusses in "Sambos and Minstrels") takes on new urgency. As embodiment becomes less central to articulations of sovereignty, whiteness can likewise circulate as "not race"—that is, as post-race. The shift towards posthuman consciousness—within and beyond the sf genre—restages the question of the relationship between bodies and machines. In short: do you possess whiteness, or does it possess you?

Chapter 4 – Post-hu(e)man, or, Race and Rigor

> …the achievement of nonpolitical power is in some sense the goal of all the mechanisms of SF.[67]

Forty-two years after Newark, New Jersey birthed the inaugural Steam Man, it hosted the birth of another sf giant: John W. Campbell. Campbell was a prolific author from his late teens until he assumed the role of editor at *Astounding* (ASF) in 1937,[68] where he briefly worked under the supervision of the previous editor F. Orlin Tremaine before fully taking over in 1938. Under his editorship, the magazine would become one of the most influential and best-selling sf venues in America. Campbell found and cultivated the talents of nearly every major sf writer from late 1930s until his death in 1971, and his influence—positive or negative—touched the rest. ASF became "the best-selling science fiction magazine every month (with occasional months missing) for twenty-four years, from 1951 until 1975" (Westfahl *Cosmic* 10), securing Campbell's influence at the heart of the Golden Age sf community.

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[67] From John Huntington, *Rationalizing Genius* (p. 45)

[68] Obligatory digression on magazine names: *Astounding Stories of Super-Science* debuted in January 1930, one of many direct competitors to Gernsback's foundational *Amazing Stories*. Its name was quickly shortened to *Astounding Stories* (in Feb. 1931), and it remained as such until Campbell, as full editor, changed it to *Astounding Science-Fiction* in March 1938, signaling his focus on publishing what he understood to be true science fiction stories (in contrast to the more fantastic fare that was common in earlier years). In 1960, after what he described as years of lobbying, Campbell had the name changed to *Analog Science Fact & Fiction* (sometimes using a symbol of Campbell's design instead of an ampersand, signifying "analogous to"). This was done though a graphic fade from the old title to the new, starting in February 1960 and ending in October 1960, always emphasizing the shared initials ASF. In 1965, *Fact* and *Fiction* switched places, and the name has remained unchanged since then. For my purposes, *Astounding* will designate the magazine (or any individual issue) prior to October 1960, *Analog* will refer to any from then on, and ASF will refer to the magazine as a whole. Campbell remained editor until his sudden death in 1971, and the magazine remains in publication today.

While no individual is a genre unto themselves, John W. Campbell comes close. As he once boasted in a letter to Isaac Asimov: “When I write, I write only my own stories. As editor, I write the stories that a hundred people write.”[69] His influence was magnified by the dynamics of the Golden Age sf community, a community that “stands apart from the other popular genres because it is consciously identified with a specific subculture and ideology…[during this period,] SF was by and large read by a closely knit group of people who read little else” (Huntington 2-3). As a result, “the genre has a high degree of self-awareness which leads not to criticism from within but to a rather effective control whereby, for certain periods at least, the genre is unusually coherent and consistent ideologically” (Huntington 3). This tightly-knit community seeded popular culture with ideas and ideologies that resonate into the present. Golden Age sf functioned as a laboratory for developing appropriate ideologies for a technologically saturated world, and John W. Campbell was its principal investigator.

SF readership and fandom grew in the late-1960s following the popular success of Frank Herbert’s *Dune* and Robert Heinlein’s *Stranger in a Strange Land* (especially in the counterculture). Its popularity also spread across different media empire, with *Star Trek*’s emergence as a syndication hit following its initial 1966-69 run and a persistent (if aesthetically marginal) Hollywood output. As sf spread, the ideologies developed in Campbell’s domain found multiple avenues of popular purchase, including *Star Trek’s* employment of many of Campbell’s most reliable authors. The unprecedented success of *Star Wars* in 1977—which both returned sf to its pulpy, action-oriented, juvenile roots and lodged the form firmly in American popular/mass culture—pushed expansion further. In this way, the forms of sf (not so much pioneered as perfected under Campbell’s influence) would become, by the dawn of the computer age, a key ideological sturcture in U.S. politics and culture: we call this form neoliberalism.

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[69] Recorded in remembrance for Campbell written by Isaac Asimov and reprinted in the *Letters of John W. Campbell*, Volume 1, page 23

This is not to say that Campbell invented neoliberal ideology as editor of ASF, but rather to argue that his magazine was one of the earliest venues by which neoliberal ideology was worked out, both as a cultural form and (in his editorials) as a nascent political project. Campbell’s stories, magazine, editorials, and influence track the development of an ideology that centered technology, speculation (in both the fictional and financial sense), and (what I will be examining here) a revised social hierarchy to keep it all stable. This new hierarchy centers on what I’ve been calling (following Sylvia Wynter) Man3—that is, the technophilic evolution of the liberal human subject. This Man, I argue (also following Wynter) is a distinct genre of Man that “overrepresents itself as if it were the human itself” at the expense of other genres of the human—or at least, it tries to.

This chapter is divided into two parts to focus on two different but interrelated aspects of race in the Golden Age—form and identity. Each section takes Campbell as a convenient focusing device and understands him to be an exemplar of the sf theorization of Man3. The first part focuses on Campbell’s 1938 novella *Who Goes There?* as an important transitional text—from explicitly racial to thoroughly deracinated forms of passing; from fanciful adventures to rigorous logic-puzzles; from Campbell the author to Campbell the editor—and as an important precursor to the formal qualities later valorized as “hard science fiction.” The second section looks at the development of a science fictional identity (also thoroughly deracinated, rigorously logical, and evident in Campbell’s editorial output) and its connection to an explicitly posthuman subject. This chapter is not a full history of this period, its politics, or its aesthetic evolution, but it does aim to construct a diachronic examination of the role that race plays in Golden Age sf, and to gesture towards the way race works today in our neoliberal regime.

Part I:

The Spectacle of Logic

> The *spectacle* is not a collection of images, but a social relation among people, mediated by images.
> —*Society of Spectacle*, Guy Debord[70]

> “This is satisfying, in a way. I’m pretty sure we humans still outnumber you—others. Others standing here. And we have what you, your other-world race, evidently doesn’t. Not an imitated, but a bred-in-the-bone instinct, a driving, unquenchable fire that’s genuine. We’ll fight, fight with a ferocity you may attempt to imitate, but you’ll never equal! We’re human. We’re real. You’re imitations, false to the core of your every cell.”
> —*Who Goes There?* p. 80

In *Scenes of Subjection*, Saidiya Hartman discusses the role spectacle in acclimating readers to the horrors depicted in so much literature about slavery. To avoid participating in this effect of spectacle, she focuses on “those scenes in which terror can hardly be discerned," to "illuminate the terror of the mundane and quotidian rather than exploit the shocking spectacle" (4). I doing so, she draws a convincing connection between a scene like the Aunt Hester's beating in beginning of *The Narrative of the Life of Frederick Douglass,* whose "terrible spectacle dramatizes the origin of the subject and demonstrates that to be a slave is to be under the brutal power and authority of another" (3), and the more "innocent amusements and spectacles of mastery orchestrated by members of the slaveholding class to establish their dominion and regulate the little leisure allowed the enslaved" (8). As I have argued in earlier chapters, much as emancipation was more of a transition than a historical break, so too was whiteness subject to a gradual transition in postbellum U.S. culture.

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[70] From Debord, Guy. *Society of Spectacle*. Page 7.

In this section, I am interested in what I call the "spectacle of logic" as an evolution of the earlier spectacles of mastery that Hartman describes. The spectacle of logic offers a dramatic, narrativized performance of mastery. These spectacular moments of logical process are not oriented towards enacting mastery over a specific situation or establishing a sense of scientific verisimilitude (since most actual science is dull and grinding, and most actual scientific breakthroughs are less a matter of revelatory performance than rigorous persistence). Instead, they aim to inculcate and secure the attitude of mastery. The appearance (or affect) of scientific rigor is central to the development of a rigorous aesthetic in sf much as the appearance of mastery was central to the antebellum development of white supremacy, and in both cases the appearance is secured by spectacles (both mundane and exemplary) over a dominated Other.

While there is nothing *necessarily* racial about the scientific mastery of nature, there are many other ways to do science—to organize, systematize, and generate knowledge—that don't entail a dramatic domination of resistant externalities. The domineering attitude of popularized science, both in fictional and in nonfictional representations, reproduces an attitude most appropriate to maintaining a master-slave dichotomy. Also, following Wynter's argument outlined in the introduction, "nature became a privileged category to organize knowledge precisely because it allowed for the domination of native people and enslaved Africans. Spectacles of logic, then, operate as deracinated iterations of a much older and continuous tradition of white supremacy, and in their most overtly "scientific" forms are central to a powerful brand of techno-utopianism: what John Huntington calls "rational genius." Ultimately, this spectacle scripts a teleological attitude towards managing the knowledge of race whose eschatology is the end of race altogether. As I will argue below, science fiction's evolution through the Golden Age (especially those parts under the aegis of John W. Campbell) takes such spectacle as a guiding principle, as the fictional equivalent of scientific rigor, where it becomes a crucial source of aesthetic pleasure and political scripting for the genre.[71]

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[71] Plenty of genres—plenty of literature in general—stage spectacles of logic; this may, in fact, be the central characteristic of that other Poe-derived para-literary form, the mystery novel. It is probably no coincidence that Poe is a major example in Toni Morrison's explication of the "Africanist presence" in canonical U. S. literature in *Playing in the Dark*. Nor is it coincidental that Poe grew up in a household where slaves were present, that he was largely excluded from the prestige of Northern literary culture, that he was fascinated with the dissolution of grand old genteel lines (like the one that disowned him) and one of the principle innovators of logically rigorous fiction.

This aesthetic comes together in one of the last stories Campbell wrote before taking over as full-time editor: the novella *Who Goes There?* It was published in the August 1938 issue of *Astounding* under the pseudonym Don A. Stuart (styled after his first wife's maiden name, Dona Stuart). The pseudonym wasn't an attempt to fool readers: Campbell adopted it for his more rigorous and literary sf stories, reserving his own name for the space opera adventures for which he was first known. The story offers a snapshot into Campbell's aesthetic and political preferences at the moment he was beginning his influential editorial career. It marks an important inflection point in the development of science fiction, as it is an example of the mature formal qualities Campbell championed as editor. Its influence is evident from the esteem it was in by from Campbell's peers, receiving the highest vote count for the *Science Fiction Hall of Fame*'s novella category[72]; and it is one of the earliest stories in sf to be fully "postracial."

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[72] This collection (which spanned three volumes: volume 1, which covered short stories, and volumes 2a and 2b, which covered novellas) was published by the Science Fiction Writers Association, the professional organization of sf writers who annually give one of the two major science fiction awards: The Nebulas. (The other major award is the Hugos and is voted on by fans at the annual WorldCon convention. This split, with co-equal status given to fan and professional opinion, is a distinct feature of sf in general, as is the fact that the Hugos came first.) The *Hall of Fame* was conceived of as a sort of retro-Nebula award, honoring stories that came out before SFWA's award, and stands both as a reasonable representation of the best sf written during the period and of the period's general sense of what made for a successful sf story. I would also note that sf magazines (and fans, and fanzines) were very apt to rank and rate stories, often according to some semi-scientific ranking scheme that inevitably boiled down to aggregated rankings collected from letters sent to the editors. As John Huntington notes in *Rationalizing Genius*, there was considerable cohesion among science fiction fans of this era (roughly 1938-63), in part because of this obsessive ranking and measuring. In other words, ranking first in this particular book counted for a lot; it was not a capricious or unrepresentative vote.

Who Goes There? can be seen as what we might call a hegemonic passing narrative—that is, a passing narrative told from (and addressed to those with) the perspective of a subject who has no need to pass: in traditional passing narratives, this would be a white subject position; in this story, the equivalent is the human subject position—an equivalence that would resonate through sf got decades to come. It stars a hyper-individuated monster that can pass for human (though its superior control of its body) and a band of true humans who are able to defeat it anyways (though their rigorous collective effort). In this, it is an almost perfect inversion of Keller's *The Menace*, where the highly individual Taine single-handedly defeats the collective knowledge and power of a massive black community. Campbell refigures the racism of earlier techno-passing stories (as well as of a related weird/horror inspiration, H. P. Lovecraft's *At the Mountains of Madness*) by leveraging the strategies and anxieties of edisonade and techno-passing stories.

This narrative, like its literary antecedents, ultimately works to secure the subject position of sf's predominantly white readers, though, notably, not *as* predominantly white. The speech quoted in the epigraph above has echoes of Taine's in *The Menace* ("You were born black and you will stay black!") and exhibits a similar disarticulation of essence and appearance. Where Keller's characters are explicitly indexing white supremacy, however, Campbell gestures towards a new kind of identity, one coherent and nearly coextensive with white supremacy, but distinct in its nearly complete devaluation of the body—the blood test that ultimately exposes the aliens resonates with a sense of embodied essentialism, but it only worlds after the men have mastered the properties of the blood. That is, even more than the blood's properties, it is their mastery of these properties that secures the distinction between man and non-man (in contrast to, say, the absurd white antics of Keller's Taine). In this, their humanness is dependent on (and secured by) the obedient patterns of *behavior* of their human blood, rather than the mere *presence* of human blood. This prefigures one of the posthuman shifts that Hayles discusses in *How We Became Posthuman*: the privileging of pattern over presence, though (as the frequent use of embodied elements in key moments of the story makes clear) in this early, transitional example, pattern and presence are equally important.

The permeable boundary between Self and Other is troubled and policed in Campbell every bit as much as in Keller, but the Self Campbell imagines is different than Keller's. While *Who Goes There?* is often read as a racial allegory, it is significant that Campbell never directly addresses (human) races. As the stories discussed in Chapter 3 show, there was nothing all that unusual about explicit racial description or allegory—nor of explicitly rac*ist* description and allegory—in the early science fiction pulps. Campbell's decision to utilize tropes of racial segregation (specifically, as we will see, the one drop rule and a self-justifying, violent insistence on securing ontological distinctions between largely identical bodies) without the content of race speaks to the emergence of an evolving hegemonic identity reducible neither to physical appearance nor lineal descent.

Persons or Things?

Who Goes There? tells of an alien encounter at a supremely isolated Antarctic research base. It opens with a report from a research team that discovered (and accidentally destroyed) an ancient alien ship-wreck frozen in the ice. Outside the ship they find an alien creature, also frozen, which they secure and bring back to base. There is some debate as to what to do with the creature—Norris, a physicist, troubled by nightmares on the journey back to base, argues against letting it thaw; Blair, a biologist, argues logically in favor of full study, and, predictably, logic carries the day. The creature is unfrozen for study, gets loose (turns out it was only dormant, and much more resilient and adaptable than the men ever could be) and starts attacking the base. The creature can "digest" living matter and imitate this matter with a high degree of accuracy. The creature also possesses sufficient telepathic abilities to seamlessly imitate behaviors, which together with its shapeshifting allows it to start replacing the men of the outpost. Its goal seems to be to escape the outpost—to take over the world, the men think, though for all we know it just wants to build a ship and go back home—while the men's goal is to figure out some way to determine with absolute confidence who is authentic human and who is alien imitation (so that they can then affect the most effective quarantine possible: the violent annihilation of every trace of the alien).

The men ultimately triumph when one figures out a simple test to differentiate human from Thing (as the alien comes to be called). The will use a live wire to electrocute a small blood sample: "The blood—the blood will not obey. It's a new individual, with all the desire to protect its own life that the original—the main mass from which it was split—has. The *blood* will live—and try to crawl away from a hot needle, say!" (80, emphasis in original). In this way the men and the Things are identified and (where alien) culled, with one exception: the biologist Blair, who was locked up alone in a cabin (and entirely Thing-ed) for most of the story. The remaining men storm his cabin and discover a monster and its marvelous machines—some exotic power source, a heater, and an anti-gravity device—all improvised from stuff around the base. The men don't hesitate; they beat the Thing to death in the most explicit, violent episode of the story. Then they congratulate themselves on saving the world.

Like many science fiction stories from the Golden Age, there is little by way of explicit political commentary—we don't know that McReady is a rough'n'tumble capitalist and Blair an effeminate socialist; or that the physicist Norris's superstitious caution is meant to be understood as superior to biologist Blair's reckless enthusiasm; or whether these men are or are not engaging in homosexual acts[73] (and, if they are, whether they restrict their activities to homosocial situations like the isolated all-male research station or not); or what (or whether) any of them think about women (none are even mentioned in the story). This is not to say the story lacks a politics—many insightful readers have long since dispelled that notion. What it lacks is an acknowledgement of its politics, an example of sf's attempt to locate and monopolize "nonpolitical power," as Huntington puts it.

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[73] This aspect is explored in detail in Wendy Gay Pearson's queer reading of the story in "Alien Cryptographies: The View from Queer" (*Science Fiction Studies* 26.1 (1999): 1-22).

To give a sense of contrast, many have noted that Campbell's novella was written soon after (and was likely at least partly inspired by) the 1936 publication of Lovecraft's *At the Mountains of Madness* in *Astounding Stories*, which likewise features Antarctic-dwelling, amorphous, gelatinous, occasionally-betentacled monsters whose exceptional physical prowess explicitly threatens the researchers who stumble across them.[74] In Lovecraft's tale, displaced racial anxiety sits near the surface—in descriptions of the landscape, for instance: "Below the ice cap, however, the twilight deepened; and in many parts of the tangled ground level there was an approach to absolute blackness" ("Part 2," 142)—and permeates the narrative.

For Lovecraft, the amorphous imitative things (he calls them Shoggaths) were explicitly linked to slavery: to aid in their colonization efforts, the Old Ones manufactured "certain multicellular protoplasmic masses capable of molding their tissues into all sorts of temporary organs under hypnotic influence and thereby forming ideal slaves to perform the heavy work of the community" ("Part 2," 145). The Shoggaths eventually rose up and rebelled, and their description when the narrator finally encounters one seems to channel an antebellum anxiety over mass slave revolt: "We were on the track ahead as the nightmare, plastic column of fetid black iridescence oozed tightly onward through its fifteen-foot sinus, gathering unholy speed and driving before it a spiral, re-thickening cloud of the pallid abyss-vapor."[75] There is no resolution to

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[74] See, e.g., Vint "Who Goes There? 'Real' Men Only" note 4, p. 436

[75] This part from the same passage, where the Shoggoths' culture is attributed entirely to the Old Ones and imitation, offers a more structural connection to Lovecraft's racism, mirroring the tendency of (we'll call

Lovecraft's tale: the narrator, a geologist sent to examine the site, barely manages an escape while the hapless graduate assistant Danforth ("a great reader of bizarre material" including Poe, we are told) caught an unmediated glimpse of the horror as they flew away, and ever after has a tendency to lose his mind.

For Lovecraft, the horrific encounter with blackness is an encounter without closure, reflected in the formless mass, unstructured matter, pure Thing. Campbell's version is less obviously riven by racial anxieties (resonance with the one drop rule not withstanding). His creature is likewise imitative and also induces that most classic of gothic horror tropes: doubling. But this Thing is not a speechless, amorphous blob like Lovecraft's: it assumes discrete shapes, it adopts particular voices, and if its inventions revealed at the end are any measure, it is smart beyond all human comparison. Although it seems to be likewise constituted of "jellylike protoplasm," that is soon rationalized: "This isn't wildly beyond what we already know. It's just a modification we haven't seen before. It's as natural, as logical, as any other manifestation of life. It obeys exactly the same laws. The cells are made of protoplasm, their character determined by the nucleus" (54). The only difference, as Blair explains, is that "in this creature, the cell-nuclei can

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them) slavery apologists to diminish anything specific to black history, language, or culture: "And at last we remembered that the demoniac Shoggoths—given life, thought, and plastic organ patterns solely by the Old Ones, and having no language save that which the dot-groups expressed—had likewise no voice save the imitated accents of their bygone masters." ("Part 3," 148). Lovecraft was, of course, an explicitly racist writer in some of his less famous work. As Nnedi Okorafor noted after winning a World Fantasy Award (signified by a statuette bust of Lovecraft), much of the symbolic racial anxieties that play out in his fiction is more clearly comprehensible as racial in the context of these lines from his 1912 poem "On The Creation of Niggers": "A beast they wrought, in semi-human figure/ Filled it with vice, and called the thing a Nigger." That word—no, not that one, the other one, "thing"—is wildly overdetermined in both Lovecraft's and Campbell's hands. To pick just one non-contemporary example: the original subtitle of *Uncle Tom's Cabin* was "The Man That Was a Thing."

control those cells at will." In other words, for Campbell the Thing is precisely *not* a formless mass: it may in fact be the most radically individuated creature in all of literature.

It is in many ways a superior managerial subject, mastering its body (or form, or, as it is later called in the story, flesh) with unprecedented acuity. Its radical individuation, however, is compromised by a lack of sufficiency: the Thing cannot, for instance, transform into some creature that can withstand the frigid Antarctic environment, or one that can just fly away, which at the very least suggests a decided lack of imagination. It depends on the tacit cooperation of the humans for survival, either enforced through physical conversion or through manipulation of social norms though uncertainty. This individuation is also ultimately its downfall, as McReady figures out: the Thing is fundamentally "Selfish, and as Dr. Copper said every part is a whole. Every piece is self-sufficient, an animal in itself." The radical individuation and concomitant selfishness become constants that the true men can count on to solve the problem set up by the story.

The solution is presented as a logical sequence that resolves into tautology. The Things have to perfectly imitate human responses (both psychologically and physically), which means, in the words of McReady: "They have to bleed, if they don't bleed when cut, then, by Heaven, they're phony! Phony from hell! If they bleed—then that blood, separated from them, is an individual—*a newly formed individual in its own right, just as they, split, all of them, from one original, are individuals*" (80, emphasis in original). And, of course, "The blood will not obey!" The Things' hyper-competence only extends as far as their touch. They lack the superior visually-oriented control of the men, which enables them to project power beyond their bodies, allowing them to form a collection that can overcome even this manifestly superior Thing that is, in the end, just another body. Because they are compelled to imitate, and because they are unable to operate as a collective, the radically individuated Things are defeated by the collective insight (and violence) of "real" men.

The men's groupthink is a surprisingly common theme in this story, especially given Campbell's anticommunist tendencies and (narratively speaking) in contrast to McReady's status as exemplary individual. The men often think as one, even to the extent of obviating the need for a dominant man—e.g., "McReady spoke with an authority of planned action. Barclay turned down the long corridor to the power plant, but already before him Norris and Van Wall were racing down" (52). This groupthink allows for communal certainty as each man "naturally" follows the same "logical" line of action towards an "inevitable" conclusion. It forms another crucial yet unacknowledged constant in the story's formal tautology: the test doesn't end anything without the "real" men's mutual faith in their test and in the righteousness of their cause—or more to the point, without their absolute belief in the inhumanity of the Thing. There is no attempt to negotiate with the identified Things, for instance (with all the complexities that come with that—determining truthfulness, intention, etc.). The logic of the story rests on the presumptions of a zero-sum relationship, on the assumption that there are such things as zero-sum situations (entropy suggests otherwise).

McReady's logical reasoning finally discovers a solution that is clearly an estranged/estranging application of the one drop rule. Scholars like Lavender see this connection as evidence of the story's retrograde racial politics—he goes so far as to read *Who Goes There?* "as an overt endorsement of racism" (134)—and with good reason. The idea that "the blood will not obey" echoes the logic undergirding the one drop rule, that "blood"—which rhetorically conflates lineage, inheritance, race, and biology into a unified essence—is in fact a stable means for distinguishing the human from the Other. This is especially apropos following the first, failed blood test, which sought to make use of the (then-current) technique of blood serums[76] to identify the imposters. The threat of miscegenation lurks beneath this initial failure: the test was compromised by the fact that one of the two "human" donors was in fact an imposter, and so both human and Thing blood react. The mixing of blood destabilizes mundane means of distinction; the science fictional insight, borne from keen insight and logical deduction, restabilizes it.

That keen insight and logical deducing, however, are themselves defamiliarizing devices. Simple observation is not sufficient to distinguish, nor is a passive blood test. The test in the story is active—true humans are distinguished not by their appearance or even through their actions, but rather by their effects. The blood reacts, to be sure, but only when actively tested. The test does not even need be blood; it would work with hair, with toe-nails, etc. It isn't the substance that is ultimately important, but the test results. The conflation of blood and essence is rendered with seductive certainty here. For this reason, Campbell's second blood test is especially overdetermined, functionally reinscribing a racist practice with a spectacular deployment of logical reasoning that has nothing obvious to do with race. Other, more structural elements connect this logical resolution to white supremacy as well. The "irrational" prejudice of the physicist, Norris, that leads him to argue against the study of the alien in favor of its immediate destruction—all decidedly un-science fictional traits—is proven to be well founded, and this prejudice was right and the alien *should* have been immediately destroyed. In other words, it can be logical, in the end, to discriminate on a pre- or sub-rational basis. At the same time, even if prejudice is unwisely ignored, the new spectacle of logic will suffice to secure he human (though not without casualties). This shows pre-rational prejudice and spectacularly logical deduction to be effectively equivalent.

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[76] The real-world test involves dosing a mammal with human blood to build up an immunity (blood from other species is poisonous for most mammals; most animals, actually). Then the blood can be drawn and stored in a vial. When mixed with a blood sample, the serum-blood will react so long as the blood is human; otherwise it won't. This was widely used to test crime-scene blood, for instance.

Similarly, the story also valorizes masculine violence, seen especially at the story's violent end for the Thing that had mimicked Blair, which recalls the gruesome lynching scene near the end of Schuyler's novel, for instance:

> The huge blowtorch McReady had brought coughed solemnly. … The Thing on the floor shrieked, flailed out blindly with tentacles that writhed and withered in the bubbling wrath of the blowtorch. It crawled and turned on the floor, it shrieked and hobbled madly, but always McReady held the blowtorch on the face, the dead eyes burning and bubbling uselessly. (85)

Blair's end is especially violent, but a similarly brutal and merciless violence follows every discovery of a Thing. The men's violent reaction to their new certainty about the human/non-human divide recalls the violence of the lynch mob (still a live practice at the time, though much diminished in frequency from the heights seen between 1880 and 1920), but contained and utilized by scientific principles of verification. This suggests a sort of closure or use-value even for those things that exceed the bounds of logic, turning such “natural” reactions into tools at the service of a sufficiently clever man. The fact that this useable violence—this excessive emotion—can be instrumentalized might evoke the horror of objectification, except that the men are doing it to themselves, using their own (individual and collective) violent irrationalism for a predictable end, and further separating the embodied person from the guiding intelligence.

What is clear is that there is only one proper way to determine humanity: rigorous, logical testing, an appeal to external verification. Such an appeal stands in contrast to the exceptional individual, suggesting the process rather than the person is exceptional. This narrative point is underlined by the other aspects of the story. In terms of characterization, for instance, McReady is mostly distinguished from the other character by being like the other men, only more-so. Like everyone else at the base, for example he is a consummate expert, though unlike them his expertise stretches across fields (he’s a meteorologist who almost first finished an M.D.). That is, he is an exaggerated representative of a type rather than an exceptional individual in his own right. Every man on the base is of the same type, even if their competency is in cooking or machine repair or other vocations that don’t have doctoral programs. Each man is competent, and none is immune.

This type extends beyond the base, as well. As the men discuss how to keep up the appearance of doing their work without tripping any alarms about their situation (and therefore prompting a rescue attempt that could inadvertently allow the Things to spread), McReady determines that they can effectively bluff normalcy:

> They’ll know something’s wrong. But men like that have judgment enough to know we wouldn’t do tricks without some sort of reason, and will wait for our

> return to judge us. Think it comes to this: men who know enough to recognize our deception will wait for our return. Men who haven't discretion and faith enough to wait will not have the experience to detect any fraud. (63)

Thus does competence separate "real" men from the chaff. For all the universalist implications of this approach, however, there remains an assumption of something innate that distinguishes true men (truly superior men) from everyone else. John Huntington identifies this as IQ, though while Campbell sometimes uses IQ as a proxy for measuring this feature in many of his editorials, and *Who Goes There?* itself, suggest that this quality is beyond simple measure. What is required is a rigorous system of examination, of which intelligence is only one part. The other part is having the proper comportment towards knowledge, a comportment dramatized by spectacles of logic, scripted as a process of achieving mastery.

We can see this in McReady, who for all his exceptional educational history, does not draw ultimately on that knowledge. Inasmuch as McReady is a (fairly juvenile) object of reader-identification, his behavior—his method or process—scripts proper manhood as the ability to remain logical and to manipulate the raw facts of nature. His solution is improvisatory, working with the materials at hand, but aimed at closure—less a recognition of than a reckoning with the contingency of the situation. The story even pauses between the moment of realization and the revelation, allowing McReady to gloat (see epigraph), but also building tension in the reader, who can try to match McReady in cleverness before the game is up. McReady is an ideal, a bit of wish-fulfilling identification for the more juvenile impulses of the sf readership, but he does nothing the reader couldn't do with the proper training. The pleasure of identification comes as much from the experience of arriving at the solution as from identification with the representation of a man who can reach the solution. The story's staging of mastery through the spectacle of logic enables vicarious mastery for the reader.

The puzzle's resolution is a moment where narrative and characterization conspire to inculcate a sense of proper science fictional subjectivity in the reader. Aesthetically speaking, such narrative build-up is hardly unique to sf—what's distinctive here is the insistent repetition of the form. The novella's big reveal is structurally foreshadowed (and echoed) by similar moments throughout. Often, these moments are thoroughly mundane, even didactic. Their effectiveness comes from the way the stage and restage logic as spectacle. During an early expository scene, for instance, McReady diverts from his description of the crash site at which they discovered the Thing to muse on the meteorological conditions of the site (apologies in advance for the long, dry quotes):

> You have asked me at various times why it gets warmer here when the wind rises, and most of you know. As a meteorologist I'd have staked my word that no wind could blow at -70 degrees—and no more than a 5-mile wind could blow at -50—without causing warming due to friction with the ground, snow and ice and the air itself. . . . But for twelve consecutive days the wind blew at 45 miles an hour. It went as high as 48, and fell to 41 at times. The temperature was -63 degrees. It rose to -60 and fell to -68. It was meteorologically impossible, and it went on uninterrupted for twelve days and twelve nights. (36)

He then offers an explanation, speculative but rigorous:

> Somewhere to the south, the frozen air of South Polar Plateau slides down from that 18,000-foot bowl, down a mountain pass, over a glacier, and starts north. There must be a funneling mountain chain that directs it, and sweeps it away for four hundred miles to hit that bald plateau where we found the secondary pole, and 350 miles farther north reaches the Antarctic Ocean. (36)

Note the use of precise numbers,[77] distinct from vague explanations (the wind blew especially cold) or accurate numbers actually derived from measurements (as one would expect in a scientific report): this is characteristic of appeals to scientific authority—their specificity lends the whole passage an air of objective measurement, despite the fact that these numbers are as fictional as the rest of the narrative. This works as an appeal even though the whole first half of the quote is explicitly (diegetically) speculative—incorrect speculation at that. Despite McReady's expertise, his intuition is confounded by inflexible reality, reality which takes no heed of his theories. The passage, then, is less about establishing McReady's absolute mastery or even his scientific acumen (and thus figuring him as a genius in the mode of Gernsback's Ralph 124C 41+), than it is about creating a small puzzle and establishing McReady as an efficient puzzle-solver and staging his process for the reader. McReady's readiness comes from his mastery of the scientific method more than an ability to sovereignly impose his will onto the world.

In this, the performative effect of Campbell's sf is closer to improvisation than sovereignty. Inasmuch as sovereignty is about self-governance—which is another way to say, about freedom from external impositions, external conditions; about freedom from context, the freedom to create the context—*Who Goes There?* offers little to script a fantasy of sovereignty in its readers (in contrast to the edisonades examined in chapter 2, for instance, whose central male objects of identification move freely through nature, imposing their will/whim as the go). Everything in the story is subject to a supremely inflexible reality—from McReady's meteorology to the Thing itself. Faced with reality's intransigence, McReady and the other real men (and, by implication, the various Things) have to work with what's at hand to affect the outcome they want. This science fictional improvisation is, importantly, not a matter of bringing the self into some sort of comportment with the context—securing a stable identity is of paramount concern. Rather, it represents a variation on mastery whereby superior knowledge of reality (from one's stable identity to the laws of physics) is leveraged to redirect the forces of the world to suit one's desires, one secured through the spectacular deployments of logic.

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[77] This technique was not unique to Campbell; it has roots in Jules Verne's techniques, and often weighed against H.G. Wells' less rigorous approach.

Of Race and Robots

The aesthetic mode of *Who Goes There?* became generalized in the Golden Age as a form fans would later call "hard science fiction," as Campbell's aesthetic (and later, political) preferences became a guiding principle for the sf subculture, one defined against the less spectacularly rigorous stories common to sf prior to the Golden Age. This division is evident in Campbell's use of pseudonyms, as P. Schuyler Miller notes in a pair of reviews from the early fifties:

> While John Campbell was turning out, under his own name, some of the best of the gadgety yarns typical of the period, under his 'Stuart' pen name he was laying the foundations of the more adult stuff we know today. Having proved it could be done, he set out to buy it for his magazine. And here we are. (August 1952, 128).

"Campbell" and "Stuart" form a sort of dialectic that resolved in the so-called Golden Age less by synthesis than in the ascendency of the aesthetic of what I'll call "Stuart Stories," a style exemplified by but hardly confined to his 1938 novella.

Soon many of the major authors, new and established, were writing stories that turned on unfolding logical puzzles. Perhaps the best-known example is Isaac Asimov, one of the writers Campbell cultivated in his early years as an editor. Asimov became famous for his robot stories—stories that, as many have noted (including me, in my chapter "Of Race and Robots" for *Critical Insights: Isaac Asimov*)[78] traffic in racialized imagery, language, and ideology—largely because he broke out of the old-fashioned categories of earlier robot stories. Though Asimov did not invent the robot, his many stories about robots—and in particular, his Three Laws of Robotics—helped to shape what "robot" means in the popular imagination: humanoid in shape, obedient by programming, and logical to a fault. Asimov was pushed to codify these laws by Campbell, and in doing so participated in the conflation of physical laws (e.g., Newton's Laws of Motion) with social laws.

As Despina Kakoudaki argues in *Anatomy of A Robot*: "Any context in which one character can say 'Yes, Master' to another *must* be considered in relation to actual histories of oppression, no matter how fictional or imaginary the settings for such utterances may be" (118, emphasis original). Asimov's robot stories center on characters that are owned, characters whose value and purpose derive entirely from the work they do, work that humans either can't do safely or just don't want to do. Asimov's Robot stories are not explicit racial allegories—that is (with one exception)[79] he did not write stories about robots that were intended to be read as stories about race—but they nevertheless reflect the legacy of slavery in America. As he puts it in *The Complete Robot*, most robot stories "fell into two classes" that he dubs "Robot-as-Menace" and "Robot-as Pathos" (9). Asimov did not frame these classes in the context of slavery, but it is easy enough to see how they both descend from slave narratives: Robot-as-Menace play on anxieties of slave rebellion and the potential violence of the underclass (a source of much anxiety throughout the nineteenth century), while Robot-as-Pathos stories played on the cruelty of masters towards their property (in the mode of white-authored texts like *Uncle Tom's Cabin* and black-authored-but-white-addressed narratives like Frederick Douglass's various autobiographies). In both cases, the story assumes the primacy of the human (or white) perspective.

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[78] Evans, Taylor. "Of Race and Robots," in *Critical Insights: Isaac Asimov*, edited by M. Keith Booker, 128-42. Ipswich, MA: Salem Press, 2017.

The connection between robots and slaves was not one of Asimov's innovations, however; that distinction belongs to Karl Čapek, the Czech playwright who first coined the term "robot" in his 1920 play *R.U.R.* (for *Rossumovi Univerzální Roboti*, or in English, *Rossum's Universal Robots*). *Robota* is a Czech word glossed by one scholar as "serf, menial, slave" (Chude-Sokei 62), and is used by Čapek to describe a race of artificially produced humanoids sold to do all manner of physical and service work. Čapek's robots are carefully engineered humans, designed to grow quickly and work

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[79] "Segregationist," written in 1967 (the same years *Loving v. Virginia* struck down all anti-miscegenation laws), is clearly referencing racialized anxieties. It is also one of the few stories to focus on a robot perspective, though this is not clear until a surprise final reveal. The Segregationist is, it turns out, the robot surgeon, and the title refers to its contention that humans and robots shouldn't mix (even when it comes to mechanical vs. more synthetic heart replacements).

obediently, and they quickly take over jobs around the world. They revolt only after humans have become entirely dependent on their labor, and their revolution is a quick and permanent success, wiping out all of humanity save for one engineer. Unfortunately for the robots, the secrets of their construction died with humanity, and in their streamlined construction, no time was wasted on reproductive abilities. The play ends on a note of ambiguous hope, as two previously unknown experimental robots (resembling the play's two central characters) appear on stage, prove their love, and run away, while the lone remaining human suggests that they represent a new Adam and Eve, heading off to start a new world full of new life.

Notably, these robots don't have much in common with popular conceptions of robots today: the play provides sparse details, but suggests that they are more biological than mechanical, and that they are largely indistinguishable from humans (in the first act, for instance, one character mistakes a robot for a human, then mistakes some men for robots, destabilizing the distinction between robot and human even as it introduces this very same distinction). The confusion of human and machine in Čapek's foundational play drives the metaphorical resonances of the robot from its very beginning, even if post-Asimov we tend to think of robots in purely mechanical terms, reserving terms such as "android" and "cyborg" for other forms of artificial humans.

Even in the many early science fiction stories where robots are more clearly mechanical, the contested boundary between human and machine functions as a central trope. Robots rebel because, like humans, they desire freedom, self-determination, rights, and (often enough) revenge against those who have oppressed them. Even despite their less-than-human form, robots in these stories demonstrate a political, ethical, and moral consciences equivalent to those of humans.

It is at this point that the robot intersects precisely with the racialized slave. Čapek's early robots clearly traffic the same terrain as enslaved Americans: they are treated as property, they are meant only to do work for the sake of others, and they have no rights, even though they are largely indistinguishable from fully human subjects. These similarities are more than coincidence: though a Czech writer may seem an unlikely source for commentary on American racial politics, Čapek was quite familiar with American racial strife, even explicitly drawing on themes of racial solidarity in his 1936 novel *War With the Newts*: "the lynching of blacks and the lynching of Newts takes on a familiar social and indeed sexual shape. More than anything else it is this act of violence that makes it abundantly clear how closely Čapek intended for us to read the Newts as or in relationship to blacks" (Chude-Sokei 64). I would add that Čapek was also very interested in the plight of labor unions and the ideals of the Marxist International. The issues of race and labor are, in other words, thoroughly conflated here.[80] Later robot stories drew from a similar if less explicitly acknowledged background.

As with Asimov's Robot stories, these stories are almost always written from the perspective of the human: even when the robots' plight is portrayed sympathetically, the story presumes its reader will identify with the humans, with creators and owners and beneficiaries of the robots' exploitation. These stories are, in other words, fantasies for those who imagine themselves to be empowered. In this way, the robot story not only traffics in the imagery of slavery, but also participates in a deracinated form of white supremacy, where "humans" play role of "all men [who] are created equal." Such stories help to shape their readers into "humans," scripting a relationship to new technology that follows the old script of master and slave.

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[80] For more on the role of race in late nineteenth and early twentieth century labor unions, see David R. Roediger and Kathleen Cleaver's *The Wages of Whiteness: Race and the Making of the American Working Class* (2007).

Asimov's earliest robot stories were written and published during an era in which both American law and tradition treated non-white people as second-class citizens, and the mostly white-authored sf periodicals of the day reflected these values. Even though Asimov was a committed social liberal, many of his earliest robot stories drew on his contemporary culture to create plausible robot-human interaction, some of which bears the hallmarks of a segregated society. Race often appears as a subtle background for the action of the story. One of Asimov's best-known recurring characters, for instance, the "robopsychologist" Dr. Susan Calvin, frequently refers to robots as "boy." By the 1940s, the term had become a conventional form of address partly because it was understood to be less offensive than other terms (the n-word in particular), and partly because it still clearly signaled an unequal relation. Simply addressing an adult as "boy" was enough to assert a specific, unequal, racialized relationship between two people—specifically, between a white man and a black man. (It was, and is, a conventional way to address a dog, and indeed many of Asimov's early robot stories situate robots as more akin to pets than people; however, his robots' humanoid form and ability to speak makes it difficult to see his robots as pets.)

By adopting this form of address in his robot stories, Asimov suggests that his robots have a place in society analogous to that of contemporary African American men, and that his human characters who interact with the robots—mostly engineers or robot specialists—have a role analogous to that of white people who interact with or employ African American men. In the 1947 story "Little Lost Robot," for example, Dr. Calvin addresses a robot she suspects of trying to escape: "'Boy,' she said, 'your thinking has its points, but it is not the sort of thing I thought you might think. Did you think of this yourself?'" (448). This diction is especially significant coming from Susan Calvin, who is noted in many of her stories for her unusual empathy towards robots, as well as her tireless insistence on treating robots with respect and dignity. She does not call her robot "boy" out of antipathy or overt prejudice, but rather to help establish her position with respect to the robot: she is in control, while the robot is subservient.

This background racial content matters for a few reasons. It clearly indicates that, whatever Asimov's personal politics, his stories were written and conceived in terms which reflected society's racism, even to the point of reproducing this racism, albeit in an unfamiliar context. The unfamiliar context might do a few things: it could suggest that this language is not appropriate to use with other humans, since it is properly deployed in these stories only when speaking to robots. But it may also do something of the opposite: deploying racialized language helps to link the humans in Asimov's stories with whiteness through the known language of white supremacy. This can be problematic inasmuch as it suggests that Asimov's science fiction is principally addressed to white folks and implies that the story of technological mastery displayed by these humans is somehow the special providence of white people.

Even if the robots are meant to be read sympathetically as allegorical representations of African Americans, Asimov's approach does not actually do much to humanize people in this position. Instead, his approach takes a perspective that still treats the "other" (robot/African American) as the problem of sf, as something distinct from the humans who in almost every story form the dominant perspective and voice. Indeed, while the use of racially loaded words like "boy" (and, in other instances, "master") make the power structures of Asimov's robot stories quite clear, these structures exist even when no such language is used. The form of the narrative follows the logic of white supremacy, placing the concerns of those recognized as fully human at the center of the plot, while relegating those with different concerns to the status of narrative object.

His post-race innovation was to push this logic out of the realm of threat or sympathy and into the domain of the sf subject. As Asimov notes, when he set out to write his first robot story ("on June 10, 1939"—he kept "meticulous records"), "something odd happened… I managed to get the dim vision of a robot as neither Menace nor Pathos. I began to think of robots as industrial products built by matter of fact engineers" (9). This new mode, Robot-as-Engineering-Problem, became the basis for all of Asimov's most famous robot stories, as well as what is probably his most enduring cultural contribution: The Three Laws of Robotics.[81] The interrelationship between these laws, this hierarchical set of daisy-chained imperatives, became the basis for most of the thirty-one stories later collected in *The Complete Robot*. These stories move by way of a social engineering, as the aberrant behavior of one or more robots is either disciplined into compliance or shown to be working in compliance in spite of appearances. In every case, the resolution turns on the logical unfolding of a strictly defined problem, staging unruly labor problems—problems of mastery and resistance—as the subject of spectacles of logic. In this, Campbell's influence is most evident.

Despite breaking out of the Menace/Pathos binding, these stories retain that framework's address: with a couple notable exceptions, the stories are told from the perspective of the humans, usually the humans tasked with solving the problem. Even in most of the stories about robot subjectivity, this subjectivity is filtered through a human robopsychologist (most prominently Susan Calvin, though there are others). Only the last two stories collected in *The Complete Robot*, "…That Thou Art Mindful of Him" (1974) and "The Bicentennial Man" (1976), center robot subjectivity at length, and in doing so break with the Engineering mold: "for though I adhere strictly to the Three Laws," the former “is clearly a Robot-as-Menace story,” while the latter “is even more clearly a Robot-As-Pathos story” (603).

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[81] The Laws, though you probably don't need the reminder, are first articulated in the 1950 story "Runaround": 1. "A robot may not injure a human being or, through inaction, allow a human being to come to harm"; 2. "a robot must obey the orders given it by human beings except where such orders would conflict with the First Law"; 3. "a robot must protect its own existence as long as such protection does not conflict with the First or Second Laws" (*The Complete Robot* 269-70). Notably, they were first formalized by John W. Campbell: "It was he who considered my third or fourth robot story and said, 'No, Isaac, you're neglecting the Three Laws of Robotics which are—' and that was the first I heard of them…He denied he had made up the Three Laws of Robotics and insisted he had found them in my stories and merely put them into words" (*Letters* 24-25).

The protagonist of “The Bicentennial Man” achieves his goal of human recognition after two hundred years of modification; as an allegorical tale of property achieving humanity, it is, as Kakoudaki argues, clearly a parable of the civil rights movement. Although the basic trajectory of the story, from property to human recognition, offers a rather rosy view of the slavery and its legacy, many of the specific conditions by which the trajectory is achieved offer a more nuanced take: Andrew (the protagonist, named by the daughter of his original owner after his designation NDR) achieves political recognition only when he modifies himself to be able to die a “natural” death. This is only possible as he replaces the mechanics of his body with synthetic flesh parts, and his laborious path to recognition through the courts is followed by regulations and engineering to prevent any *other* robot from traveling the same path. His humanity, in other words, is both posthumous and exceptional, and of little use to any but him, and limited even for him.

If the story’s pathos comes largely from a self-righteous triumphalism that, in the abstract, acknowledges Andrew’s innate humanity against systemic social oppression, it nevertheless individualizes his struggle for recognition. Andrew must self-emancipate, as his society has little interest in seeing him free or recognizing him as equal. Even the story’s first successful court case to free Andrew frames this universal right in negative terms, still centered on and addressed on a narrow concept of *human* rights: “There is no right to deny freedom to an object with a mind advanced enough to grasp the concept and desire the state" (646). The story's rigorous approach to universalizing human rights, in other words, does so in such a way as to maintain the status quo. It implies that to be a true human is to be one who has no need to insist on recognition, while any still relegated to non-human status deserves the condition because they have not demonstrated an adequate individual desire.

"…That Thou Art Mindful of Him" features a rigorous working-through of the Laws of Robotics, one which likewise ends up disrupting the boundary between human and non-human, albeit in somewhat more sinister tones. This story focus in on a series of robots laboriously chipping away at a fundamental problem of the Three Laws: how to recognize the "human being" of the Three Laws—the one who is not to be harmed, and who is to be obeyed, even over a robot's own welfare. The humans in most robot stories are scientists, engineers, or otherwise technically minded folks (as in Asimov's universe robots were quickly banned on Earth). As such, there has been little trouble with the definition of human since everyone who would fit that category has been more-or-less qualified to order robots around. In their attempt to introduce robots back onto Earth, however, the corporation that invented them faces a problem: the mass of untrained, malicious, and otherwise unfit humans that a robot would be obligated to obey, and the fact that the Second Law is not discerning. Hence, two experimental robots are manufactured and tasked with creating a robot that can differentiate between orders from those people who are authoritative, and those who are ignorant, malicious, or whimsical.

Together they develop a set of practices for making distinctions between people, and two principles emerge: the first, that "educated, rational, and principled people" should be given preference; the second, that "superficial characteristics" of body shape or lifestyle are not relevant concerns in making this distinction. The easy conflation between educated, rational, and principled merits some consideration. For one thing, while formal education is measurable enough (through various forms of certification), it is less clear how to determined rationality without some situation that both demands a response and where this response can be clearly defined as rational or not. For another, this classification scheme is agnostic about *what* principles a subject has (Hitler was pretty principled; monstrous, but principled…). It privileges people whose emotions are not part of their self-governance, whose embodied impulses are mastered by an abstract rationality—in short, people who think like machines.

Their project eventually bears fruit, though from an unexpected direction: the robots suggest the mass production of small, dumb, non-anthropomorphic robots who would still abide by the Laws and still drive profits for the corporation, but without threatening people's sense of autonomy. The story ends with the two robots stored away in a closet after their parent company abandoned plans to sell intelligent robots on Earth. In between long bouts of low-power mode, they continue to work on the problem between themselves, deducing from their principles that, as they are the most rational beings they have yet encountered, and as they are differentiated from humans only in the superficial characteristics of the body, they are in fact the highest authority for robots and so decide for themselves that they are in fact the most superior humans around. Though it ends on a different tone, "…That Thou Art Mindful of Him" likewise deconstructs the category of human, opening up the category to include robots, though this time the robots are entirely self-emancipated—there is no hint of recognition from the humans who put them in a closet and presumably forgot about them. The self-emancipation here is rather more empowering than in "The Bicentennial Man," but it is similarly individualized; it is, in fact, the process of recognizing oneself *as* an individual that opens one up to the genre of human.

In both cases, these "Two Climaxes" (as Asimov categorizes them) use their fictive rigor to deconstruct the boundaries of the human, rendering the conflation Čapek introduced as metaphor into something arrived at through logical certainty. In deconstructing the limited (and limiting) boundaries of the typical liberal human subject, this rigorous approach to human recognition opens the category more broadly—one need not be biological, to say nothing of white, to be fully human. This newly expanded understanding of the human, however, still adheres to values of mastery and individuation, and is still premised on a hierarchy of being, simply replacing the old signifiers with new ones: the careful mastery of one's self and one's situation, as evidenced through one's ability to adapt and thrive in any context, to be free from the boundaries of context. This freedom from context is one of the core values of Golden Age sf, and the genre scripts an approach to this freedom though its spectacle of logic, through a spectacular rigor that John W. Campbell, in particular, valued.

The Politics of Hard SF

The ascendency of Campbell's Stuart Stories has some important implications for the structure of science fiction more generally: "The tales of the Gernsback era had sought to teach science through fiction; the stories of Don A. Stuart offered philosophical quirks on the possible future of man and his works" (Miller November 1952, 156). Campbell's taste for empiricism became a hallmark of his magazine throughout the forties and fifties. This approach is perhaps best exemplified by the case of "Deadline," a short story by Cleve Cartmill written with much guidance from atomic-enthusiast Campbell and published in 1944. The story describes, in accurate technical detail, the development of atomic weapons. It was so steeped in scientific literature about atomic theory that the FBI saw it as dangerous to the real-life atomic weapons program and demanded it be pulled from circulation. Campbell convinced them this would only serve to alert the public/enemy of the truth of an American atomic weapons program, and the magazine circulated as normal. Campbell's tendency in his later years to promote what most saw (and see) as pseudo-sciences like Psi and Dianetics, as well as his often-bigoted editorial fulminations, can perhaps be traced back to this moment of predictive prowess and the methods which made it possible.

The purest applications of the aesthetic values of Campbell's Stuart Stories were distilled into what John Huntington calls "hard-core SF" (69), and which most of science fiction fandom has come to call simply "hard sf." Such stories are conventionally understood as deriving their "hardness" from their close adherence to actual science—Gary Westfahl, in one of the first academic works dedicated to tracing the history and form of hard sf, defines the genre through its adherence to a first principle that "hard SF is committed to *avoiding scientific errors in stories*" (162, emphasis in original).[82] Huntington offers a similar frame through a comparison of Robert Heinlein and Jules Verne that notes: "Both writers praise a literature that relies, not on 'invention' . . . but on a strict adherence to a reality principle certified by hard science" (71).

The term was initially coined as a nostalgic gesture. As Westfahl notes, it was (almost certainly) first used in print by P. Schuyler Miller, the perennial book reviewer of ASF, in a November 1957 review to describe an older, reprinted novel: *Islands of Space* by John W. Campbell. His novel is described retrospectively: "Although it has been carefully modernized, it's old-fashioned now. It is also very characteristic of the best 'hard' science fiction of its day" (143). Westfahl shows that the term did not take off immediately—it was one of many used by Schuyler during the late 1950s and early 1960s to index a certain kind of story. The variety of modes of address speak to the desire, at least within the most visible parts of the sf community, to identify and codify a particular aesthetic strand of the genre that could be used to shape and define things going forward.[83]

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[82] Westfahl, Gary. "'The Closely Reasoned Technological Story': The Critical History of Hard Science Fiction" in *Science Fiction Studies* 20.2 (Jul. 1993): 157-75. He expands on this in his monograph *Cosmic Engineers: A Study of Hard Science Fiction*, though the material I'm most interested in is pretty much the same, and much more accessible in the article.

[83] In the earliest attributed use of the term attested in the OED, "hard science" was introduced as part of a conversation that presages the emergence of sf. This use come in the published minutes of the *Society of Arts*, Oct. 29 1858: "The Chairman said that the Manchester Athenæum was the first association of the kind which recognizes the propriety of educating the people by means of attractive literature, by consulting their tastes and interests, and not by cramming philosophy and hard sciences into them; and by providing them with good and useful books, and above all with newspapers" (704). From Thos Winkworth, Thomas Tredgold, and Joseph Glynn, *Journal of the Society of Arts*, Vol. 6, No. 310 (Oct. 29, 1858), pp. 697-706. In this initial usage "hard science" is in fact opposed to the mission undertaken by Jules Verne and claimed

In later years, hard sf would come to describe (or maybe proscribe) the most scientifically sophisticated examples of the genre, which suggests something of the shift in the values of sf fandom, away from educational improvement towards something more elect, a Calvinist sf. Westfhal suggests that the term was adopted in imitation of an extant trend in scientific discourse, though it seems more accurate to say that the terms "hard science" and "hard sf" emerged simultaneously out of a mutually circulating colloquial language.[84] This language, in the scientific community, was explicitly associated with masculine naming conventions, while in the sf community it seems positioned as a form opposed to the more diverse sf of the New Wave movement of the 1960s.

Regardless of its origin, the relationship between masculinity and "hardness" seems increasingly overdetermined, and this relationship is reflected by the hypermasculinity of Campbell's aesthetics in general, and *Who Goes There?* specifically. The overdetermined nexus of gender, rigor (which, of course, literally means "stiffness"), and cachet plays out in another possible etymologies for "hard" science fiction: as a

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by Hugo Gernsback and many others in early sf fandom: to educate the reader in real science. "Hard science," in this context, is equivalent to philosophy: something to drive the production of morally salubrious writing, but not something to be included explicitly lest its technical opacity drive away the very people it's meant to improve.

[84] One of the earliest texts explicitly addressing "hard" and "soft" science in their now-conventional sense is a sociology article from 1967 (derived from a talk given in 1966) by Normal Storer called "The Hard Sciences and the Soft: Some Sociological Observations." In it, Storer explicates the significance of the terms "hard" and "soft" through their verbal associations and psychological implications. Notably, he does not bother to discuss the origin of this phraseology. Instead, Storer simply gestures to "our use of the terms 'hard' and 'soft'" (75)—it is, in other words, similarly couched in scare quotes much as "hard" was in the science fiction community, similarly suggesting that the term was as much a matter of slang or vernacular in the science and engineering crowds as in science fiction fandom. (There was considerable overlap between these two communities, of course, with myriad possible vectors for cross-contamination.)

variation of “hard-core.” This is the operative etymology for Huntington, though Westfahl convincingly shows that is postdates the emergence of “hard science fiction” by quite some time. As Westfahl notes, “The term ‘hardcore’ suggests an analogy not to the sciences but to pornography: that is, as sexual content is the primary attraction in pornography, science is the primary attraction in SF; and, as works with the most and most explicit sex are called ‘hardcore,’ works with the most and most explicit science are called ‘hardcore science fiction’” (160). I would push this a bit further, and suggest the connection between “sexual content” and “science” speaks to the importance of pleasure in the development and classification of hard sf, which is to say that the scientific content per se is not, after all, its main appeal: the appeal is the pleasure that come from experiencing, however vicariously, a mastery of science.

For both Westfahl and Huntington, the scientific basis of hard sf is less a matter of adherence to facts as such than of the way science appears in a text. For Huntington, this functions as a rhetorical feature of the writing: the content of science is immaterial to science fiction. What matters is the form. For Westfahl, hard sf’s relationship to science is characterized by what we could call a game of verifiability. Westfahl’s principle of “avoiding scientific errors” would seem to be quite focused on the science, but his examples suggest that it is more precisely focused on the interaction between fans and writers. As Hal Clement describes it, hard sf is best approached as a game with a few simple rules: “for the reader of a science-fiction story, they consist of finding as many as possible of the author’s statements or implications which conflict with the facts as science currently understands them. For the author, the rule is to make as few such slips as he possibly can" (Clement, quoted in Westfahl 162). Gernsback would take a more pointed approach a few years later, chiding a young Campbell for the outrageousness of the 1932 story "Space Ray." Gernsback somewhat cheekily frames the story as a successful attempt to "burlesque science fiction," calling for more rigor from his other authors (and Campbell, in particular).[85] He did not, however, send the story back.

Campbell, for his part, is less shy about taking on this challenge. His Stuart Stories mix the Huntington's rhetorical and Westfahl's verifiable modes of hard sf together: they are ludic—part puzzle, part game to be played, part problem to be solved. They challenge readers to pay attention to the content in anticipation of the solution. The ludic approach is a key element of scripting performed by hard sf: it both *in*structs a reader how to best approach the text and *con*structs the reader as someone who is conversant with its arch-rationality. At the moment of resolution (either worked out by the reader or, far more likely, arrived at in the course of reading), the reader experiences a rhetorical effect akin to "the illusion the scientific language itself generates" (Huntington 73) but distinct in an important way—namely, that it interpolates the reader into system of fictional "scientific thinking," both scripting an approach to problem solving and gratifying a reader's already-present scientific thinking.

In other words, the pleasure of mastery often represented by the heroes of edisonades and more gadget- and adventure-oriented sf differs from the mastery in a

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[85] Gernsback, Hugo. "Reasonableness in Science Fiction." *Wonder Stories*, December 1932. Reprinted in *The Perversity of Things*, edited by Grant Wythoff [U of Minnesota P, 2016].

Stuart Story, which rather than offering (merely) identification, offers enactment, a moment of interpolation, a process of intercalation. In the Stuart Stories, readers get to experience vicarious mastery, their satisfaction scripting an attitude, or maybe a comportment, towards the problems of the world that privileges rational processes and arrives at closure in the form of certainty. Importantly, this mode figures success as a closed model, solutions as permanent, and problem-solvers as the privileged subject. This aesthetic, often combined in the Stuart Stories with vestigial hyper-masculine characterizations, bridges the gap between the most juvenile impulses of early pulp sf and the technophilic, technocratic ideology of hard sf. It is here that I turn directly to the issue of identity, as these aesthetic techniques both shaped and reflected an emerging identity that is at once postracial and post-liberal humanist, what I call (with no apologies for the pun) the posthu(e)man.

Part II – Posthu(e)man:

A Morality of Technique

Among other thing, the ideology developed in the aesthetic features of hard sf functions as an (unconsciously) attempted performative erasure of what was known as the race problem. Para-textual materials provide crucial background for the fictional performatives—specifically the editorials and letter columns in ASF and other magazines, but also the conversations (formal and otherwise) among fans at conventions, club meetings, and fanzines, which collectively help to seed felicitous conditions for the performative attempt. Subventing this all are broader social and scientific discourses—

both the scientific study of race and the civil rights discourses that were then gaining steam—many of which appeared (in sometimes oblique forms) in the pages of ASF. It is in this way that sf finally offers a solution to the problem of the color line, albeit one drawn from and geared towards those who were not considered problematic.

Sf was hardly unique in occluding race during this period. Ralph Ellison signifies on this practice with his science-fiction-esque title for his novel *Invisible Man* (1952), for instance, and notes a similar tendency in modernist luminaries like Ernest Hemingway:

> Artists such as Hemingway were seeking a technical perfection rather than moral insight. (Or should we say that theirs was a morality of technique?) … And while art was still an instrument of freedom, it was now mainly the instrument of a questionable personal freedom for the artist, which too often served to enforce the "unfreedom" of the reader. (38)

In this way, Hemingway avoids any demands to grapple with race—either with the racial issue roiling the U.S. or his own whiteness. We can call this strategy of avoidance a first-order postracial ideology. By eliminating the racial background that was (and is) an omnipresent feature or American life, a writer like Hemingway is able to focus purely on form, without (as Ellison notes) much regard for the ways this practice gratifies the conflation of mastery with freedom, or more to the point, the way it conflates the reader with unfreedom.

Sylvia Wynter describes an earlier aesthetic instance of this practice in her essay *Sambos and Minstrels*: "The place of the NORM is constituted by and through the definition of certain desired attributes. The most desired attribute was the 'intellectual faculty.' The sign that pointed to one's possession of this attribute was whiteness of skin. The sign that pointed to its no possession was blackness of skin, which revealed non-human being" (152). The purpose of blackface minstrel performances and the Sambo character in particular is then to reinforce or secure, through a spectacle of blackness's *lack* of mastery, the norm of mastery for whiteness. In "seeking a technical perfection rather than moral insight," Hemingway is participating in a postracial iteration of this sort of norm signifying. He does not expend any particular effort to distance himself from non-white figures, but rather exercises his mastery through the spectacle of a masterful technique. His technical perfection (where achieved, or at least approached) allows him to occupy the same position as the white audience member in a Sambo performance.

With apologies to Ellison, I think it is less clear that the "unfreedom" of the reader is necessarily at stake in Hemingway's writing.[86] Perhaps, if the reader is a writer of Ellison's ability and ambition, the bald exhibition of technique can read as an attempt to out- or overmaster the reader. But in general, the use of literature as an "instrument of a questionable personal freedom for the artist" also allows the reader (who has accepted the canonical value of Hemingway's writing) to experience a vicarious mastery simply by fully recognizing the technique. His focus on technique also allows Hemingway to position himself as separate from influences, much like the vernacular speech that was so rigorously repressed in T. S. Eliot.[87]

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[86] I've taught enough Hemingway even in the composition classroom to say that there is much pleasure to be derived from mastering the game that Hemingway plays in his writing, both for the instructor and for the class.

[87] This separation was explicitly racialized in Eliot's account as "a nigger drawl" he sought to chase out of his dialect: "'Some day, I want to write an essay about the point of view of an American who wasn't an American, because he was born in the South and went to school in New England as a small boy with a nigger drawl, but who wasn't a Southerner because his people were northerners in a border state and looked down on all southerners and Virginians, and who so was never anything anywhere ...' What Pound parades

The collision between personal freedom and enforced unfreedom (between herdsman and slave, edisonade hero and racialized technology, garden and machine) is perhaps the archetypal American concern, and it is reflected in the generalization of ideologies of mastery, displaced from the master-slave dialectic onto a writer-reader dialectic; sf, especially under Campbell, generates (in the space between those) the general form of technician-user. In sf, what Ellison calls a "morality of technique" is elevated to a sort of political ideology. Instead of separating out the issues of literary representation and technique, sf's morality of technique silos off sociological issues in general—and race especially —from the proper concerns of an enlightened discourse or subject. Campbell pushes this concept into what I'll call a second-order postracial ideology, one that directly acknowledges certain kinds of diversity only to dismiss them as remotely relevant to the matter at hand.

Indeed, in one of his more infamous editorials, published in the June 1961 issue of *Analog* to commemorate the "Civil War Centennial," Campbell explains his theoretical opposition to the Civil War in explicitly postracial terms. In the editorial, he takes it as an article of faith in progress that the institution of slavery in the U.S. would have ended without violence. The reasons he gives for this are purely economic: "An industrial system needs workers—and that means people who can make the machines do what they were designed for. Since machines are totally color-blind, successful industrial

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with such bluster, the influence of black speech on his own language, Eliot confesses as a dirty secret. For Eliot, black dialect is a flaw, a speech impediment that clogs his language and blocks his attempts to link his own individual talent with tradition" (North 78). It is in the elevation of technique (albeit a differently focused technique) that sf is most obviously a modernist form.

management gets color-blind in a screaming hurry" (177). Ultimately, it is this color-blindness of machines that necessarily leads to the collapse of race as a meaningful category for humanity:

> If a man is a skilled and competent machinist—if the lathes work well under his hands—the industrial management will be forced, to remain in business, to accept that fact, whether the man be black, white, purple, or polka-dotted. If the man is a fool, the machine will react to his folly with mindless inevitability—whether he be black, white, purple, or polka-dotted. (177-78)[88]

Rather than simply excluding race from the picture altogether (and thus racialized people from the picture), he argues instead that race is simply irrelevant to the concerns of a properly technocratic society.

Decrying the decision in *Brown v. The Board of Education* to mandate desegregation a couple years later, Campbell again strikes a deliberately combative tone at the outset only to deliberately shift focus from racial consideration to post-racial ones, calling the Supreme Court decision "a serious mistake" and stating at the outset "I am strongly in favor of rigidly segregated schools" ("Segregation" 7). He soon adds "*that I am not referring to racial segregation*, however. I'm referring instead to the overlooked and enormously critical problem of *segregation by individual student ability*” (7, emphasis in original). His concern, as he puts it, is that in the court’s quest to stop the suppression of “the competent individual Negro,” the ruling and its supporters ultimately “suppress the unusually competent individual of any race for the achievement of their doctrinal ideal of equality” (93).

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[88] Campbell makes similar claims in other editorials (that I am trying not to just list out in the main text). Most notably, the August 1960 editorial "People Need Help" mixes provocation—arguing against a sign in New York that reads "DISCRIMINATION HURTS! // HELP END PREJUDICE"—and a quick pivoting away from racial meaning: "Electronic manufacturers, unlike God, have color-coded their products. People insist that it was a mistake on God's part and want to impose the color-coding system anyway" (175). He also uses the same absurdist extrapolation of race via color: "It's not a matter of Black and White, or Red, Orange, Yellow, Green, Blue of Violet either; it's a simple matter of 'I don't want change! I want peace of mind!'" (176), as though Black, White, and the rest are all equivalent. This absurd enumeration of "any color" was common in sf discourses of the time, often seen as a progression rejection of the racist view of earlier fans. What it leaves out (as Eduardo Bonilla-Silva discusses, touched on below) is the history of racial violence preceding such universalist utterances, a history that cannot (alas) be dispelled by rhetoric alone.

This is not to say that Campbell was free of any racist sentiments—he argues in the same editorial that: “There is a never rigorously proven assumption that’s thrown around in all racial arguments that all races show the *same* distribution curve of intelligence and ability. *That has not been proven*” (94, emphasis in original)—which, while true enough, is then followed up with the argument we can gauge the relative spectrum of racial intelligence by the number of “super-high geniuses” produced by a given race (problematic but not quite racist yet) and then arguing that the “Caucasian race” and “Oriental race” have “produced super-high geniuses by the dozen” while “The Negro race has not” (94). The various cultural biases determining his entirely un-rigorous category of super-high genius are obvious enough; I’ll leave the disproof as an exercise for the reader.

But the true extent of his problematic post-race posture is most obvious in a private account of Campbell’s attitude by the fan Joe Green (which I mentioned in a footnote of the first chapter, and which merits extended quotation here):

> Sitting together on the bus, John edged into one of those discussions that frayed on my nerve ends, the general subject of slavery. … He pointed out that the much-maligned ‘peculiar institution’ of slavery in the American South had in fact provided the blacks brought here with a higher standard of living than they had in Africa. …

> At first blush this sounded like one of those controversial positions John often took, just to get a rise out of his debating audience. But I was very much afraid that in fact he was sincere. I had heard … that John held some racist views, at least in regard to blacks. Not wanting to get into that particular discussion, I cut him off … The only thing we managed to agree on was that rapidly increasing farm mechanization after 1850 would have soon rendered slavery obsolete anyway...[89]

As I noted in the first chapter, it is notable that Campbell's racist argument ends on a note of reconciliation over the idea that slavery was logically on its way out anyway. It is a frequent move, both in Campbell's editorials and in some of the surrounding discourse, to reduce race issues (even slavery) into purely logical exercises where the justice is passively achieved through the calm choice of who best operates a machine. In this way, Campbell's sense of post-racial identity was detached from the traditional signifiers of racial superiority. Instead, his ideology is formed around a new categorial hierarchy, through the signs of the morality of technique: merit.

Rationalizing Race

Campbell's sf hierarchy is formed from a meritocracy based on one's skill in manipulating scientific knowledge and technical know-how, and its contours are precisely measurable by money. Variations on this theme appear throughout Campbell's editorials, especially starting in the late 1940s when the editorials began to expand both in length and scope. In them, he frequently decries what he sees as punitive taxes on the most talented individuals in a society[90] (i.e., on high earners), valorizes those people who show the most intellectual acuity (especially when they overcame some hardship, proving that no school can create a genius and, more importantly, no hardship can quash one), and muses about the role of superior individuals in the broad course of history. Read in the context of racial discourses, the regressive tendency of this position becomes clear: white supremacy, previously secured by explicitly racist regimes and sustained by the structures of colonialism, is retroactively naturalized as the work(s) of genius—thus, post-racially speaking, something like affirmative action is invalid, contrary to nature, because true talent rises above circumstance.

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[89] Joe Green, "Our Five Days with John W. Campbell," *The Bulletin of the Science Fiction and Fantasy Writers of America* (171): 13–16. http://www.challzine.net/23/23fivedays.html. It is worth noting that Campbell and Green both ignore the role of colonialism in causing the "very short life-spans for the average African tribesman or woman in the 1700 and 1800s."

Perhaps the purest distillation of this ideology can be seen in another deliberately contentious editorial titled "Constitution for Utopia," published in *Analog* in March 1961. Here, Campbell ploddingly moves through various proposals for utopia, finding (as a central issue) the question of rulership: "Traditionally, benevolent tyranny is the optimum form of government . . . if you can just assure that the tyrant is, and remains, benevolent" (5, ellipsis in original). He hedges a bit, noting that no system will be perfect for everyone—"That is called Heaven" (5)—but argues that, "Since it can be seen that any form of government—from pure anarchy through absolute tyranny, with every possible shading in between—will yield Utopia *provided the rulers are wise, benevolent, and competent*, the place to start engineering our Utopia is with the method of selecting rulers" (6 emphasis in original). He then works through the drawbacks of various traditional measures—including, surprisingly, tests, which he elsewhere belittles for their imprecision, and here notes are best at matching the values of the examinees with those of the examiners.

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[90] Ayn Rand's libertarian philosophy and the novels she wrote to popularize it (which traffic in some of the tropes of sf) are an underexplored factor shaping sf at this time; something to explore in future work.

He also argues that the ruling class must be a minority of the population, to guard against a feeling of immunity (as it is not power that corrupts in his analysis, but invulnerability): "The Rulers are a minority, and know it, and must rule circumspectly; like the *mahout* driving an elephant, they must rule always with the realization that they rule by sufferance only—not by inalienable right" (175, emphasis in original). The metaphor he deploys here is striking, both for its evocation of an Orientalist vision of colonialism, but also for its incipient cybernetics. (Campbell was, after all, briefly a student of Norbert Weiner at M.I.T. in the 1920s.) The benevolent ruling class is thus akin to the colonial rulers of earlier years (and the colonial structures so important to the development of sf, as John Rieder has demonstrated), and akin to the steersman concept embedded in the very term cybernetic[91]. The split between a beast of brute power and a man of subtle direction echoes racist ideologies as well, though for Campbell skin color is a terribly inefficient method of discrimination.

In short, he decides that the most rational system is one that is not rational at all: it's pragmatic: "The difference between a crackpot and a genius is that a genius makes a profit—that his idea is economically useful, that it returns more in product than it consumes in raw material" (176), and so he proposes an economic standard. This standard, he notes, is distinct from earlier versions in that it does not measure wealth per se—"A man can inherit property, without inheriting the good sense of the father who garnered it" (176)—but rather earned income:

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[91] As I discuss earlier, Cybernetic is derived from the Greek term for steersman.

> Let's make the Test for Rulers simply that the individual's earned annual income must be in the highest twenty-percent of the population. This automatically makes them a minority group, selected by a pragmatic test. It bars no one, on any theoretical or rationalized ground whatever; any man who demonstrates that he can handle his private affairs with more than ordinary success is a Voter, a Ruler. (177)[92]

This test is imminently fair, according to Campbell, even given the fundamental differences between people, since "neither Abraham Lincoln, George Washington Carver, nor Thomas Edison ever had an adequate opportunity for education," and they each easily qualify for voting rights in his system. This system is even okay with the seemingly immoral voter: "If a man makes fifty-thousand dollars a year as a professional gambler—he votes. Anybody who guesses right that consistently has a talent the nation needs" (178). What matters, in this system, is the outcome of one's decisions, not the means. And if "[t]he economic test does not guarantee benevolence; it does guarantee more-than-average competence, when so large a number as twenty per cent of the population is included" (178). Competence is the great leveler of former distinctions, and the great divider of a new, better world order.

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[92] It is worth reiterating here that while "man" here presumably meant to be a generic term for humans, at the time Campbell wrote many women did not work, or did not work as much as men, or, at the very least, were not culturally supposed to work, so even those who did work generally earned far less than men doing the same job. The same (especially the last point) is true today, though less severely so. There are similar wage gaps between races, regions, and so on, which when they intersect with other forms of disfavored identity can compound the gap. It also overlooks the role of rent in its various forms (including stock profits), which can be accumulated without any skill at all so long as sufficient assets are held in the first place. In any case, this is a system determined by a measure that is ostensibly gender- and race-neutral, but which nevertheless reflects extant biases of gender and racial bigotry.

Thus in Campbell (but not only in Campbell) we can see the development of a post-race ideology, an ideology of achievement and hierarchy that actively opposes the blunt biological racism of an early era, without ultimately addressing the continuing effects of this racism. I call this ideology-in-formation Campbell's post-hu(e)man ideology, as it is premised on the same denial of body that undergirds the development of posthumanism, and it is just as beholden to the racialized ideologies of plain-old humanism as Hayles shows posthumanism to be beholden to ideologies of plain-old liberalism, their mutual posturing as progressive evolutions notwithstanding.

Campbell's faith in evolution is central to his sense of a proper meritocracy. In his "Civil War Centennial," for instance, he offers a good example of the conflations between technological progress and moral or societal progress: "After sixty-five centuries of effort, horse-stealing was ended . . . by inventing automobiles. After a period even longer, slavery has finally been ended . . . by the invention of machines" (176, ellipses in original).[93] The sense of historical inevitability here shades over into Campbell's understanding of the contemporary world, as it tends to ratify the status quo and militate against any measures that might directly address race. The distance between color-blindness and racial justice is what Eduardo Bonilla-Silva calls "racism without racists."

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[93] While there is some validity to this view (our period of history seems to be unique in its universal rejection of *de jure* slavery), I assume the problems with Campbell's argument are clear, at least by this point in my dissertation. Put briefly, and as I've argued in Chapter 1, slaves were equivalent to machines in the ideologies of the antebellum South: they were treated (and conceived of) as resources to be used, akin to but distinct from the laboring masses who flooded into factories throughout the nineteenth century. I would also add, as David Graeber notes in *Debt: The First 5000 Years*, that slavery *was* formally ended in the Christian world for more than a millennium (with, of course, plenty of exceptions, as I discuss in the introduction), since the religion, founded by an oppressed minority and initially embraced by an enslaved population, explicitly forbade it. This split between human, not-quite-human, and nonhuman (animals/machines) remains a structuring element of neoliberal, meritocratic post-hu(e)man developing here, with the top slot identified by superior problem-solving skills, the mid slot identified with the

Indeed, many of the moves described by Bonilla-Silva in his sociological work on (late-20th/early-21st century examples of) the phenomenon of "colorblind racism" are worked out in the sf community decades before the term post-race entered into currency.[94] According to Bonilla-Silva, color-blind racism has as a "central component," a set of "frames or *set paths for interpreting information*" that serves as the condition of possibility for its dominant status. These frames are: "*abstract liberalism, naturalism, cultural realism, and minimization of racism*" (27, emphasis in original). The frames are not rigid; they can be shifted between and applied in tandem to address a wide variety of situations that might, individually, challenge one frame or another.

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unsophisticated masses, and the bottom slot with raw materials to be used by the fully human subject. Interestingly, this bottom slot shades over into the mid- and top-slots, as the unsophisticated masses are also interpellated in policy as national resources, and as transhuman enthusiasts (and their ancestors) dream of electronic bodies. Following Hayles, we can even think of posthumanism as a response to the anxiety induced by the dissolution of the liberal human subject into cybernetic systems as a way to reassert sovereignty and individuation when the biological forms (and the political forms, before that) ceased to do the job.

[94] Google ngrams shows a small bump in the word "postracial" 1970s and a steep climb starting in the 1990s [they don't survey beyond 2000]. "Post-race" and other varieties just turn up articles about horses and runners and sailboats—people/things that participate in races. My sf examples here are from the late 1930s through the mid-1960s; the earliest examples I've found of the term in its widely circulated post-Obama sense is an editorial by (recently disgraced; #timesup) journalist and editor of the *Anniston Star* of Anniston, Alabama: H. Brandt Ayers, who hailed a "postracial South" in 1971 (quoted on p. 80 of Munchin, Timothy .J. "Beyond The Dominant Narrative: The Ongoing Struggle For Civil Rights In The U.S. South, 1968-1980" *Australasian Journal of American Studies*, Vol. 25, No. 1 [July 2006], pp. 65-86; the original article is from Nov. 13, 1971, quote on page 4).

The first frame, *abstract liberalism*, "involves using ideas associated with political liberalism (e.g., 'equal opportunity,' the idea that force should not be used to achieve social policy) and economic liberalism (e.g., choice, individualism) in an abstract manner to explain racial matters" (28). *Naturalization*, the second frame, "allows whites to explain away racial phenomena by suggesting they are natural occurrences" (28)—e.g., housing discrimination explained away by the sense that people naturally like to associate with people similar to themselves; it isn't racist, it's just the way things are. "By suggesting these preferences are almost biologically driven and typical of all groups in society, preferences for primary associations with members of one's race are rationalized as nonracial because 'they (racial minorities) do it too'" (28). The third frame, *cultural racism*, "relies on culturally based arguments such as 'Mexicans do not put much emphasis on education' or 'blacks have too many babies' to explain the standing of minorities in society," while the fourth frame, *minimization of racism*, "suggests discrimination is no longer a central factor affecting minorities' life chances" (28-29). To resituate Bonilla-Silva's insight for sf, each of these frames can be understood to rely on an explicit disavowal of racial motivation that explains continuing discrepancies in things like wealth and policing through logical-sounding explanations—rooted, in the first three frames, in an appeal to facts and science.

These frames are necessary to Campbell's post-hu(e)man ideologies because he was, like most mid-century sf enthusiasts, something of a racial realist. This means that he subscribes the notion that there are, in fact, distinct genetic differences between populations of people and that these differences are generally meaningful; importantly, though, this understanding of race is explicitly informed by scientific evidence—evidence that, by the mid twentieth century, conclusively showed sociological racial categories to be biologically unsupportable. Perhaps the best example of this rationalized iteration of race is the book Isaac Asimov co-authored with his friend, the hematologist (and, with his wife, occasional sf writer) William C. Boyd: *Races and People*. This book proudly proclaims, on the back cover, that it conclusively shows “that there is no such thing as a ‘superior race.’”

Much as Campbell’s fantasy antebellum South would be deracialized by the rise of machines, many of Asimov’s stories offered a vision of the future of labor, and of humanity in general, that unites humanity against a new, mechanical Other, making the traditional preoccupations of a society riven by racial divisions seem obsolete. An alternative social order built from the cold logic of rational people points towards a whole new set of possibilities. Mapped back onto extant racial politics, Asimov’s rational, technocratic approach to the problems of literature fits neatly into his progressive views on race. Presented with the problem of racial division, Asimov, Campbell, and most other science fiction writers offered scientific knowledge as a solution.

Races and People, a book aimed at younger, non-specialist readers, argues as much. Published in 1955, this book was just the third nonfiction title Asimov wrote, though he went on to publish more than a hundred nonfiction books during his long and prolific career. Although he is perhaps best known for his science fiction, Asimov’s popular science books were hugely successful as well, taking the latest discoveries in any number of scientific fields and presenting them in accessible terms for a general audience. These books aimed to educate non-scientists on the latest findings of modern science; *Races and People* is no exception. Asimov makes his case by first defining race, which for him is not a fundamental property inherent in an individual but a learned method of dividing human beings into groups on the basis of genetic resemblance, and then showing how modern genetics disprove our learned divisions.

The genetics in Asimov's work are derived from analysis of various heritable features of human blood. (This is distinct from the more familiar field of genetics today; this book came out only a couple of years after James Watson and Francis Crick, building from Rosalind Franklin and Maurice Wilkins' crystallography work, had published their discovery of the helical structure of DNA, and many decades before practical DNA analysis.) The book is based on the research of Asimov's close friend and co-author William C. Boyd, a professor of Immunochemistry at Boston College. Boyd's research focused on blood, and one of his major discoveries was to establish that blood types are inherited rather than the result of environmental influence. A careful attention to heritable traits allows Asimov and Boyd to dismantle racial commonsense by walking through every familiar approach to racial classification: skin color, hair texture, facial structure, head shape, and so on, addressing and dismissing each in turn.

The book then launches into a detailed but accessible explanation of the heritable features of blood, and what they show about human migration, and their relationship to human culture. The effect of his book is clear: though heritable traits may in fact be traceable through genetic lineages, they have no bearing on the cultural features of a society or group of people. He closes the book on a familiar vision of the future as a genetic melting pot, as people of all “races”—understood now as all manner of genetic heritage—come together in a rapidly shrinking world and mix in a “melting pot” of genetic diversity: “Perhaps the results will be good again. Then, despite the worries we may have at present, the human race may just be beginning a new, brighter, and better stage in its history” (175).

Campbell, likewise, frequently rejects the idea that black or white (or purple or polka-dotted) has much meaning when it comes to the true division between people, even sharing a bit of Asimov’s faith in racial mixing. This racial distinction can be thought of as that between the genius and everyone else—and certainly, Campbell is as fond of genius as the genre is in general—but his vision of genius is somewhat diffuse: it is not so much that “super-high genius” constitutes its own racial category as it represents the apotheosis or pinnacle of a broader category to which sf fans can identify and into which they can ascend or (in a more Calvinist/Presbyterian sense) through which their status as a chosen people is demonstrated. An important elision occurs in Campbell’s ruminations on the contextless genius that surpasses any color-bound obstacles: most readers, writers, and (yes, even) editors of sf are not geniuses—competent, upwardly striving, often thriving, but not genius. The collapse of the semi-singular superiority of McReady in *Who Goes There?* and the mundane hypercompetence of the other men plays out in the transition from juvenile sf to more serious work, and a concomitant shift from the singular genius to the class of the technocrat.

The Rights of Slan

As John Huntington argues, the genius was an important early figure of sf: “part of the original value of the myth of genius for the SF community lay in its revision of conventional social hierarchies,” which it accomplished through the elevation of IQ as a social marker par excellence (51). Genius comes with its own problems, however. One in particular strongly echoes the foundational problem papered over with pastoral: “there is now the worry that, since one has inherited genius, there is no reason to be proud of being a genius: as in other forms of social prestige, one’s claim to genius is to a certain extent dependent on one’s ability to prove the quality of one’s parentage. … The trick is to be both an aristocrat and self-made” (52). The tension between inheritance (biological, financial, or otherwise) and the psychological imperative to be free of any dependency on others forms one of the central problems addressed in Golden Age sf.

For Huntington, this tension is one of the forces leading to literary ambiguity in the best sf stories. He notes, for instance, in his discussion of Theodore Sturgeon’s “Microcosmic God” (1941) that the central figure of genius there works by way of exploitation (he creates an accelerated microscopic society, to whom he plays god, and challenges them to overcome whatever problems he is trying to solve; they do so collectively, and he appropriates their knowledge for his own use). For Huntington this leads to an unrecognized idea in the sf stories he surveys: “that progress is a cultural (rather than individual) product” (59). I would argue, in contrast, that this idea is in fact a central component of Sturgeon’s story, one that plays a significant role in the enduring popularity of the trope.[95] The blunt appeal of a civilization wholly dedicated to one's personal advancement is simply an especially pure distillation of the pastoral trope.

It is also central to a distinctly Campbellian articulation of genius, one which Huntington identifies as an element of the "economy of reason" driving the hero figure of "the technician-manager, a superior everyman whose virtues derive from his harmonious adjustment to the needs of science and technology. This fantasy is often identified with the subgenre of 'hard-core SF'" (69). While for Huntington the technician-manager version of sf hero is just "another facet" of sf characterization, when read in the diachronic light of Campbell's editorial career, it can be seen as something more akin to an evolution, an attempt to reconcile the manifold tensions of life in a technological regime without resorting to blunt repression. In doing so, Campbell constructs a version of the posthuman that discounts situatedness, prizes sovereignty, and is offered up as a model for (masculine) selfhood for the future, but which is also importantly available to anyone with the proper outlook and tastes—anyone reading his magazines, for instance.

Much of Campbell's early editorial output (running roughly from when he assumed the role of editor at *Astounding* in 1937 until the late 1940s) clocks in at one or two pages per issue, and most addresses the pedestrian concerns of magazine editing: the nature of the magazine (its readership, its content, its past and future), the state of the world, and his enthusiasm for atomic science (really, it is hard to overstate how often he wrote mind-numbing missives about the advances, actual and speculative, of atomic energy). One can nevertheless see the faint outlines of the heroic technician-manager—more commonly called the technocrat—in his October 1938 editorial (and first ever editorial) for *Astounding*:

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[95] Variations on this idea have appeared in many science fiction venues, most notably in *The Twilight Zone*, but also memorably in a Treehouse of Horrors episode of *The Simpsons*, an episode of *Futurama*, a very self-aware episode of *South Park* [about, in part, the fact that the Simpsons had already done it], and most recently in an episode of *Rick and Morty*.)

> I could not write in this vein to most magazine audiences, but you and I belong to a select circle … To the average person 'The Black Hole of Cygnus' means nothing. But you and I have threaded our way along various threads of logic concerning it. We think about it, and wonder. That is why we are a select circle. … We have absorbed variant theoretical explanations of phenomena concerning which the average person has never heard. We debate them calmly, restrainedly, for that is the manner of serious students. … But with an inspiration visualized by dreams of the future, based on known facts of the present. ("Into The Future" 57)

There is a dollop of the usual editorial sycophancy towards the readership, but there is also an important variation on the (similarly sycophantic) themes of Gernsback's foundational addresses: an emphasis on calm rationality, and an elite familiarity with "variant" theories—that is, not merely an interest in knowledge of science as such, but in the wider possibilities of scientific thinking.

Steady logic and scientific thinking do not describe the typical sf genius especially well—genius's defining characteristic is, in many cases, the ability to exceed the normal boundaries of logic and rational thinking, jumping from insurmountable problem to unexpected solution in a single inspired bound. The sf reader, in contrast, steadily chips away at problems, finding solutions though the "restrainedly" applied logic of the broader scientific enterprise. The sf reader is not exceptional simply because he possesses some monumental IQ (though he would be able to recognize and would certainly respect the possessor of monumental IQ), but rather because he is better attuned to the underlying reality of a scientific universe, and as such has a privileged position from which to pursue happiness.[96]

In this way, Campbell's ideal reader represents a new version of the pastoral shepherd, one for whom "nature" provides, but with "nature" now scientifically structured, and the passive provision now an active manipulation of nature, premised less on the exclusion of the means of labor as on the conscious, superior management of said means. Like the pastoral ideal, this new science fictional figure ultimately secures the sovereignty of the proper subject and, like the American pastoral, that subject is properly Western, white, male, middle class, (that which, as Wynter puts it, "overrepresents itself as if it were the human itself" [262]), but unlike the forms that preceded it, this genre of man is perfectly comfortable with the conditions of his existence. He is at once self-made and of a type; he is at once exceptional and mundane; he is at once sovereign and dependent on his tools—sovereign because he masters his tools.

What Campbell theorizes is a deferred form of self-making; if the suit makes the man, as one cliché has it, then Campbell's ideal man makes his own suit. This genre of man emerges in the context of one of the most enduring concepts across Campbell's public thinking: mutation. Specifically, mutation figured positively. Many studies of heritability at the time (and still today) figure mutation negatively, focusing on it as a causal factor in non-normative development leading to disease, deformity, and death. For Campbell, however, mutation serves as a convenient structuring metaphor for the sorts of positive development that science fiction embodies. In the earliest instance, an editorial titled simple "Mutation," Campbell endows the term with a decidedly positive valence:

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[96] As I've gestured to before, there is a tension here between the general human and Man (even of a post-human variety) that is only now starting to fade from our (formal/academic English) language. Campbell, like everyone else at the time, understands the generic subject to be identified with masculine pronouns. At the same time, as the content of the stories, composition of the fandom in letter columns and fanzines, and frequent misogynistic outbursts demonstrate, the "true" subject of science fiction's generic proclamations is explicitly masculine, and implicitly male. Much of what Campbell does to construct the post-hu(e)man is framed both as masculine and general. So, while many of his techniques have indeed been adopted by women (as evidenced by the many female subjects of Bonilla-Silva's work, for example), I'm retaining the masculine pronouns used in the contemporary discourse to indicate the presumptive masculinity undergirding both the sf of this period and the ideology that grew from it.

> Does evolution apply to ***Astounding Stories***? Certainly. Nature has developed in those twenty million centuries the soundest conceivable plan for advancement—try, test, and retain the good. … I feel sure that you will like this, the first of a series of ***mutant issues***.
>
> Nature advances animal life by mutants, by the sudden production of a new, slightly yet fundamentally, different animal. A dinosaur laid an egg once that hatched to a thing not quite a dinosaur. Not yet a mammal, for had that full step been made at once the world's lone mammal could not have reproduced.
>
> Changed, but not out of touch. The change is small, but fundamental, in each mutation nature makes. … Like nature's mutations, ***mutant issues*** will not be frequent; only when a genuine, fundamentally different and original thing is to be tried, will I announce a true ***mutant issue***. (151, emphasis in original)

This editorial signals Campbell's fascination with positive mutation, an offshoot of his scientific embrace of evolution. He answers a variation of the common paradox ("which came first, the chicken of the egg?") in a scientifically rigorous way (the egg, a mutation laid by the chicken's immediate predecessor) to reframe the notion of originality and, in the process, self-making. The intellectual changes represented by the "mutant issue" are seen to be "small, but fundamental," much as the readers of sf are different from their mundane peers only in small, but fundamental, ways (or, for that matter, as white people differ from nonwhite people only in small, but fundamental, ways). This interest in mutation persists in the posthuman/transhumanist discourse: both are about the next stage of Man, the emergence of Man3. Here, Campbell deploys a mutation metaphor to describe a specific aesthetic quality, but the idea would soon take hold in a less metaphorical sense with the publication of the massively popular novel *Slan* by A. E. Van Vogt, serialized in *Astounding* between September and December 1940.[97]

The novel follows the exploits of a young slan boy, Jommy, as he is orphaned and forced to grow up on the run, and a young slan girl, Kathleen, who is held by the human leader for observation. The term "slan" is styled after their supposed creator "Samuel Lann," though it is revealed over the course of the story that slan are actually just naturally-occurring mutations of human beings—that is, they were born, not created. They are largely indistinguishable from humans except for "golden tendrils" on their heads (that can be obscured by hair, but which are the principle way they are discovered). They are stronger, smarter, and faster than humans; they have two hearts and regenerative abilities; and they have the ability to slip into a state of cold rationality that allows them to dispassionately think through difficult situations. They can also read thoughts telepathically. Over the course of his adventures (from boyhood into young adulthood) Jommy encounters a variant form of slan without the tell-tale antenna, who share all of his abilities except the one enabled by the antenna: telepathy. These slan have been genetically manipulated to pass among humans, though their descendants will eventually be "true slan." By the end of the novel, Jommy realizes his goal of cornering the human leader only to discover that the slan are, in fact, in charge—even the president Jommy had sworn to kill is a secret slan, and he inducts Jommy (and Kathleen) into his secret government.

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[97] Van Vogt was seen by some as a successor to Campbell both stylistically and thematically. As one enthusiastic fan (Carl H. Anderson) put it in a letter addressed to Campbell and printed in the February 1941 issue of *Astounding*: "He's started where you left off, and he's doing the things you would have done if you hadn't gotten a job. He's doing the thing I wish more writers would do. But there is only one van Vogt, and there will never been another 'Slan'" (156).

Van Vogt's novel is notable as one of the earliest sf phenomena, its tale of a persecuted but superior mutant minority lending itself to strong fan identification, encapsulated by the saying "Fans are slans!" The story is, in many ways, a variation on the techno-passing stories of the last chapter, though the race here is not any of our world, and the currents of identity pass most centrally through the fugitive character. This deracinated passing tale became a touchstone in fandom, making clear the connection between the oppressed, intelligent, superior figures in the story and the way fans saw themselves. The character depictions in *Slan* defamiliarize racial identity, presaging the works like *X-Men* in its use of mutants as an allegory for racialized life. It allowed the presumptively white readers of *Astounding* to identify with the plight of persecuted minorities of all stripes (the unfolding Shoah in Germany seems the most immediate, though the true scope of that atrocity was unclear when the novel was first written); importantly, however, fans seems to have identified more *as* the persecuted minority than *with* any particular minority group.[98]

Their identification was never entirely serious, of course. According to the *Fancyclopedia,* an encyclopedia of fandom assembled in 1943 and published in 1944:

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[98] A similar move happens in later sf in response to Vietnam, as David Higgins discusses. Revisionist space operas (*Star Wars* being only the most visible example) reimagined imperial centers as if they were freedom fights of occupied populations, something Higgins calls "imperial masochism"

“Because the central character in the story was a youth in unsympathetic surroundings, and because of the obvious similarities to fans’ dreams of greatness, the unserious claim to slanhood has become the Third Fandom parallel to the Second Fandom’s half-serious Star-Begotten claims” (Speer 34).[99] Nevertheless, the rapturous reception of *Slan* speaks to the growing sense, in sf fandom, of a distinct identity for the sf fan, one linked to innate characteristics rather than appearance. That these characteristics were mostly evident in (or at least, claimed by) white subjects is incidental to every articulation of the identity, at least until Campbell began to directly address social issues in the 1950s and (especially) 60s.

One important variation on previous, explicitly racialized discourses is the way that this identity embraces inhumanity—that is, rather than contesting or defending the boundaries of the “human,” as so much nineteenth century identity politics did, this new identity stipulates the full humanity of all peoples and valorizes instead those who possess something beyond it. Campbell understood this move to be radical, or at least controversial, when he first explicitly makes it in a 1941 article titled “We’re Not All Humans!”: “That implies that man either will be, or is being, worked on, that superior types will be developed— and raises the delicate question of whether we are all human” (121). He links this delicacy to “Man’s fragile little ego” and sees that as the principle reason for asserting equality: “The strong protest that ‘I’m just as good as the next guy’ generally rises from a deep and unalterable conviction that the speaker is not anywhere near as 'good as the next guy,' and doesn't want anybody to find it out" (121). In contrast, Campbell concludes:

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[99] “Second” and “Third Fandom” refer to different (narrowly differentiated) generations of sf fans. “Star-Begotten” refers to the 1937 H. G. Wells novel of the same name; in this story, the humans have been genetically modified to become Martians by the dying Martian race.

> All men may be born with equal opportunities—in America, at least—but they definitely aren't all born equal. They aren't even all born true human beings.
>
> There's a lot of inevitable logic in the set-up Van Vogt proposed in 'Slan.' The supermen were the most intelligent beings on Earth. Where would you expect to find them if not running things on the planet?
>
> And that's sound logic, whether you call them Slan or something else. (127)

Two important things stand out in Campbell's speculative analysis: first, that this vision of humanity in America is as blind to the realities of differential opportunity as it is to color, precisely what Bonilla-Silva describes as "abstract liberalism" (28); second, that superiority manifests as achievement—a pure, conservative take on meritocracy. At this point, Campbell doesn't quite claim that the masters of the universe are in fact superior, slan-like post-humans, but that step is a short one that he readily takes when social issues move to the fore of his editorials.

When a couple bombardiers (and their "Little Boy" and "Fat Man" friends) abruptly ended the Second World War, it served as manifest validation, even objective confirmation, of Campbell's rigorous approach to speculation. Particularly rewarded was his atomic faith (following on the brouhaha over his magazine's prescience with "Deadline," mentioned above), and this seems to have served as warrant for more voluminous and direct speculation in his editorials.[100] These editorials expanded from one or two pages up to five or six by the late 1960s, and he begins to use this extra space to introduce ideas intended to trigger discussion and debate among readers, some of which was then featured in the regular (and very popular) ASF letter column "Brass Tacks." Starting in the 1950s, Campbell begins to marry his hyper-logical methodology with a vision of human evolution that elevates above the figure of the sf fan above the mass of humanity. Campbell is rarely so crass as to claim this identity for anyone who just buys ASF, but from *Slan* onwards, the identification is implicit: much like the implied/constructed/ideal reader of Keller's "Invisible Avalanche" who would presumably identify with the superior 1% that survives that racist catastrophe, sf constructs a reader that is part of the meritocratic elite, the talented tenth generalized.

The mixture of genius and technocrat comes through clearly in Campbell's January 1952 editorial "Proposed History." This syllogistic summary of the history of humanity starts with some "facts," such as (according to the then-best estimates) humanity emerged as a distinct species about 75,000 years ago, that the first empires formed about 7,000 years ago, and so on. Then he offers the key of his proposed history:

> The scientific method of thought works by collecting data, organizing it, and trying to set up an hypothesis or theory that will explain all the known facts, with a minimum or postulate. I propose one postulate:
>
> Proposed: *That* homo superior *appeared in the world about eight thousand years ago*. That the mutation involved is *purely mental*. That it does not involve any physiologically recognizable characteristics. That the mutation is simply a greater ability to organize and apply facts. (6, emphasis in original)

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[100] He took a victory lap of sorts in the late 1940s, publishing (for instance) a triumphalist account of science fiction's predictive ability, especially with respect to television, in a short 1948 article in *The Atlantic* titled "The Science of Science Fiction" (May, p. 97-98).

The framing, whereby he defines a “scientific method” (that is in keeping with his aesthetic), places the speculation on a different plane as compared to the methods of actual historians (with their documents), anthropologists (with their observations) and archeologists (with their excavated artifacts). The postulate, which mirrors the details of *Slan* without irony, extends the hypothetical post-human figure of earlier sf adventure into a historically verifiable construct, one credited with civilization as we know it. Together, the frame and single postulate allow Campbell to spring into a full speculative history that he would repeat frequently for the rest of his career.

In Campbell’s speculative, totalizing history, *homo superior* are effective at reproducing, passing on their superior genes and soon dominating whatever clan they were born into. They use their superior intellect to organize the clan into a dominant local polity and then proceed to unite rival clans under their banner, creating the first empire. But, as there are yet so few *superiors* out there, the empire soon grows too large, and the administration is taken over by mere *sapiens*, at which point the empire tips into decline and collapses. However, during its ascendency, *homo superior* spread his genes further than before, and these descendants themselves begin to beget descendants and the process repeats itself on a larger and larger scale, and happens faster and faster, until we reach the present “world-empire, in the sense of a world domination of Western Technical culture” (6). This is a version of history that is quite generous to the victors, as “Western Technical culture” is dominant precisely because it is genetically superior (a claim quite akin to the superiority of whiteness), while explicitly rejecting racist logic:

> At last, race prejudice makes good, sound sense. But on a basis that will be the total despair of all professional race-haters! For the idea, if true, means that there are two true races of men; *homo sapiens* and *homo superior*. But that there is no such thing as a pure-bred *homo superior*… There is only a greater or less degree of hybridization. We are, all of us, mongrel half-breeds ...
>
> George Washington was, obviously, possessed of a great share of *homo superior* genes. And George Washington Carver, one of the great agricultural chemists of world history, was also of the same fine breed—though he happened to have black skin. I claim some kinship to George Washington Carver, some right to claim that I, too, have a certain strain of *homo superior,* and prefer to minimize the kinship with the white-skinned, but fruitless "white trash" of the world. (8, emphasis in original)

The provocative hyperbole of "race prejudice makes good, sound sense" is typical of Campbell's approach to argumentation, but it also betrays something of his racial realism. Despite drawing an equivalence between George Washington and George Washington Carver (and himself), and despite his rejection of "white trash," Campbell still subscribes to the notion that there is a racial hierarchy and that this hierarchy proper structures the world we live in. More to the point, the present hierarchies (racial, regional, gendered, etc.) are in this telling a reflection of the true "natural" hierarchy of *superior* and *sapien*. If more *homo superior* are white, that is now *not* because of racism or white supremacy, but something much more rational and natural. The wholesale abandonment of old white supremacy (Man2) for a new techno-supremacy (Man3) echoes the move five centuries before to abandon religious for classical authority, all for the sake of keeping (or extending) what has already been taken. Campbell rejects the notion that skin color has much to do with it, but naturalizes the existing, and nevertheless still racialized, order of things under the new bigotry of the post-hu(e)man, "Imperial Man—*homo superior*" (8, emphasis in original).

This exact line of reasoning is played out again and again in many of Campbell's more inflammatory editorials. His March 1956 editorial "Mutation and Culture," for instance, focuses on the same idea, coming awfully close to making the argument for "natural slaves." Because mutation is genetic, and genetic differences are absolute in Campbell's reading, the superior mutants (not called *homo superior* in this editorial) will be unable to teach "the normal tribesman" things they see as obvious: "They simply *cannot* be taught; on a higher level, of course, the problem is analogous to the simple futility of trying to teach a chimpanzee to talk. You can't. He simply, genetically, doesn't have what it takes, and you can't put it in" (5, emphasis in original).[101] Also, since this mutation makes one more effective at organizing efficient systems, these mutants "will, naturally, start organizing their stupid neighbors into far more effective and efficient systems" (5). This idea of mutation even justifies the current geopolitical order, since "savages" in the Americas (for instance) were able to form massive and sophisticated societies very quickly, despite their savagery, and then lost them just as quickly—a sign, for Campbell, of a too-isolated mutation, one with too small of a population to be sustained for long.

In contrast, "Rome was a totally different thing—the first true democracy, I believe" (160). This is because "the Latins appear to have" benefited from "several complementary" mutations that spread more or less evenly through the population: "The result, at least, was a truly democratic republic, made up of nearly equivalent people, all ready and willing to work and to learn—which they proceeded to do. There was no Noble and Serf relationship, but a very narrow genetic range of types, seemingly. They *could* all learn to understand the basics of their own culture" (161, emphasis in original). Eventually, the Roman empire collapsed when they expanded and "the Latins acquired slaves and serfs—tribesmen from primitive nomads or late-neolithic villages. Tribesmen who became serfs genetically incapable of understanding the abstract principle of Law and communal responsibility that the Latins had shared. Such people cannot be included in the citizenry" (161). Note the tense shift in the final sentence quoted above. It persists throughout a lengthy enumeration of reasons "A republican democracy cannot function" with genetically inferior citizens, suggesting that, while this editorial is ostensibly dwelling on some contained past civilization, its insights are still relevant—such people still exist, such democracies still cannot function when [lengthy list of things]—an implication borne out explicitly in later editorials.

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[101] This is to say nothing of the coherence of Campbell's chimpanzee/human illustration with extant racist conflations of monkeys and African-Americans.

An August 1958 editorial plays a variation on this theme, railing against "Hyperdeomcracy," a term he invents to describe the proposition that everyone should be made equal—"too much equality" (4).[102] He attacks the "hyperdemocratic concept" by

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[102] This is basically the premise of "Harrison Bergeron," though Vonnegut's satire—eponymous fourteen-year-old Harrison is so manifestly superior that he has to be subjected to extreme "equalizing" measures; he nevertheless escapes prison and his confinements (announcing in true juvenile fashion "I am the Emperor! Everybody must do what I say at once!"), selects the most beautiful woman as his Empress (tearing off her many handicaps, first), and together they leap thirty feet in the air, "neutralizing gravity with love and pure will." In fact, "Harrison Bergeron" was first published in *The Magazine of Fantasy and Science Fiction*, October 1961, and so it seems entirely possible that Vonnegut was explicitly responding to lines in Campbell's editorial like: "The genius must be crippled, one way or another, either physically, mentally, or

"suggesting that there are human beings who have innate, unmatchable-by-education talents of genuine superiority that you haven't got a prayer of achieving—things that neither training, practice, education, or anything else can ever give you or me" (6). Later in the same editorial, Campbell makes a move that links his understanding of genetic human superiority to extant hierarchies though the proxy of wealth:

> The present income tax laws are designed to prevent any individual *earning* by his own productive efforts, any great economic power. Any great economic reward for outstanding ability. He is punished for insisting that he has exceptional talents that *earn* reward—insisting on it by the most obnoxious of all methods, demonstrating the ability. (160, emphasis in original)

It is this proxy that serves to link his notions of positive mutation, sf readership, and conservative social structures without resorting to old fashioned means of bigotry, like race.[103]

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he is unacceptable in a hyperdemocratic concept" (6). Whatever Vonnegut's inspiration, Campbell seems to be entirely serious here.

[103] The logical extension of this philosophy underwrites his later proposal in "Constitution for Utopia," and can be seen in the subsequent political policies of Regan, Thatcher, and their many neoliberal descendants.

Chapter 5 – Insuring Necessity, or The Ambivalent Astronaut

> Q: Why didn't NASA ever select you to become an astronaut? A: They knew I didn't want to wipe the monkey crap off the seat before I sat down
>
> —@GenChuckYeager[104]

On October 14th, 1947, Chuck Yeager became the first man to officially break the sound barrier. He was a test pilot for the U.S. Air Force and was famously passed over for the Mercury program. His public image, however, served as a model for the astronaut he would never become. Seven to nine years later, Roland Barthes would publish a brief meditation on the figure of men like Yeager occasioned by a feature in the middle-brow French weekly magazine *Paris Match*.[105] In it, Barthes implicitly pulls together the various symbolic strands connecting Whiteness and technology: "The *jet-man* is a jet-pilot. *Match* has specified that he belongs to a new race in aviation, nearer to the robot than to the hero" (71, italics in original). His distinction (to say nothing of the distance) between robot and hero encapsulates the anxieties that have tracked the development of Man3 from the beginning, while the emergence of a new "race" of man (in aviation) in the middle of the twentieth century illustrates the strange dialectical emergence of the posthuman as both hero and robot, as sovereign cyborg. The contradictions of this emergence, which Barthes subjects to his deconstructive semiotics, is a contradiction in every stage of Man3's emergence—what comes of Man when machines are ascendant?

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[104] From the verified Twitter account of Chuck Yeager, posted: 8:42 PM, Oct 11, 2017. https://twitter.com/GenChuckYeager/status/918320874947715074

[105] Barthes, Roland. *Mythologies* trans. Annette Lavers; collected essay from 1954-1956, first published 1957.

Yeager was a good sport at the time he was passed over, but his tweet (above) gestures, somewhat lightheartedly, to the attitude he and other test pilots took towards the early space program. Though immortalized in intensive, decades-long PR campaigns and various cultural documents (Tom Wolfe's *The Right Stuff* and its subsequent film-adaptation being perhaps the most notable[106]), the astronaut was, at best, an ambivalent figure of white masculinity, a figure that better encapsulated the *jet-man* mythos than any jet-man could. Especially in the early years of the space program, with their vehicles equipped for fully automatic control, astronauts were little more than "spam in a can" (as Yeager is supposed to have put it). There is a tension between the idealized masculinity of the early astronauts (all white, college-educated, military men) and the realities of a subject-position so thoroughly dependent on an army of scientists, engineers, and other support-staff. Though this tension is belied by the cultural power of the astronaut as a figure of American exceptionalism and guarantor of (white, male) democratic sovereignty, it manifests across American sf. The politics of mass appeal kept the public image of the astronaut within traditional gendered boundaries—men identified with muscular bravery, stoic strength—but the realities of the space program, a huge and complex public project, ultimately privileged masculinities that trafficked more in an engineering prowess and scientific expertise. The ideal physical specimens who worked as astronauts were a screen for the true power: engineering.

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[106] A new film with the overdetermined title *First Man* dramatizing the story of Neil Armstrong, does this as well, updating the many tropes of the astronaut for a new generation.

Obscured in this internecine battle over white masculinity is the way both positions depend on the same racial structures as a condition of possibility. The song "Whitey on the Moon," for instance, written by Gil Scott-Heron in the immediate aftermath of the first successful moon landing, ties the ills of his sister, his finances, and his community to the costly space program. There is no necessary contradiction between non-whiteness and spaceflight, of course, nor did the great majority of white folks benefit materially from the space program. But, much as John Rieder argues that the value of colonial sf "has less to do with the sharing of real wealth than with the reading public's vicarious enjoyment of colonial spoils" (*Colonialism* 27), much of the cultural work associated with the Space Program did enable the American public to likewise share in the vicarious enjoyment of America's technological triumph. And, as Scott-Heron's song makes clear, even these spoils were not distributed equally across races.

They were also not distributed equally across ideologies. Though the history of the term "Astronaut" as a word for space-faring humans is shorter than one might expect, being coined only in the late 1920s, its roots go back to the earliest American sf—both because it is modeled on the eighteenth-century coinage aeronaut (to describe the pilots of hot-air balloons) and because it is another iteration of the genre of human I've been tracing in this dissertation. Its first appearance in fiction comes in mostly-forgotten short story "The Death's Head Meteor" by Neil R. Jones, printed in Hugo Gernsback's magazine *Air Wonder Stories* in 1930, and by the 1950s, the term was ubiquitous, easily overtaking the (more accurate) alternative "cosmonaut" to describe actual human spacetravelers. (“Cosmonaut,” of course, is the English translation of the term adopted by the Soviet Union to describe members of their space program.)

The difference between the two terms is telling. As Henry Dethloff describes it in his history of the Johnson space center, Hugo Dryden, NASA’s first director, “favored the term ‘cosmonaut,’ inasmuch as the flights would be made in the cosmos or near space, while the term ‘astro’ or ‘astral’ suggested star flights. ‘Astronaut,’ however, became accepted simply by virtue of common usage and preference by team members, and it stuck” (24). The term “cosmos” (which had been used to describe the universe at least as far back as Pythagoras) evokes a continuity between space and earth, while the less accurate “astro” maintains the sense of travel to distant unknowns, retaining a sense of the early modern explorer and the American frontier at the same time. This distinction, likely operating far below the level of awareness among the scientists and engineers at NASA, preserves the expansionist tropes of American whiteness.

It does so even before they had selected any of the men who would hold the title—men who were emphatically gendered, served in the military, and held college degrees. While much work[107] on the astronaut frames the figure in gendered terms, following Barthes we can see some of the racial resonances of the space-age hero categorized even before its naming. He uses the term “race” in a metaphorical sense to start,[108] describing a narrowly tailored genre of aviation pilot who was distinct from earlier aviators whose aircraft were propeller- and hero-driven: “The pilot-hero was made unique by a whole mythology of speed as an experience, of space devoured, of intoxicating motion” (71). There are echoes in this figure of the edisonade hero, discussed in Chapter 2, which figures the white boy/young man as a sort of pilot for his various speedy inventions, though Barthes’ pilot-hero, like his *jet-man*, is not generally involved in the creation of his prosthetic-mobility-enhancers. He is, instead, merely an end-user, his mythology grounded in his use of technology rather than its creator.

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[107] Constance Penley’s *NASA/Trek* is perhaps the best of these works. More recent work includes Llinares, Dario. *The Astronaut: Cultural Mythology and Idealised Masculinity*; and his book chapter “Contesting the Astronaut as a Masculine Ideal: Narratives of Myth in Tom Wolfe’s *The Right Stuff*,” in *Bound and Unbound: Interdisciplinary Approaches to Genders and Sexualities*; and Stefan Brandt’s “Astronautic Subjects: Postmodern Identity and the Embodiment of Space in American Science Fiction” in *Gender Forum*; Köln Iss. 16, (2006): n.p.

This is to say, it embodies a shift from the “inventor” trope towards a more “user” oriented ontology—hardly an uncontested move, as Yeager’s “monkey” anxieties show. It is worth noting, as well, the overdetermined resonances that come with monkeys as a racist trope to denigrate African Americans, further linking the disempowered pilot with a centuries-old anxiety of thingification. All of this motivates the rearticulation of hegemonic masculinity around a new kind of automated, computerized machine. The pilot-hero retains some authenticity because he is still tied to the environment. His aeronautic motion is endowed with a sense “of space devoured” that links his body to the world around it: he occupies a privileged position of mastery over space, but he is nevertheless connected to that environment. The *jet-man*, by contrast, is a race defined by what Barthes calls “a coenaesthesis of motionlessness”; a race, in other words, defined by its perception of bodily-self as not-in-motion, in spite of the body's tremendous speed relative to the external environment (71).[109] The *jet-man,* to traverse the distance between hero and robot, must give up his connection to the environment:

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[108] In French this is “race” and “raciale”—the word is a cognate, in other words, and comes to English from French.

> Mythology abandons here a whole imagery of exterior friction and enters pure coenaesthesis, motion is no longer the optical perception of points and surfaces; it has become a kind of vertical disorder, made of contractions, black-outs, terrors and faints; it is no longer a gliding but an inner devastation, an unnatural perturbation, a motionless crisis of bodily consciousness. (71)

For its antecedents in the Campbell-era genre sf, this movement is figured less as a crisis than as a new way of being-Man. This precipitates a crisis, for Barthes, because he recognizes the costs associated with this new inhuman ideal.

The *jet-man* name a genre of Man already in wide circulation in genre sf that idealizes frictionless mastery over externalities and the absence of external impositions and unwilled address. Though, as I have been examining, this genre is historically linked to whiteness, Barthes spins it into something approximating a new literal racial category: "His racial apartness can be read in his morphology: the anti-G suit of inflatable nylon, the shiny helmet, introduce the *jet-man* into a novel type of skin in which '*even his mother would not know him*'" (72, italics in original). This prosthetic skin serves to instrumentalize the body: "everything concurs, in the mythology of the *jet-man,* to make manifest the plasticity of the flesh, its submission to collective ends (chastely undefined, by the way), and it is this submission which is offered as a sacrifice to the glamorous singularity of an inhuman condition" (72). The achievement of a plasticity of the flesh (*la plasticité de la chair*) represents a final mastery of/over the body, and its submission to collective ends a stands as a surprising loss of autonomy and sovereignty. Such mastery comes with profound ambivalences for the empowered Western subject, since the mastery of the flesh is a central pile (and foundational desire) of the ideological structures of American slavery.

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[109] "Coenaesthesis" is a strange word, and worth dwelling on (outside the main text) for a moment. The *Oxford English Dictionary* defines it as: "The general sense or feeling of existence arising from the sum of bodily impressions, as distinct from the definite sensations of the special senses; the vital sense"; this idea of an internal sensation of (the processes of) being alive seems to be the relevant one for Barthes here. He also uses the term in *S/Z,* glossing it as such: "The music's erotic quality … has something *coenesthetic* about it, it is connected less to an 'impression' than to an internal, muscular, humoral sensuality" (110, emphasis added).

This line of analysis draws on Spillers' famous distinction between body and of flesh (and the intriguing coincidence of the term "flesh" between her text and Barthes' *chair*, which translates to "flesh"):

> But I would make a distinction in this case between 'body' and 'flesh' and impose that distinction as the central one between captive and liberated subject-positions. In that sense, before the 'body' there is the 'flesh,' that zero degree of social conceptualization that does not escape concealment under the brush of discourse, or the reflexes of iconography. ("Mama's Baby" 67)

Given the ambiguous meaning of "possess"—it refers both to "owning" and to "holding" or "occupying"—possessing mastered flesh becomes a sign of perfect mastery and absolute enslavement simultaneously. This is the ambivalence of the *jet-man*, and the ambivalence of the astronaut after him: "Assimilated by his name to pure passivity (what is more inert and more dispossessed than an object *expelled in jet form*?), he reintegrates the ritual nevertheless, thanks to the myth of a fictitious, celestial race, which is said to derive its peculiarities from its ascetic life, and which effects a kind of anthropological compromise between humans and Martians" (emphasis in original, Barthes *Mythologies* 73).

In the sf of the Golden Age, perfect mastery was often figured as a sort of end-goal or telos for the abundant mechanical and scientific creativity of its heroes. Authors framed all manner of problems in soluble terms: any problem, from race to interstellar travel, was bound by spectacular, rational rules, and so could be brought under the control of a properly perceptive and sufficiently clever mind. At a basic narrative level, of course, there's not much story without a problem, but in genre sf the presumptive end of any puzzle was a complete and final resolution. Though Barthes was not especially involved in sf (so far as I know), he points to the para-literary genre as a way to describe the new genre of man precipitated in his analysis by the invention of jet place: "We are dealing with a true racial conversion, all the more credible since science-fiction has already largely substantiated this metamorphosis of species: everything happens as if there had been a sudden mutation between the earlier creatures of propeller-mankind and the later ones of jet-mankind" (72). He is correct to identify "science-fiction" as a force for scripting this conversion, as a discourse seeding culture with tropes that allow jet-mankind to emerge into the world fully formed, though, like Barthes, the genre was already beginning to recognize this mutation as crisis.

Star-Craving Mad

As early as 1950, genre sf began to explore issues of freedom and enslavement in the sf megatext directly. One strand of these stories maintains the presumptively white and male perspective, still embeds this perspective in a world where techno-optimism reigns supreme and the empowered characters are indeed those who have embraced the technocratic regime but challenges the reader's identification with this perspective. Cordwainer Smith's first published sf story, "Scanners Live in Vain," is a case in point. Its tale of "cyborged space pilots who are dead though they live, and would rather kill than live with a new discovery that has made their sacrifice and its attendant rituals obsolete" (Pierce "Introduction" 2) amounts to a near-explicit critique of the emerging ideology of Man3.

The plot follows a "Scanner"—as the cyborged pilots are called—named Martel, and the repercussions of a discovery that will obviate Scanners altogether. In the story's universe (part of a shared future-history universe Smith developed across numerous stories and notebooks, which he collectively and intriguingly called the *Instrumentality of Mankind*), interstellar travel is possible. This has allowed humanity to spread to the stars, but interstellar journeys are fraught because traveling in deep space induces what they call the "Great Pain of Space," a deep depression-like condition which is invariably fatal if endured for long. Enter the haberman: posthuman cyborgs made by the Haberman Device, which cuts the brain from the heart, the lungs, the ears, nose, mouth, and belly: from desire, from pain, from the world, "Save for the eyes. Save for the control of the living flesh" (301). The flesh is controlled with boxes, implanted on the chest, whose knobs and readouts enable a purely visual control.

This story appeared in the short-lived magazine *Fantasy Book* in 1950 and was successful enough that it was selected for the *Science Fiction Hall of Fame, Volume 1*.

Indeed, anecdotal accounts hold that many early readers assumed “Cordwainer Smith”—a pretty obvious pseudonym—must be a new pen-name for an established sf author, as it was common practice in the genre for well-known writers to change names when trying something new. The true author, however, was Paul Myron Anthony Linebarger, a noted expert on East Asian culture and confidant of Chiang Kai-shek, president of the Republic of China from 1928-1975. In this, Linebarger carried on something of the family tradition: his father was himself “a retired American judge who helped finance the Chinese revolution of 1911 and became the legal advisor to Sun Yat-sen,” the immediate predecessor of Kai-shek (Pierce 4). Linebarger was also a noted expert on psychological warfare (writing a book on the subject under his own name). His background in psychology and non-Western philosophical traditions would inform much of his sf writing.

In “Scanners Live in Vain,” the story turns on the psychological costs of becoming a haberman. Mundane habermans are little more than zombies, and they come from the ranks of condemned criminal: they are “the scum of Mankind…the weak, the cruel, the credulous, and the unfit…the sentenced-to-more-than-death” as Martel and the Scanners intone at one point (301). In some sense, the habermans’ construction literalizes the social death of slavery in general, especially with the suggestion that habermans are created in lieu of execution (and are executed once no longer necessary, at the end of the story). Beyond that, however, they literalize the forms of instrumentalization that were one of the central innovations of trans-Atlantic slavery. That is, they are not created for the sake of justice (though the process is often a punishment), nor are they held by the wealthy and powerful as extensions of themselves (though the Scanners are honored because of their control over the habermans); instead, the habermans are transformed into bodies that exist for the sole purpose of doing the work on which the human powers are built. In contrast, Scanners, who are tasked with controlling the habermans, are accorded considerable honor and inalienable rights, even though they too are habermans.

The difference is that Scanners are willing subjects to the device: despite their cuts, they retain agency. Their role is to captain interstellar ships; they activate and command the habermans when the need arises (otherwise the habermans, like the normal human passengers, stay in deep hibernation though the journey). Their honor is proscribed—"All mankind owes most honor to the Scanner, who unites the Earths of Mankind. Scanners are the protectors of the habermans. They are the judges in the Up-and-Out" (302)—a status that is coherent with Orlando Patterson's description of the honor of slave-holding, though in contrast to Patterson's argument it is not the possession of habermans that ensures their honor, but the tasks which this possession enables. To be even more precise, they are honored because of what their mastery allows them to take away: "'And if Scanners not be honored?' 'Then no ships go.'" Their control over the habermans is absolute, as is their control over everything in deep space, and this is the seat of their honor. The habermans are merely a means to an end. They have perfectly instrumentalized the body. They embody a fantasy of absolute control, mastering even the flesh of habermans. What Smith adds to this sf power fantasy is a sense of the costs of absolute mastery: their own reduction to instrumentalized flesh.

In this way, Scanners are both privileged and grotesque, and their grotesquery functions very much as a critique of the cult of disembodiment that motivates some branches of posthuman theorizing (especially those that is now often called "transhumanism"). As I've noted before, Katherine Hayles' *How We Became Posthuman*, all but openly mocks Han Moravec's fantasy of the brain being uploaded to a computer without change in subjectivity, locating the ideological underpinnings of this absurd fantasy in the Macy conferences of the 1940s and 50s, where "information lost its body." Smith seems to anticipate this critique half a century before it was made: his haberman come close to the ideal of a disembodied human subject but, especially given the way Martel is introduced (unfeeling, awkward, violent, scaring his wife, demanding to be "cranched") it is clear that disembodied authority is not all that, shall we say, pleasant. His Scanners also burlesque the centrality of sight and visuality in the Western scientific tradition, an element highlighted by the contrast between Scanners and the "cranched" Martel (as well as, importantly, the one explicitly non-white character in the story, Chang, whose characterization serves as an Eastern response to the Western ideals of the Scanners, and also channels Linebarger's East Asian intellectual background; more on this below.)

Martel begins the story demanding to be "cranched"—a quintessentially silly and vaguely vulgar pseudo-onomatopoeia that means "returned to normality." This is the other aspect of the Scanners' privilege: they not only get to retain their autonomy, but unlike the disposable habermans they are also putatively able to return to their fully connected human state, albeit only in brief bursts, and even then with some complications. The transition is apparently painful, but Martel wants to spend some quality time with his wife, and he can't do so as a true Scanner. He is the only married Scanner—the others treat it as an experiment, since nothing in the Scanner's job description specifically excludes marriage (or women), though the Scanners are all men in this story. His wife objects, noting that it is dangerous (or at least, against regulation) to cranch so soon after an earlier cranching, but relents when Martel insists, and does her best to please his newly, temporarily returned senses. One way she does this is with an olfactory "record" of exotic scents, included one of cooking lamb-chops.

The smell of cooking meat triggers a strong, traumatic reaction from Martel, as he recalls another time he smelled burning flesh while working on a damaged ship: "In the nightmare of the Up-and-Out, that smell had forced its way through to him, while their ship burned off Venus and the habermans fought the collapsing metal with their bare hands" (294). Though his body has supposedly been inured to the horrors of spaces, the smell "had fought its way along his rebuilt nerves, past the Haberman cuts, past all the safeguards of physical and mental discipline. In the wildest hour of tragedy, he had smelled aloud" (294). This triggering encounter with the flesh likewise triggers the story's first meditation on the impossibility of truly instrumentalizing the body:

> All his boxes had swung over toward Alarm, some to Danger. He fought against the roar of his own mind, forcing his body into excess excitement. How easy it was to be a Scanner when you really stood outside your own body, haberman-fashion, and looked back into it with your eyes alone. Then you could manage the body, rule it coldly even in the enduring agony of Space. But to realize that you were a body, that this thing was ruling you, that the mind could kick the flesh and send it roaring off into panic! That was bad. (293-94)

The cranching process, which is meant to return Scanners to normalcy, also opens Martel up to echoes of the past the "Haberman cuts" failed to fully to shut out, and his heroics on the ship, his stoicism in the face of horror, are ultimately built on repression as much as mastery. It highlights the fact of his embodiedness—"that you were a body, that this thing was ruling you"—in stark distinction to the usual posthuman ideal.

Martel soon recovers and they begin to salvage their date when an urgent call comes in from the head Scanner demanding Martel's presence at an emergency meeting. This demand flouts a previously inviolable rule that cranched Scanners were exempt from all duties; surprised but obedient, Martel arrives at the emergency meeting as the only "human" in a room full of Scanners. One of the first things he discovers is that his friend, Chang, is able to speak and emote as though he were not a Scanner—their lack of non-visual senses has predictably extreme consequences for their affect. Chang attributes this to much practice at his father's insistence:

> He said, 'You may be proud of being a Scanner. I am sorry you are not a Man. Conceal your defects.' So I tried. I wanted to tell the old boy about the Up-and-Out, and what we did there, but it did not matter. He said, 'Airplanes were good enough for Confucius, and they are for me too.' The old humbug! He tries so hard to be a Chinese when he can't even read Old Chinese. (299)

Chang's ability to master his body is distinct from the other Scanners because he uses his mastery to better interact with non-instrumentalized subjects. Smith's background seems relevant here, as it leads him to another avenue of critique. Chang is "half-Chinese," and it is his Chinese father, insisting in almost Orientalized terms on a definition of Man grounded in Confucian philosophy.[110] Chang occupies the liminal position in the story much as Martel, the only married Scanner, is likewise trafficking between subject-positions (in his case, both the "human"/"haberman" divide and the "abstract masculine"/"embodied feminine" divide). In other words, Chang's humanity is secured against complete instrumentalization by its proximity to non-Eurocentric ideologies; Martel's humanity is secured by its proximity to femininity and reproductive futurity.

In both cases, the racial/gendered alterity of these men can be seen as undermining their privileged access to a posthuman subjectivity, a perspective in keeping with the privileged disembodiment in more transhumanist versions of posthumanism, like those critiqued early in Hayles. In contrast with those versions, however, Smith's story presents an emphatically embodied depiction of the posthuman. That embodiment is signaled by the willful cutting-off of the various conditions of embodiment, to be sure, but these "sense-ectomies" are shown to have profoundly embodied effects and are necessitated by the flesh's ultimately unruly openness. Martel resists the Scanners decision precisely because he is fully connected to his body, rendering him less susceptible to the relentless pull of Scanner logic, while Chang can similarly resist thanks to the different relationship he has to his post-humanity. Martel's enforced normality on the one hand, and Chang's prosthetic normality, on the other, both suggest that attention to embodied existence affects at least ethical modes of thinking, and it is no small thing that in the logic of the story, the ethics of embodiment are shown to be correct.

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[110] Though Smith is not himself ethnically or racially Chinese, I think there is also a connection here to issues discussed in the UCR Sawyer Seminar on Alternative Futurisms panel about Asian American speculative fiction. Smith's depiction of Chang introduces some features common to Asian American speculative fiction, with prominent themes intergenerational, father-son dynamics that serve to dramatize a subject position that navigates between two worlds—the old emblematized by the parent, the new by the child's social reality.

The contrast between Chang, Martel, and the mass of unmarked Scanners suggests an early instance of post-racial ideology. The Scanners are not explicitly racialized. Though Chang's presence suggests that their ranks are at least nominally color-blind, however, the mass of Scanners nonetheless conform to the genre of Man structured by technocultural whiteness. The ambivalence of this depiction comes in the way this structuring seems to constitute a rupture with the older racial order. Habermans are fully, horribly instrumentalized, and as I noted earlier, drawn from the ranks of the despised—but also, interestingly, "the credulous"—and these not-quite-humans exist simply as tools for the use of the Scanners. Both are similarly constituted, what separates them is their privilege within a technological system. Following Wynter, we can understand this speculative arrangement as nothing other than an evolution of the hegemonic genre of Man, and the habermans as a technocultural "Untrue Human Other," archetypically characterized by their status as things-to-be-used, despite their human form and heritage. The story never comments on this, but in the its speculative realism, the post-human hierarchy is naturalized much the way our racial hierarchy is naturalized, much the way our labor and criminal justice systems are, and with similarly brutal effect. While we are invited to question the story's naturalization of this semi-racial hierarchy, Smith avoids making the comparison to race explicit, rendering his picture of a color-blind future subject to the same ideological structures as our color-bound present. Golden age science fiction often unfolds along similar lines.

Smith’s story makes use of the posture of a relentless, rigorous working-through of hypothetical scenarios, and like so many other sf stories, it seems to adopt the supposedly un-situated position of classic scientific thinking. But Smith’s commitment to an explicitly embodied posthuman subjectivity seems also to draw on a “postrace” in the sense suggested by some of Ramón Saldívar’s recent work. In this work, he argues for an understanding of post-race that

> entails a conceptual shift to the question of what meaning the idea of ‘race’ carries in our own times. The post of postrace is not like the post of poststructuralism; it is more like the post of postcolonialism, that is, a term designating not a chronological but a conceptual frame, one that refers to the logic of something having been ‘shaped as a consequence of’ imperialism and racism.” (520).

Chang is as much of a Scanner as anyone else, but his embodied history—his cultural specificity—shapes *how* he becomes posthuman, suggesting that Smith’s embodied posthumans are as much “shaped as a consequence of the human” as they are figures that exceed the human’s bound. The manifold consequences of being-human (and of attempting to exceed or otherwise escape one’s humanity) are the foundational issues at stake in the Scanner’s emergency meeting.

The meeting was called to discuss the findings of one Adam Stone, a rogue scientist who has developed a method for travelling through space without the need for habermans. The head Scanners dismiss Stone’s claim out of hand, though this argument provokes some dissension: one Scanner (with the vaguely ethnic name Parizianski) argues that they have to at least see if Stone is telling the truth. Whatever trouble may come of a false claim, the upsides if he is telling the truth are significant: “Nobody will have to cranch, never again. Men can be men. The habermans can be killed decently and properly, the way men were killed in the Old Days, without anybody keeping them alive" (304). Though the majority vote to kill Stone even after this argument, the vote is far from unanimous. Then a new argument is introduced:

> "The Pain of Space is only part of scanning … and we can rest assured that Stone cannot solve the problem of Space Discipline. … The Space Discipline of our Confraternity has kept High Space clean of war and dispute. Sixty-eight disciplined men control all High Space. We are removed by our oath and our haberman status from all Earthly passions. … If Adam Stone succeeds, Scanners live in vain!" (308)

This argument ultimately proves more persuasive, and it leads inexorably to the necessity of murder, expressed by two purely "logical" conclusions: "Therefore, if Adam Stone has succeeded, he threatens the ruin of the Confraternity and should die"; and: "Therefore, if Adam Stone has not succeeded, he is a liar and a heretic, and should die" (308).

Martel recognizes the logic of the argument, but in his current state he can also see its inhumanity, but unfortunately, his only ally by the end of the meeting is Chang. His other friend, the early opponent Parizianski, is so swayed that he is selected to carry out the deed before Stone can tell anyone about his discovery. Martel leaves the meeting and the Scanners as well (he symbolically breaks the "nail" Scanners use to write messages to other Scanners and by which Scanners are recognized as Scanners), and races to find Stone first. Successfully passing for a normal human, Martel reaches Stone first and learns that the rumors are true: Stone had just travelled back to their world (a future Earth) without the help of hibernation, haberman, or Scanner. His secret: insulating the ships with life. By stuffing the ship's walls with oyster beds, Stone discovered that only the outermost oysters died in the Great Pain; the inner oysters lived, while those in the center were entirely unhurt. This solution doesn't ultimately overturn the centrality of instrumentalization to space travel, it simply shifts the biopower under consideration from human to animal. This is nevertheless presented as a superior, more moral form of instrumentalization.

Parizianski soon arrives and the two enhanced men engage in a high-speed argument that ends when Martel strikes a killing blow by using Parizinski's instrumentalization against him: "he reached over and twisted Parizianski's Brainbox up to *Overload*. Parizianski's eyes glittered in terror and understanding. His body began to drift down toward the floor" (319). This climactic moment functions as the culmination of repeated references to the haberman's instrumentalized status, which Scanners both manipulate and share. It ironically replays a moment from earlier in the story when Martel's objections were cut short. After being knocked down, he was scanned and "[s]ome Scanner he scarcely knew took his instruments and toned him down. Immediately Martel felt more calm, more detached, and hated himself for feeling so" (309).

When Martel awakens after the fight, he finds himself not just alive, but fully aware. Adam Stone and Luci inform Martel of his success (as well as the fate of everyone who shares his condition): "You don't think the Instrumentality would waste the Scanners, do you? You go back to normality. We are letting the habermans die as fast as the ships come in. They don't need to live any more. But we are restoring the Scanners" (320). The casual murder of the other (equally-reversible) habermans passes by without comment, but Martel's superiority places him in a different category, and the whole affair is ultimately swept under the rug, as his wife unwittingly informs him: "They had to arrest some of them for going into *High Speed* and running away. But the Instrumentality caught them all—all those on the ground—and they're happy now. … some of them didn't want to be restored to normality. But Stone and his Chiefs persuaded them" (320-21).

The story ends on an ambiguous note vis-à-vis the Scanners' sovereignty: the enforced happiness of captured Scanners, much like Martel's earlier enforced calmness, speaks to a lack of agency on the part of these otherwise superior men, though their place in the new system is otherwise unaffected. The scanners, while deprived of their monstrous forms, will nevertheless remain privileged subjects. Luci (again unwittingly) explains as much when she notes that the head Scanner is "staying cranched until he can be restored. Do you know, he has arranged for Scanners to take new jobs. You're all Deputy Chiefs for Space. Isn't that nice? But he got himself made Chief for Space. You're all going to be pilots, so that your fraternity and guild can go on" (321). Their superiority as icons of Man3 carries back into their normalization and, not coincidentally, their status is preserved not through technological enhancement and control, but through the job-title of pilot.

Insuring Necessity

> I learned how strong the hand of the editor can be in shaping a story. John told me he had three times! sent "Cold Equations" back to Godwin, before he got the version he wanted. In the first two re-writes, Godwin kept coming up with ingenious ways to save the girl! Since the strength of this deservedly classic story lies in the fact the life of one young woman must be sacrificed to save the lives of many, it simply wouldn't have the same impact if she had lived.
>
> —Joseph Green, "Our Five Days with John W. Campbell"

> Man always stands ready to blame inanimate things for his blunders; everything is blamed on the perversity of things, when it should be blamed on the perversity of man.
>
> —Hugo Gernsback, “The Perversity of Things”[111]

“The Cold Equations,” published in *Astounding* in August 1954, stands as perhaps the apotheosis of John W. Campbell’s tenure and influence as a sf editor.[112] This story, discussed and argued over more or less continuously since its publication sixty-plus years ago, is often taken as “an exemplar of the SF ethos” (as Brian Attebery puts it in *Decoding Gender in Science Fiction*, 180), a status that is continually made and remade in different contexts (as Vint and Bould argue in “There Is No Such Thing As Science Fiction”). The plot, for the uninitiated, is framed around the perspective of the pilot of a small emergency spacecraft sent out to a frontier planet in response to an unfolding crisis. This man is confronted with an ill-fated stowaway who must be jettisoned from this ship to ensure that the life-saving medicine carried on the ship will reach its destination; normally, this would be no problem for the pilot (they are trained for this eventuality, hardened against its inhumanity) but in this case, the stowaway is a “girl.” The young woman (Marilyn) is from Earth and, innocent of the harsh realities of space, thought she could hitch a ride to see her brother on the frontier planet. Because of a long list of carefully crafted reasons, there is insufficient margin for error with the fuel supply on the ship to account for the mass of another person. As the laws of inertia do not care about innocence or guilt, the girl must go. And so, she does.

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[111] Reprinted in Wythoff, 166. All quotes taken from *The Perversity of Things: Hugo Gernsback on Media, Tinkering, and Scientifiction*, edited by Grant Wythoff, University of Minnesota Press, 2016.

[112] By the mid-1950s, Campbell’s ASF began to share space with a coterie of new, sophisticated sf magazines that were beginning to hit their stride—*The Magazine of Fantasy and Science Fiction* launched in 1949, *Galaxy Magazine* in 1950, and *(Worlds of) If* in 1952—and the space age was beginning in earnest. Campbell and ASF would remain major figures in the field until Campbell’s death in 1973, but the magazine’s predictive successes with nuclear and space-faring technologies would not be replicated, especially as Campbell began to dig in to areas many of his readers (and most famous authors) considered to be pseudoscience—he was especially credulous of ESP, Dianetics, and an improbable engine dubbed the Dean Drive (which violated Newton’s Third Law that every action has an equal and opposite reaction).

The story is nearly unique (for a John W. Campbell editorial/Golden Age sf story) for its failure of science, ingenuity, and cleverness to resolve things positively. It has the same form as most Stuart Stories, with inevitability or tautology carefully structuring the plot, but it frustrates the usual affect of closure. Written with a cruel ending, the story instead exposes the profound coldness at the heart of the ideologies it is taken to represent so well. It both epitomizes the formal logic of Campbell's preferred sf and implicitly undermines the ideologies that power this logical form. Even if you identify more with the pilot than Marilyn (as the story invites you to do; it is fixed in his perspective), the story is suffused with a sense of the emptiness of technocratic competence, with the cost of efficiency.

This emptiness matters, I propose, precisely because this is the story of a pilot—not quite an astronaut, but in the same genus—who is totally bound by the cold logic of mathematical certainty that he can't even save the girl nevertheless stands as a paragon of Golden Age genre sf. Indeed, proper appreciation for the story has become something of a shibboleth in certain strands of sf fandom, a sentiment suggested by James Gunn's introduction to the story in the third volume of his anthology *The Road to Science Fiction* (1979):

> If the reader doesn't understand it or appreciate what it is trying to say about humanity and its relationship to its environment, then that reader isn't likely to

> appreciate science. If the reader keeps objecting … then that reader isn't reading the story correctly. (235-36)

The slippage here between a work of fiction and a reader's aptitude for appreciating science is suggestive. The story does not have much in the way of actual (or even imagined) science in it, but its aesthetics nevertheless encapsulates the way a traditional sf ideology understands the relationship between humanity and the environment—oppositional, deterministic, inflexible, and therefore cruel. For sf fans like Gunn, as for Campbell (evidenced in the epigraph, above), the story's appeal rests on the way it dramatizes the monstrous inhumanity of natural laws.

At this level, "The Cold Equations" is a story about the brute rigor that science struggles to harness and the costs—death/pathos, in this case—of getting it wrong. The whole plot turns on the inflexibility of natural laws and the necessary precision of rocket science.[113] However, as many (*many*) scholars and fans have noted, the particular conditions of the story have much less to do with science or nature than with the conceits of the story itself. It works as an exquisite distillation of what Hugo Gernsback once called "the perversity of things" that a tinkerer must always contend with: the tendency of "nature" to "seemingly always interpose obstacles in his way whenever man desires to invent or construct a certain new thing" (166). In Gernsback's sense of perversity, man's desire is for invention, for construction. In "The Cold Equations," what "man desires" is not something new, but rather an alteration of that which already exists. In either case, Gernsback's fundamental insight (quoted above) holds: this is ultimately about the perversity of man.

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[113] It is probably not a coincidence that this story was written in the early days of rocket science, at a time when rockets routinely blew up because of tiny miscalculations or mechanical imperfections. The hugely embarrassing Project Vanguard Rocket Launch, for instance, rushed out in response to Sputnik's launch a scant two months earlier, exploded on national TV in early December 1957 (a failure that, incidentally, lent itself to some delightfully snarky journalistic puns: Flopnik, Stayputnik, Kaputnik, and Dudnik); this offers a vivid validation of Campbell/Godwin's prurient interest in the violent consequences of bad math. Even today, the phrase "space is hard" functions as a stock reply whenever something goes wrong with space ventures (when no one dies; deaths are treated with a touch more reverence).

This perversity manifest in many ways. In terms of gender, many critics have pointed out that the character who directly suffers as a result of the cold equations is insistently described in gendered (and gently sexualized) terms; this is in contrast to the gazing protagonist, a man of no particular distinction:

> [John] Huntington and [Andy] Duncan both point to a barely concealed violence towards women—[the story's] disbelief in women as real people, its desire to punish and eject female interlopers from the masculine-colonial project. Catherine Mintz argues that it is a story in which women are put in their place (off the spaceship, out of SF)…When a woman enters space, she brings the potential for deviation and disaster with her. (Vint and Bould, 45).

In this reading, the seeming "perversity" of the thing we call gender would be at fault for the cruel outcome. Men and women are different by nature, the story seems to suggest, and this difference manifests as an aptness for managing the rigors of taming inflexible nature or a lack of aptitude that could very well get everyone killed. The volumes of scholarship, especially post-*Gender Troubles*, that emphasize the social construction of gender, make clear the ways this seeming perversity of things is primarily a perversity of man.

Class readings are also viable: the girl comes from a working-class family—the pilot notices that her fashionable clothing is all cheap imitation—and her brother works in particularly hazardous conditions to send money back to his family. As Vint and Bould note: “Marilyn’s easy access to the ship and its lack of fuel for contingencies reflect an economic and political system that privileges profit—although it would undoubtedly be called ‘efficiency’—over other considerations” (47). This reading suggests something approaching a religious parable, just with corporations or political entities taking the place of god(s). At a basic level, it inculcates political quietism by its naturalization (or supernaturalization) of corporate contingency. Of course, corporations and governments are not, in fact, gods: they’re made out of people, and so the things they shape are necessarily manmade, and the mode of their perversity follows suit.

Godwin’s story, in other words, is deeply implicated in the ideologies of Man3. Its ideological move to naturalize various constructed conditions functionally updates the pastoral occlusion examined in the first chapter. This can be seen, for instance, in the debates about the story that raged through the pages of the *New York Review of Science Fiction* in and around 1996. There, it was vigorously critiqued and defended, and as is so often the case, some of the defenses inadvertently work quite well as exposés of the story’s implicit politics. For example, in responding to a letter by Darrell Schweitzer that suggested the pilot could make up for some of the extra fuel spent on Marilyn by defecating into the void, Vint and Bould correctly note: “His equation, however unintentional, of rational subjectivity with the white masculine mind and of egested matter with people of color, women, and the body is, to say the least, instructive” (47-48). Much like the World’s Fair diorama discussed in the third chapter, the technocratic imagination on display in Schweitzer’s thought-experiment renders whiteness invisible (which as Richard Dyer shows, is a powerful discursive move). But it does so by conceding the necessary embodiment of the pilot—that is, by conceding the necessity of his waste—and thereby exposes an aporia for white folks: though deflected onto defecation, the rational subjectivity appealed to here threatens to erase the material bodies of white folks every bit as much as it erases the bodies of Other, gendered and/or racialized folks. If Marilyn's body is waste—excess—in need of expulsion, so too is the pilot's body a form of waste; his has merely been accounted for.

The connection between Marilyn and the pilot is further emphasized through an often-overlooked moment that Mark Bould's notes in his introduction to the special issue of *Science Fiction Studies* on Afrofuturism: "the one colonized person who fleetingly appears in ["The Cold Equations"]—the Gelanese 'native girl who does the cleaning in the Ship's supply office' (445)—has gone largely unnoticed. While the manly colonists do all they can to allow the white girl, Marilyn, an existence in their space, however briefly, the 'native girl' is utterly excluded" (182-83). Marilyn's interactions with the "native girl," though off-stage, help to mark her as part of the same genre of Man as the pilot and crew, albeit in a diminished capacity with respect to her gender. I would go on to note that while Marilyn is clearly marked as white (in descriptions of her pale skin and her blue eyes), the pilot's appearance is never described. In the presumptively post-racial sense of most contemporaneous sf (and literature), his whiteness can be reasonably assumed, but I think it is worth pausing over that assumption for a moment. He is less presumptively white than other, more traditional sf protagonists, since he so emphatically has a body—that is, his body actually matters for the outcome of the story, while his rational intellect is helpless. The masculinity that secures his place in the genre of Man is compromised by flesh that is every bit as culpable as the girl's for the situation Godwin sets up.

In each case, the story's performance of rigor is an occasion for readers' own exercises of rigor. Its enduring place in the sf canon seems to rest on the lack of closure offered in what is, at first blush, a carefully closed system. The strange lack of scientific rigor probably stems from the fact that it was, at least in Campbell's own description, principally a story about human sacrifice (and secondarily an extension of the kind of willful perversity so on display in Campbell's editorials). According to Alec Nevala-Lee,[114] Campbell describes his motives in a 1954 letter to Raymond F. Jones:

> We've called the technique the Demeaned Viewpoint technique. It boils down to this: Consider the viewpoint that you just can't consider under any circumstances, and find validity in it. There is no viewpoint that has zero validity—though some have very small validity, or very limited application. But if there is some viewpoint that you hold to be anathema—it must be important if you expend the effort to anathematize it!

He explains how (in Nevala-Lee's words) "this was the explicit motivation for the ending of 'The Cold Equations'" in a slightly later letter to his friend Wayne Batteau:

> That [story], you see, is simply a Demeaned Viewpoint gimmick on the proposition "Human sacrifice is absolutely unacceptable." So we deliberately, knowingly and painfully sacrifice a young, pretty girl…and make the reader accept that it is valid!

The validity follows from the necessity the story sets up, creating less a science fiction story than what amounts to a classical tragedy—the fates have simply been replaced by the numbers. The politics of the story keep it well within the boundaries of genre sf's conservative impulses (valorizing a white, male, colonial, technophilic identity), but it nevertheless offers a striking departure from the pastoral ideal of earlier Man3 fictions. That is, though it seems to be politically concerned with naturalizing the conditions of the story (hence the inevitability of the plot), its emphasis on the inescapable power of natural laws highlights the lack of agency of its characters as a condition of naturalization.

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[114] These quotes are all drawn from Alec Nevala-Lee's Astounding: John W. Campbell, Isaac Asimov, Robert A. Heinlein, L. Ron Hubbard, and the Golden Age of Science Fiction.

In other words, the asserted inflexibility of natural laws exposes one of the fundamental contradictions of whiteness in the space age, a re-articulation of the anxieties going back at least to Poe's "The Man That Was Used Up": how can one be Man, sovereign and proud, when subject to something beyond his control? The old answer—and the strategy that Godwin's story seems to inspire in so many readers—is to master those things on which one is dependent. In the pastoral imaginations of antebellum slavers, dependency was blunted by the enslavers' so-called natural mastery over the enslaved. In the juvenile sf of the late-nineteenth and early-twentieth century, mastery often took the form of imaginative, self-sufficient bouts of invention—e.g., Frank Reade, Jr., building his own Steam Man, rather than modifying his father's. In the more mature sf of the Gernsback and (especially) Campbell years, the natural mastery of the pastoral mode manifests as an active mastering of nature such that superior humans will remain securely in control. But this revision of mastery comes with its own sets of anxieties and lacunae.

The rationalization in “The Cold Equations” is a managerial variation on the pastoral move discussed in the first chapter, an updated occlusion of the situatedness and contingency of the competent “shepherd” (now recast as pilot and soon, as in work like Vonnegut’s *Player Piano*, recast as manager). Rather than obscuring the *labor* upon which the self-sufficient Individual actually relies, this post-pastoral story obscures the role of *agency* subventing large, technocratic social systems. The pilot has options, as numerous readers attest, but he sees none, sees only the murderous logic of the current system. If someone gets hurt, it is bad, it is preventable, it is a problem, but it is also inevitable, and moreover, it is individualized: Marilyn died because she made a choice without thinking through the consequences, just as the pilot (like innumerable other competent men) lived because he had a full appreciation of the situation before setting out.

Many of the political critiques outlined above become active in Marilyn’s decision-making process— she can’t respect the hardness of space because she’s a “girl,” she is faced with a dangerous decision because of contingent economic conditions, etc.— but her individuation remains. The use of individuation here is a variation on Campbell’s *Who Goes These?* examined in the previous chapter, where the success of the “men” rests less on their individual status as on their comportment with the forces of nature. This individualizing also performs the neoliberal conservation of whiteness Campbell deploys in his editorials (also discussed in the previous chapter) by naturalizing the present order, rejecting changes (especially those advanced by bleeding hearts) as irrational, paring away context by placing everything into a system that Saidiya Hartman (describing the transition from slavery to Jim Crow) calls "burdened individuality." The privileged subject, then, becomes the person who best governs the impersonal forces of the universe, and so whiteness is conserved at the cost of agency.

Read in the context of the legacy of slavery, the story becomes a parable of bureaucratic brutality with roots stretching back to the early days of the abolition movement. Perhaps the clearest connection, or maybe the instance of strongest family resemblance, lies in events like the *Zong* massacre. According to the testimony of the crew, after a long trans-Atlantic journey from Africa to the Caribbean, the *Zong* took a wrong turn and ran low on water. In "The *Zong* in the Context of the Eighteenth Century Slave Trade," archeologist Jane Webster describes the result:

> On 29 November 1781, the master of the merchant vessel *Zong* made the decision to jettison a portion of his cargo into the Caribbean. The *Zong* was a slave ship and the jettisoned cargo comprised 132 living men, women and children, yet despite their deaths, and the two court hearings of 1783 … no criminal prosecution would ever result from the *Zong* incident. (285)

The court hearings were in response to an insurance claim made on the "jettisoned cargo." There was no insurance for slaves who died on land or as the result of what were considered "natural causes" (a category that included thirst): "Where a master, through immediate peril or necessity, was forced to jettison a portion of his cargo in order to safeguard the remainder, however, then a claim for general average sacrifice could be made on those slaves who had perished" (Webster 291-92). According to Webster, the legal transformation of murder (as it was called by abolitionists, and eventually by one party in the courts) into an insurance claim was the spark that lit the flame etc. leading to the end of the slave trade in Britain, inciting the organized abolitionist movement and lending vivid detail to a practice that had gone largely unregulated for 200 years. This despite the fact, as Webster goes on to argue, that the case seems to have been nearly unique—it was called "a very singular case" in the opening remarks of the case (quoted in Webster, 293) and among the voluminous accounts that abolitionists collected to detail the brutalities of the slave trade, there are few examples of something similar occurring.

The very thing that made the case exemplary was its strangeness; or rather, was what this strangeness revealed. As Webster puts it:

> Even in a world that gave legal and moral sanction to a brutal trade in human beings, very few sailors appear to have contemplated the step that Luke Collingwood [master of the *Zong*] took in November 178[1].[115] This would suggest that somewhere within themselves even the most hardened slavers tacitly acknowledged the very thing so clearly brought to light in the *Zong* proceedings: the irreducible humanity of a so-called human cargo. Collingwood acknowledged no such thing, and therein lies the uniqueness, and importance, of the *Zong* on the road to the abolition of the British slave trade in 1807. (298)

That tacit acknowledgment was exposed by the legal case, and more generally by the clearly liminal position of human cargo in insurance law. The case is exemplary in its severity, but what happened on the *Zong* was but a particularly vivid example of the general process of the enslavement in the New World. The decision to "jettison" may have been (nearly) unique to the captain at the time—an individual bad actor—but the legality of the decision was systemic.

In a narrow sense, this meant that crew was necessary for the captain's decision to have been implemented—and, indeed, much of the earliest abolitionist agitating around the *Zong* case was an attempt to hold the crew accountable (especially since the captain was long dead by the 1783 trials, having perished a bit more than a week after finally landing in Jamaica[116]). Their agency, and by extension the agency of everyone in a society that condoned such actions, became the moral heart of the protests.

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[115] This clear typo was incorrectly written as "1783" in the original article (most of the court proceedings Webster discusses were from 1783, but the massacre itself, as she notes earlier, occurred in 1781).

As the case showed, the same processes that flattened people into numbers in a ledger could also convert murder into a cold, rational, "valid" thing. What Webster's reading suggests is that such a conversion is only possible in a system that displaces the individual's agency in the matter. The ship captain had an obligation to maximize his employers' profit, and his crew had an obligation to respect the chain of command. Likewise, a CEO has an obligation to maximize shareholder value, soldiers have an obligation to follow orders, and "*h amount of fuel will not power an EDS with a mass of m plus x safely to its destination*" (460, italics in original). In the context of slavery, it is easy to see how "becoming a number" in someone's system could become a deep, repressed fear for privileged subject. The slave ship, along with the plantation, functioned as a prototype of technocracy.

Hence, the strangely disempowered masculinity of Godwin's spaceship pilot. The neoliberalism operating underneath "The Cold Equations" is often denounced for its

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[116] The captain's death is perhaps noteworthy for another reason: according to Webster (and others), the captain was quite ill for most of the trip, and there is some suggestion that he was not particularly lucid in his command. The particular circumstances of the decision to "jettison" (made only two days after turning away from their initial sighting of Jamaica and followed by nearly three weeks of unaccounted for sailing) have not been fully documented; it is safe to say the decision was probably not a rational one, though the insurance claim took pains to make it seem so. If the captain was truly out of his mind, then the crew would be even more culpable than being the crew of a slaver ship already made them.

“lifeboat” logic—named for those vanishingly rare situations in which the sacrifice of one/some is necessary for the survival of the whole, as in an overfull lifeboat running short on supplies—but it would be more accurate to call it a plantation logic. In this logic, even the nominally empowered subject must be powerless to change things if he is to stay an empowered subject. In “The Cold Equations,” despite his best efforts (“his” being both the pilot and the author), no brilliant action can save Marilyn: the man is as helpless as the girl. The irrepressible logic of the situation leaves no room for heroics, merely competence. Read in the context of the rest of this dissertation, however, one of the fundamental ambivalences running through the prehistory of the posthuman becomes clear: on the one hand, the sense that becoming Man3 is necessary, as those left behind will necessarily occupy the same space as racialized folks in earlier genres of Man; on the other hand, the suspicion that Man3 is itself a kind of enslavement.

Epilogue, or, Notes Towards a Fugitive Science Fiction

> That's why I said that Christopher Columbus leaves, but I'm the one who returns. I don't mean myself, Édouard Glissant. What I mean is that those who were forced to leave as slaves return not as slaves but as something else, a free entity, not only free but a being who has gained something in comparison to the mass of humanity. And what has this being gained? Multiplicity. In relation to the unity of the enslaving will, we have the multiplicity of the antislavery will. That is what we've gained, and that is the true return.
>
> – "Édouard Glissant in Conversation with Manthia Diawara" (2011)

> It is as if the exclusive property they are and have is the generative facticity that constitutes and solicits fact and grasp, having and being.
>
> – Fred Moten in *Stolen Life* (2018)[117]

What if science fiction was always black? What would this genre look like, what would its preoccupations be, how would it evolve? In this final epilogue, I switch analytic modes to engage in some speculative hermeneutics to reframe what has come before. As Toni Morrison argued in her interview with Paul Gilroy (quoted in the first epigraph of my Introduction), the totalizing forces of Western science (and science fiction) are best understood not as a drive towards uncovering unvarnished reality, or even towards the more modest mastery of our limited natural world for the sake of human improvement, but rather as contortions necessitated by the monstrosity of the trans-Atlantic slave trade.

As I have been arguing, science fiction, like American sociotechnical imaginaries in general, has been shaped by the torsions of the Black Atlantic. Despite the various lacunae around race in most studies of technology, most literary engagements with technology, and most sf full stop, the legacy of slavery looms large over each of these fields, and I have undertaken to explicate exactly how this legacy has shaped them. In pursuing this analysis, however, I have largely followed the path set by previous studies that implicitly frames American technology, literature, and science fiction through the hegemonic perspective—specifically, through a white perspective. My reasons for doing so are fairly straightforward: in this study of norms and identities, the hegemonic perspective carries the most weight, and must be understood before any meaningful analysis of the alternatives can be undertaken.

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[117] Glissant on page 8. Moten in *Stolen Life* on page 2.

Obviously, sf was not, in fact, always black. The texts examined in this epilogue had limited circulations, one often falling out of print before the next was written, and had little chance to form a coherent literary tradition. Indeed, until quite recently, sf was largely illegible as a mode available to writers of color (other than Samuel R. Delany and Octavia Butler). This does not, however, mean that writers of color—specifically black writers—avoided writing with the tropes, themes, or preoccupations of genre sf, or of Western technoculture in general. It merely means we must engage in a bit of speculation to see them in conversation.

This argument follows from a pair of essays by Mark Bould that made the case for including a handful of black, speculative novels in the sf genealogy: "Like any other genre, sf is created as much by what those agents marginalize, reject, ignore, or overlook as by what they include and to which they give greatest significance" ("Revolutionary" 54). In the first of these essays, he specifically highlights the "hegemonic definitional structures and practices within sf, sf studies, and literary-academic canon formation [that] have concealed black sf" ("Come Alive" 220), which serves as occasion to break down a dozen or so novels from the 1950s to the 1970s that could fruitfully be read as "black power sf." The second essay extends this argument to include eight earlier texts (ranging from Martin Delany's novel *Blake, or The Huts of America,* first published in part in 1859, to George Schuyler's 1936-38 novel *Black Empire*) as examples of "Revolutionary African-American sf." Together, these essays offer a vision of the new avenues for thinking about science, about the human, and about the future that might be opened up by including them into the sf genealogy.

What I propose in this epilogue, then, is to push Bould's call a bit further to speculatively re-form the genre as centered on African-diasporic literature. To do so, I take as a conceit the proposition that science fiction started not with Mary Shelley, H. G. Wells, Jules Verne, Hugo Gernsback, or any of the other usual suspects, but instead somewhere between 1789's *The Interesting Narrative of the Life of Olaudah Equiano* and Martin Delany's 1859 serialized novel *Blake, or the Huts of America*. Like traditional sf, this genre would emerge as a symptom of an increasingly-technologized world and examine the effects of scientific practices and theories on said world. It would likewise dwell on the status of human and non-human, on the effects of scientific discovery on labor and identity, and on the sovereign mobility of its privileged subject. In short, it would be a science fiction from below, a science fiction in which whiteness is one technology among many shaping the material future of the world. Let's call it: fugitive sf.

Equiano's semi-speculative autobiography can serve as the spiritual forbear of the genre, much as Mary Shelley's *Frankenstein* does for traditional sf. Equiano was not a writer of speculative works, of course, at least not as that designation would normally be used. His autobiography, along with much of his later life, was dedicated to the documentation and reform of the emphatically real conditions and experiences of slavery. Indeed, one of his first recorded abolitionist acts was to bring the *Zong* massacre, discussed in the previous chapter, to the attention of Granville Sharp, precipitating a movement dedicated to particularizing the typical experiences of slavery for the white British public (and the subsequent abolition of these experiences). Nonetheless, I take his autobiography to be "semi-speculative" in the sense suggested by Vincent Carretta's somewhat controversial argument, based on exhaustive primary document searches, that Equiano was likely born in South Carolina—not in Nigeria, as the autobiography asserts. At the very least, Carretta argues, if Equiano was taken from Nigeria, it must have been when he was much younger than the autobiography states (102-103).[118]

In either case, Carretta suggests that those early accounts may be based less (or less exclusively) on personal recollection than on collected first-hand accounts, which is to say, regardless its historicity, the facticity of his account remains solid. Even if he was writing based on collected accounts or very early memories supplemented by others' stories rather than (exclusively) from firsthand experience, his description of the Middle

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[118] There was (and remains) a lot of pushback on this argument; for one thing, the early chapters of Equiano's autobiography are one of the only firsthand accounts of the Middle Passage, and have been taken as reliable evidence of that experience for some time; for another, much else in the autobiography has been rigorously verified (some by Carretta himself); and, of course, Equiano took pains in later printings to contest the assertion that the "invidious falsehood … that I was born in the Danish island of Santa Cruz, in the West Indies" (xxvii), among other general claims against the truth of his account. Carretta's account is nevertheless persuasive enough that, barring new evidence, the authenticity of Equiano's first-hand account of the Middle Passage seems plausibly in doubt in the opinion of many experts. For my purposes, I am less interested in the ultimate truth of the arguments than the possibilities that this line of thinking opens up for thinking through a counter sf.

Passage remains an important contemporaneous account. The ambiguity about his early chapters matters here because it highlights the deliberate way that Equiano constructed his narrative: it is less a matter of self-discovery against a background of hardship (a very conventional theme in boy's literature of the next century) than it is a story about his abduction at the hands of almost-literal aliens and his search for an appropriate comportment with this craven new world.

To the extent that Olaudah Equiano is a literary creation of Gustavus Vassa (the name that *Equiano*'s author went by in his day-to-day life, as well as in his surviving non-*Narrative* documentary traces), his decision to frame the whole narrative as autobiography rather than novel or a collection of gathered accounts takes on added significance. To wit: Equiano's first few chapters are widely anthologized today in part because they are so compellingly written, even for an audience two and a half centuries removed: a testament to their compellingly literary quality, independent of or surplus to the accounts' historicity. Nevertheless, Equiano's dedication to the first edition of his book introduces the narrative in insistently non-literary terms:

> I am sensible I ought to entreat your pardon for addressing to you a work so wholly devoid of literary merit; but, as the production of an un-lettered African, who is actuated by the hope of becoming an instrument towards the relief of his suffering countrymen, I trust that *such a man*, pleading *such a cause*, will be acquitted of boldness and presumption. (emphasis in original, iv)[119]

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[119] The dedication is quoted at length in Moten's *Stolen Life*, though I transcribed this particular quotation directly from the Google Books scan of a 1789 edition (available online); I used modernized lettering.

He is at pains to frame himself as “un-lettered,” and the work as “wholly devoid of literary merit,” moves that are more than mere humblebrag: the attested artlessness of the text functions as a claim to reality, to facticity.[120]

Read in the context of fugitive sf, the dedication offers more than ethos. It also frames the *Narrative* as a story about the creation of a new being (in Glissant’s words) who is gifted with multiplicity. He situates himself as a writer of a book in stylish English prose through a disavowal of both his prose and his Englishness. He situates himself both as an instrument and as a man, making use of the mechanical metaphor of slavery to help end slavery. The book is, in one sense, a many-hundred-page testament to its authors’ humanity, and at the same time a testament to the attempt by its author to self-instrumentalize. *Equiano’s* ambiguous generic status (its disavowed literary merit, its preemptively defended facticity) operates, one might say, in the break of fact and fiction, improvising through the form of the novel to leverage a different kind of genre of man—a kind-of genre of Man—“*such a man*, pleading *such a cause*,” whose adherence to facticity and truth is at all times response to “the necessity of the relationship between … the imagination’s fugitive comportment toward names and local habitations…and the very abstract equivalence that he would deploy to bridge the gap between them” (*Stolen Life* 54).

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[120] Such apologies were, of course, conventional for slave narratives, as was the opening barrage of testimonials (from notable white people) that later editions of the book included.

In other words, Equiano's autobiography can be thought of as a kind of speculative fiction that functions in the sense that Kodwo Eshun discusses in *More Brilliant than the Sun*: it serves "to bring alien abduction back to earth, to transfer the trauma from out there to yesternow" (84). Equiano's narrative centers the alien, opening with the rupture of identity brought on by his enslavement, and working through his complex development into a fully modern citizen of the society that enslaved him. Although written almost a decade before Mary Shelley's birth, Equiano's autobiography, like *Frankenstein*, models a preoccupation with the perils and possibilities of knowledge in and of new world; unlike Shelley's novel, he examines this entirely (as it were) from the perspective of the monster.[121]

The alien nature of his first encounter is framed by the lacunae in his "primitive" knowledge, in contrast to the more complete knowledge the reader (presumably) has. For instance, when he is first brought aboard the slavers ship, he speaks with some older fellow slaves in a moment that recalls Arthur C. Clarke's famous adage about sufficiently advanced technologies and magic: "I asked how the vessel could go? they told me they could not tell; but that there was cloth put upon the masts by the help of ropes I saw, and then the vessel went on; and the white men had some spell or magic they put in the water when they liked in order to stop the vessel. I was exceedingly amazed at this account, and really thought they were spirits” (36-37). He routinely frames encounters with new and misunderstood technologies in terms of magic: a quadrant (39-40); men on horseback (40-41); a watch and a realistic portrait in the room of his first owner (44). A growing familiarity dispels the environment of the white men, and soon “I had the stronger desire to resemble them: to imbibe their spirit, and imitate their manners; I therefore embraced evert occasion of improvement” (62). On the surface, this progression offers little to contradict the subjectivity of whiteness: his (and his countrymen’s) appeals to mysticism to explain the technologies of white folks, his many misapprehensions when still an “un-lettered African” boy, and his quick resolution towards self-improvement are all coherent with Western epistemological bigotry and gratify the reader who already knows better. But as the novel progresses, such gratifications diminish as he effects his transformation into a proper British subject, culminating in his self-manumission a bit more than half way through the book.

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[121] Many thanks to Miranda Butler for helping me think through some of the connections between *Frankenstein* and Equiano's autobiography. As she noted in a review of an earlier draft of this chapter, the monster in *Frankenstein* was "a sort of Counter-Enlightenment experiment in which Humanism ultimately reigns supreme; both the science and philosophy of *Frankenstein* are much older than non-science-studies folks assume. Like, Victor reads Agrippa and Paracelsus." Equiano, in contrast, tells a story that is as much about his growing prowess in navigating modernity as it is about his (more conventional) religious conversion and moral development.

The importance of improvement channels a major theme of American literature (and ideology, and jurisprudence), in which improvement is synonymous both with ownership and with modernity, while a lack of improvement synonymous with the failings of primitive people and societies. It’s a theme present in everything from Thomas Jefferson’s writings through to John W. Campbell’s, a central theme of Horatio Alger and his clones throughout the nineteenth century, and central to much of the technophilic writing of the twentieth century as well. So it is no surprise that Equiano, on his journey towards British citizenship, should adopt the ideal of improvement, nor is it a surprise to see this ideal recur as a structuring logic of his narrative. What sets his deployment of this theme apart is its fundamental incompleteness: no amount of improvement ever truly elevates him out of his racialized status, no improvement ensures his humanity against the deprivations of unscrupulous men. As it is framed in the narrative, he achieves what he does through grace rather than cunning.

The precarity of improvement is evident throughout the narrative. Equiano learns a few professional trades—barber, seaman, trader—but nevertheless experiences setbacks at every turn, as he is sold after faithful service, swindled after fair trades, and robbed after modest accumulations. He learns English language and English law but finds this knowledge to be of little help when balanced against the demands of whiteness. He ultimately achieves freedom thanks to the good faith help of his last owner (who agreed to let him purchase himself at a fair price, allowed and enabled him to conduct trade for his own profit, and ultimately accepted the fee for purchase), though even this is precarious, as he is nearly re-enslaved soon after. This precarity shifts the emphasis of knowledge and improvement, reframes the technologies of identity, accumulation, and movement into something insistently contingent, perpetually open, something akin to improvisation.

In this way, as Fred Moten discusses, slave narratives like Equiano's can be seen to perform a key function of the black radical tradition: namely, they model blackness's simultaneous and radical refusal of and imbrication in a Western ontology. For instance, they can help expose the way that knowledge, even at its most fundamental level, is shaped by the pressures of race, showing that:

> The regulative discourse on the aesthetic that animates Kant's critical philosophy is inseparable from the question of race as a mode of conceptualizing and regulating human diversity, grounding and justifying inequality and exploitation, as well as marking the limits of human knowledge through the codification of quasi-transcendental philosophical method, which is Kant's acknowledged aim in the critical philosophy. (*Stolen* 2)

Following Nahum Dimitri Chandler, Moten frames this function in general terms as "paraontological difference": "Chandler reopens the Du Boisian field of paraontological difference, where everything is predicated on the animating facticity of deadly, richly internally differentiated but radically nonindividuated lived experience in the relegation zone, which turned out to be resistance's refuge, where renaming is the unnameable's inadequate preface" (11-12). This "richly internally differentiated but radically nonindividuated lived experience" is a fair description of the "being who has gained something in comparison to the mass of humanity" that Glissant describes (in epigraph, above) as an unintended effect of the slave trade. Equiano's narrative can be read as a story of the creation of just such a being.

His narrative particularizes the typical slave experience and makes claims on the typical status of British citizen, reversing the usual effect of narrative force in the trans-Atlantic slave trade. In doing so, he exposes the arbitrary processes by which the roles of master and slave, white and black, civilized and primitive—which are figured in literature (and ideology) as the particular and the typical, respectively—are maintained. This process smudges the contours of the particular and the total, dangerously blending them in ways that threaten (or promise) to invalidate reality as the West knows it. Such a figure works in stark contrast to the fictions of the radical aesthetic of whiteness, embodied by Man3, which see the ideal self as an internally undifferentiated but radically individuated experience: a singularity of managerial influence.[122] Importantly, the being Equiano becomes is both less and more than human, is lashed to/by the ideology of Man but free from having his biological and technological distinctiveness completely assimilated. It is a paraontologically different kind of human, operating in excess the genre of Man.

Similarly, if "[t]he black radical tradition is in apposition to enlightenment" as Moten argues (41), then fugitive sf would likewise be a genre whose intellectual approach is "appositive" to the modes of scientific thinking that developed in/under the Enlightenment. It is informed by the knowledge of the Enlightenment, but free from the totalizing, universalizing imperatives of Western science. Following Equiano's narrative, this speculative genre would eschew the imperative of traditional sf to aid in the development of a new genre of Man. Instead, fugitive sf would offer a way to "honor and extend—by way of improvisation—the black radical tradition's ongoing improvisational abolition of 'Man'" (Moten 43). As an element of the black radical tradition, it "must slash through the Enlightenment tradition and, importantly, through that tradition's allegiance to the active misprision of singularity and totality" (44), charting a path towards an Other way of being. This Other way of being, an Alternative to Man in all his guises, can be usefully thought of as something Moten calls "*ensemble*—the improvisation of and through the opposition of totality and singularity in and as a descent into the generative cut between description and prescription" (emphasis in original, 44).

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[122] Though my project only traces this up through the mid-twentieth century, this also shares much with the managerial hollowness Josh Pearson theorizes in his dissertation as characteristic of "Neoliberal Heroism" in the popular culture of the mid- to late-twentieth century.

Practically speaking, fugitive sf would chart the development of a speculative process or practice that refuses the closure offered both by the impossible abstractions of singularity and totality alike. Such refusal does not necessarily indicate strident opposition to Western science: “That improvisation is present in European traditions as well but with this difference: their general repression of improvisation, an embarrassed refusal enacted by precisely that irrationalism against which it would guard” (Moten 51). Instead, fugitive sf’s refusal to countenance closure leads to a careful unfolding of the insights of the black radical tradition, a method that is no less rigorous, no less rooted in the expansion and manipulation of new knowledge, than traditional Western science—and traditional Western sf. What Equiano offers through his abolitionist text is an apt description of the inadequacy of pure knowledge; perhaps more precisely, he offers a precise example of the necessary contingency of knowledge despite the Western ideological assertion that knowledge can be complete, can be absolute. It is Equiano’s comportment with knowledge that most redounds through this speculative genealogy of fugitive sf.

Practical Fugitivity

If *Equiano* offers the theory, Martin Delany’s *Blake* is the proof-of-concept. Much like the “The Jules Verne, H.G. Wells, and Edgar Allan Poe type of story” that Hugo Gernsback cited in 1926 as forebears to his newly codified “scientifiction” genre (3), *Blake* offers a foundational model on which later entries in the genres can be built.

123 *Blake* belongs in the genealogy of fugitive sf for several reasons. First, Delany was fully conversant in the science of the day, publishing articles on microscopes, astronomy, and racial science that ran alongside *Blake* in the African American newspaper the *Anglo-African*. His writings advocate for the broad dissemination of scientific knowledge as an emancipatory gesture, both on an ideological level (e.g., countering various racist myths that race science was beginning to codify and promulgate) and a pragmatic level (e.g., teaching enslaved people how to navigate by the stars, to better facilitate escape) (Rusert 813-14). These interests are evident in *Blake*, especially in the occasional narrative breaks where the protagonist describes celestial phenomena, navigation by stars, and other such scientific elements.

Second, though Delany does not extrapolate in the same way as, say, John W. Campbell might prefer, scientific facts nevertheless play an important role in structuring his novel. Comets, for instance, are a central conceit in *Blake*. Delany wrote about astronomical phenomena alongside his fictional stores, and the ideas served to frame each other. Brit Rusert suggests that *Blake* "explicitly links planetary revolution with slave revolution . . . here on Earth" (814), and these periodic, peripatetic celestial bodies help to make sense of the protagonist's exhaustive travels across the American South. Beyond their function as framing for Delany's own travelogue-cum-ethnography of the American slave states, the novel's depiction of fantastic movement casts its central character as a

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[123] The Bannekerade, a genre designation developed by Lisa Yaszek in the mode of the edisonade, offers a similar sort of revisionary trajectory of the sf story, focused on the "scientist-inventor, revolutionary-era free black Benjamin Banneker," though less focused on fugitivity than my analysis here (15).

semi-mythical figure of liberatory fugitivity: the recalcitrant slave as a figure of celestial stature. Rather than figuring fugitivity as a disorder, Delany uses this astronomical analogy to recast escape as natural, ordered, existing beyond the boundaries of mere men, a direct scientific counterpoint to, for instance, drapetomania, a concept coined by Samuel Cartwright in 1851 to describe "the disease causing slaves to run away" (Rusert 826, nt. 34).

Finally, focusing as it does on imagining an alternative mode of social and political relations between slaves and white society at large, *Blake* works through a mode of speculative futurism that helps to both clarify later black sf and cast the racial politics of traditional sf into sharp relief. Martin Delany prototypes an approach to knowledge and technology that draws on what later theorists understand as characteristic to the black American experience. Traditional sf was and is marked by the legacy of slavery every bit as much as African American literature, but the effects of this influence are overwhelmingly rooted in the white perspective. As I discuss throughout this dissertation, robots, as one example, often function as figures of perfectly exploitable labor, and the many stories in which they rise up in revolt or fall down into abjection can be understood as veiled slave narratives. But these stories are nearly always framed from the perspective of "humans" (presumptively white humans, at that). By contrast, *Blake*, while presumably meant to be amenable to a white abolitionist audience, is first and foremost a work of black nationalism written from the perspective of the black experience and implicitly addressed to slaves and black freemen.

Throughout Delany's novel, there is little in the way of extrapolated science, fantastical technology, or speculative futurism—no creatures from outer space, no mechanical men—such that reading *Blake* as sf can quickly become an exercise in retroactively drawing parallels between alien abductions and the Middle Passage, between slaves and robots, between political agitation and utopian imagination. I don't wish to diminish the importance of this exercise—beyond my own earlier work doing just this, such parallels also form one of the key pillars of the Afrofuturist discourse, embedded as they are in the earliest theoretical engagements with the genre, including Mark Sinker's 1992 article "Loving the Alien: In Advance of the Landing," John Akomfrah's film *The Last Angel of History*, and Mark Dery's "Black to the Future: Interviews with Samuel R. Delany, Greg Tate, and Tricia Rose." But such concordances are built on discourses that were initially written by and geared towards white readers.

Blake, by contrast, is a work of early black nationalism. In fact, Martin Delany wrote *Blake* partly to help fund a survey he planned to undertake in Africa. The ultimate intention of this project was to form a free cotton-producing nation where abolitionists and sympathetic governments could purchase the nineteenth century's key raw material without supporting slavery—a country of, by, and for black folk. This real-life plan was one of many mid-nineteenth century calls to resolve the issues of slavery, securing at least the possibility of some kind of justice for enslaved peoples, through the mass emigration of African Americans. Delany's call differs from, say, the denouement of *Uncle Tom's Cabin*, which sees its successful fugitives of to Liberia to start a new life, in that its extrapolation of a possible future is rooted from the material conditions of black life A similarly pragmatic improvisation permeates Martin Delany's fiction.

Bould aptly describes Delany's plan as a "Heinleinian 'engineering' solution" to slavery ("Revolutionary" 55)—an attempt to construct a shiny new future from the parts at hand—and it is worth underlining that in contrast to the hyper-individuality of many traditional sf figures, this plan imagines the invention of an economic alternative for the rest of the world. The plan, in other words, is about more than individual achievement (or even individuals escaping slavery) but about shifting the global reliance on such labor. Britt Rusert, in contrast, sees Martin Delany less as an engineer than a scientist, part of a broader 19th century discourse she dubs "fugitive science":

> I categorize three types of fugitive science: (1) oppositional fugitive sciences are explicit critiques of racist science that aim to make a direct intervention into scientific discourse; (2) practical fugitive sciences seek to "instrumentalize" science and technology in the struggle for emancipation, including, for example, the widespread promotion of the compass as a trusty tool for slaves escaping slavery; and (3) speculative fugitive sciences use the rich imaginative landscape of science to meditate on slavery and freedom, as well as the contingencies of black subjectivity and existence. (802)

This framework offers a fruitful way to categorize the "science" of fugitive sf as prototyped by Olaudah Equiano and beta-tested by Martin Delany. "Fugitive science fiction" would thus name a genre whose attitude towards (or position-with-respect-to) the science and technology undergirding modern American life is neither purely oppositional, nor comfortably hegemonic, nor independent from white influence. It is, rather, a sf that counters racist scientific narratives, a sf that dwells on alternative social and political arrangements, a sf that is preoccupied with the issue of slavery and freedom, especially with respect to “the contingencies of black subjectivity and existence,” as Rusert says.

Fugitivity, as a category, has provoked a flurry of recent scholarship, much of which can function as a sort of toolkit for thinking through the relationship of black life and the ontological foundations of Western modernity. One aspect of this discourse is especially relevant to the development of a fugitive science fiction: as glossed by Rusert, this scholarship “unhinges fugitivity from the grip of black criminality, transforming fugitivity from solely a criminal or legal category to *a kind of radical comportment to the world*, a subterranean politics and furtive insurgency against both the Southern slaveholding power and Northern liberalism that does not necessarily end when one successfully escapes from slavery or when slavery is legally abolished” (emphasis added, 822). I would argue that a “radical comportment to the world” point towards a great description of the politics of sf in general, which so often embodies a radical orientation towards the material and/or natural conditions of reality as it is experienced and understood by the readers. In this sense, however, the various “radical” changes elaborated in traditional sf (and evident in our own technologically saturated world) often center on a process of radically altering the (or a) world so it better comports with our desires—terraforming a planet rather than altering oneself to live in it. A fugitive science fiction flips that script, examining the radical potential of one’s own comportment. *Blake* offers a foundational example of just such an examination.

Fugitive scientific practices form the immediate context of Delany’s work. *Blake* was published serially in abolitionist, African American magazines—first as “fragments in the *Anglo-African Magazine* in 1859 and then presumably in its entirety in the *Weekly Anglo-African* in 1861-62" (Rusert 812-13); "presumably" because the final chapters of the novel are lost. These kinds of magazines also frequently ran scientific extracts and articles that, in the hands of abolitionists, became a way to illuminate, for instance, "the microscope's wondrous powers to transform and defamiliarize everyday objects right before one's eyes," including skin cells (Rusert 800). Human skin, transformed by magnification, loses its distinctive racial characteristics, or at least, these characteristics become secondary and mostly illegible features in the strange new images coming from the microscope. For abolitionists, this has emancipatory implications: "by making human skin an object of careful, scientific study in the pages of an African American newspaper in February 1861, the *Christian Recorder* wrests human skin from the domain of proslavery science" (800). This scientific instrument defamiliarizes the markers of race, situating them as functional aspects of biology, as curiosities exceeding conventional apprehension, as anything besides an irreducible expression of one's humanness, all without denying the abundant evidence that there is such a thing as skin, and that its macro visual characteristics are meaningful aspects of the social landscape. *Blake* prototypes a performative, prosthetic approach to race, following much the same tact, acknowledging the many manifest realities of racial identity but situating them as contingent, as tools at one's disposal.

Delany resituates knowledge of race through the story of one Henry Blake (né Holland). The narrative opens on a Mississippi plantation where Henry, his wife, and their child are all enslaved. Their owner sells Henry's wife to a slaver in Cuba, settling an outstanding debt, and precipitating Henry's escape. After his wife's sale, Henry leaves the plantation and travels throughout the slave-owning South, connecting with dejected and dissident slaves alike, as well as with a variety of free blacks, sowing the seeds of a region-wide uprising, leaving numerous escape attempts in his wake. He eventually returns to the plantation where he had been (and legally still was) enslaved, freeing his remaining family (his son, his in-laws, and some close friends), and with his family safely ensconced in Canada, travels to Cuba, again peripatetically surveying the state of slavery in that country.

When he finally tracks down and frees his wife, Henry then summons his escaped, temporarily-Canadian family down to Cuba to unite them with his Cuban family—Henry Blake, we discover, was born in Cuba as the freeman Henry Holland and enslaved when he was young. He spent years surveying the customs and landscapes of slavery in America with an eye towards eventual escape but fell in love with and married an enslaved woman. A family thus established, he stuck around on the plantation long after he had the means of escape; his wife's sale finally spurred him to action.[124] Henry's history now revealed, and his family safely gathered, he returns to his vocation, securing work on a slave ship that is tasked with transporting a load of newly enslaved Africans, completing his survey of the lifecycle of the peculiar institution. Upon return, he begins to set into motion the long-promised uprising, starting in Cuba, and though the story presumably had an ending, that ending is lost, and we are left to speculate as to the success of his revolution, and as to how Delany would choose to end such a radical narrative written when slavery was still a legal American institution.

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[124] As Bould notes, there are some unpleasant inferences about the role of black women in maintaining black men's servility, inferences that are amplified in later black power science fiction (56). In other words, women in fugitive science fiction exhibit much the same passivity and shallow characterization as women in much of traditional science fiction, though later authors like Samuel R. Delany and Octavia Butler—who not coincidentally occupy an important position in both sf and fugitive sf genealogies—do eventually move towards a more intersectional vision of the future.

This quick summary leaves out the many people Henry meets along the way, as well as the sometimes-baffling fragmentation of narrative time as he seems to drift hundreds of miles in a single day, and as a fugitive slave no less. Though the novel is structured as a narrative, its plots often serve more as a framework in which Delany can report on his own research and arguments. As Rusert notes, this approach has been criticized by most modern readers, and even the introduction of the 1970 reissue sees editor Floyd Miller assert "that *Blake* suffered from the author's 'ideological orientation,' writing that Delany's is 'the creative offering of an activist rather than an artist'" (Rusert 821). Understood as fugitive sf, these narrative inconsistencies take on a different significance.

In this context, Martin Delany's novel becomes a tale of fantastic racial mobility, one that speculatively extrapolates black mobility into a technique of revolution, and a means to mass identity. Rather than, say, a master-able Steam Man (or space ship) that takes young white men to fame and fortune, we have Henry, itinerant extraordinaire, passing as a possession on his way towards revolution. Henry has mastered a set of skills which enable him to thrive in his environment despite its many obstacles. His mastery of fugitive movement is both instructive and aspirational for presumptive readers.

We can understand his movement as akin to the black rhetoric that scholar Houston Baker would later call “mastery of form” (and see it in the dedication of Olaudah Equiano’s *Narrative*); that is, using the extant models of black performance to render oneself legible to a white audience for instrumental ends—perhaps the principle political (if not aesthetic) function of slave narratives in the eighteenth and nineteenth centuries. Baker sees this tendency in Booker T. Washington, who adopts and repeats unflattering tropes about black life, mostly drawn from the racist caricatures of the minstrel stage, something for which Washington has been long criticized. Houston, however, understands this appropriation as an instrumentalized use of negative tropes for a useful end: “Only by assuming a posture relative to this space could turn-of-the-century, Afro-American spokespersons become effectively articulate” (93). Washington uses his performances, his mastery of form, to work towards a future beyond the constraints of those forms, effectively securing funds for his Tuskegee Institute: “His mastery of form is, in fact, signified by the transcendence of minstrel *non-sense* represented by Tuskegee” (94).

Focused less on language than on movement, less on persuasion than on effecting material change, we can understand *Blake* as offering an earlier example of thinking race as technology than the ones I offer in chapter 3. As before, considering race as technology “moves race away from the biological and genetic systems that have historically dominated its definition toward questions of technological agency. *Technological agency* speaks to the ways by which external devices help us navigate the terrain in which we live” (Coleman 177). In *Blake*, Henry’s performance of race operates as a form of technological agency, one which answers Beth Coleman's assertion that "The goal of thinking of race as technology is greater mobility for the subject and for society, more freeness" (181). Race is therefore understood not as an essential (and essentially static) element of one's identity, but instead one especially potent means among many by which people shape and are shaped by society.

This is precisely what enables Henry's own movements: race is both a crucial category of identity and something akin to a prosthetic: Henry can no more cease to be black than he can cease to be a man (in a narrative written in the late 1850s), but the way that he performs his racial identity is profoundly malleable. This nascent expressing of race *as* performance, *as* prosthetic, *as* something that can be manipulated deliberately and effectively, offers a strikingly different vision of the ontological status of race than we see in most American fiction, nineteenth century and otherwise. What Martin Delany offers with his depiction of Henry's fantastic mobility, and what he offers to a genealogy of Afro-centric science fiction, is a fantastical, speculative, heightened, instrumentalized mode of proprioception.

Proprioception is a term that appears occasionally in literature about the posthuman, usually as one element in a list of ignored senses, but it is not a term that often appears in scholarship outside of the medical discourses. Medically speaking, it means "the ability to sense stimuli arising from within the body regarding position, motion, and equilibrium" ("Medical"); it's basically what allows you to direct a spoon to your mouth without visually tracking your hand's position the whole time. If it is not functioning "correctly" it can lead you to, for instance, lift your foot at an angle when you feel like your foot is perfectly vertical. The term is useful for reading *Blake*, as it explicitly evokes the sense of one's body in relation to space—or, for our purposes, one's perception of the body in relation to (social, cultural, discursive) spaces. The two related sensory terms—"exteroception," by which one grasps the outside world, and "interoception," by which one perceives hunger, pain, and so on—correspond nicely with the science fiction's traditional fascination with "outer space" and its New Wave fascination with "inner space," respectively. What is left out of these (white) science fiction traditions is the traffic between these realms. Because it always exists at the manifold between the self and the world, proprioception defies both the closure of exteroception—which manifests as an impulse towards totality—and interoception's impulse towards singularity.

These distinctions, I would note, have little to do with race as such: according to medical science, all three forms of perception are common to all people, with occasional exceptions caused by brain damage or non-neurotypical development. The racialization of perception follows, at a conceptual level, from the racialized nature of Enlightenment ontology—embedded in the role the transatlantic slave-trade played as a condition of possibility for the development of Liberalism. As noted above, in Kant "the question of race" becomes "a mode of conceptualizing and regulating human diversity, grounding and justifying inequality and exploitation, as well as marking the limits of human knowledge" for Kant, and for much of the philosophical tradition that followed (*Stolen Life* 2). Western ontology in general privileges exteroception, especially visuality, over other ways of knowing. The sciences take this almost to the point of fetishization, idealizing what Donna Haraway has called the “god trick of seeing everything from nowhere” (581), and much of traditional science fiction (largely written by, for, and about white men) adopts the same standard.

In contrast, and by extending “proprioception” to more metaphorical ends, we can see Henry’s great talent—and the novel’s central theme—as proprioceptive mastery. He doesn’t seem to see the world all that differently from others, though he is less willing to accept or explain away its cruelties. Rather, he has an almost superhuman ability to understand his place in any given situation and adopt the necessary comportment to achieve his ends. For instance, in one passage early in the story Henry moves through Deep South slave territory largely unmolested, despite his status as a literally fugitive slave. His secret? A “bridle, halter, blanket, girt, and horsewhip, the emblems of a faithful servant in discharge of his master’s business” (68). When confronted, “he invariably pretended to belong to a back estate, in search of his master’s racehorse. If crossing a field, he was taking a nearer cut; but if met in a wood, the animal was in the forest, as being a great leaper no fence could debar him, though the forest was fenced and posted. The blanket, a substitute for a saddle, was in reality carried for a bed” (68). Across the novel, he is able to pass as free, enslaved, meek, mystical, or whatever else the situation calls for.

This approach, taken to prodigious heights by Henry, is broadly accessible—one need not have access to a workshop, or the curious mix of metallurgical, chemical, thermo- and electrodynamic competencies that undergird the traditional science fiction hero’s technological inventions. All the necessary tools are already at hand. If Henry’s skills have less to do with his superior knowledge of universal (scientific) truths or with his engineering abilities, this is not to say Henry is anything less than an exceptional genius—among his defining characteristics are his abilities to gather and make use of vast quantities of local information, his preternatural performance skills, and his supernatural movements (at times he crosses whole states in a matter of days, undetected, and apparently by foot). Instead, Henry's scientific genius and ever-increasing prowess is tinged with fugitive knowledge, with the trace of direct and sustained concern about the context in which knowledge is used and made.

Importantly, proprioceptive mastery—much like the fugitive science that Rusert describes—is not a capitulation to the terms of the master's discourse, though it does pragmatically acknowledge this discourse and its vital importance in any plausible course of action. Henry engages with the dominant discourse from a position of fugitive potential, using his proprioceptive acuity to improvise around the not-so-simple fact that race is simultaneously real and constructed. It is a fact of his life, and certainly the effects of others' belief in the reality of race have a real effect on him and his family, but none of the racial "truths" against which the text struggles are in fact inflexible, and so they are all open to manipulation. This manipulation happens at the interface of performance and material reality, and Henry's fantastic movements are a direct result of his virtuoso improvisations on the traffic between the two.

The novel explicitly links this ability to formal educational structures: a key aspect of his ability to move freely is that, "Being a scholar, he carefully kept a record of the plantations he had passed" (68). But the novel's central *novum* is its instrumentalization of the tendency, in hegemonic white society, to understand things as belonging inflexibly to one category or another that forms the basis of Henry’s own fugitive performances. A black man in a field could be many things, and being many of those things could get a black man in a field killed. Henry instrumentalizes his racial performance and carefully manages the context in which he will appear such that he will be the genre of black-man-in-the-field that is able to move freely and unharmed. His performance works in part because white society, and white ways of knowing as shown in the novel, simply cannot conceive of a black man as being more than one thing at a time—so long as he appears to be on “his master’s business,” he cannot also be a fugitive slave.

This trick reaches its speculative apotheosis in Henry’s fomenting of rebellion in Cuba, when the organizing rebels utilize their proprioceptive prowess to arm the enslaved peoples of Cuba. One highly placed slave, a butler and chef for the Captain General, designed and ordered the first knife, and uses it prominently at an important dinner function thrown by the Captain General. Since his putative owner is the leading social figure in Havana, the knife quickly becomes a fashion: no kitchen should be without one. The knives have a second purpose, however: “That on a general rising the blacks in every house might have good weapons without suspicion” (254). The very qualities which transform the knives into the tools of a fierce resistance—their ubiquity and quality—are also the qualities that allow them to pass uncontested into the hands of the resistance, for who would question the legitimacy of a tool in the hands of a slave?

In other words, in terms of its role in anchoring our genealogy of fugitive science fiction, the most important aspect of Henry's first fugitive performance turns out not to be the specific knowledge of celestial navigation, his fluency with the names of plantations and their owners, or even his ability to dissimulate effectively, but the small trick with the blanket, which looked like "a substitute for a saddle, [but] was in reality carried for a bed" (68). Henry is able to draw on the multivalent properties of everyday items to fool any potential antagonists while retaining the fugitive instrumentality of the item, a trick he uses to obscure the intended function of everything from a blanket to himself. In thus reframing the body as a kind of technology to be used in navigating the local environment, Delany offers a potent precursor to the posthuman. This precursor reappears again and again in African American speculative fiction, sketching a new approach to instrumentality, one grounded not on the endless pursuit of individuated sovereignty for a controlling consciousness, but on improvising on the contingencies of an entangled world.

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Appendix

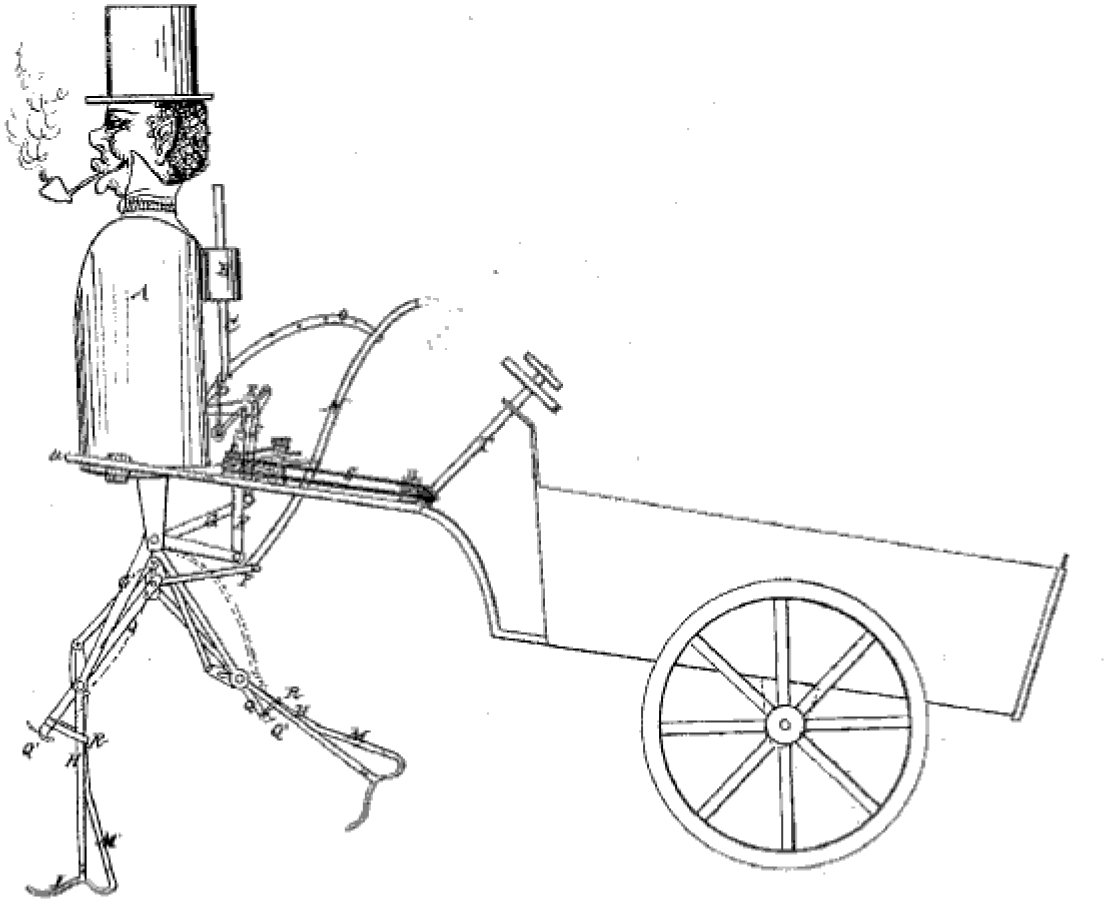

Figure 1 The first page of Dederick's patent 75,874 (which misspells his name as Drederick), rotated to show the figure more clearly (Dederick and Glass 1868). Source: United States Patent and Trademark Office, www.uspto.gov.

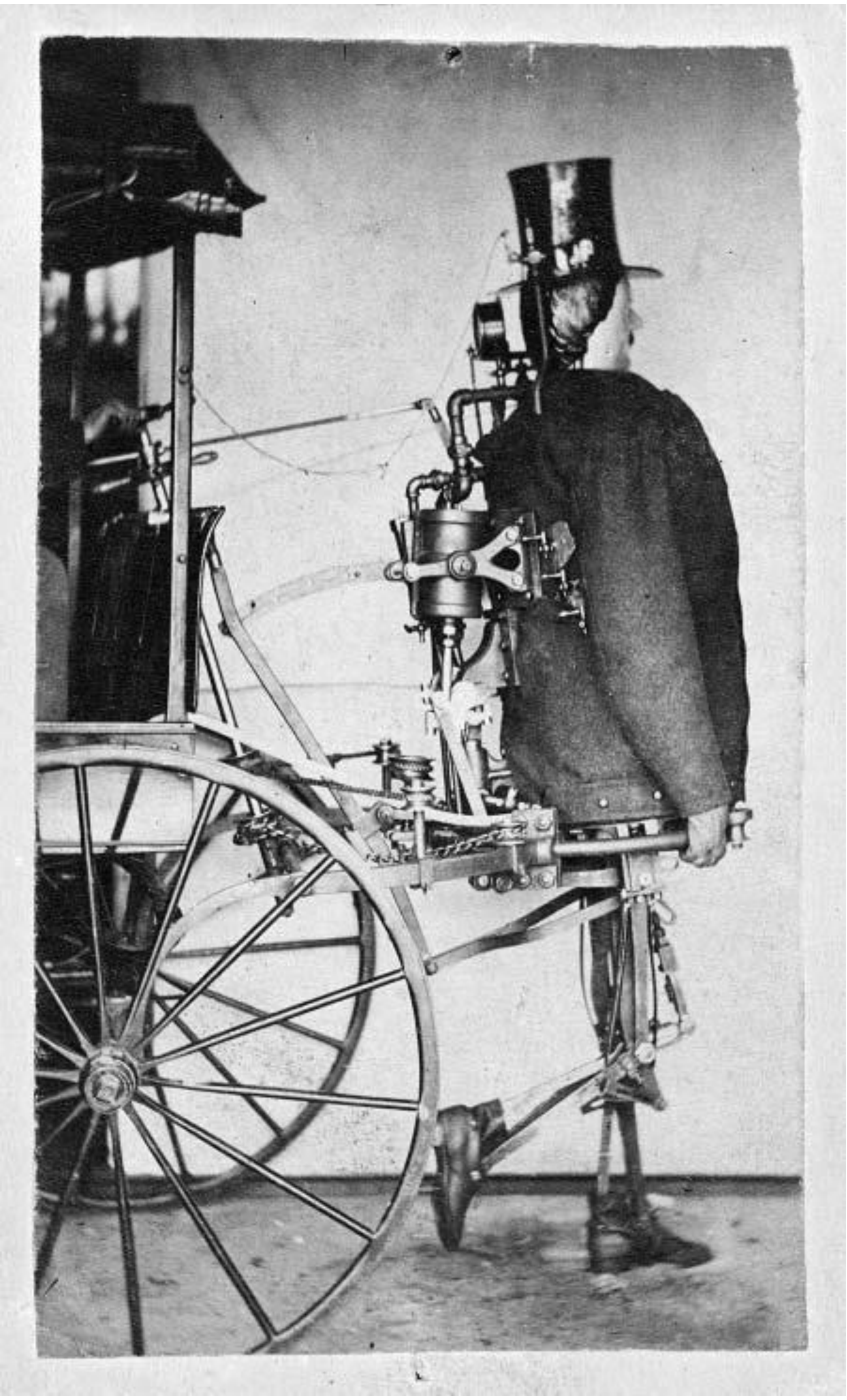

Figure 2 An image of the Newark Steam Man, apparently submitted with the patent. From the New York Public Library

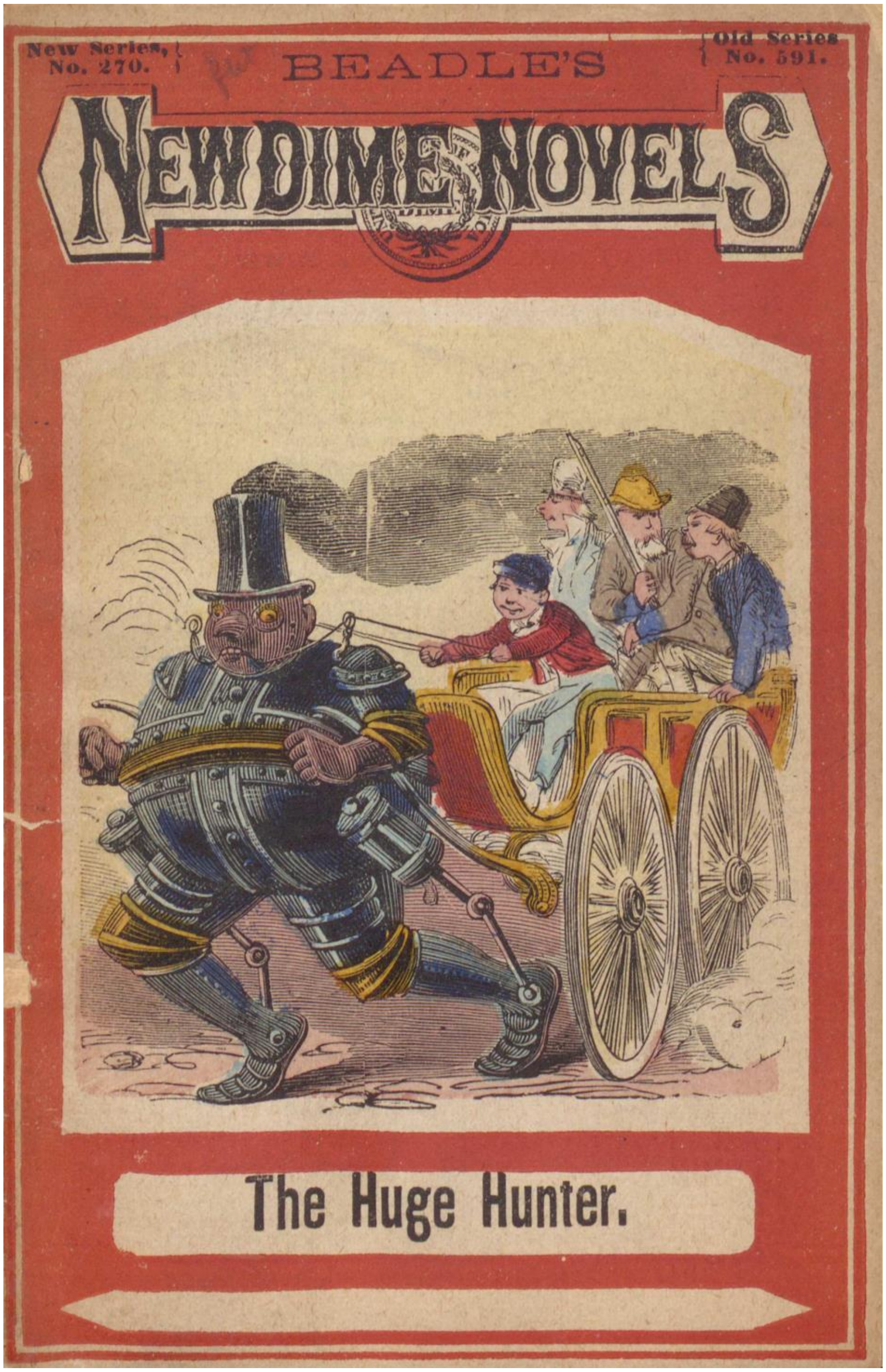
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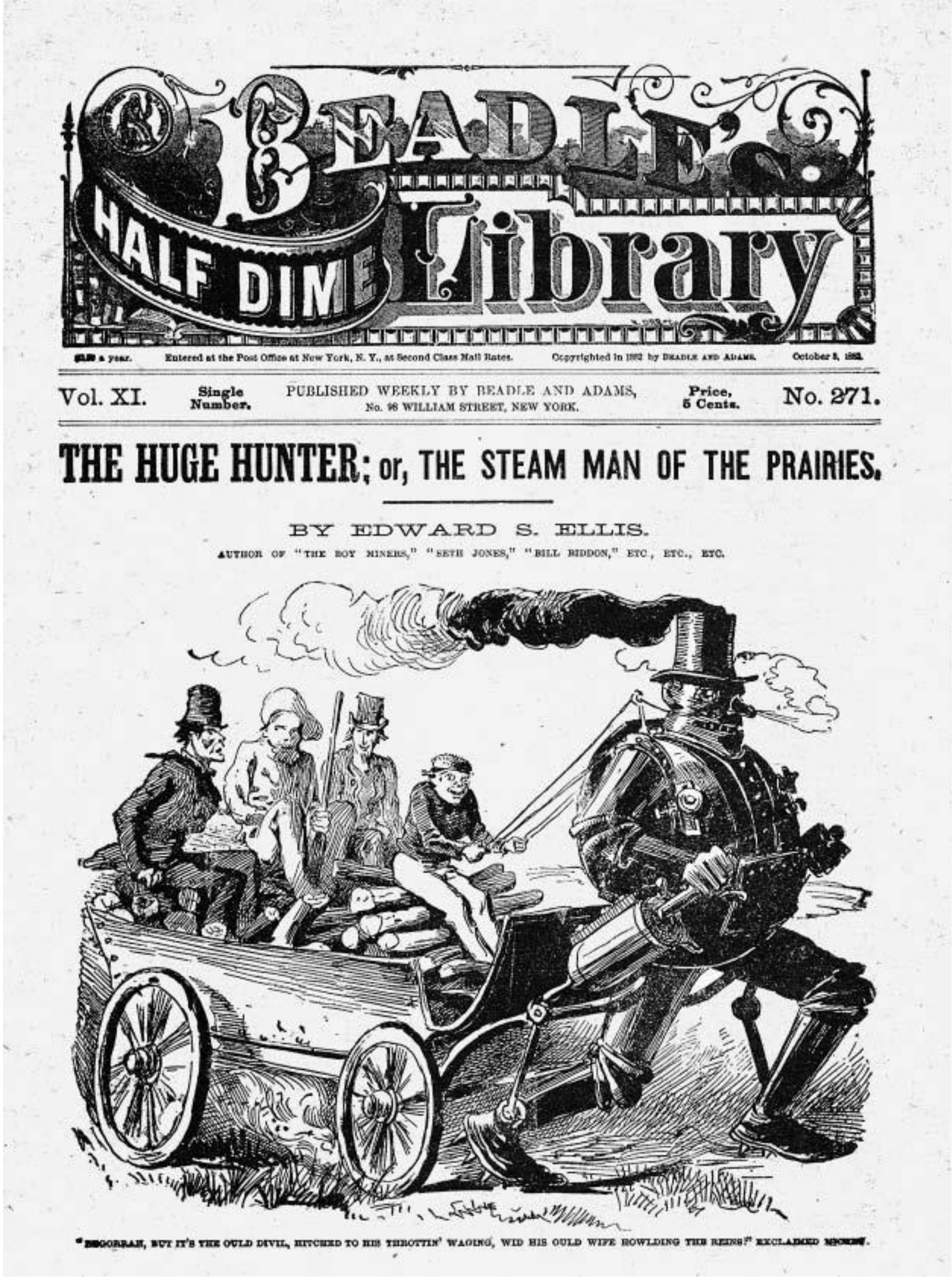
Figure 3 Cover of an 1870 reprint of *The Steam Man of the Prairies*, showing a colorized version of the original (1868) cover image. From the Northern Illinois University Libraries online archive, Nickels and Dimes



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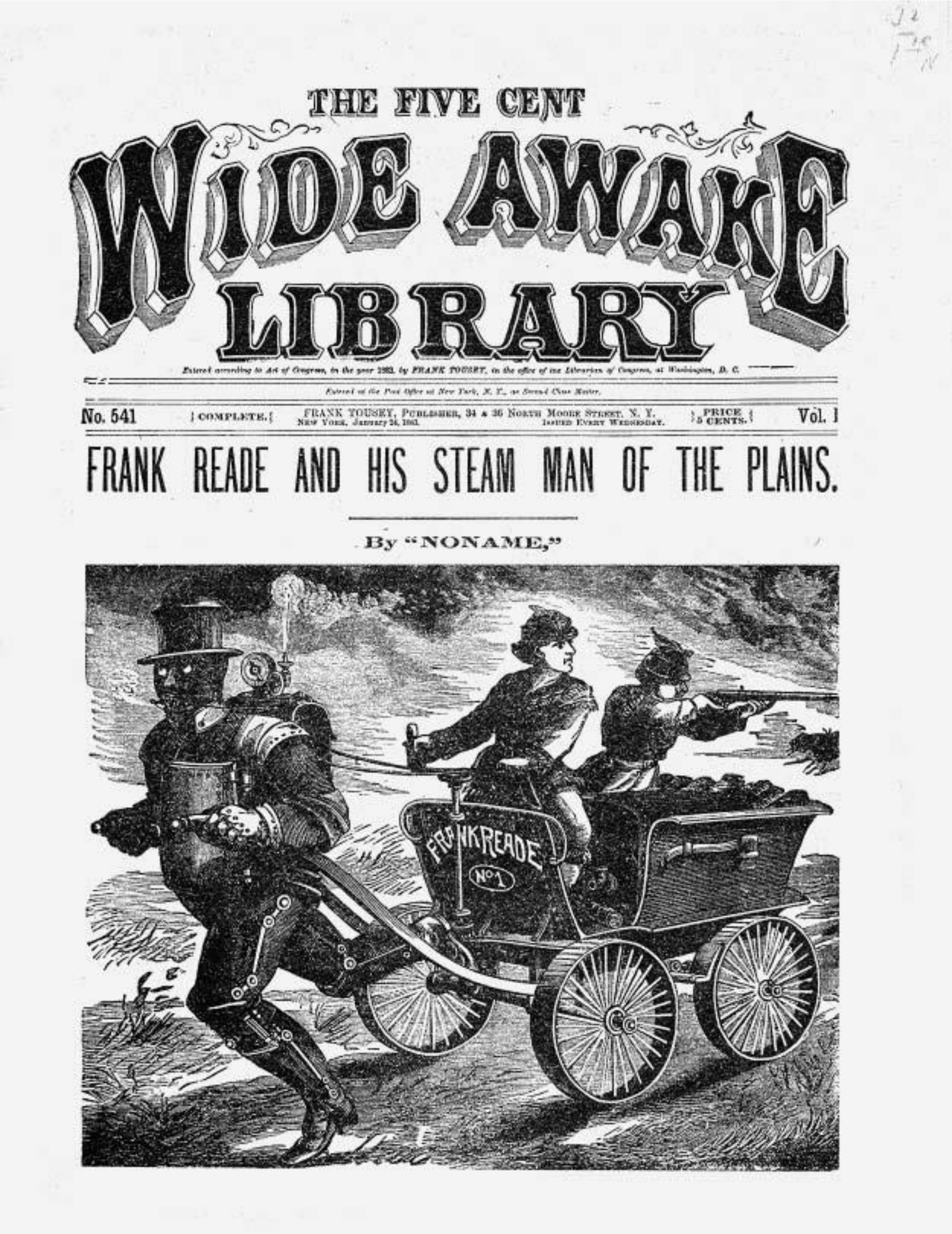
BY EDWARD S. ELLIS.

AUTHOR OF "THE BOY MINERS," "SETH JONES," "BILL BIDDON," ETC., ETC., ETC.

"BEGORRAH, BUT IT'S THE OULD DIVIL, HITCHED TO HIS THROTTIN' WAGING, WID HIS OULD WIFE HOWLDING THE REINS!" EXCLAIMED MICKEY.

Figure 4 A later cover for the Beadle and Adams 1882 reprint of *The Huge Hunter; or, The Steam Man of the Prairies*. From the holdings of the Eaton Collection, Special Collections and University Archives, University of California, Riverside



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FRANK READE AND HIS STEAM MAN OF THE PLAINS.

By "NONAME,"

Figure 5 Cover of the first Frank Reade story (originally published in 1876), from a reprint in the January 24, 1883, issue of the *Wide Awake Library*. From the holdings of the Eaton Collection, Special Collections and University Archives, University of California, Riverside

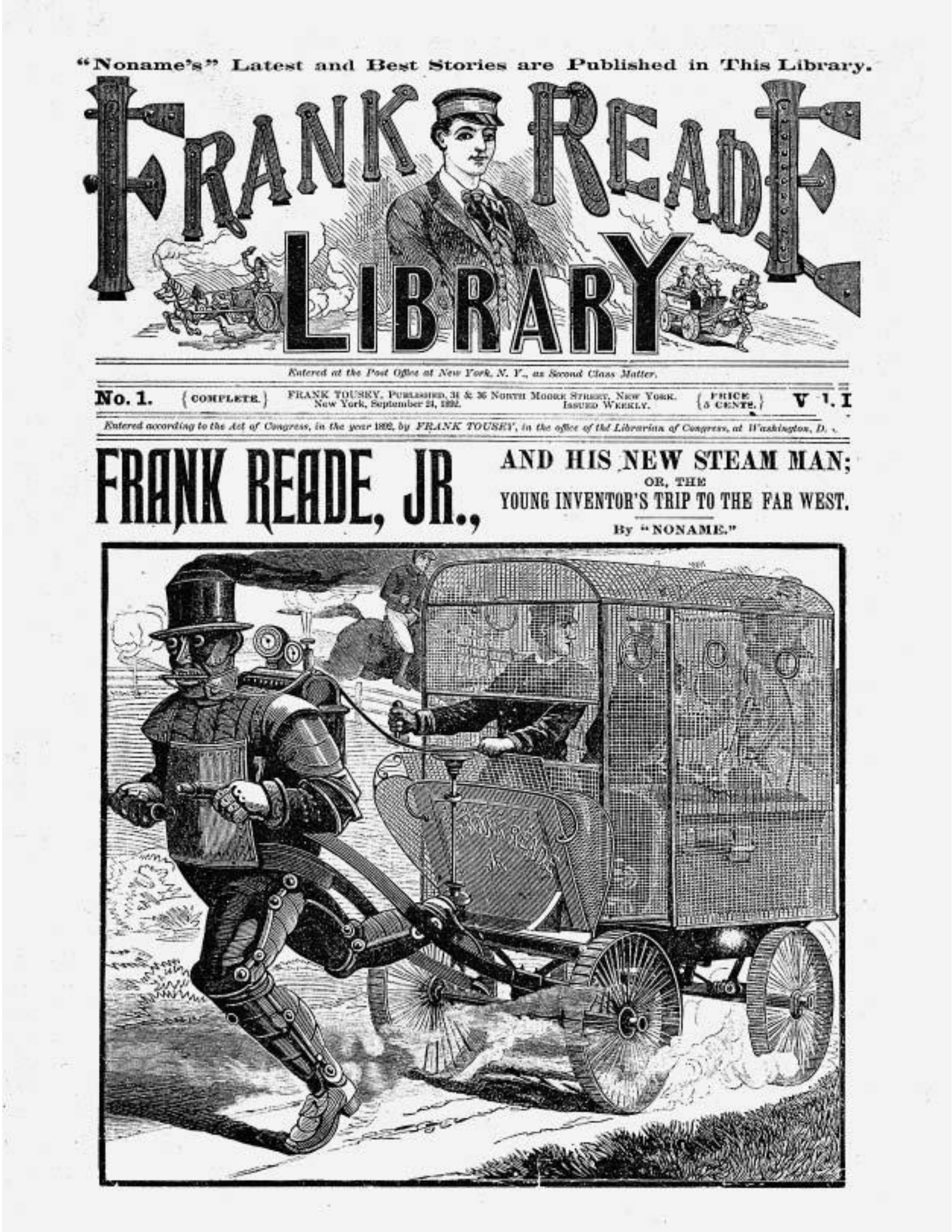

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Figure 6 Cover of the first volume of the *Frank Reade Library* (1892). From the holdings of the Eaton Collection, Special Collections and University Archives, University of California, Riverside