Racing the Posthuman:
Blackness, Technology, and the Literary Imagination

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Abstract

Racing the Posthuman: Blackness, Technology, and the Literary Imagination suggests pausing

ongoing debates about what it is to be human under the incursion of new technology to consider

methods black authors have already used to navigate historical and contemporary definitions and

fictions of the human. I propose that although narratives both of the human and of technological

progress have ignored black culture, black literary engagements with the relationships between

humans and technology are intrinsic to these conversations. Expanding upon the literary,

philosophical, and critical race work of Katherine Hayles, Sylvia Wynter, and Alexander

Weheliye, each chapter connects black authors with a contemporaneous school of scientific and

technological thought. In reading works by Ralph Ellison, Octavia Butler, Nnedi Okorafor, and

under the hashtag #sayhername, I address the way black writers complicate narratives of

technology and unsettle the racialized dialectics of the human.

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These pages are dedicated to all of the black futures both burgeoning and forgotten.

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INTRODUCTION: BLACK LIFE AND TECHNOLOGICAL PROMISES

> It wasn't like a George Washington Carver kind of thing where one brilliant Negro with a soldering iron made some magic and poof! a *miraculous machine*. It was an *open-source* kind of situation.[1]

What does technology, futuristic or otherwise, offer the black community? How might black people, artists, writers, characters, and social media users buy into or resist narratives of technological progress, even as those narratives erase black people, holding their futurity at bay? How is technology and technological progress framed and imagined within a fight for humanity, for self-determination, and for true and inclusive narratives? And how are black creators, whether Afrofuturist or not, dreaming of the technological devices that might set them free? These are some of the questions rolled into Eve L. Ewing's "The Device." This short story from her debut collection *Electric Arches* follows a young girl during the moments in which she publicly tests a giant "open-source" machine called "Project Delta Mother." In the story, two things become immediately interesting about this project. The story is explicit in the narrative it is telling about this piece of technology—the Device. Project Delta Mother won't be historicized as some act of a sole "brilliant Negro" or "magic." No, this project is "open-source," the work of countless and dedicated members of the community: "science-fair whiz kids, this and that engineering club at this and that technical college, the One Black Person at a bunch of Silicon Valley Startups getting together with a bunch of other One Black Persons. . . . Not just one person. A hive mind of Black Nerds, obsessive types, scientists, and inventors but also historians and archaeologists and the odd astrologer here and there."[2] Ewing presents the project as one that actively acknowledges popular narratives of black people and technological progress of

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[1] Eve L. Ewing, *Electric Arches* (Chicago: Haymarket Books, 2017), 9.
[2] Ewing, *Electric Arches*, 9.

innovation—as always oppositional[3]—and adjusts the narrative expectations of the token, or for Ewing, the "One Black Person." Delta Mother is explicitly an "open-source" project, which expands the enterprise to include such a large community of black people that not everyone can be named, or thanked. And perhaps because of a need to service such a large and varied community, the machine is tasked with bridging the gap between its contemporary creators and their black ancestors. The creators believe that much can be learned from connecting with black family members across history, and that this project, this technology, is something that can heal the gaping rift in the identity of the whole community. Thus, a futuristic machine is built to address the historical and generational violence of stealing and enslaving a people. The project suggests a technological legacy of reparations, as if tech in the correct hands, with the right premise, can fix the future and address a narrative of the past. As the girl initiates the program, many are hopeful, excited, and emotional. The machine is meant to become a household item, with millions of African Americans able to consult with their ancestors daily. And it works! The girl makes contact and, having been coached by some of the adult creators, she reads her enslaved great-great-grandmother a single question: "What words can you offer us to help us be free as black people in a world that does not love us?" The grandmother responds, but with laughter. This laughter begins "hoarse and raspy and then unfolds into ringing peals and gasps, sounding and resounding louder and louder."[4] The woman, the grandmother, the "delta mother;" laughs and continues to laugh as the Device self-destructs, melting and smoking into nothing. She laughs and laughs until the story and the Device are no more. Tucked into a collection that consistently revisits and reframes moments of black joy, struggle, and pain, through the lens of magic, technology, and imagination, readers might expect Ewing's machine to work. If a young

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[3] In her landmark introduction to *Social Texts*, Alondra Nelson argues that contrary to the promises of Web 1.0 and broad access, blackness and technology are framed as antithetical narratives. Alondra Nelson, "Introduction," *Social Text* 20, no. 2 (71) (Summer 2002): 1.
[4] Ewing, *Electric Arches*, 13.

black girl can successfully escape racist neighbors and the Chicago PD via flying bicycle, it might hold that a machine that heralds a communal technology as a form of emotional self-reparations could be the answer to this black community's problems. Yet it's not, and while the answer to the question is not even a resounding, "I don't know," the grandmother, having initially believed this voice was a God or salvation of her own, provides something indecipherable: laughter. This laughter, or perhaps this laughing machine, in a single scene encompasses the central modes and tenets of not only the Afrofuturist tradition, but a trajectory of black studies more generally. The story also points to a recurrent inability to pursue healing, wholeness, or reparations through single-minded technological projects. We might read the conclusion of this story in several ways. First, the Device could be an experiment that fails to ask the right questions. The technology built and employed is limited in its ability to address the actual problem. This is a failed project on all counts, and they *should* be laughed out of a room. This reading reflects the way that history consistently presents building or developing technology in a sole attempt to increase freedoms or address social problems is almost always a white man's game,[5] and for the researchers to have created this machine and to ask a question so impossible, so funny, was always a failed mission. This Device might have been able to reclaim lost recipes, or family anecdotes, not provide existential advice. Or secondly, Delta Mother, through the machine, is answering with an example: she laughs, as a time-honored method of black resistance. Her laughter is an invitation for the rest of the room to engage in joy, mockery, and resistance in spite of everything.[6] The final reading speaks to the unexpected and weird

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[5] …that trends toward Fascism. Cf. The Italian Futurists or any article on contemporary Silicon Valley.

[6] Here, we might begin to think of the artifact and trope of the laughing barrel, which becomes emblematic of attempts to contain black laughter. Mike Chaser argues that black laughter challenges the acoustics of white power, serves as a weapon for political struggle, and aggressively and bodily sounds like "what Houston Baker calls the strength of 'an African ancestral past.'" Even here we can see arguments for the embodied connection of laughter and struggle. Mike Chasar, "The Sounds of Black Laughter and the Harlem Renaissance: Claude McKay, Sterling Brown, Langston Hughes," *American Literature* 1 (March 2008): 58. See also Cynthia Dobbs, "Mapping Black Movement, Containing Black Laughter: Ralph Ellison's New York Essays," *American Quarterly* 68, no. 4 (2016): 907–929.

possibilities generated when considering technology in the black community. Perhaps these scientists were unable to contact their ancestor at all and instead created a machine that can *laugh*. In a desperate attempt to gain information from the past, they unknowingly innovate for the future, shattering the rules and expectations of machines in general, for laughing is a human thing. Because of this slippage of expectation, and the asking of a question of a loved one in absentia, the Device is able to become an embodied, human, entity. In fact, the girl almost expects it. After asking her question, she stares at the Device as if "a face might appear in amidst the plastic and metal,"[7] evoking a historical and literary device: the laughing barrel. In response, the Device laughs. And perhaps this is where Ewing's sense of magic, blackness, and technology combine. The girl's question is an old question rephrased for an older audience: how might we as black people persist in a world that refuses to define us as human? The community has not dehumanized itself, but community members still look inward to fix what seems to be an imposed problem. To achieve assistance from objectified ancestors is at first glance even more improbable. However, within this exchange, of history and subject-hood, there is a redefinition of who is human or who has historically been identified as such. Here, the scientific community reaches back in time to personify an enslaved person through their love and a collaborative technological work. Their act does the discursive work of identifying her and themselves as fully human, and investing in various legacies of technological progress. They do this and a machine *laughs.* The figure of the laughing machine, a personified, human-acting machine, pings familiar legacies and narratives of the posthuman, retroactively asking what or who is encompassed in this legacy. The story ends, and what remains is the echoing laughter of the Device. It is this third possibility, the fantasy of technology, black community, and the unexpected, that is the purview and part of the legacy of the black technological across the late twentieth century.

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[7] Ewing, *Electric Arches,* 13.

Throughout the second half of the twentieth century, fictional technological bodies have consistently been used to question the nature and role of humans in a world of increasing technological progress. Fictional characters like Data from *Star Trek* or the Replicants of *Blade Runner* have taught audiences to question who is human, who is a subject, and who is free. These inquiries are not new to conversations concerning the posthuman—the encroachment of technology into human lives and bodies—but rather are a recasting of questions raised by the bodies of enslaved black laborers starting in the eighteenth century. As definitions of humanity, or who has full recognition, rights, autonomy under the law, echo through popular contemporary scripts like those above, a search for texts that consider both black bodies and robotic bodies should not be a strangely difficult task. However, surveying popular technological narratives of the twentieth century reveals that narratives of black progress are egregiously sequestered from narratives of technological progress.[8] Thus, it would seem that in order to engage in the further development of posthuman thought, we must take time to address the ways black bodies have been erased from considerations of the posthuman because they were never recuperated into a definition of enlightenment humanity.[9]

Racing the Posthuman: Blackness, Technology, and the Literary Imagination investigates how black writers engage representations of science and technology to initiate new discourses on the definitions and legacies of the human—as concept, not species. *Racing the Posthuman* argues that we must "race," or more specifically consider blackness, in the posthuman and expand the focus of scholarship to engage technological and posthuman representations of black people, who historically have been "elided, suppressed, and forgotten"

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[8] Nelson, "Introduction," 3.
[9] Sylvia Wynter, "Unsettling the Coloniality of Being/Power/Truth/Freedom: Towards the Human, After Man, Its Overrepresentation—An Argument," *CR: The New Centennial Review* 3, no. 3 (2003): 257–337.

from the category of the liberal human subject,[10] the identification that serves as the foundation

for the conception of the posthuman. The posthuman is the twentieth-century conversation about

humanity, and *Racing the Posthuman* asks, "how does it feel to be a technological problem?"[11]

in order to consider the ways race and technology collide to produce new black ontologies as

imagined in the speculative worlds of African American and African diasporic writers Ralph

Ellison, Octavia Butler, and Nnedi Okorafor. Contextualizing and complicating these images of

black technological embodiment, *Racing the Posthuman* constellates these authors with the

scientific and technological conversations and advancements of each novel's historical moment.

In aligning black authors with contemporaneous scientific discourse, *Racing the Posthuman*

offers new angles from which to approach the black posthuman: the cybernetics of the 1940s,

biotechnological research and advancement of the 1970s and 80s, math theories and surveillance

of the late twentieth century, and twenty-first century theories of data and social media.

Identifying overlooked fantasies and realities of the black posthuman, *Racing the Posthuman*

integrates narratives that separate technology and black life, and also imagines new futures and

new ontologies available to black people, a prospect I call the black technological ontology.

Black technological ontology questions how black people use technology and ideas of

technological progress, or the myriad new things humans can do, when they have been

purposefully stripped out of the futures of such narratives. The black technological considers

how black people might choose to operate when this technology has historically been used to

surveil, violate, and destroy them. What do black technological futures and contemporary ways

of being look like given the difficulty of such narratives, and given the participation, innovation,

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[10] N. Katharine Hayles, *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics* (Chicago: University of Chicago Press, 1999), 13.
[11] Here, I'm echoing W. E. B. DuBois's query in *The Souls of Black Folk*: "How does it feel to be a problem?"

and technophilia that springs from the black community? What can one do as a technological being in a world that does not love you?

The story of black technological ontology encompasses many theoretical discourses about the ways race and technology collide to generate both epistemological and ontological frameworks. The discourses that support any investigation into the black technological include: race and technology studies, Afrofuturism, critical race studies, and the posthuman. *Racing the Posthuman* brings these theories and communities of practice together in order to address this problem of the lack of theorization around black posthuman futures. It resists disciplinary impulses to begin the posthuman with Gibsonian[12] visions and instead looks to other places and narratives, like the theories of Afrofuturism and the black science and technology studies that precede this project. *Racing the Posthuman* incorporates the legacy of the black posthuman into predominant contemporary narratives of the posthuman as exemplified across journalistic and scientific publications. Simply tracing the black technological reveals that in looking at the writing of black writers and their representations of technology, we can see that more often than not, black negotiations of technology and technological progress have at their heart a conversation about humanity and those historically isolated from it. *Racing the Posthuman* resists presenting a single narrative of black historical, technological, or literary legacy, but instead presents several nodes of discourse that black authors establish after the growing technological (computational) advancements that take place after the Second World War. This timeline is not to say that black writers, scientists, and thinkers were not engaging in technological work and thought before this (they were), but that the proliferation of science fiction narratives about robots and advances in computer sciences adds complexity and urgency

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[12] William Gibson: pioneer of cyberpunk and author of works like *Neuromancer* (1984). Many posthuman writers and theorists use his representations of hackers and AI, and the ways his characters can "plug" into virtual landscapes, as the literary starting point for thinking about the posthuman.

to these conversations. Finally, *Racing the Posthuman* presents a black technological that moves from the individual technological and posthuman struggles of the "One Black Person" to the technological efforts of communities to communicate and struggle for justice.

The first chapter, "The Man in the Machine: Cybernetics and Ellison's Black Technological Ontology," reads Ralph Ellison's *Invisible Man* (1952) alongside the scientific work of the Macy Cybernetic conferences (1941–1960). Both author and scientists grapple with the limits of man and machine in the postwar moment. In his novel, Ellison investigates and tests these limits by honing what I've termed the black technological ontology of his post-lobotomy narrator. This new ontology, paradoxical in that it springs from an attempt by white scientists to limit him, is not only rooted in moments of black resistance and redress but also is technological in nature. The narrator's ability to gain perspective, to engage and move through society as if it is a large system of interworking systems, is also the central tenet of cybernetic theory. Working at the same time and in the same city, cyberneticists and Ellison developed a similar language for defining the world—as a system of interlocking mechanical, biological, and social machines. This chapter works through Ellison's process of revision, examining unpublished material from his drafts along with scenes from the published novel in order to confirm the centrality of this ontology. Using transcripts from the Macy Conferences in addition to popular works by Norbert Wiener and other cyberneticists, I argue that the publication of *Invisible Man* anticipates scholarly investment in the posthuman and offers a moment of engagement and response to then-popular techno-scientific and sociological discourse as it pertains to black life.

The second chapter, "Immortal Cells: Octavia Butler, Black Feminist Cellularity, and Biotechnology in the Late Twentieth Century," investigates Butler's *Xenogenesis* trilogy (1987–1989) along with her personal research archives as an alternative to existing narratives of biotechnology and sociobiology. While many scholars have written about the trilogy as a series

that prefigures many twenty-first century conversations about genetics, gender, and race, the technological aspects of the novel are often overlooked in a rush to read them in terms of metaphors of colonialism and slavery. This chapter centers Butler's detailed descriptions of alien beings and alien biotechnology as they unseat contemporary cyberpunk fantasies of sleek chrome machines and futuristic disembodiment. It also looks to her research and novels as they stand in conversation within a larger community of scientists and science journalists of her time. Butler's central protagonist, Lilith, incorporates and interrogates the primacy and exploitation of black women's bodies in the fostering of genetic and biotechnological research. Centering Lilith's body, Butler uses this legacy of exploitation to instead ask an important question: what it means to be and to stay human. Finally, reading these novels through the lens of Butler's scientific and technological knowledge reveals a larger black feminist discourse of the 1980s, invested in microscopic biological frames like genes and cells, instead of skin or flesh. This discourse considers the levels of embodiment that make us who we are. Diving into this period of Butler's work reveals not only how Butler imagines a new biotechnological legacy, with a black woman as the rightful center of this technological narrative, but also how she and other black women writers offer an alternative point of access into posthuman discourse.

The third chapter, "Nnedi Okorafor: Communication, Posthuman Legacy, and Black Embodied Datafication" analyzes Okorafor's use of alternate or defunct technological lineages to create a new posthuman narrative in the *Binti* trilogy (2015–2018). In the series, Okorafor recasts narratives of technological progress as inherent to black communities and black bodies, by using both ancient technology and contemporary mathematical theorems to tell a story of a futuristic young Himba woman who develops modes of virtual communication facilitated through hereditary nanobot technology hidden in her body. Focusing on theories of datafication, especially Simone Browne's black datafication, this chapter investigates how black authors

represent technology and posthuman narratives and rhetoric that include their surveillance and oppression, in order to dream new possibilities of embodiment. Taking up Okorafor's self-designation as an Africanfuturist,[13] this chapter analyzes the way she employs two legacies of technology to establish a framework for a new kind of posthuman story—a story in which the preservation of culture and communication, not humanity writ large, are at stake. In excavating the scientific and magical impulses of Okorafor's work, readers see a different kind of posthuman story, which unseats and reframes old and contemporary anxieties of human definition.

The fourth and final chapter, "Communicating the Body: Language, Twitter, and Black Virtual Embodiment," moves from fictional, literary representations of black technological use and embodiment to the real world. This chapter focuses on one way black users interact with contemporary technology via the social media platform Twitter. Taking the literary context and importance of communication and memorial in Ellison's work as an organizing analog, this chapter surveys discourse generated by and around the African American Policy Forum's hashtag #sayhername. As of 2019, the hashtag is four years old, and the central question of this chapter is whether such a popular and important hashtag, which generates an important conversation, is used in recognizable ways by the community. My final chapter moves to offer an analysis of contemporary black technological practices using the digital humanities methodologies of large-scale data collection and natural language processing. By analyzing a technological archive, a repository of tweets, this chapter extracts the literary, rhetorical, and vernacular practices found on micro-blogging websites for what they suggest about black technological life. Using this archive, I identify hashtag trends on networked social media and

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[13] She argues her aim as a writer is much narrower than the contemporary literary movement of Afrofuturism. See, Christopher Borelli, "How Nnedi Okorafor is building the future of sci-fi from Flossmoor. (Being George R.R. Martin's protege doesn't hurt.)," *Chicago Tribune*, May 23, 2019, https://www.chicagotribune.com/entertainment/ct-ae-nnedi-okorafor-sci-fi-0526-story.html.

build visualizations that allow my readers to see the communal practices and public engagement of what has come be called "Black Twitter" in a new way.

   Racing the Posthuman presents various engagements of the black technological in order to offer specific readings of black authors' consideration of popular scientific thought. In taking authors and their research and creative processes seriously, *Racing the Posthuman* reveals theoretical analysis and synthesis where we might not have been looking before. In investigating the weird, strange, electric moments of these narratives, the project revels in the potentials of the black technological, and presents what can only be a beginning of a robust field of research, that in some way is already theorizing itself.

THE MAN IN THE MACHINE:

CYBERNETICS AND ELLISON'S BLACK TECHNOLOGICAL ONTOLOGY

> Won't nobody speak to me, though they looks at me like I'm some new kinda cotton-pickin' machine. I feels bad. I tells them how it happened in a dream, but they scorns me.
> —Jim Trueblood[14]

> They got all this machinery, but that ain't everything; we are the machines inside the machine.
> —Lucas Brockway[15]

The word "machine" appears approximately forty-three times throughout Ralph Ellison's *Invisible Man* (1952). As mechanical concept, an assemblage of metal parts and potentially revolutionary ideas, machines flit in and out of scenes, and are conjured both off-handedly and with great import. The machine, for Ellison, embodies the ruined southern sharecropper, the entrenched factory worker, and the awakening sleepwalker. It aligns itself with characters like Jim Trueblood, Lucas Brockway, and the narrator. Using this technological figure as an anchor, Ellison prods readers to ponder the posthuman[16] fifty years early, prompting readers to ask questions of the narratives of progress and technology that have been ongoing for at least a century.

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[14] Jim Trueblood speaking in Ralph Ellison's *Invisible Man*, 2nd Vintage International ed. (New York: Vintage International, 1995), 65.

[15] Lucas Brockway in Ellison, *Invisible Man*, 217. Throughout the remainder of the chapter, the text *Invisible Man* will be referenced in-text with the abbreviation *IM*.

[16] Generally, the posthuman relates to a series of conversations around a hypothetical species or community of beings that might evolve or have already evolved from humans due to incursions of technology (mechanical, biological, or virtual). N. Katherine Hayles suggests that the posthuman is guarded by four assumptions: 1.) a privileging of information over its material instantiation. This leaves the body as an "accident of history" rather than an inevitability. 2.) Consciousness is the ultimate seat of human identity. 3.) The human body is simply a prosthesis that can be replaces by others. 4.) The posthuman configures the human being so that it can be seamlessly incorporated into intelligent machines. In the realm of the posthuman "there are no essential differences or absolute demarcations between bodily existence and computer simulation, cybernetic mechanism and biological organism, robot teleology and human goals" (Hayles, *How We Became Posthuman*, 3). Thus the posthuman ultimately does away with the body as an arbiter of human identity, a prospect that is only possible for those identified as liberal human subjects.

The twentieth century provides many methods of responding to a longstanding socio-technological question: what is it to be human in a world increasingly populated by machines? To gain context we must follow this inquiry back into the nineteenth century. In tracing the literary sentiments of popular technological and literary thought of the nineteenth century theorists, such as Leo Marx and Mark Seltzer, it is clear that critics agree that the majority of American thought regarding the man/machine paradigm is concerned with man's relationship to himself as he readjusts to an incursion of the technological onto the verdant, fruitful, and agrarian nature of the American ethos, even if such nature is partially or wholly imagined.[17] The narratives of technology and men in the late nineteenth and early twentieth centuries culminate in the mechanical and the technological residing within the agrarian landscape. These narratives sow into a cultural imaginary that shoves technological and statistically countable men into industries that supposedly provide a temporary stop for those white men set to achieve a more "American" or agrarian (land-owning) existence. Therefore, by the end of the nineteenth century, an early whisper of the posthuman has already been established, which includes a melding of human and machine nature to preserve man from an extended mechanical existence. Yet these theories do not attend to bodies which had already been organized and assigned to a mechanized, non-human status well before the nineteenth century. How does the narrative of human and technology render if we take into account the history of the mechanized and industrial market inclinations of the southern plantation and its descendants?

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[17] Marx's *Machine in the Garden* surveys turn-of-the-century writers and journalists as they focus on the industrial and machine ages. Seltzer writes about the ways market and consumer narratives were both illustrative and pedagogical tools for the creation and self-identification of 19th century Americans. Both Seltzer and Marx note that while much of the imagery that surrounded such incursion of machine into the "natural" America, such images were often easily accepted and rectified.

Juxtaposed against the agrarian and natural, the industrial or mechanized[18] presents a problem of place and ideology. Posthumanism, in its current iteration, is the legacy of this problem. Technology and industry presented a kind of rupture for writers and theorists who considered the identity of America, or the identity of white Americans, as something that was natural and free. Mark Seltzer argues that much of the naturalist project in literature depicts the ways in which people are rendered in the technological industrial age, how people can be automated and produced through modes of automation and shifts in market interest and values. Automation lies in the "fantasy of market culture" as it is situated "within the 'industrial organizations' and 'mechanisms' of machine culture:"[19] However, the false dichotomy of technological industry versus agrarian plantation causes one to ignore or disregard the ways in which the enslaved were being industrialized and mechanized through the antebellum period. It is well theorized that the spirit of such industrialization was present in the plantation South. For instance, through much of the mid-1850s there is much evidence that the industrial ideologies that prompted mechanization and encouraged "time thrift" were ubiquitous in both the North and the South.[20] Even when industrialization flourished in the North, there was a continual looking out, a holding in reserve of the "native" lands of the South in which men were developed and instantiated in some other way—against the realities of labor and brutality leveraged against black people. Thus, much in the same way Northern factory workers for Seltzer are rendered through their relationship to technological processes, black enslaved laborers were doubly rendered through not only their lack of human legal status but also the increasingly industrial attitudes of plantation owners.

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[18] In what follows, I will use machine, mechanical, and technology interchangeably as during this time (before digital technology) these concepts are for the most part understood and written about in a similar way.

[19] Mark Seltzer, *Bodies and Machines* (London: Routledge, 1992), 86.

[20] Mark M. Smith, *Mastered by the Clock* (Chapel Hill: University of North Carolina Press, 1997), 100.

Tracing the notions of the industrial period and its connection to southern chattel slavery leads us to a more complicated and overlooked question. We must ask not only what it is to be a human body in a world of integrated technology, but what it means to be black in such a world. How might personhood be rendered or restructured when the technological history and nature of blackness is addressed? This rendering, the melding of blackness and technological practice, includes an acknowledgement of the southern mechanical body as it moves north, transitioning into a more recognizable techno-industrial body. As we locate popular moments of black technological ontology as rendered in literature and film, we must consider what ideas and affordances of blackness coupled with technological ideology and apparatus appear. These affordances coalesce into a series of realizations and practices that I call black technological ontology. It is an ontological positioning that stands as an addition and response to exclusive narratives of the posthuman. Black technological ontology begs reading across disciplines and methodologies, and an examination of literature and contemporaneous technological ideologies developing beside it. It requires not only an identification of existing scientific thought and history, but its intersections with black literary production. The following chapter will present Ralph Ellison's creation of *Invisible Man* and its intersections with the scientific theory of cybernetics, as a particular node along the timeline of the development of a black technological ontology as it tracks with mainstream (and whitewashed) scientific narratives of progress.

Ellisonian Posthumanism

Ralph Ellison's *Invisible Man* is a story of individual black struggle, the barring of American dreams, revolts and riots, painful realizations about black identity, and the possibility of escape. At multiple points the narrator is traumatized and tortured at the hands of white characters, whether through forced participation in an electrified Battle Royal or through scientific experimentation via lobotomy machine. Throughout the novel, Ellison ponders the

ways in which his narrator, a member of the first "free" generation of black offspring, might

fight for his own version of humanity despite horrific and absurd odds. At various points the

bustle of multiple narratives and questions solidifies into questions and observations about

machines and electricity, or the meditation on the life of a black man in an electrified century.

This focus on electricity insists that the gradual electrification of town and country affects the

already unstable double consciousness of the black man. During multiple engagements, the

narrator either is electrified, manipulates electricity, or easily identifies the ability of others to

use electrified objects (electrical wiring, light bulbs, electric guitars, and phonographs) to

manipulate others.

Writing about the technological impulses of *Invisible Man* is not sparse. Jennifer

Lieberman argues that Ellison's early short stories use airplanes as metaphorical technological

exoskeletons that reinforce black pilots' failed engagement with unfiltered white American

patriotism.[21] Additionally, Scott Selisker argues that technological metaphors of automation work

to process Ellison's fraught relationship to scientific and sociological theories of the mid-

century. For Selisker, Ellison's technological language is a method of response in which he

pushes against popular sociological theories or pathologies that plague black life.[22]

Yet these technological analyses stand outside of the historical frame of the novel, ready

to retroactively examine it through the scientific thought of the twenty-first century, and are

incapable of addressing the novel's contemporaneous concerns. The work of John S. Wright is

helpful in this sense because of his attendance to Ellison's contemporary technological reality.

According to Wright, because of the increased presence of electricity and technology throughout

the development of the late twentieth century, the double-prongs of DuBosian double

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[21] Jennifer L. Lieberman, "Ralph Ellison's Technological Humanism," *MELUS* 40, no. 4 (October 15, 2015): 19.
[22] Scott Selisker, "'Simply by Reacting?': The Sociology of Race and Invisible Man's Automata," *American Literature* 83, no. 3 (September 1, 2011): 573.

consciousness, a useful metric of black ontology, are insufficient. Instead, black Americans began to juggle not only an "African American identity, an "American consciousness," but also a new technological identity.[23] We see this development in *Invisible Man*, as electricity or electrification presents a distinct shift in the conception of everyday black life. This addition of a black technological self is a turn of black ontological proportions. Technology, and its components electrical currents and switching circuits, become another prong with which to craft black ways of being.

In order to attend to this new technological prong of experience, we must turn to a scientific discourse that was being generated and written at the same time as *Invisible Man*: cybernetics. In looking at the basis of cybernetic discourse as it developed in the late 1940s and early 1950s, we see the latent questions of the posthuman rendered both inside and outside of the black community. Still, even fewer theorists have focused on Ellison and his connection to electricity and the foundations of posthuman thought: cybernetics.[24]

Cybernetics: A History

In 1946, eight miles downtown from where Ellison was crafting *Invisible Man*, twenty-one scientists gathered for the first time in New York City at the Beekman Hotel for a conference entitled "Circular Causal and Feedback Mechanisms in Biological and Social Systems." The conference was sponsored by the Josiah Macy Jr. Foundation[25] and was organized by administrator Frank Fremont-Smith. The Macy Conferences, a series of ten gatherings spanning

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[23] John S. Wright, *Shadowing Ralph Ellison* (Oxford: University Press of Mississippi, 2006), 147.

[24] Scholars like Michael A. Chaney and Johnnie Wilcox mention cybernetics briefly in their analyses of Ellison. However, these inclusions are figurative in nature. They do not grapple with the developing theories of this field, only its cultural remnants. See, Michael A. Chaney, "Slave Cyborgs and the Black Infovirus: Ishmael Reed's Cybernetic Aesthetics," *MFS Modern Fiction Studies* 49, no. 2 (June 24, 2003): 261–83; and Johnnie Wilcox, "Black Power: Minstrelsy and Electricity in Ralph Ellison's Invisible Man," *Callaloo* 30, no. 4 (March 19, 2008): 987–1009.

[25] The organization remains dedicated to strengthening and expanding the education of medical health professionals. In the 1940s, the foundation focused on expanding science instruction and social scientific thought to medical curriculum. The Macy Conferences were part of this disciplinary intervention.

seven years, were transdisciplinary in scope. Modeled after the scientific working groups of

World War II, participation was by invitation only and no formal papers were given. Instead,

preference was given to conversation and the development of a shared language around a variety

of topics. These topics encompassed mechanical feedback systems, teleological mechanisms in

society, Gestalt theory, information theory, and memory and language development in humans.[26]

The participants of the conventions were a revolving cast of characters that included the

anthropologists Gregory Bateson and Margaret Mead, psychologist Kurt Lewin, psychoanalyst

Lawrence Kubie, neurophysiologists Walter Pitts and Warren McCulloch (who operated as

moderator), social scientist Lawrence K. Frank, and the mathematicians and philosophers,

Norbert Weiner and John Von Neumann, and the "father of information theory" Claude

Shannon, and in 1951 literary critic I. A. Richards.[27]

While these conferences are considered by many as the birthplace of cybernetic theory, an important field for posthumanists and science fiction authors alike, the name of the conference, its topic, and its

Figure 1: The Tenth Annual Macy Convention

methodology were continually in development and flux. For the first years of the conference

there was no mention of cybernetics. In fact, the term "cybernetics" was not introduced until the

seventh conference. This seventh meeting was called "Cybernetics: Circular Causal Feedback

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[26] Claude Pias, "The Age of Cybernetics" in *Cybernetics: The Macy Conferences* ed. Claude Pias (Zurich: Diaphanes, 2016),13.

[27] There is something to be said about one of the originators of modern literary study and New Criticism. New Criticism as it came to exist in the academy is understood as a scientific approach to literature—a close reading or examination. I. A. Richards's attendance marks a general shift of interest into the language development and discourse to solve human and machine social problems on all fronts of inquiry.

Mechanisms in Biological and Social Systems." In addition to the conferences changing names,

historian Claude Pias argues that these meetings were always a negotiation of terms and

disciplines and a continual fleshing out of the analog and digital nature of things. Additionally,

according to Heinz von Forester, the first editor of the convention's publications, the conferences

only worked because of the scientists' mutual prioritization of process over product. The

conferences were an "experiment with a set of conceptual models which seem to be useful right

across the board and which themselves provide a medium of communication . . . when shared."[28]

There were three models or working languages: a universal theory of digital machines that

likened biological neurons to technological circuits; a theory that decontextualized information;

and a theory of systematic feedback. Thus, the scientists could share and apply such models to

any conversation. Combined, these languages codified a single working theory of process and

existence that claimed validity for living organisms, machines, psychological processes, and

sociological phenomena.

     Through the conversations at the Macy conference, cybernetics as a field developed into

a math-driven and universal technological language that describes the workings of simple

technological machines, neurobiological processes, and social projects.[29] These scientists looked

to disrupt the categories of human and machine and bring the two semantically closer. Through

cybernetics, technological machines and biological bodies became a single form of machines that

at their hearts have similar processes and functions. Cybernetics made this theoretical shift in

two ways: First, cyberneticists established universal principles that drew analogs from the

smallest machines (or parts) of a system. For instance, small biological and mechanical entities,

like the biological neuron and electrical circuit, can both be in effect switched "on" or "off." This

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[28] Pias quoting Von Forester from the transcripts. Pias, "The Age of Cybernetics," 14.
[29] Pias, "The Age of Cybernetics," 15.

principle is extended to a digital machine, like a computer, through binary code (0 or 1). As cyberneticists are wont to focus on the smallest entity, a larger machine must always be considered through its working parts. Thus, machines can be conceptualized and made of smaller machines, and these small machines are cybernetic as well. Once they established this principle, cyberneticists extended these principles of information and feedback to humans, communities, and nations by simply exchanging the medium, for example electrical current for information.

Second, cybernetics states that all sorts of machines—mechanical, biological, and social—operate under feedback (homeostatic) principles. Homeostasis is the process through which any type of living organism establishes a certain status quo or baseline of operation and behavior. Biological organisms constantly take in information in order to re-establish this status quo, from moment to moment. Cybernetic theory argues that electronic and digital machines maintain analogous baselines through very similar means. However, instead of the biological process of homeostasis, machines have a series of "feedback loops." Cyberneticists would also argue that these same homeostatic, or feedback, principles could be found in the regulation and stasis of large human and animal societies.

In her book *How We Became Posthuman*, N. Katherine Hayles indicates that the Macy Conferences and the subsequent development of cybernetics was a foundational period that marked a dramatic linguistic and epistemological shift in thinking about the materiality of information. She notes that in order to consider and expand the developing language of electronic feedback, cyberneticists devalued the materiality and medium of information in order to consider its simple existence or nonexistence. For Hayles, this redefinition of information was the general gate through which we as a culture began to push ideas of the human past embodiment, past cells, muscles, and skin. Cybernetics effectively suggests that a human could be downloaded into a machine with no changes in subjectivity. However, this posthuman

cybernetic disembodiment is based on a white liberal humanism, meaning that the realities and embodiments of anyone not in that category had to be "elided, suppressed, and forgotten."[30]

Indeed, too many representations of the posthuman establish the white liberal human subject as a baseline. This easy adoption strengthens a variety of cultural myths, including ones that keep notions of black progress and technological futurism distinct. Additionally, the idea that a white male is the basis for who is human entrenches the concept of liberality and obscures the reality that the questions being asked of posthuman and futuristic mechanical bodies and those asked of the enslaved are one and the same. Without new nodes of posthuman thought, such inquiries will continue to go unnoticed by large swathes of the academic community. However, when we move from the scientific convention to a literary novel, from downtown at the Beekman Hotel to an apartment in Harlem where Ellison was writing his first novel, the key to this conversation is revealed in an unexpected place. By following the circuit, it becomes clear that cybernetic and posthuman thinking do not have to remain under such strict (white) purview.

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[30] Hayles, *How We Became Posthuman*, 13.

Figure 2: Retreat by Gordon Parks for Life Magazine

The Circuit

This photograph, taken by Gordon Parks, was circulated as part of a photo-essay in *Life* magazine in August 1952, four months after publication of *Invisible Man*. Ellison and Parks collaborated on the photo-essay to promote the novel's sale. The photograph is the concluding image of this visual re-telling and depicts the setting of the novel's prologue and epilogue. This is also the clearest visual representation of Ellison's method of imagining the connected nature of bodies and electrical technology through the metaphor of the circuit.[31] The narrator sits on a stool covered with newspaper, adjusting the floating arm of a turntable. One foot remains flush with the floor, grounding him. He's framed by two suspended record players with wiring exposed

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[31] Many playwrights and filmmakers have depicted Jack-the-Bear's underground home. Most of them include the over a thousand lights that Jack-the-Bear mentions. I'm most interested in this particular image because of its relationship to Ellison, his creative input, and because it is part of what seems to be a somewhat authorized retelling or adaptation of the novel.

beneath them. The wall behind him is bright white, wired for lighting and sockets. He's

cornered; incandescent light bulbs line a triangle of the ceiling and the two back walls. In this

image the wiring is perhaps the most striking. The black electrical wires, elements that are

usually concealed, carry current that zigzags across the scene, framing the man and creating a

concentric pattern that radiates outward across the back wall. This black wire continually links

and connects. Following the cord, we notice that the wires run off the walls to attach to the

record players. This same wire stretches to connect the two record players. At the bottom of the

image, between the players, this cord runs through the narrator's legs, connecting him to the

circuit.

Here in this photographic adaptation of the prologue, viewers are asked to consider not

the individual narrator, but who and what he is connected to. This image is not about revealing

individuality; Parks commits the cardinal sin of black photography and the model remains

backlit. Considered through a cybernetic framework, the photo represents the ways parts interact

with a whole. Viewers are asked to see and imagine a man based on a series of notable

relationships, or systems—the individual and his relationship to his technology as well as the

relationship of his hovel to the larger city above. The scope of such visuals can be doubly

interpreted. Ellison and Parks first present us with a visualization of the circuitry that runs

through the entire novel. This circuit narratively begins with electrocution during the Battle

Royal and reaches its peak as the narrator writhes in a machine connected to multiple electric

nodes in the Factory Hospital (a moment we will return to shortly). The photo suggests a

connected electrical circuit that features a human body and several electrical machines. Man and

circuit are connected, entering a relationship that is co-constituted, mutually formed. Such a

constitution echoes what Jack-the-Bear says about light in the prologue: "And I love light.

Perhaps you'll think it strange that an invisible man should need light, desire light, love light. But

maybe it is exactly because I am invisible. Light confirms my reality, gives birth to my form"

(*IM* 5). The narrator creates the parameters for which light or light bulbs, not natural sunlight,

define him and give him form, while also providing the visual grounding and labor for this

electric circuit to operate. It is the bright light of the incandescent bulb, made functional by a

black inventor[32] who provided the rays for his form. Parks then superimposes this image under a

pitch-black New York skyline. The majority of the glossy page is dark, leaving illumination as

the only color to the electric lights of the buildings and the glow of Jack-the-Bear's hovel. This

encroaching darkness reminds us of what the narrator suggests about his underground home and

his war with the Monopolated Light and Power company. He states,

> I doubt if there is a brighter spot in all New York than this hole of mine, and I do not
> exclude Broadway. Or the Empire State Building on a photographer's dream night. But
> that is taking advantage of you. Those two spots are among the darkest of our whole
> civilization—pardon me, our whole culture (an important distinction, I've heard) . . .
> (*IM* 6)

Thus photo-translation is not meant to illuminate or reveal the individual, but to prompt a

consideration of the ways in which an individual (invisible) man connects to other things—and

how this connection operates in the same manner as an electrical circuit. Parks's photo asks the

viewer to think about where the narrator is in relation to his escape. We must consider his

illumination and his form, as it exists within the systematic operations of an illuminated city, for

this is the same city that he is fighting with and siphoning from. This image freezes the framing

element of the novel and asks us to consider the realities of Jack-the-Bear's black body, and his

ability to slot into the machine and be incorporated into the various roles the city demands—all

without depicting much of the larger city, Harlem, at all.

The photo and its circuits bring us closer to an evocation of cybernetic thought: machines

can be complex and simple, human or otherwise, especially when considering the scope and

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[32] Lewis Latimer invented the carbon filament that makes the Edison bulb last. Without such innovation, the light
bulb itself would be useless.

perspective in which these machines are situated. With this image, the kaleidoscopic nature of systems Ellison imagines is revealed. The technological, human biological, and societal reflect and collapse upon each other in endless circuitry. Now having envisioned the underlying circuit, and the power of this structuring metaphor, we can interrogate it.

Revision and Return

To begin this interrogation, we need to not only read Ellison through the discourse of cybernetics but to read cybernetics through Ellison. In *Invisible Man*, Ellison is not only thinking about machines, electricity, technology, but about building cross-cultural relationships and his American identity around them. John S. Wright points to what he terms a "revolutionary technological modernity" that Ellison is keying into. This "technological modernity" is something that Ellison sees as a new formation of American blackness, a "triangulating circuit" of identity "whose complementary corners are the changing fate of being 'American' . . . and the 'radical predicament'" of being black (complete with a legacy of oppression and repression).[33] We can see this tension, the addition of technology to the pre-existing frame of blackness Du Bois established with the veil. Wright highlights the biographical implications of his circuit by analyzing two instances during Ellison's childhood, in which Ellison writes about a manipulation of technology, a ham radio, and a hi-fi audio system as not only prime moments of his personal and artistic growth and innovation but as moments in which he felt as though he could reach across the color line.[34]

Ellison's literary and practical interest in technology feeds into other conversations about literature, lineage, and the creation of black art. His preoccupation with technology perhaps leads him to argue that he did not set out in *Invisible Man* to write "a piece of science fiction," despite its technological trappings (*IM* xv). Yet the repetition of electrified conditions of the machine,

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[33] Wright, *Shadowing Ralph Ellison*, 147.
[34] See Wright's analysis of Ellison's essay "Living with Music" in *Shadowing Ralph Ellison*, 145–46.

the sheer number of times Ellison revisits it in drafts, and the echoes he leaves across the publication, is a practice of revision which indicates significance. Once more, repetition and revision rise as hallmarks of the black artistic tradition. Through repeating and re-visioning narratives authors create a formal tradition that incorporates, re-evaluates, and confronts American literary traditions while speaking to their black contemporaries. Perhaps we can read this practice into other traditions and legacies outside of film and art. Such revision could include historical, sociological, and scientific narratives. Revision relates the invisible man and Ellison to the technological legacies of Edison, Ford, and Franklin, individuals who are not only inventors but are also linked to a certain kind of American progressivism and democratic potential. They represent a genre of lineage and production much in the same way Henry Louis Gates argues the Ellison's writing creates various sorts of interactions with his white ancestors and black literary relations.[35] The technological realities of the machine link the invisible man into a narrative of innovation. Thus, through Ellison's technological writing, we can unravel two modes of kinship, two modes of lineage making and accessing stories. Innovation and signifyin', the literary and technological, meld into one methodology of creation through connection of the invisible man and the machine. Ellison returns and rewrites the machine, insisting that its electronic impulses should be revisited and rewritten at different times throughout the novel. Revision as it is filtered through the figure of the machine opens new modes of self-discovery and ontology for the narrator. Additionally, focusing on such revision presents additional places of analysis through which we situate the literary and the technological.

The nexus of technological revision is the eleventh chapter of *Invisible Man*. Ellison wrote the chapter he called "factory hospital" or "hospital scene" multiple times. In it, the

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[35] Where white authors are ancestors to be revised and black authors are "relatives on his literary family tree." Henry Louis Gates, *The Signifying Monkey: A Theory of African-American Literary Criticism* (New York: Oxford University Press, Incorporated, 1989), 138–39.

electric circuit manifests itself most clearly through his repeated depictions of technology. Looking at the construction of the published novel and the drafts of this chapter, the nature of the machine experience is threefold: loss of a discrete body and identity as he melds with the lobotomy machine, birth from the machine, and lastly the presentation and possibility of new ideas and identities for survival in the outside world. These three currents align with elements of cybernetic theory and present new possibilities of black ontology in their representation.

Outside of the prologue and epilogue, there are a couple moments in the novel that ask readers to focus on electrical current. Two of these moments involve the electrocution of the narrator. The first was initially published as a segment called "Battle Royal." The narrator is asked to give what had been his graduation address to local white businessmen, but before he can speak, he is forced to fight in a brawl and to collect his earnings off of an electrified carpet. The second prolonged electrocution occurs during the narrator's hospitalization after an accident on the job at Liberty Paints. In the Factory Hospital, the narrator is placed into a machine and electrocuted as a method of a prefrontal lobotomy. While it is unclear if the lobotomy takes, the narrator's time in the machine is a turning point in the novel and places the narrator in a new plot trajectory. He forgets his name and gives up his letter-fueled employment crusade. The chapter ends with the first of several times in which he is provided with a name.

The hospital machine and its electricity anchor the novel. I first suspected, and then was convinced, of its importance not only because of the machine's radiating quality and destabilizing presence, but also because of Ellison's own drafting the encounter numerous times. In his papers housed at the Library of Congress, there are eight folders of revisions of this particular scene across two boxes of manuscripts. Each version of the "factory hospital" chapter is different. In the published manuscript, the narrator is admitted after an explosive accident and is released only when his treatment is complete. In earlier drafts, the narrator enters the hospital

for many different reasons, including sudden indigestion and a fistfight with a white man over a microscope. Additionally, Ellison alters the ending of the chapter[36]; there are versions in which the narrator escapes or tries but fails to escape from the hospital. These revisions paint many different reasons and endings for a man to end up in the machine. Yet the machine, the technological touchstone, remains a striking, almost unchanging figure in each iteration.

Thus, the machine for Ellison is something to which he (and we) must continually return. It undergirds the structure of the novel and radiates electricity throughout. Upon reading, when we encounter electricity, we can't help but remember the ordeal in the machine, the shocking and forced dancing of a needless electrifying performance. It is not until the narrator escapes the narrative, taking refuge in the spaces of the prologue and epilogue, that we see him handle electricity, crave it, and control it. The memory of electricity and the machine, and his vague experiences of being prodded and caged, push the novel forward, allow the narrator to connect to narratives outside of himself, and to come to understand his invisibility and his existence in society as a manipulation of roles within a system. This extension is the first place where the circuitry of *Invisible Man* and the cybernetic posthuman overlap.

Machine Man

Early drafts give us some insight into the ways in which the machine anchors the novel, and descriptions give us insight into the ways human and machine interact and become one. For example, on one version, Ellison adds handwritten marginalia to a description of the machine, noting it is a "form-fitting glass and metal box, coffin-deep with a propped open lid into which I (the invisible man) had been wedged like a piece of shapeless foam rubber, a very uncomfortable knowledge."[37] Yet after an early revision and the removal of some six hundred words this

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[36] There is a version in which Mary, the landlord, is also a nurse who encourages him to escape. There are other versions in which the invisible man escapes and places the corpse of another young black man in his stead. See *Ralph Ellison Papers* 1890–2005, Box 144, Folders 8–13.

[37] Ellison, "Hospital Scene," *Ralph Ellison Papers, 1890–2005*, Box 145, Folder 1.

sentence becomes, "I was not lying on an operating table, but in a kind of form-fitting glass and nickel box with its lid propped open."[38] After publication this description becomes simply a "kind of glass and nickel box, the lid of which was propped open" (*IM* 233). Still, it is clear from the published edition that the shape of the machine has not altered, because the narrator's reaction remains consistent. Realizing his position, the narrator complains of cramping across all versions. The machine's form-fitting nature and the narrator's claustrophobia cling to the scene. Our image of the invisible man in the machine is not of a discrete body situated in a glass box. Instead we are left to imagine a blob of squishy organic foam encased in a transparent machine body—human innards with machine skin.

The form-fitting machine constricts the narrator, making him unable to differentiate between his body and machine around him. Two machines, biological and technological, become one through a combination of connected electrical nodes and faint bodily sensations. When doctors ask him about the condition of his stomach and his head, the narrator responds: "'I don't know,' I said, realizing that I could feel nothing beyond the pressure around my head and the tender surface of my body. Yet my senses seemed to focus sharply" (*IM* 235). This lack of discreteness intensifies after he is electrocuted. In a lull between shock sessions, he reports, "I lay experiencing the vague processes of my body. I seemed to have lost all sense of proportion. Where did my body end and the crystal and white world begin?" (*IM* 235)

The procedure erases the invisible man's specificity, his identity, and discrete parts of his human body. He becomes part of the machine, and the electricity courses through them both. This lack of separation is not unlike the ways cyberneticists like Norbert Weiner were conceptualizing relationships between soldiers and weaponry after World War II—a human machine and a technological machine could be connected to make a single machine. This

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[38] Ellison, "Hospital and St. Mary's," *Ralph Ellison Papers 1890–2005,* Box 144, Folder 14.

language of compounding of human and biological machines is something that Ellison also engaged in his early short stories. In these narratives, black soldiers hope that a slippage in the perception between their physical black bodies and their airplanes, in effect their mechanical war bodies, would enable them to garner a sense of belonging, American citizenship, and recognition among their white peers.[39] In *Invisible Man* this slippage of human body and machine language finally invokes a lesson that Lucas Brockway tries to impart to the narrator in the basement of the factory. Brockway insists that the white owners of Liberty paints "got all this machinery, but that ain't everything; we are the machines inside the machine" (*IM* 217). Brockway is not the only character to use this machine metaphor; it appears in the southern agrarian homestead of Jim Trueblood, who notes that after he is ostracized from his family for raping his daughter while dreaming, "Won't nobody speak to me, though they looks at me like I'm some new kinda cotton-pickin' machine" (*IM* 65).

Here, the black men Ellison presents as foils to the narrator describe themselves with the same word: machine. Brockway and Trueblood acknowledge their "mechanical" places within the economic and social systems. They are effectively turned into machines under the brutal racist configurations of American society, and used either for technological use and loyalty or entertainment and spectacle. Their statements echo the arguments of the cyberneticists that machine language and communication is not simply metaphor but an effective reframing of reality. The scientists[40] of the factory hospital then translate this raced metaphorical machine of the invisible man's black body into reality. Communication is generates as the invisible man's body melds with the machine. For Ellison, the machine extends the physicality of the black body

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[39] Lieberman notes such attempts prove to be fruitless, as these soldiers remain vulnerable to racial violence and exclusion. Failures like these leave her and other scholars to read Ellison's technological theorizing as a project that remains insufficient. Lieberman, "Ralph Ellison's Technological Humanism."

[40] In many places the doctors are instead called scientists, indicating Ellison's play with such ideas and alignments of both medical, healing, and the often-inhumane scientific and technological pursuits of American progress.

into the relentless white of the room, the white world, and the white men observing and controlling him. The narrator experiences a kinship with the machine and by extension the dials and sensors throughout the room. In effect, the narrator becomes the machine, able to sense as it senses. Yet this association holds within it a particular kind of dissociation.

Just as it seems the machine extends the narrator's body, expanding and merging it into the world outside, allowing him to sense the realities of his surroundings, it alienates him. Merging with the machine separates him from the white scientists, doctors, and nurses he encounters. This alienation is complete and dehumanizing— a fundamental misunderstanding and mis-recognition. Any attempt to read the work of this technological moment as one of shared and communal scientific enterprise is thwarted. The machine codifies cultural barriers and reopens past wounds. The nameless invisible man dancing within the machine echoes the movement of his body across the hot electrified rug. Both performances register the structure and optics of white power and the three-hundred-year problem the scientists purport to address. The narrator's shift from man and machine to man in the machine, and the accompanying shift in perspective, insert space between the narrator and the other humans in the room, rendering much of what the scientists do inscrutable:

> Faces hovered above me like inscrutable fish peering myopically through a glass aquarium wall. I saw them suspended motionless above me, then two floating off, first their heads, then the tips of their finlike fingers, moving dreamily from the top of the case. A thoroughly mysterious coming and going, like the surging of torpid tides. I watched the two make furious movements with their mouths. I didn't understand. (*IM* 239)

After he is electrocuted, the narrator is unable to understand and connect with the scientists; they gape at him through the glass just as he simply gapes back. In fact, in an earlier draft, this mutual gaping is accompanied by another observation scene. After having lived much longer inside the machine, the narrator watches as a group of wealthy white women come to the

hospital. He insists that they gawk at him as one would an animal in a zoo.[41] This moment does not happen in the publication, but we see its remnants in the insistence on such alienation hanging in the narrator's thoughts: "But we were all human, I thought, wondering what that meant" (*IM* 239). This statement and its inherent question launch us into the realm of posthuman thought. Once associated with the machine, the narrator dares to ask a question about the humanity of the gathering. This statement invokes the implied and assumed humanity of the white individuals and their scientific pursuit. It questions the legacy of black people being defined against such humanity.[42] Within this world of alienation and electrified pain, the narrator cannot recognize the humanity of his doctors, just as the white men and women in the hospital refuse to recognize his. This misrecognition opens up a new language and possibility for new configurations of being human, as after an extended time in the machine he fails to recognize, identify, or place himself.

Machine Learning

In perhaps one of the most striking moments in the novel, when asked his name by the scientists, the narrator fails to answer. This non-answer reveals a perhaps unexpected facet of the

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[41] Ellison Papers, draft entitled "Hospital and Escape," 1949, *Ralph Ellison Papers 1890–2005,* Box 144, Folder 13.

[42] In her landmark 2003 essay *Unsettling the Coloniality of Being*, Sylvia Wynter presents what she sees as the struggle that defines our current millennium: the pressing need to unsettle of the axis of colonial power that harnesses and defines our conception of the liberal human, what Wynter calls "Man" writ large. Arguing that the liberal Man's conception and overrepresentation has eclipsed the biological being that was once called the human or the human species, Wynter weaves an argument about power and colonial rhetoric in order to unravel a definition of Man that relies on the historic and continual Othering, the dehumanizing of black and brown bodies. Thus, in a capitalist modernity, in a post-Columbus, post-transatlantic slave trade modernity, the definition of human is already foreclosed to black people because the very establishment of such a modernity relies on turning human bodies into other bodies, to establish a particular social order. And arguments of the posthuman are in most cases (read, cybernetics) at least indebted to but at most a direct lineage of this colonialist project. In order to begin to account for oppressed people, the conception of Man must be shattered in order to recognize the full humanity of black people. Wynter points to Franz Fanon and Gregory Bateson as theorists, writing during the anti-colonialist and social protest movements, who both started to crack this Man, putting forward new conceptions of the humans outside of its present "ethnoclass" conception that is organized by our present "episteme." (It is interesting to note that Bateson was a participant in the Macy Conferences.) Building off of Wynter's argument, Alexander Weheliye suggests that we must look to a technological assemblage of humanity, in which the word technology "circumscribes the broadest sense as the knowledge to the practical aims of human life of to changing and manipulating the human environment." Alexander M. Weheliye, *Habeas Viscus: Racializing Assemblages, Biopolitics, and Black Feminist Theories of the Human* (Durham: Duke University Press, 2014), 12.

machine—an operation that is surprising and fugitive. A place where the machine operates doubly, like language. Before the factory hospital, the narrator presented himself as an individual black man with a specific legacy. His difficult, dismissive, and disdainful relationships with the available elders in the novel, like Jim Trueblood and Dr. Bledsoe, suggest a disinterest in being associated with the wrong names, the wrong lineages, or the wrong types. Name and the fact of living within the confines of an inherited legacy delineated by white supremacy were everything. The narrator has already been regulated by his life in the South and his schooling. His name and Dr. Bledsoe's name on the letter are what set him on his path and kept him from anonymity and from impending disgrace. The scientists in an effort to fix him engage another protocol entirely. The seemingly straightforward circuit, the scientific trajectory of psycho-mechanical "healing" and manipulation, is complicated through the narrator's interaction with the machine. Unaware of the machine's replicating power, the procedure does not align the narrator with the expectation of the white world. Instead it results in something that Ellison's white scientists and doctors cannot imagine or understand. He is stripped of the name and identity that was already on a trajectory of white expecations—the identity that operates within a white world. Within the machine, aided, limited, or changed by it, the invisible man begins to associate his self, his body with a history, with a lineage, of a community of people that he once rejected: "I tried, thinking vainly of many names, but none seemed to fit, and yet it was as though I was somehow a part of all of them, had become submerged within them and lost" (*IM* 241). Freshly electrocuted, Ellison's narrator not only fails to dissociate himself from the machine, but is unable to recall the particulars of his own life. Instead he becomes able to recall and reject a multiplicity of names. None of the names fully fit, but they remain in an associative relationship with him. He is somehow "part," existing in and with them, yet his old identity has been "submerged" and "lost" (241). Whether this loss is permanent or devastating is immediately unclear. Still, connection in

spite of mis-connection and personal dissociation is haunting. In an early expanded version of this chapter the narrator enumerates possible sights of this submersion, a litany of names, the identities in which he has been lost.

In this reversion, the scientists demand his name and the narrator falls asleep knowing that he cannot recall his own name, and that trying to identify himself would be like "trying to identify one particular cell that coursed through the veins of my body" (*IM* 240), the cybernetic equivalent of attempting to identify and name a smaller machine within a larger one. He dreams:

> And I seemed to swim beneath the surface of a crystal clear lake, where below me I saw children playing, utterly unbothered by the submergence as they moved up and down with the gently, smoke-like tossing of the water. . . . Treading water I peered below with wonder: was that frank and malcolm, wyatt, handy, sis-siseretta, dillion, lolly, cabby, abbey, jack and aubrey? jim and madeline, babe and lowell, oscar, selma, chaney, velma; tommy, herbert, josephine? vivian, elvira, leola, lonsetta; mack and amsted, who was it? lloyd? lola? weber, cleo, dorothy, louie, harold and gladys? charlesetta, alonzo, shep and clytie, bern, john henry, wadell and lydia, maxine, tackled, simon, lava trice, cleo carl, artensia, hugh-carey, amanda, toy and buster, sonny-boy, romain, raymond, pitt and buddy, bear and bunny, j.d. and jolly, 'It' and Rooster. . . . What was the joke? Never no mind, as I swam I felt an inexhaustible power. I could remain beneath the surface for hours. I could swim for miles without need of it. I could live forever, swimming here, treading there, within even the blackest levels of the depths. . . . But why didn't the others rise to join me, stroke for kick, and why this childish knocking of rocks, this pounding of boulders, tapping of sandstones? I plunged toward a boy who squatted on the bottom beneath me. A sunbeam glinted on a half-buried bottle beside his foot, bubbles clung like fishes to the fin goose-flesh of his thigh. Then close enough to see his grinning face—I stopped, startled in the mid-stroke of my dive. It was not his face, but mine![43]

The narrator thus imagines the children who might make up his identity. They are submerged in play and happy in their innocence and games. Their happiness angers the narrator, who feels powerful in his submergence. Criticizing their games, he plunges toward a boy only to find himself. After the incredible shock passes, he attempts to strangle the other laughing mocking self and is blinded when his twin flings mud. The narrator then loses to his mirror image and wakes. This passage depicts that losing himself to others like him, presumably in

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[43] Ellison, "Hospital and St. Mary's," *Ralph Ellison Papers, 1890–2005,* Box 144, Folder 14.

some kind of imagined community, is empowering and frustrating for the narrator. There is

power in machine-induced submergence, but these completed identities are passive, preoccupied,

childlike, and blind. There's fixedness in their perpetual childhood and this stasis chafes at the

narrator. We see a similar frustration of the narrator with typecasting, or being placed into

specific categories, particular black identities, associated with particular legacies of black

progress or intellectual history. In another version of the manuscript, this dream is followed by a

direct question of identity. One scientist scribbles a question for the narrator, and this time it is

not open-ended, but specific, and mocking:

> I stared seeing him frown and write a long time, the slate was filled with names.
> Are you: frederick d. bookert T. W.B.D., Walter W. Phillip R. Mantan M. Joseph
> L, Richard H. Lester G. Thomas B. Charles S. Eugene K. Langston H. Bert W. Weldon J.
> John Henry F. Moses T.?[44]

These roles, or personalities, are not met with excitement from the narrator. He refuses to

answer and annoys the scientist. Additionally, we see yet another iteration of a man and machine

narrative, with the invocation of "John Henry" and his race against a steam-powered hammer. In

yet another revision, the frowning labor of the scientist is condensed to one insignificant

sentence: "I stared, seeing him frown and write a long time. The slate was filled with

meaningless names."[45] The narrator does not respond but smiles after both of these questions,

indicating the possibility and quiet recognition, connection, or assumption of these identities and

also being none of them at all. The fullness of the slate points to the possibility of tricking the

system, of being multiple and illegible, remembered and un-recallable, some or none, and reveals

a moment of tension between the invisible man and the doctors, or the subject and scientists. He

can be multiple and none. He can't be identified as such through the limitations of white

narratives and progress. Alexander Weheliye notes that blackness, or conversations of black

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[44] Ellison, "Hospital and Escape," 1949, *Ralph Ellison Papers*, *1890–2005,* Box 144, Folder 13.
[45] Ellison, "Hospital and Escape," 1949, *Ralph Ellison Papers*, *1890–2005,* Box 144, Folder 13.

humanity, are always in need of definition through the collection and articulation of identities and technologies. He notes that the "figuration of the humanity found in black cultures forms an amalgamation of technologies" and has not generally been "construed as central to" or part of the category of Man. These technological assemblages have remained "muffled," ignored, or sequestered in mainstream critical thinking.[46] Ellison's narrator seems to agree with this suggestion. While prescribing a single identity is something that makes sense for the scientists, it is not the correct question that will prompt the self-identification of the narrator. Indeed, such self-making and self-fashioning is a different question altogether. It is a line of interrogation that we will follow in what follows. However, Ellison connects these questions with a moment in the final text. These are the sentences that develop from these three revisions: "He pointed to the question, word by word. I laughed, deep, deep inside me, giddy with the delight of self-discovery and the desire to hide it. Somehow I was Buckeye the Rabbit . . . or had been" (*IM* 241).

The published version shows Ellison's ability to condense, to reveal through a practice of revision, deletion, and replication, a subconscious journey from narrator to a new association, and a realization or sensing that he might be more than one identity. These identities have power. This realization is powered by the machine circuit. Connection with the machine provides a space in which the narrator begins to dream and theorize the connected nature of black identity. In this manner, the scientists have succeeded. Their project *is* "Gestalt,"[47]; the machine affects the way he is perceived and the way he perceives himself. As the machine, talking and thinking about identity and self-identification become as difficult as identifying a single cell (or machine) within his body. This same goes for crafting oneself without being able to see the entire picture of society. The sensing nature of the machine man, the ability to visualize the societal machine

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[46] Weheliye, *Habeas Viscus*, 12.
[47] Ellison, *Invisible Man*, 236. Gestalt perception was also a popular topic for sessions at the Macy Conferences. The language of gestalt is yet another point of relation between developing discourses.

that has trapped him, makes this shift possible. Buckeye the Rabbit—the childhood figure of flexibility, who prefigures the adult trickster Rinehart—echoes the narrator's eventual ability to self-consciously operate within and outside of the systems of the city. While his full thesis of black life and survival does not emerge until the narrator is submerged again, this time under the city, he holds the remnants of this first electronic birth in his conclusions.

A Machine My Mother: Freedom Possibilities and the Machine-Man

The proximity of the creation of Ellison's novel and the burgeoning field of cybernetics has been the driving interest and primary method of inquiry in this chapter thus far. Goaded by a desire to uncover why a group of scientists and an endeavoring author responded to the same moment in American history in the same way—with the same language machines, systems, Gestalt—I've worked through some of the places in which they imagine the same systematization. However, proximity and historical coincidence does not begin to scratch the surface as to why we might investigate such coincidence. This moment was not generated in a vacuum. It is a product of several long-lasting prevailing narratives that both Ellison and the cyberneticist address in some way. To understand our 1950s posthuman moment, we need to step back a century and ask: What was the technological gestalt to which these scientists and writers were responding? Why must we meditate on the language that imbeds the legacy of chattel slavery into the consciousness of the American public long after emancipation? And finally, what does such a configuration offer to an articulation of late-century black technological ontology?

As the twentieth century progressed, scientists, writers, and public thinkers used various modes and language to respond to what had developed into a longstanding socio-technological problem: What is the relationship of humans to machine technology? How was technology altering concepts of individual or national identity? Or, simplified: What is it to be a "man"

(particularly an American) in a world increasingly populated by machinery? Leo Marx in *Machine in the Garden* answers by sketching a narrative of man's readjustment to his identity as he readjusts to an incursion of the technological and the mechanical onto the verdant, "natural," agrarian nature of the American ethos, not to mention changes to the continental landmass.

This incursion does not end with the automation of machines, but instead the automating and animating language that surrounds capitalism. In a period in which people were actively identifying what was human (animate) and what was not (inanimate, purchasable), Mark Seltzer uses the language of nineteenth-century novels to argue that as Americans were increasingly encouraged to identify as capitalist consumers and temporary industrial laborers, the language surrounding the autonomous nature of the market complicated these distinctions. Placed against the agrarian and the natural order of things, the industrial or mechanized, which operates synonymously with the technological, presents a problem of place and ideology. Much of the literature of this time period depicts the ways in which identity is rendered in the technological and industrial age, yet technology and industry present a kind of rupture for writers and theorists who considered the identity of Americans, or the identity of white Americans, as something that was natural, land-owning, and free. Yet the dichotomy of technological industry and advancement versus natural agrarianism causes one to disregard the mutually constructed nature of such an identity. Furthermore, such narratives elide the ways in which black individuals were industrialized throughout the antebellum period. Through much of the mid-1850s, there is much evidence that the industrial ideologies that introduced the concepts of mechanization and "time thrift" were ubiquitous in the North and the South. Much in the same ways northern factory workers were rendered temporary and inauthentic Americans through their relationship to technological processes. Technological advancement is not a progression that advances in isolation or separate from conversations of humans or definitions of humanity. In fact, as the

century progresses, it becomes the opposite. One conversation does not exist without the other. Yet the extent of this technological frame remains unexamined by theorists studying this early industrial period. In fact, this elision makes way for popular narratives about technology as an entity of expanding democratic freedom, immediately enfranchising the native others that historically stood to create white liberal American subjects. Thus, technology moves from threatening encroacher to the creator of de facto liberal democracy superimposed upon a system that for black and brown individuals refuses to change. Technological progress presents itself as social change even as it further striates society, reformatting and reinforcing scripts of oppression. For the extent of the ways in which technological progress couples and uncouples from a democratic liberal and national identity, we must attend to one more related and developing national narrative of the early twentieth century: the cultural legacy of robots.

A robot, or the concept of mechanical, electronic, technological man, what historian Despina Kakoudaki calls "artificial men," contain the echoes of these early narratives.[48] Their presence reveals the double nature of liberal democratic identity as well as the tenuous legal nature of personhood and definitions of "humanity". First coined in 1920, the robot[49] marched into American consciousness during the early 1940s after Isaac Asimov's publication of *I, Robot*. The cultural work of the robot recalls the tenuous legal nature of personhood in modernity. The robot, as laborer, is a technological advancement that ensures personhood to humankind through freedom from labor. Situated as an identity of the future, the robot operates through the self-making-by-exclusion of the past. Its presence asks the same questions asked of enslaved laborers, regarding humanity. The robot, artificial person, and machine share the same fate. The artificial person and its inevitable quest for identity is a stand-in for narratives of both political

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[48] Despina Kakoudaki, *Anatomy of a Robot: Literature, Cinema, and the Cultural Work of Artificial People* (New Brunswick, Rutgers University Press, 2014), 47.

[49] The word comes from the Czech "rubut," meaning laborer, first used in Capcek's *R.U.R.*

disenfranchisement and emancipation. In its blatant objectification, a robot's embodiment and animation are the codification of all available fantasies of subjectivity.[50]

The cultural work of the artificial person, the robot, the machine is the connective tissue that anchors cybernetic theories of the machine bodies, Ellison's electrified narrator, and general narratives of technological progress to the political and social nature of subjectivity—asking who is subject and who is not. The cultural legacy of the robot also provides a critical frame through which to interrogate the relationship between race and technology. It merges questions new and old; questions of the subject that operate in both past and present. This is a conversation that Ellison, and later his critics, argue is missing from technological determinist theories circulating at the time. Technology's relationship to the problems of identity and freedom of black individuals in the twentieth century is either ignored or assumed to be magically ameliorated. This critical frame, the robotic echo of slavery, is necessary in revealing and interrogating the black technological ontology of Ellison's narrator.

Invisible Man's engagement with technology is well documented, yet the extent to which scholars have decided what and how technology becomes operable within the narrative of the development of identity and survival of the black man is still to be determined. Such technological discourse is permeated with concerns over the false promises of technology. The legacy of the nineteenth-century technological discourse is celebratory and determinist at best. The rapid incursion of machine life into human that writers agonized over in the previous century becomes the very configuration of expanding freedom and democracy. Yet white expectations that technology in itself can provide a method for restoring black identity only a generation after emancipation casts the easy incorporation of technology into suspicion—and the question of restoration and living in continuing precarious technological times is very much at

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[50] In her book, Kakoudaki argues that all artificial people in literature and cinema, whether they endeavor to become free or human, leverage the history of these struggles by their very presence. Kakoudaki, *Anatomy of a Robot*, 123.

stake for Ellison's narrator and the novel. For example, in "Some Answers and Some

Questions," an essay for the magazine *Preuves*, Ellison talks about the notion of technological

determinism and its role in the life of the black man. He notes,

> It depends on how much human suffering must go into the achievement of industrialization, upon who operates the industries, upon how the products and profits are shared and upon the wisdom used in imposing technology upon the institutions and traditions of each particular society. Ironically, black men with the status of slaves contributed much of the brute labor which helped get the process of industrial revolution under way; in this process they were exploited, their natural resources were ravaged and their institutions and their cultures were devastated, and in most instances, they were denied anything like participation . . ."[51]

Ellison wants to hold technological advancement as a potential mode of furthering black

progress. However, given the legacy of labor and of machines stripping men of their resources

and their humanity, he insists that to pretend that suddenly the technological progress of the

twentieth century offers black people "anything like participation" or inclusion is ludicrous.

Technology was part and parcel of slave status and as such it refuses to offer personhood and

enfranchisement. Within *Invisible Man*, black people are consistently denied personhood via

technological metaphor, their bodies objectified through electrocutions, through the mechanical

nature of both Tod Clifton and the Sambo doll, or the robotic march of students at the black

technical university. Technology, in both utility and metaphor, reinstates and reincorporates

ongoing theories about the state of humans designated as "other" in efforts to define personhood,

whiteness, and masculinity. Technological ideologies offer no solace for the exploited. Machines

and machine culture present a problem for the freedom of all humans.

Cyberneticists saw these problems as well. In expanding their project, cyberneticists,

especially Norbert Weiner, developed a language for systems that only recognize machines as

parts of wholes or in relation to others. These systems resist recognizing all machines within a

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[51] Wright quoting Ellison in *Shadowing Ralph Ellison*, 147.

system as functioning wholes. Such systems (technological or otherwise) were deemed "oppressive machines."[52] These were systems in which parts of the machine, like humans, are not recognized for their full and complete machine potential. Thus humans are "knit into an organization in which they are used, not in their full right as responsible human beings, but as cogs and levers and rods"[53] in the machine. Thus, rigidity and limitation are the antithesis of the self-regulative and adaptive nature of the cybernetic machine or system. For Ellison and cybernetics, these old ideas of technology are akin to false hope and representation of technological progress.

Machine Possibilities

Ellison scholars have settled on a few ideas when it comes to technological readings of *Invisible Man*: technology and sociology align in the mid-twentieth century to generate narratives that strip the black community of its political and social agency, and Ellison's work shows readers the limits of such technological promises and mechanical apparatuses especially when proffered to black people.[54] These critiques highlight the fundament pitfalls in the rhetoric of technology-driven freedom. And in part this narrative is sufficient. What's to stop the exploitation of industry? It's clear from Ellison's own novel that this industrial exploitation has not ceased. A reader only need encounter Lucas Brockway, the "machine within the machine," to know that the mechanization of black men has not ceased even in the modern north. However, it is hard to dismiss the interest and love of technology and innovation that bookends *Invisible Man*. How can we hold this continued exploitation with the image of Jack-the-Bear's lovingly and cunningly stealing from Monopolated Light and Power to construct his room of light? This

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[52] Norbert Weiner, *Cybernetics: Or, Control and Communication In the Animal and the Machine*. (Cambridge, Mass: MIT Press, 1948), 155.
[53] From *The Human Use of Human Beings* by Norbert Weiner as quoted in Hayles, *How We Became Posthuman*, 105.
[54] Both Lieberman and Selisker talk about Ellison as a writer who debunks scientific and technological promises.

act not only connects him to a lineage of American innovation, but provides him light through

which he defines and constructs himself. Such definition and defiance promise a new mode of

being—a way to be through technology. In the same magazine piece, only a few lines after,

Ellison notes:

> But now it is precisely technology which promises them release from the brutalizing
> effects of over three hundred years of racism and European domination. Men cannot
> unmake history, thus it is not a question of reincarnating those cultural traditions which
> were destroyed, but a matter of using industrialization, modern medicine, modern science
> generally, to work in the interest of these peoples rather than against them. Nor is the
> disruption of continuity with the past necessarily a totally negative phenomenon;
> sometimes it makes possible a modulation of a people's way of life which allows for a
> more creative use of its energies. . . . One thing seems clear, certain possibilities of
> culture are achievable only through the presence of industrial techniques.[55]

Here Ellison suggests technology as a possible release from the same brutalizing and

industrializing effects that make it possible. However, it is not this simple supposition or

possibility that makes his argument. It is true that technology and technological progress have

the capacity to attempt to incorporate isolated black participants into the legacy of industry and

technology. The moments between the first and the last statements above are particularly rich

reflections on these possible connections. Ellison connects the legacy of diaspora, of forced

movement, and the role that industrialization had in this initial rupture. His discussion of a

"disruption of continuity" predicts what Édouard Glissant says about the African diaspora: the

"moment when one consents not to being a single being."[56] Descendants of the diaspora exist in

this multiplicity without leaving themselves. Glissant argues that a recognition of or consent to

this point of "passage from unity to multiplicity" is the key to altering the circumstances of

blackness in the contemporary world.

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[55] Ellison as quoted by John Wright in *Shadowing Ralph Ellison*, 148.
[56] Glissant interviewed by Manthia Diawara in "Édouard Glissant in Conversation with Manthia Diawara." *Nka: Journal of Contemporary African Art*, vol. 28, (2011): 1.

Then what kinds of technological discourse can work for the political and social realization of personhood/identity for black people? How can it, as Ellison wonders, modulate a people's way of life? And how might we excavate this notion out of his first novel? Additionally, how does any type of modulation or disruption coexist with the continued realities of black exploitation and exclusion from many iterations of technological and free futures? For the remainder of this chapter, I will press further into Ellison's technological discourse in an effort to recover his insistence on the technological affordances as they pertain to black people and also the limits of such technological discourse. Earlier, I suggested that coincidence and proximity of Ellison to cybernetics presents an impetus for engagement. It is a coincidence that holds increasingly interesting possibilities. However, outside of simple coincidence, cybernetics, as a technological discourse imagined and developed by its founders, is perhaps the only contemporaneous technological discourse capable of engaging with the multiplicity of black life.

The first half of this chapter identifies the undercurrents, the electricity and the circuitry that structures the novel. This imagery points us to the technological conversation of the day: cybernetics. This circuitry also provides an organizing image through which we can watch the narrator survive and escape from the perils of the city. The heart of this circuit, its battery if you will, is the lobotomy machine, the place where the narrator loses his body and his name. The lobotomy machine orients us in our conversation about subjectivity, the person and the machine. The narrator in the lobotomy machine opens up a space in which narratives of technology and artificial humans and blackness, performance, and pain align, rupturing early assumptions and theories about personhood and legacies of technology.

In the second half of chapter eleven, our narrator clings to life and sanity after his accident at the paint factory. Once the procedure is complete, he's asked a now familiar set of

simple and fundamental questions. The third question the narrator is asked provokes a curious

answer:

> "WHAT IS YOUR MOTHER'S NAME?"
>   Mother, who was my mother? Mother, the one who screams when you suffer—
> but who? This was stupid, you always knew your mother's name. Who was it that
> screamed? Mother? But the scream came from the machine. A machine my mother? . . .
> Clearly, I was out of my head. (*IM* 240)

This is the first full answer that the narrator is able to produce for the reader. His

confusion generates a question. And in his questioning, he inadvertently reveals an

unconventional answer. He defines his mother as the one who screams when you suffer, or

simply the one who screamed. As he sets up this line of logic, he realizes that the only screams

he remembers are the mechanical noises coming from the machine. Yet we have heard this

scream, or wail, before. The noise is soundtrack of the chapter. It begins as perhaps a radio, or

phonograph, or the "vox humana" of a hidden organ buzzing in the background of the procedure.

As the electrical shocks continue to wrack his body, the voices solidify into a song from his

grandmother and a teasing chant from his childhood. Finally, the same sound transforms into

what the narrator describes as a "distinct wail of female pain" (*IM* 235). Before he is even asked

to theorize it as such, the machine is vocalizing as the "vox humana," a human voice and the

uncanny imitative voices produced by machine. Like the narrator's subjective status, it is altered

by the procedure, the current of electricity running through it. With this revelation, the narrator

finds his mother in the machine and is later birthed from it. (This metaphor is solidified with the

cutting of an electrical umbilical cord, an electrical node attached to his midsection later in the

chapter.) While he immediately dismisses the thought as insanity, the language persists. When

asked again about his mother, the narrator simply responds that "he doesn't play the dozens,"

indicating that his mechanical machine mother presents a fine figure to riff about, if only he were

to play.

The narrator's screaming mother animates a series of critical avenues we might pursue, including the conversation about blackness initiated by Saidiya Hartman. In her foundational *Scenes of Subjection*, Hartman reveals the dominative utility of black performance as white slave owners used it to construct both the subjectivity and objectivity of the enslaved on the plantation. Hartman invokes the imagery of Fredrick Douglass's "bloodstained gate" as an organizing image for this kind of terror and subjection, laced with desire. The gate, or the moment Douglass witnesses the beating of his mother-figure Aunt Hester, is about the performance and witnessing of pain. Aunt Hester's screams are what usher Douglass into the realization of his position as a slave. This framework overlays the factory hospital as well. When the narrator is first electrocuted the doctors intentionally mistake his pained writhing for dancing. Here the machine is included in these optics, creating the performance and acting as the performing object, the object that speaks and performs. Its pain is refracted through the narrator, and compounds the nature of both of their objectifications. In this moment the machine-mother seems to perform blackness just in the way that Hartman identifies: ". . . blackness is defined here in terms of social relationality rather than identity. . . . Blackness here marks a social relationship of dominance and abjection and potentially one of redress and emancipation. . . ."[57] In addition to providing a matriarchal lineage, a family, and a history for the narrator, the machine takes on a familiar legacy. In this moment the machine becomes that which we can recognize as Hartman's blackness and Kakoudaki's artificial human. The machine holds the potential for liberation and redress and literally connects the narrator to these kinds of actions and legacies by way of technological birth.

The performing object, the lobotomy machine with the narrator inside, is refracted through our two frames. Its screams are recognized as a motherly performance of pain aligning

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[57] Saidiya Hartman, *Scenes of Subjection: Terror, Slavery, and Self-Making In Nineteenth-Century America* (New York: Oxford University Press, 1997), 57.

itself with recognizable performances of blackness, and the narrator's experience of being inseparable from the machine figures into the larger cultural work of the figure of the robot. The invisible man's machine body, or his inability to identify the discrete parts of his body once inside the machine, makes him at times both machine and machine offspring. Through this reframing we have the opportunity to read the electric nature of technology within *Invisible Man* and technology's utility for black life. Both frames hold within them the limits of oppression but the possibilities of freedom, subjectivity, and redress. This possibility is the animating figure of technology as it operates in the novel. The machine also provides passage from one life to another. It is the place where the narrator consents to not being a single human being—after his time in the hospital he increasingly sheds any pretense of being one, or single, but instead recognizes his ability, his need, his survival depends on being not just the narrator, but a Brother, Rinehart, and finally Jack-the-Bear. But he can only do this with help from the machine. For the question at the heart of the novel is how might one call oneself. The narrator ponders whether there is a possibility between these blackness identities to make one's own personality. Throughout his journey, such a process, a decision of who he is, remains elusive. He is named various times throughout the novel. In fact, even those who have successes in Harlem, the ones who are free, like Rinehart, are not self-made, but created in response to the dominant systems of whiteness at work. And it is his recognition of these systems that helps the narrator to gesture to a new way of being, a way that will help him out of his hole. Yet his assent is two-pronged: it is the process of articulation and identification, of self-fashioning and cybernetics.

During the novel's epilogue Jack-the-Bear theorizes a blackness that is self-influenced and self-made. He starts his theory by in effect summarizing the story inside of the frame: "I have also been called one thing and then another while no one really wished to hear what I called myself. So, after years of trying to adopt the opinions of others I finally rebelled. I am an

invisible man" (*IM* 573). This utterance, the adoption of the moniker "invisible man," is not initiated here. During both prologue and epilogue, he presents different scenarios that evidence his invisibility. Yet this moment reads as primary for the formation of his true emergent persona. It is a statement of what has happened in the past, and what he believes, what he personally desires. He's finished justifying others' realities, and invisibility is part of this identity, part of this choice. Invisibility is also in an effort to avoid fading to grey like his black compatriots. He insists that in order to emerge from his hole, his identity must be something that is wholly individual, not related to assumed modes of blackness or dominant whiteness. He repeats this choice later on in the chapter: "But what do I really want, I've asked myself. Certainly not the freedom of a Rinehart or the power of a Jack, nor simply the freedom not to run" (*IM* 575). Rinehart, the "spiritual technologist," represents the fluidity and possibility of performance and multiplicity.[58] Inside of the novel's frame, this fluidity seems to be a component to succeeding within and surviving Harlem. The narrator notes that he'd seen this system in the South, as well: the necessity and curse of traveling up as well as down, forward as well as back, "meeting your old selves coming and going and perhaps all at the same time" (*IM* 510). The possibility that fluidity presents is the rubric through which a person is meant to survive. It is the fluidity that the narrator initially lacks and then realizes is the unsustainable "yes-ing," or running, his grandfather had warned him about. Such yes-ing plays into the systems of whiteness that dominate and stymy the narrator's attempts to "progress" and to orate, effectively forcing him underground. The possibility of Rinehart is a kind of freedom, but not one of participation or self-fashioning. It is also a measure of assignment, of acquiescing to names, roles, or positions. We see this as the narrator is continually mistaken for Rinehart in all of his roles. In each mistake the narrator is momentarily assigned.

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[58] Ellison, *Invisible Man*, 495. Also c.f. "Rinehart the rounder."

However, this invisibility, his blackness, unlike the other prototypes of blackness, is self-fashioned. This is a moment of redress that comes through the recounting and remembering of physical pain and the repeated violation (via electrocution and otherwise) of his body. As he talks about writing the narrative down and telling his story, the invisible man notes:

> The very act of trying to put it all down has confused me and negated some of the anger and some of the bitterness. So it is that now I denounce and defend, or feel prepared to defend. I condemn and affirm, say no and say yes, say yes and say no. I denounce because though implicated and partially responsible, I have been hurt to the point of abysmal pain, hurt to the point of invisibility. And I defend because in spite of all I find that I love. (*IM* 579)

The root of such a telling is the pain that Jack-the-Bear has experienced and the fundamental alteration of his body through moments of electrocution. This abysmal pain places him in a position to be both, to need to denounce and defend, to love and hate. This declaration has a similar structure to the conversations of redress that Hartman outlines. Redress is a small and limited revolution, a shift in increments. It functions through a "re-membering of the violated body"[59] that has been developing for "some three hundred years" (*IM* 237); it relieves the body from its exile through "alternative configurations of the self"[60] and is an exercise of agency that acknowledges desire and needs. The articulation of desire as it is outlined above is the conclusion that releases Jack from his underground cocoon. Redress prompts him to imagine a satisfying way in which he might speak for others. This final articulation of desire and indemnity is made possible through the invisible man's recognition and reframing of the system and machine of white supremacist society as it relates to his own biological machine. In the epilogue, he describes the organizing patterns and chaos of life:

> And the mind that has conceived a plan of living must never lose sight of the chaos against which that pattern was conceived. That goes for societies as well as for

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[59] Hartman, *Scenes of Subjection*, 77.
[60] Hartman, *Scenes of Subjection*, 77.

individuals. Thus, having tried to give pattern to the chaos which lives within the pattern of your certainties, I must come out, I must emerge. (*IM* 580)

Here we see the thinking that anchors the novel: the identification of gestalt, or the feedback machine nature of American social life. Jack-the-Bear states that the chaos, a racial performance that he links to the Rinehearts of the world, is established against a pattern. It's the thinking that finally responds to his grandfather's life maxim: "Agree 'em to death and destruction" (*IM* 16). Yet agreement in hopes of exhaustion doesn't do the work of separating the Gordian knot that is white and black life in America. Because "weren't we part of them as well as apart from them and subject to die when they died?" (*IM* 575)

This is a connection that Jack-the-Bear begins to describe through cybernetics. Chaos, or Rineheart's attempt to step outside of acknowledge reality, is simply one form of feedback, or a response as balancing of outpouring from the broken pattern or machine of white certainty. And as readers we see the framework of the circuit at work even as the narrator processes his thoughts about Rinehart. The narrator reframes Rinehart's actions in terms of the actions of the Brotherhood (which here stands in for the language of science) while confronting Hambro about abandoning Harlem. Rinehartism is "cynicism," playing the "charlatan." Rinehartism is also, according to Hambro and the Brotherhood, nothing more than realism, or judgment through scientific objectivity. The narrator responds to this by remembering his confinement in the hospital and invoking its machine: "The only scientific objectivity is a machine" (*IM* 505). Thus, the narrator reminds the reader of the already established electrical framework through which he can talk and link the actions of Rinehart to that of the larger society. For such a social feedback loop must exist on various scales for individuals as well as societies.

Thus, the models of blackness that fill the text, the Bledsoes, Truebloods, Brockways, and Rineharts, are insufficient responses to the larger problem at hand. How might one reclaim a life above ground when to "yes," continue running, or encourage other black people to do the

same only works to stabilize a broken societal machine that maintains the status quo of white supremacy and black domination? These forms of blackness only provide expected feedback to a system that has not been fully considered by the individuals above. Additionally, this oppressive social machine cannot and will not consider various segments of its population as machines that contain patterns and chaos of their own. Recognizing the complexity of the machine within the machine is the second step to venturing aboveground. It is the implementation of a new mode of blackness that understands and describes the world in the same way cybernetic scholars struggled to articulate at the same historical moment. This imagery is neither coincidental nor fleeting; it is repetitive and circular, often calling up the machine when least expected in order to articulate the imagery and language of multiple and connected machines, whether biological or societal, revealing a new black technological ontology. This imagery and recognition of the machine happens several times over the course of the novel. Jack-the-Bear's blackness, an ontology that develops out of a necessity to stop running. Here, through his connection, he sees the machine nature of society, as well as his own machine nature, digesting Lucas Brockway's early lesson in an unexpected way. The machine with its Gestalt concept works better than expected. While meant to alter him to "live as he must" in the established white world, it instead prompts a re-examination of the entire system and a shift in perspective that is eventually entirely based on self-fashioned black identity. Within the machine the narrator recognizes his own humanity in the machine, as well as the humanity and pain of a mother. This in- and out-of-body trauma effectively reframes the manner in which he engages with the world. It is also the only place in the narrative in which he is asked, and not given, a name. Furthermore, he quietly revels in the throes of self-discovery, of self-identification albeit with an old identity. His time in the machine not only destabilizes machine/human boundaries in productive redressive ways but also fosters a path through which the narrator can momentarily avoid the traps and pulls at

identity that he is able to conceptualize only at novel's end. Recognizing these shifting performances, the machine's and his own, prompts him to redefine the way he sees himself and the world. This redefinition manifests in language that is cybernetic at heart. The circuit from literary language to scientific history and back again is eternal. These concepts turn on each other, and through this process we can see that a black technological ontology is one that informs perhaps more than it is informed by scientific and technological conversations of the day. The proximity and similarity of these questions of humanity, and the organizing principles of societal machines, make cybernetics an especially helpful frame or apparatus to think through something that Ellison is always already talking about.

This circuit of black literary and technological thought begins to provide insight into the ways Ellison thinks through his attachment to technological narratives of progress, and he is not alone in juggling these themes. We see them other places. The movement of electrical current through black bodies continues to be illustrative of moments of pain, definition, and empowerment of the black body. It is easy to begin to gather a canon of individuals that take on this electricity and wield it to act and survive outside of and within the suffocating nature of racism and white supremacy past, present, and future, whether it's the Jim Crow South or the neoliberal police state. Readers only have to look to George Schuyler's *Black No More*, Joshua Chaplinsky's *Kanye West Re-animator*, Marvel Comics' *Luke Cage*, and DC Comics' *Black Lightning*. This organizing node of a narrative of technological science plus blackness allows us to move forward into our examination of other such black technological bodies as they operate in the twentieth and twenty-first centuries.

We Are All human. Aren't we?

But we are all human, I thought, wondering what I meant.
—*IM* 239

Once I thought my grandfather incapable of thoughts about humanity, but I was wrong. Why should an old slave use such a phrase as, "This and this or this has made me more human," as I did in my arena speech? Hell, he never had any doubts about his humanity—that was left to his "free" offspring. He accepted his humanity just as he accepted the principle. It was his, and the principle lives on in all its human and absurd diversity. So now having tried to put it down I have disarmed myself in the process. —*IM* 580

Questions of humanity echo across this tome, and the narrator is at times angry and wistful about its practice: who succeeds at it, who fails, and who must become or be "made more human." There are even moments in which he questions what the category of "human" might even mean. In this grappling, we can see that Ellison suggests that any consideration of blackness must always already be posthuman. This question as it is asked and echoes around the innards of the hospital machine is quite important, it activates an entire configuration of theoretical pursuits. It takes one more step toward constellating *Invisible Man* in a lineage of the black posthuman. Ellison's first book is a node, or new place, in which we might begin a conversation of the posthuman. This conversation succeeds where others have failed. It considers bodies that have historically fought to be admitted into the category "human" and the implications of a discourse that insists on moving past "human" without considering the roots of "man" and whom it meant to exclude. *Invisible Man*, in addition to being a novel about black and white, north and south, is one about human/nonhuman, or machine/man. It activates the discourses of technological science, the cultural philosophy of the posthuman, and black studies, at the same time. It is the perfect place from which to begin a larger study of books, novelists, and works of art that constellate discourses of science, technology, and blackness in the same breath.

IMMORTAL CELLS:

OCTAVIA BUTLER, BLACK FEMINIST CELLULARITY, AND BIOTECHNOLOGY

IN THE LATE TWENTIETH CENTURY

> Our minds are incarcerated by our words.
> —Lynn Margulis[61]

> One day I will give birth to myself, lonely, but possessed.
> —Patricia J. Williams[62]

The late twentieth century is full of narratives of humanity that expand from the

proliferation of scientific knowledge about the human body. These narratives are not simply the

articulation of politics and identities as they are lived, developed, and leveraged for political

action, but incorporate more granular definitions of humanity involving the physical,

microscopic, and scientific nature of human subjects, or homo sapiens. In the discovery,

mapping, and differentiation of the human genome, humans become a *species*, which maps and

percentages can order into relation with the rest of animalia. The ability to define humanity in a

concrete manner, by identifying the microscopic building blocks that establish homo sapiens as a

community that is ninety-nine percent similar despite phenotypic markers that commonly

indicate the constructs of race and ethnicity, should have required a radical restructuring of the

organization of society and a conferral of rights to all those called human. Yet, in spite of

biotechnological and genomic revelations of similarity, conceptions of the human remain

decidedly unconcerned with these species definitions, instead doubling down on what Sylvia

Wynter calls the "coloniality of being," or Man, or the overrepresentation of a valued

ethnoclass.[63] When it comes to allocations of life, wealth, political representation, and safety, this

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[61] Lynn Margulis, "Words as Battle Cries: Symbiogenesis and the New Field of Endocytobiology," *BioScience* 40, no. 9 (1990): 673–77.

[62] Patricia J. Willams, *The Alchemy of Race and Rights* (Cambridge: Harvard University Press, 1991), 183.

[63] Wynter, "Unsettling the Coloniality of Being/Power/Truth/Freedom," 268.

definition remains based on the imagined innate rights of white men. In fact, scholars have pointed out that the ability to know more about the genetic similarities of human communities has fueled interests in identifying minute genetic differences found in humans, and that this interest recodes assumed racialized differences onto developing research.[64] The generation of scientific discourse and new technologies—couched in imagined objective epistemologies and narratives of human progress, supposedly divorced from lived realities like racism or misogyny—for the maintenance of disenfranchisement and oppression is not new (c.f. phrenology, gynecology, etc.). However, I would argue that this twentieth century genomic shift in defining the human re-opens a conversation about definitions of humanity—one in which black women not only are a central component to this definition, but also a moment in which black women writers are actively contemplating and employing genetic and biotechnological language in an attempt to reckon with their bodies as black women and their personal and political goals of autonomy and representation.

This chapter will consider a second raced node of posthuman discourse, the nexus of black technological ontology, endemic of the 1980s and 1990s and which irrupts out of an assemblage and framework I've called black feminist cellularity, or in brief, cellularity. Cellularity is the consideration of black womanhood aggregated through and around questions based on the experiences of black women, and in the actions, lives, and proliferation of their own microscopic cells. Black feminist cellularity as a concept and a technological assemblage initially ambushed me. It's a discourse that springs from a technological constellation of compounded conversations about genetics, biotechnology, black embodiment and flesh, and the status of black womanhood and reproduction (both as they are historically enforced and

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[64] Alondra Nelson, *The Social Life of DNA: Race, Reparations, and Reconciliation After the Genome* (Boston: Beacon Press, 2016); Dorothy Roberts, *Fatal Invention: How Science, Politics, and Big Business Re-create Race in the Twenty-first Century* (New York: New Press, 2012).

contemporarily precarious). Black feminist cellularity takes these conversations and refracts them through a prism of cellularity, or the automatic involuntary actions of human cells as they grow, split, multiply, and expire. Black feminist cellularity comes from what I thought was simply Octavia Butler's preoccupation with the genomic and biotechnological developments in her research during the 1970s and 1980s. While her works up until that time tended to incorporate various social problems and ills out of historical context and time, the *Xenogenesis* trilogy, a series of novels that feature the trading and manipulation of genetic information, reflects a particular posthuman moment—the increase in genetic and biotechnological advancement and breakthroughs, rooted in then contemporary scientific and technological queries of what it means to be human. Yet, in engaging with the content of her trilogy and her archive, I began to see how her science fiction project was not only a serious and well-researched response to the public and journalistic scientific discourse of the day, but that this response is in conversation with the way black women of the time were writing about a collection of issues: survival, reproduction, and ontology all corresponding with the language of biology and cells. These themes, issues, and ideas coalesce not simply under the banners of particular scientific discourses but also under an ontological project that considers micro-embodiment, or cellularity, a concept needing serious engagement within the realities of black life.

Many writers and theorists already write and think about the genome and its effects on humanity, as well as on the black community, this chapter builds on these ideas to rejoin, re-center, and reprioritize black cellular narratives in a larger mainstream conversation about the posthuman possibilities, limits, or extensions of the human body under new discourse of genetics and biotechnology. Using the research archive and novels of Octavia Butler as a footpath through this proliferation of novelistic, journalistic, scientific, and theoretical language, it becomes clear that in order for genetic discourse to do any true work defining the concept of the

human/posthuman, we must attend to the narratives, discourses, and bodies of the black women central to but erased from the field. In order to explore this theoretical frame, it will be necessary to consider several things—first, two popular discourses of cells and the genome in the late twentieth century: immunology and genetics. Second, connecting discourse around Henrietta Lacks (the black woman whose cellular matter was stolen and fostered the proliferation of biotechnological work and discourse) with Butler's protagonist Lilith Iyapo. Lastly, in close reading Butler's *Dawn,* and its interest in black human reproduction and various kinds of cellular proliferation, we will look at how these cellular conversations and considerations appear in other black feminist texts like that of Audre Lorde, Dorothy Roberts, and Patricia J. Williams.

Throughout this chapter, I make sure to consider not simply the circulation of public scientific knowledge, but the method in which this knowledge is presented and the generation of discourse around it, by theorizing not only biotechnology, genetics, and immunology concepts but also the circulation of these ideas through both written published and public language. Thus novelistic, journalistic, and other literary and metaphorical representations of certain scientific and technological ideas are as important as the events and discoveries themselves.[65] Additionally, engaging the history of science in a conversation about black women and their bodies requires remaining conscious of the frame of historical and contemporary mistreatment and oppression that has informed these particular moments of scientific and technological progress.[66] We must remember that the concept of scientific objectivity is not about disengaged

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[65] In fact, scientific discourses can be considered "'lumpy'… (in that) they contain and enact condensed contestations of meanings and practices"—reflecting not objective scientific law and practices, but instead a jostling and puzzling over how these new discoveries fit into very rigid and established collective social ideas. See Donna Haraway, "The Biopolitics of Postmodern Bodies: Constitutions of Self in Immune System Discourse," in *Biopolitics: A Reader*, 274.

[66] C.f. Karla F. C. Holloway, *Private Bodies, Public Texts* (Durham: Duke University Press, 2011); Dorothy Roberts, *Killing the Black Body* (New York: Vintage, 1999); and Stephen Jay Gould, *The Mismeasure of Man,* revised and expanded edition (New York: Norton, 1996).

discovery, but the participation in mutual and unequal social structuring.[67] It is in the

constellation of these stories that we can begin to see the way race—here, the bodies, cells, and

experiences of black women in particular—is a fundamental active and positive sculptor of such

posthuman rhetoric.

"Bodies, Then, Are Not Born; They Are Made"[68]

There are several moments in which the definition of the human has changed due to

scientific, technological, or economic advancements. In the 1970–80s, these changes were fueled

by biotechnological and genomic advancements and discoveries. There are four frames of

developing scientific discourse that are important when considering the language that

precipitates, influences, and corresponds with Butler's novelistic vision for posthumanity:

discourses on immunology, the black affordances and limits of genetic research, the biography of

Henrietta Lacks and her cells, and Lynn Margulis's theory of endosymbiosis. The first two I will

outline here, and the third and fourth will become more important later in the chapter.

In her essay *The Biopolitics of Postmodern Bodies*, Donna Haraway suggests that during

the 1970s and 80s interest in developing biotechnology allowed the human body to begin to act

as a conceptual set of discrete units, cells or DNA, calling newly postmodern subjects to

construct themselves through new cellular boundaries and languages. Haraway argues that this

redefinition is historically codified in the language and education about the immune system.

While the immune system is a scientifically researched reality, for Haraway what is often

overlooked is the way the system operates as a system of belief and a practice of knowledge. She

notes, "the immune system is a map drawn to guide recognition and mis-recognition of self and

others (with)in the dialectics of Western biopolitics."[69] Thus the immune system becomes a way

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[67] C.f., Haraway, *The Biopolitics of Postmodern Bodies*, 274 and Esther Jones, *Medicine and Ethics in Black Women's Speculative Fiction* (Basingstoke: Palgrave Macmillan, 2015).
[68] Haraway, *The Biopolitics of Postmodern Bodies*, 275.
[69] Haraway, *The Biopolitics of Postmodern Bodies*, 275.

to construct and maintain boundaries around who or what counts as "self" and "other," and can be considered as an elaborate icon for the principles of late capitalism—an ability to construct and maintain boundaries in the "crucial realms of the normal and the pathological."[70] Identifying the "normal and pathological" becomes particularly fraught when one considers that this kind of self/not-self cellular discourse was expanding during this time, in the form of the proliferation and suppression of several discourses on disease in which this kind of distinction is particularly difficult—autoimmune diseases and cancer research (an idea to which we will return). Haraway also notes that the public conversation around immunology centers science fiction metaphors— mainly alien invaders—as a sort of touchstone for this construct, and these narratives of invasion play a large part in public education and discourse about health and immunity.

Buried in Haraway's argument is not only the idea that immunology and human belief in it becomes a new form of identity creation in the twentieth century, but also that this shift is a function of late capitalism. Similarly, others like Lisa Dowdall would argue that just as developments in biological discourse are fostered by the operations and speculative practices of late capitalism, capitalism itself as an economic system shifts from valuing products to valuing innovation. Thus "life becomes a force of economic production" where profits depend on possibility or the "accumulation of biological futures," like gene therapy, artificial insemination, or cryo-banks, instead of tangible artifacts.[71] This economic interest in biological and genetic futures echoes familiar histories in which the science of reproduction and capitalism have worked in tandem to ensure power imbalances between black and white people in the United States. Any discussion of black feminist cellularity, while not an explicit discussion of these developments of late capitalism, is always a discourse in conversation with it. Capitalism as an

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[70] Haraway, *The Biopolitics of Postmodern Bodies*, 275.
[71] Lisa Dowdall, "Treasured Strangers: Race, Biopolitics, and the Human in Octavia E. Butler's Xenogenesis Trilogy," *Science Fiction Studies* 44, no. 3 (November 2017): 512.

organizing economic and racial structure directly affects black women and their bodies and identities in society, just as it dictates the cellular developments. Still, shifts in the biotechnological market provides affordances with regards to genetics as well.

As more information was/is revealed about the human genome, the realities of its embeddedness in cultural racial scripts cannot be ignored. Theorists Alondra Nelson and Dorothy Roberts argue that the separation of black narratives and genetic discourse is false and degenerative. In her book *The Social Life of DNA*, Nelson uses social life theory[72] to reveal the ways DNA and its analysis move from scientific fact or data into a structure to reinforce particular narratives of society, and to reveal truths and half truths about histories and personal historical narratives. She is most interested in the way genetic analysis is increasingly used as a catalyst for racial reconciliation and as an argument for reparative futures. Reconciliation lies in the personal and the communal; individuals can use these techniques to commune with their genetic ancestors, or serve as evidence—the genetic proof of American slaves and their relation to current families can act as an argument and prompt support for political ideas like monetary reparations. Roberts, then, reminds readers of the persistence of the fallacy of biological race and the failure of scientific objectivity in the face of this long-standing narrative. By presenting the reports of bias and assumptions that plague historical and contemporary moments of genetic research, Roberts shows race is the mitigating factor of all genetic research. Scientists' participation in a raced society affects the design of experiments, research design, and questions. For example, when genetic information is collected, specimens are generally blind aside from demographics like race or gender. These identifications that are reserved for antiquated organizational purposes have been shown to bolster general assumptions about specimens. The most rampant issue Roberts reports is that researchers assume that black and white people are

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[72] Nelson, *The Social Life of DNA*, 8. Cf., "social life theory" in Arjun Appadurai, *The Social Life of Things: Commodities in Cultural Perspective* (Cambridge: Cambridge University Press, 1986).

genetically opposite, when there is no support either genetically or geographically to support such claims. In fact, due to the continental proximity of Europe and Africa, and given the history of migration, colonialism, and movement, these two populations would share many genetic similarities—way more than "opposites" could. However, this false assumption exists and affects not only research, but also the medical applications that develops out of such research.[73]

What is important here is considering the constructed and socially situated nature of these discourses as they establish the concept of the human in the twenty-first century. It is the circulation of language, either through journalistic, literary, or pedagogical means—that fosters and affects public scientific discourse. This ongoing construction of the human through biotechnological research and science always has raced implications—either in reifying trajectories of black exploitation and determinism, or as a restorative practice of identification and recognition. Thus, scientific research and language cannot be conducted outside of socially constructed hierarchies, biases, and lived black realities. Just as science and its objects can be metaphors in literature to speak to larger problems, science and its discourses create and engage these same metaphors and cultural scripts within themselves. The analyses of Haraway, Nelson, and Roberts converse with Butler's texts in two ways: first, providing a scope for a particular disciplinary history and second connecting science, and its discourse with society, arguing that we must not accept the performed objectivity of science as it continues to generate culturally informed productions especially when we cross-list these development with black life.

Clipping and "SNPing" together a Research Archive

Not only can we use accounts of the general discursive scientific projects of Butler's day to frame what becomes her *Xenogenesis* project, but we can also look into her own research. Butler is a celebrated and prolific novelist and writer, but her interest and legacy as a dedicated

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[73] Dorothy Roberts, *Fatal Invention,* 49.

and meticulous researcher and theoretical posthuman thinker is sometimes lost. Butler was an

incredible researcher, and a significant part of her archive is dedicated to subject materials and

reference clippings. In her biographical essay *Positive Obsession*, Butler speaks to the way her

reading and research practices were fostered in childhood by circumstances of collection:

> My mother did day work. She had the habit of bringing home any book her employer
> threw out. . . . I had books yellow with age, books without covers, books written in,
> crayoned in, spilled on, cut, torn, even partly burned. I stacked them in wooden crates and
> second-hand bookcases and read them when I was ready for them. Some were years too
> advanced for me when I got them, but I grew into them.[74]

This childhood practice of collecting whole and errant scraps of writing followed Butler

into her adult writing life. This form of collecting extended to her own musings and revisions in

addition to the work of others.[75] Butler researched and kept everything: medical breakthroughs,

technological advancements, cults, black history, women, celebrity obituaries, and even an

article about Henry Louis Gates buying therapeutic shoes. She not only made notes on these

subjects, but also collected physical clippings and annotated them directly. This practice of

reading and clipping was essential to her process, and there are many places where she

encourages active reading practices in herself and her readers. As a result, Butler was an active

and invested reader of a number of newspapers and publications, including the *LA Times*. She

did not simply read and discard the paper every day, but pored over articles, wrote letters to the

editor (one of which was published),[76] and studiously annotated and organized articles by

subject, theme, and novel. Her research archives and methodology are amazing artifacts; they not

only show Butler as an active participant in the discourse being generated by a range of things

including scientific breakthroughs, but her work as a researcher suggests the interconnected and

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[74] From Octavia Butler, "Positive Obsession," in *Bloodchild* (New York: Seven Stories Press, 1996), 125.

[75] This is another space in which consistent revision and deep thought might be said to foster conversations between black writers and their technological means and ends. Butler revised the premise *Dawn* many times, reordering and reintroducing genetic technology to humans. She, like Ellison, knew genetics needed to figure as a central component, but she wasn't quite sure which iteration it might take.

[76] Butler's letters focused on replying to op-eds that could result in oppressive policy decisions.

aggregative nature of her novels more generally. Her research envelopes and her interaction with the articles inside are also objects, words, choices, and actions that can be closely read in order to see her engagement with the languages of science and technology in particular. For example, here is an image of one of her many manila research envelopes.
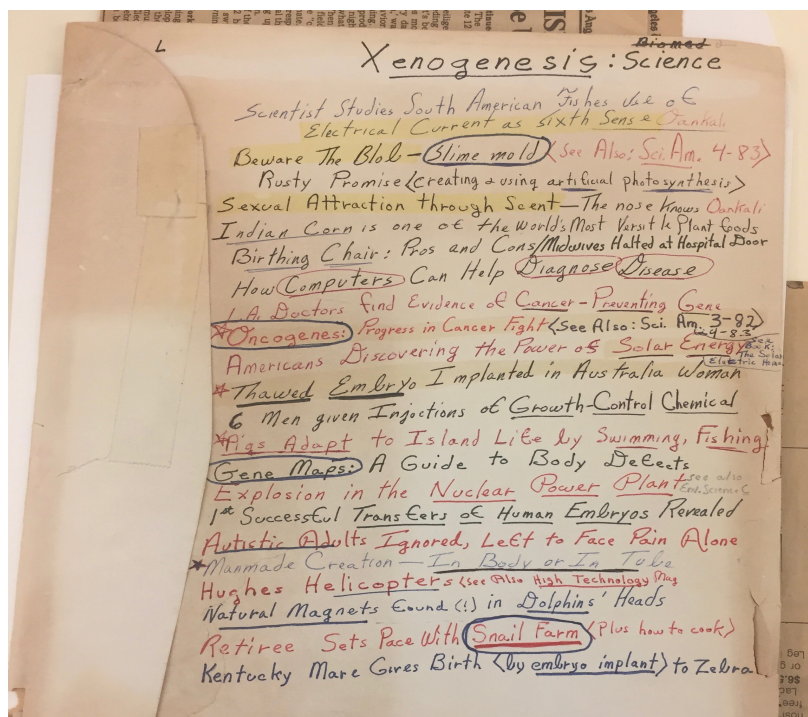

Figure 3: Research Envelope from Octavia Butler Archive

At the top we get a taste of Butler's system of organization. This envelope is entitled "Xenogenesis: Science" and dated 1985, indicating that this collection was generated with her eventual series in mind, and its scientific and medical basis.[77] This particular envelope includes articles about animal senses and behaviors, artificial intelligence, oncogenes and cancer, gene mapping and gene manipulation, and artificial insemination, as well as an article about a snail farm, complete with a recipe for roasted snails. In triangular brackets, Butler notes articles she

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[77] Timing and publication are of particular importance for Butler because she revised this idea many times. Research dates closer to publication are closer to information and ideas that appear in the published novel.

has found to be related and connected to articles she's already read, here specifically articles in *Scientific American* magazine. The last piece of the organizational and conceptual puzzle is arranged on the right-hand side of the page, a word that registers as not quite in common English. It is the word "Oankali"—or the name of Butler's aliens, and with that notation we see the kinds of world building and discourse engagement that Butler is interested in pursuing with her novels. Each fictional moment, idea, and trait is based on real-world science and journalistic reporting from popular resources.

This attention to her contemporary scientific and (bio)technological moment is especially apparent in the *Xenogenesis* trilogy, which is a strange and notable departure from Butler's earlier work like the *Patternmaster* trilogy, novels about psionic subordination, or her popular time-traveling neo-slave narrative *Kindred*. Instead *Dawn* and the novels that follow are alien, thematically set apart, and struggle with a particular posthuman question of what it means to be human and *stay* human in an age of genetics and cellular biology. It is because of these thematic shifts that I became initially interested in the texts and her preparation for them.[78] The rootedness and engagement with discourse is striking. In fact, and this is an idea to which I will return, it is in these marginal engagements with her research, in which Butler is often commentator and sometimes fact-checker, that Butler scholars might consider additional information and context to the striking ambiguity and ambivalence of some of Butler's work.

Framing moments of scientific history withstanding, there are a number of striking titles Butler retained for her research archive. Here are a few from the *LA Times*:

- "DNA Under Adequate Control?"

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[78] This preparation was extensive, not stopping with the journalistic research but including a trip to Peru and the Amazon, so that she could describe the Oankali environment and landscape fully. Gerry Canavan in his engagement with the Butler archive calls these the Aaor stories, in which the Oankali appear as a fellow fugitive race escaping colonization. Canavan, *Octavia E. Butler* (Urbana, IL: University of Illinois Press, 2017*), 94.

- "Gene Transplants Now Called Safe: 11 Scientists Who Once Warned of Dangers Reverse Their Stand"

- "LA Doctors Find Evidence of Cancer Suppressing Genes"

- "Gene Maps: Guide to Body Defects"[79]

These clippings illustrate some of the American journalistic discourse around DNA and genetics during the 1970s and 80s. They reflect not only the public anxiety over genetic science and development, but also attempts to represent conversational shifts and to educate the general public about genes, cells, and the like. Three of these articles include detailed diagrams of transplantation cycles, and images of chromosomal "maps" that indicate where genes or their "defects" or what are now called single nucleotide polymorphisms (SNPs) "live." Over several years, Butler collected and notated the simultaneous public education and grappling over genomics and their place in human life. Then she took all of this research and wrote three novels.

The Xenogenetic Brood

Octavia Butler's *Xenogenesis* trilogy, repackaged as *Lilith's Brood* in 2000,[80] was published from 1987 to 1989. The series includes the novels *Dawn* (1987), *Adulthood Rites* (1988), and *Imago* (1989). It follows Lilith, a black woman and anthropology student, after she wakes as a captive of a tentacled alien species called the Oankali. The Oankali are self-described gene traders, who travel across galaxies trading genes and creating new hybrid species wherever they go. After a nuclear holocaust on Earth, they rescue the remaining humans in hopes of convincing them to share their genome, particularly what they call a human "talent" for cancer.[81]

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[79] Octavia E. Butler Archive in *Subject Files: Science*. There are many headlines and articles to choose from. This is just a sampling.

[80] The re-naming is a gesture to Lilith's importance as matriarch, but while more approachable for the consumer, this new packaging but obscures the additional concept of generational obscurity and strangeness that is integral to the series.

[81] Octavia Butler, *Lilith's Brood* (New York: Grand Central Publishing, 2000). For the remainder of the chapter this text will be referenced in text as *Lilith's Brood*.

(*Lilith's Brood* 40). The Oankali want to trade with humans despite what they call humanity's

most deadly genetic flaw: the combination of high intelligence and a disposition toward building

hierarchy. Much of the first novel, *Dawn*, is focused on the problem captured in the series' title:

xenogenesis. The biological concept of xenogenesis is a term generated for the production of

offspring that are markedly or permanently different from the parent. This definition includes

qualifications that xenogenesis is "supposed," "fancied," and "permanent"; it imagines a

theoretical but a highly improbable occurrence save alien intervention.[82] Thus *Dawn* questions

what it means to be human, as the Oankali use Lilith to convince the last living humans to

reproduce with them in order to create a human-oankali generation and effectively end the

human species. Lilith chooses to assist the Oankali, if only to teach the humans enough about the

renewed Earth to escape it, to "learn and run!"[83] as she puts it. However, this informed escape is

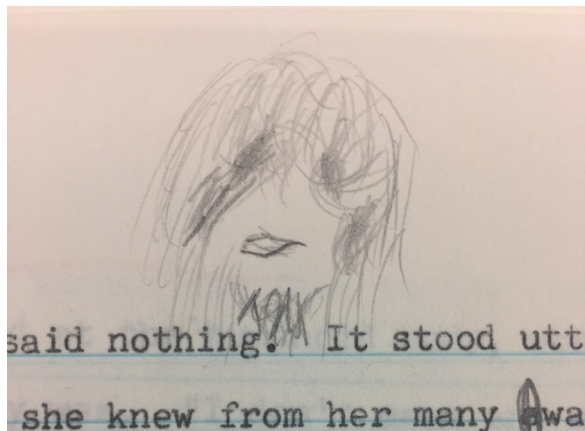impossible, especially once she realizes she's been secretly impregnated by the Oankali. The

Figure 4: Doodle of an Oankali alien, probably Jdhaya

second and third novels follow Lilith's children, her brood, as they live as the new class of human and Oankali offspring. The novels are not only an investigation of Lilith and her progeny, but also an examination of embodiment and the choices she is forced to make as a human who is biotechnologically altered by her captors.

The Oankali as an alien species have been the focus of much scholarship.[84] They are a

species at odds with humans in both their invasion and their never-ending quest and comfort with

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[82] Xenogenesis entries: *Merriam-Webster's Collegiate Dictionary*. 11th ed. Springfield, MA: Merriam-Webster, 2003. Continually updated at https://www.merriam-webster.com/.; *Oxford English Dictionary*. 2nd ed. 20 vols. Oxford: Oxford University Press, 1989. Continually updated at http://www.oed.com.proxy01.its.virginia.edu/.
[83]Octavia Butler, *Lilith's Brood*, 118.
[84]C.f., Gerry Canavan, *Octavia E. Butler* ; Haraway, *The Biopolitics of Postmodern Bodies*; and Sherryl Vint, *Bodies of Tomorrow: Technology, Subjectivity, Science Fiction* (Toronto: University of Toronto Press, 2007).

genetic trade. Oankali identity as a species is distinct from embodiment; the only thing that matters and connects them as a species is shared genetic memory. Therefore, Oankali across the galaxy range in shapes and sizes. While their society seems attractive (operating through consensus, logic, and nonviolence[85]) their paternalistic nature and moments of perceived manipulation cast a pall over their benevolence. The Oankali control the rescued humans and choose to sterilize those who resist human-Oankali reproductive relationships. These interactions immediately beckon past medical and biotechnological horrors vested on black and brown people over centuries—slavery, colonization, genocide. An alternate concern for scholars regarding the Oankali is that they embody both then contemporary and ongoing sociobiological debates, especially those of genetic determinism. Butler herself calls the trilogy her sociobiological novels. The Oankali's repeated identification of human's fatal genetic flaws as a reason for humans to procreate and join Oankali communities, as well as justification for their sterilization of humans, is an eerie representation of conversations brewing in the 1980s that eventually lead to the publication of heinous ideas of genetic determinism, and the continuing pathology generated around black communities and families.[86] Additionally, in a move that provokes much consternation from critics, the novel at times seems to agree with the Oankali diagnosis: humans prove their capacity for violent hierarchy and manipulation many times over. Throughout the novel, Lilith and the reader become conflicted over Oankali plans, ideas, actions, and culture. They present a hybrid future and community, the only future humans are going to get, but at the cost of "true" humanity. And toward this analysis, Butler gives no hints. The Oankali are somehow both heavenly helper and obvious villain in equal strokes. They are

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[85]This attraction has caught many scholars, as Gerry Canavan notes in his chapter "The Training Floor." Canavan, *Octavia E. Butler.*

[86] Charles Murray and Richard Herinstein use biological determinism to argue that human intelligence is organized by inherited biological and environmental factors. These factors can be used to "predict" all sorts of social behavior. See, *The Bell Curve* (or don't), and Stephen J. Gould, *The Mismeasure of Man* for the particular shortcomings of just this kind of determinist thinking.

perhaps the perfect possible villains, always able to call up racialized histories, moments of

colonial violence, and the extraction and use of black bodies, especially women, in the names of

science, medicine, and progress. Yet still Butler offers no answers. Butler's characters and plots

simply conjure systems of oppression, ideas and histories of frustration, but refuse to give

readers specific narratives, value judgements, or quick morals. Scholars like Gerry Canavan note

that this ambivalence is a classic characteristic of Butler's work, that it produces debate in lieu of

frustration.[87] This creation of discourse that resists simple opinion and analysis reflects the

accumulation of Butler's archive. In looking to her archive, we see Butler's thoughts and her

refusal to decide, or to take a side, in the conversation of biological determinism itself. Her

arguments in the margins of an article entitled "Biological Basis for Math Ability Suggested by

Study" from the Los Angeles Times prove quite interesting. On it she writes:

> I don't care if males are biologically predisposed toward mathematics—or if girls are
> biologically predisposed toward linguistic skills. I care only what is made of these
> possibilities. This sadly has become an argument over who's better. It should be an
> attempt to understand what is.[88]

Since Butler is interested in what *is in a text or discourse*, what *is,* or *exists*, in her texts

as a result of these concepts? Perhaps, following Butler's directive, we might refrain from

outright acceptance of or resistance to these narratives, but instead travel with Butler to what she

sees as their logical ends. It seems that for Butler posthuman discourse is not about figuring out

if DNA is "under adequate control," or having premature conversations about safeguarding the

human, in either concept or species. Instead discourses on genetics, biotechnology, and the

development of the human are about realignment and a recognition of lived realities. As far as

the role of the Oankali and their relationship to Lilith, in this chapter, because so many have

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[87] Canavan, *Octavia E. Butler*, 97.
[88] Butler, "Subject Files: Medicine," 1983, *Octavia E. Butler papers*, Box 275, Folder 275(5).

spoken to the historical and contemporary analogues of Oankali contact,[89] I will talk about them as they are any and all of these figures at the same time, colonists, supremacists, benevolent extractors, impossible evolutionary partners, etc. Their relationship with Lilith and the other humans is never without power imbalance, and in fact they always hold the lion's share. However, what might be most interesting and less theorized is why Butler even creates a compromised character like Lilith in the first place. Lilith's tale is one of mistreatment, exploitation, and loss of privacy. Her cells are taken, copied, and altered. She resists, but her resistance isn't conventionally successful. Why offer readers a compromised heroine who chooses the "self betrayal"[90] of survival over the human race? What can we glean from her choices, the position and reality of her body?

Following Butler's lead in considering *what is*, this chapter focuses on Lilith and Oankali realities, and asks how Butler establishes new narratives of the posthuman by starting the world over, and by redefining humanism based on a black woman. In the sections that follow, analysis will focus on *Dawn* because it is the novel that contains the majority of Lilith's story: her Awakening, her difficulties with the other Awakened humans, and her first impregnation. As the trilogy's repackaging as *Lilith's Brood* suggests, the consecutive novels follow Lilith's progeny, and leaves little narrative space for Lilith. However, her struggle, a thematic struggle over the end of humanity, becomes a touchstone across all three books, making them necessary to mention.

As a narrative *Dawn* does two things: describes the cellular technology and symbiotic relationships generated by the Oankali, relays a conversation about the possibility of cancerous

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[89] All of my secondary sources provide readings regarding this (Haraway, Hampton, Canavan, Vint, Doward). Vint also notes that "Walter Ben Michaels, Amanda Boulter, Stacy Alaimo . . . have all offered readings of the novel that emphasize its engagement with racial politics and . . . the intersections of racial and gendered readings of the body in the presentation of Lilith." Vint, *Bodies of Tomorrow,* 58.

[90] Vint as she quotes Rebecca Holden's "The High Costs of Cyborg Survival: Octavia Butler's Xenogenesis Trilogy." Vint, *Bodies of Tomorrow,* 58.

cells via Lilith's history and the life and narrative of Henrietta Lacks. We will look at the way both of these technologies, Oankali cellular culture and human cancer, alter Lilith's body and her understanding of it, and present a new way of being and reproduction that reframes the black female body and its place in the legacy of humanism. Ultimately, this reading provides not only a lens through which readers might identify other moments of cellularity across a decade, but also establishes yet another node in the legacy of the black posthuman.

The Oankali, Parasitic Symbiosis, and Endosymbiont Evolution

Much of the work of this project focuses on the intersection of black bodies and foreign mechanical, computational, or electronic technologies. Yet in *Dawn*, it is not the manipulation of sleek chrome machines, but the alteration of Lilith's (self)identified cells that are cause for technological intrigue. The Oankali do not prefer to build any technology from non-living entities. Their technological processes are almost entirely biological, non-mechanical, and non-digital. Cellular manipulation, or the combination and deletion of genetic material, is how the community performs all technology—medicine, engineering, manufacture, and agriculture. All moving parts and tools in their culture are living; the Oankali ship, transports, and walls are living cellular entities that react to various chemical stimuli in order to open, close, and restrain. The life within their technology suggests that the Oankali have a different relationship to their technology than the humans they have captured do. In fact, for humans, the relationships generated by the Oankali are hierarchical, paternalistic, and the opposite of "trade." Their technology also holds imperial/colonial valences within it: the Oankali in effect travel to new lands, decimate populations, and steal resources.[91] However, upon what Lilith calls her last "Awakening,"[92] she asks the Oankali in charge of her education, a male name Jdhaya, about the

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[91] The Oankali seem to "make use" of everything they meet. This utilization includes the humans in the novel.
[92] The Oankali hold the humans they rescued in animated suspension inside of large plant pods for extended periods of time. Lilith was Awakened several times before the Oankali decide she should help them. Each time Lilith wakes up, she and the novel identify it as an "Awakening."

identity of the ship. In this moment, Butler reveals another explanation for these technological

relationships. After Lilith asks if the ship is an intelligent plant or animal, Jdhaya tells Lilith:

> It [the ship] can be. That part of it is dormant now. But even so, the ship can be chemically induced to perform more functions than you would have the patience to listen to. It does a great deal on its own without monitoring. And … the human doctor used to say it loved us. There is an affinity, but it's biological—a strong, symbiotic relationship. We serve the ship's need and it serves ours. It would die without us and we would be planetbound without it. For us, that would eventually mean death."[93]

This exchange is the closest any of the Oankali get to talking about symbiosis, or the

trade, that exists between themselves and the biological life forms they encounter. In this

description we see suggestions of genetic manipulation, life cycles, and agency. Jdhaya identifies

reciprocal care between ship and Oankali as something that a human doctor, awakened 200 years

before Lilith, identified (or misidentified) as love. Their existence, the Oankali's and the ship's,

is tied. They are invested in each other's wellbeing, and this investment can be identified as an

indication of care, kinship, or love. This interchange is the first place it becomes clear how

thoroughly different Oankali culture is compared to human thought, and while Lilith eventually

understands this kind of technological relationship, many of the humans she wakes refuse to do

so because Oankali symbiosis runs afoul of conventional human ecological definitions. First, its

representation fails to match even the most introductory human explanations of biological or

ecological symbiosis.[94] Within symbiosis there has conventionally been an assumption of mutual

support or benefit. As a reader it is easy to see the exploitative nature of Oankali trade, but as

Gregory Hampton points out, this symbiotic/parasitic "love" is a theme that sits at the center of

several Butler narratives.[95] Symbiosis, this complicated love, is a structuring motif in Butler's

work. It is the key to unveiling the specific legacy of science, specifically evolutionary biology,

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[93] Butler, *Lilith's Brood*, 35.
[94] Symbiosis is generally defined as the association of two different organisms which live attached to each other, or one as a tenant of the other, and contribute to each other's support in some way.
[95] C.f. Butler's short story *Bloodchild*, and *Mind of My Mind, and Fledgling*. Hampton, Gregory Jerome. *Changing Bodies In the Fiction of Octavia Butler: Slaves, Aliens, and Vampires* (Lanham: Lexington Books, 2010).

at work in the narrative. Through depiction of symbiosis, Butler suggests that as a concept it might be less about love, and more about moments of evolutionary creation and survival, the Oankali frame of identity and evolution that destabilizes humanity.

In 1967, biologist Lynn Margulis introduced an endosymbiont theory of cellular evolution. Margulis's radical theory suggested that the various organelles found in eukaryotic cells were not autogenously developed over time, from within the cell, but instead xenogenous in origin. Simply put, organelles had been foreign organisms (other prokaryotes) consumed by their single-celled neighbors. This consumption is what Margulis calls an early, evolutionary, and cellular example of symbiosis. Out of this original symbiotic relationship developed mitotic cell division and all of the actions of contemporary eukaryotic cells that make up all multi-cellular organisms, including humans. Popular definitions of symbiosis, often feature concepts that suggest that definitions of symbiosis are based on economic analogs, such as support, mutuality, or benefits, however Margulis's theory of symbiogenesis eschews ascriptions of human life and relationships onto biology. For Margulis, symbiosis is not mutualism, but is just "unlike organisms living together."[96] This definition of symbiosis acknowledges the way true symbiotic relationships, for Margulis, are "innovative" in the creation of "new biological novelties." In other words, symbiosis is often responsible for speciation, the creation of new species, which is the primary evolutionary drive of the Oankali. And for Butler, first contact is the perfect metaphor for such an evolutionary moment. In fact, Jdhaya acknowledges symbiogenesis when he tells Lilith the history of his people. He shares that one meaning of the word "Oankali" is "gene trader, "and the other is based on an organelle, "the miniscule cell within in a cell" that drives Oankali acquisition. That organelle is the "essence of ourselves, the origin of ourselves" (*Lilith's Brood* 41).

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[96] Margulis, "Words as Battle Cries," 674.

Margulis's focus on symbiogenesis was accepted in the scientific community with limitations, but has expansive (and controversial) implications that have been largely glossed over. Arguing that Darwin's theory has never accounted for speciation, Margulis's theory unseats Neo-Darwinism as the reigning explanation for the evolution of new species. This shift in thought, while seemingly localized to the field of evolutionary biology, affects a prominent social narrative: "survival of the fittest." This biological theory lies at the foundation of various foundational questions of the twentieth century: sociobiology, determinism, nature vs. nurture, and even stories told about non-living entities, like markets. Often-humanistic narratives around these topics use this science to advocate for the maintenance of the status quo. Invoking a new theory of evolution has not only scientific but social consequences. Butler's *Xenogenesis* novels echo Margulis's assertion that humans have misidentified symbiosis as mutual support or as "love." Instead, for Butler, symbiosis is unlike creatures living together, full stop. This misidentification is dangerous to a static or contemporary understanding of the human. It obscures the realities of the biological world, and its evolution, and is seemingly an effect of capitalist ideas of mutuality and work, and humanity. Conversations about symbiosis reveal the ways in which definitions of "man" are not conversations about species, or the natural biological world, but conversations about constructs. This is why the Oankali are at once desirable and threatening. They are symbiotes without concern for human benefits, but as a result they create a new species with the humans. This is the future, but the humans of the novel only see this as death.

In Butler's notes it is possible to see what she, or the Oankali, thinks of this human interpretation of evolution. In a research folder from 1985 she notes,
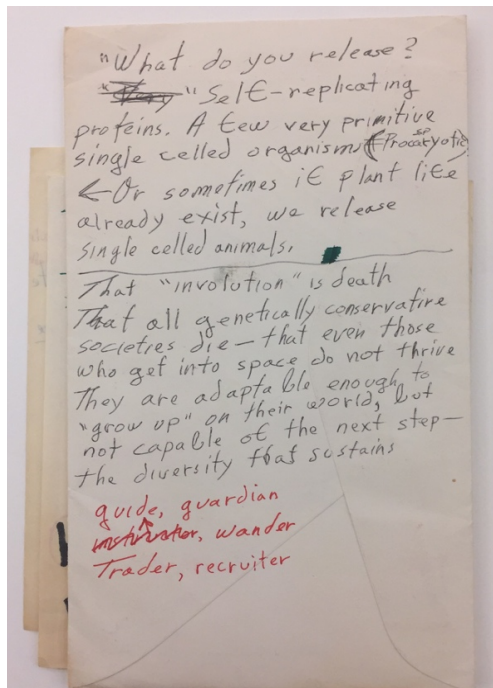
Figure 5: Research Envelop from Xenogenesis

That "involution" is death. That all genetically conservative societies die—that even those who get into space do not thrive. They are adaptable enough to "grow up" on their world, but not capable of the next step—the diversity that sustains."[97]

Margulisian evolution is one possible way to generate diversity, and the Oankali, in all of their manipulation and violence, appear as possible sustenance. This is yet another scientific narrative wound into Butler's world. While Lynn Margulis and her theories were radical, if not lasting or adapted in their totality,[98] she was profiled in several newspapers and scientific magazines. Furthermore, it is possible that Butler was thinking about and metabolizing Margulisian theories more fully than the general narrative frames I've already established. For example, in 2000, Butler exchanged several letters with a Jennifer Margulis, the daughter of biologist Lynn Margulis. The exchange was initiated by Jennifer Margulis, who was interested in including Butler in a documentary she was developing. In a letter dated September 21, 2000, Margulis wrote Butler thanking her for their phone conversation, and outlining filming logistics. At the end of the letter, before her obligatory sign-off, Margulis includes a brief aside: "My mother was delighted to know of your interest in her theories. She asked me to forward the enclosed note and brochure to you."[99] This is a small, but concrete, glimpse into the breadth of Butler's reading and scientific knowledge. While it doesn't

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[97] Butler, "Manuscripts by Octavia E. Butler Woe-Xenogenesis: Novel: Outline," 1968, *Octavia E. Butler papers*, Box 150, Folder OEB2979.

[98] Maureen A. O'Malley, "From Endosymbiosis to Holobionts: Evaluating a Conceptual Legacy," *Journal of Theoretical Biology* 434 (2017): 34-41; Charles Mann, "Lynn Margulis: Science's Unruly Earth Mother," *Science* 5004 (1991): 378–381; Michael W. Gray, "Lynn Margulis and the Endosymbiont Hypothesis: 50 Years Later," *Molecular Biology of the Cell* 28 (2017): 1285–1287.

[99] Butler, "Correspondence Margulis, Jennifer to Octavia E. Butler," 2000, *Octavia E. Butler papers*, Box 238, Folder OEB5640. Unfortunately, I was unable to access these brochures.

establish a timestamp for when Butler's engagement with Margulis started, this note does provide a method of understanding her approach to genetics and interspecies relationships as they appear in the trilogy. This response from Jennifer Margulis establishes a channel of connection, both narrative interaction and real-world response and interaction of author and theorists.

Lilith and Cellular Developments

In a trilogy explicitly concerned with what it means to be human, and which leaves that decision up to a black woman, Butler's development of the Oankali alien race and their connection to Margulisian cellular evolutionary biology are but one prong of her redefinition of humanity. The second prong has to do with the alteration, replication, and development of cells within Lilith. Lilith's alteration by the Oankali presents a conversation about genetics, cells, and reproduction, and about how at times the entangled nature of these scientific discourses can be held apart, or glossed over, using methodology or disciplinary preoccupation. It is in looking at these discourses through the bodies of black women that we can see not only the beginnings of biotechnology, but the ways in which narratives of genetics, cellularity, and reproduction are always impossibly intertwined.

In *Dawn*, we can see just how distinct Oankali technology is from extractive non-biological human development and manufacturing. We see this not only in the infrastructure of their society, but also in the evolutionary drive of their community. Trade, the primary form of Oankali technology, is gene therapy by another name. The Oankali tamper with somatic cells and induce germ-line mutations in any and all beings—including themselves. Genetic alterations are conducted by the alien's third sex, a group called ooloi. Ooloi are able to extract genetic info from any subject, plant or animal, they encounter. They can remember genetic code and can taste bad code and mutations. Ooloi share genetic information with each other and run genetic

experiments, mutations, and insertions, inside of their bodies. Additionally, the ooloi class is responsible for all reproduction in Oankali society. Sexual reproduction happens in a triad, one male, one female, and one ooloi in between who facilitates and translates arousal and sensation between male and female reproductive partners. Ooloi process both sets of genetic information and combine them for later impregnation. Genetics becomes the programming for the world. When Lilith asks her future ooloi partner, Nikanj, if the Oankali make things with metal or plastic components, it replies, "We do that when we have to. We . . . don't like it. There's no trade" (*Lilith's Brood* 85) Thus, Oankali technology is fully embodied, and fully alien. Unlike the humans, their collective identity has no basis in species, either in suggestions of biological similarity or fantasies of raced narratives of biological difference.

Throughout the novel, in order to live among the Oankali and to do the work she is forced to undertake, Lilith is genetically altered several times. First the ooloi extract a developing tumor from her time on earth. Then the ooloi focus on her intelligence and ability to learn languages so that she might become fluent in the Oankali language, and they alter her a third time so that she can do the work of waking the humans. Each genetic alteration, save the tumor's removal, happens instantly, administered by the sting of an ooloi tentacle. Each sting ushers her further into Oankali culture and away from her own. For Lilith and the remaining humans, the creation of the next generation is not the only step away from humanity—gene therapy also represents this personal leap. As Lilith prepares to awaken the first human, Leah Bede, she meditates on this, considering the way her inhuman abilities will be received:

> She [Leah] sounded as though she could be an intensely loyal friend—unless she got the idea that Lilith was one of her captors.
>
> Anyone Lilith Awakened might get that idea—almost certainly would get it the moment Lilith opened a wall or caused new walls to grow, thus proving she had abilities they did not. The Oankali had given her information, increased physical strength, enhanced memory, and an ability to control the walls and the suspended animation of

plants. These were her tools. And every one of them would make her seem less human. (*Lilith's Brood* 120)

Lilith's enhancements ensure her survival: her information about the Oankali and her experience living in their communities is something she initially hopes to leverage for freedom. Her strength and memory are given to her in what seem like moments of Oankali concern for her safety, and this engineering protects her from some of the more enraged awakened humans. The last two abilities connect Lilith to the ship, the extension of Oankali embodiment and the second most important piece of technology in Oankali life. Yet she is right to think that her recent genetic history makes her "seem less human" in the eyes of her fellow humans. Her changes not only indicate a hard-won ability to live with the Oankali (a race of individuals who are visually repulsive to humans), and her uneasy alliance with her captors, but her engineered nature sits at a particular demarcation of the human. Her changed body is the stuff of nightmares according to the twentieth century newspaper culture from which these humans spring—the discourse that is foundational to the book. In Lilith's life, DNA is not under adequate control. Her altered and alien cells can no longer be considered human, and are the exact Other/not-self Haraway insists that humans are learning to identify in discourses on immunology. Worse, her new embodied powers are not secret but must be used, expressed, in order to survive in her new environment. In order to care for her fellow humans, she must demonstrate her inhumanity regularly; she can be visible identified as other. To save humanity, or move forward with her impossible plan, to learn and run, Lilith must change. She becomes not-self, not human. Here, it is important to note that the concept of race as it operates in the historical and contemporary social contexts does not appear to work explicitly in the plot of the novels, but instead conceptually in this genetic othering. Lilith notes the gender and race of each human she awakens, and fears reactions from particular white males in the group. However, the idea of humanity as species, and its continuance, is the general concern of those in the novel. In her genetic re-engineering Lilith is

set apart from the humans in a way that recalls the ways black individuals have historically stood as figures against which humanity is defined. It makes her a precarious hero, a suspicious leader, a genetically engineered woman, and the focus of a conversation about humanity. Lilith, as a black woman, is the individual who gets to choose what the future of humanity looks like. And it seems that within the novel, for Lilith, and for Butler, choosing new definitions of humanity and eschewing this genetic limit is akin to survival—because death is something that Lilith cannot seem to choose, even though it is a choice she is offered by the Oankali several times. Instead she survives, persists, and continues.

Lilith, Lacks, and Black Feminist Cellularity

For the remainder of this chapter, I want to consider Lilith's body, and the use and manipulation of her cells, as a method of survival, and a technology in itself. Lilith's life, as a hybridized human, is Butler's gesture to a new definition of humanity—a resistance to "involution." This definition is based on and inclusive of black women, and is a response to humanity that uses narratives of cellular otherness and fixed genetic identity to identify humans. Readings of the lived experiences of her body are the key to the assemblage of concepts to which black feminist cellularity responds: issues of survival, reproduction, and ontology.

The power and potential of Lilith's biotechnological power comes not only from Oankali intervention, but from her potential to use specific biological principles of division, replication, and reproduction to survive in her new reality. However, the implications of this technology and its power are uncomfortable; Lilith's evolution, her cellular hybridity, is never a moment of liberation, or an act of resistance. It is situationally coerced, forged out of an uneasy and inescapable alliance with Oankali captors/family. Lilith's choice to live is not one that can overthrow Oankali oppression; instead her position in the community is forged through Oankali attention to her body and her kinship with them. Lilith's story asks what we might make of the

violent, exploitative, painful stories and histories of black women's bodies when they are actively pushed to the boundaries of the species; or what happens when we recognize the web of precarity and exclusion that is and has been black women's relationships to conversations of genetic engineering, gynecology, and reproduction.[100] So, in spite of the disastrous end of (white) humanity, focusing on Lilith, her body, her cells, and her resemblance to the biotechnological figure of Henrietta Lacks reveals a particular black technological way of being—a black feminist cellularity.

The Key to Immortality: A Talent for Cancer

In *Dawn* the Oankali make much of what they (callously) call Lilith's "talent" for cancer. For the Oankali, cancer and its possibilities are the primary reason to engage in trade with humans. Lilith's real-world analog, Henrietta Lacks, could be said to have that same "talent." In 1951, a black woman named Henrietta Lacks went to Johns Hopkins for a consultation regarding vaginal bleeding. She did not know that her symptoms would turn out to be a strain of cervical cancer that would prove fatal. Or that once biopsied, what made her quickly replicating cells so difficult to treat would make their cultivation and growth by doctors and biomedical companies easy and profitable. Named "HeLa" by Drs. George and Margaret Gey, Lack's cells quickly became the first and most commonly used line of what are called "immortalized cells"—a population of cells from an organism that proliferated indefinitely. HeLa cells revolutionized the field of biomedical research, all without Lacks's or her family's knowledge.[101] Lacks's cells are famous not only for their ability to grow and persist, but also for their penchant for contaminating other cell lines around the world. Initially Lacks's identity was kept secret, but

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[100]See, Dorothy Roberts, *Killing the Black Body,* 9: "Black reproduction on the other hand, is treated as a form of degeneracy. Black mothers are seen to corrupt the reproduction process at every stage. Black mothers, it is believed, transmit inferior physical traits to the product of conception through their genes. . . . This damaging behavior on the part of Black mothers—not arrangements of power—explains the persistence of Black poverty and marginality."
[101] This was and continued to be an egregious silence and breach of privacy that Rebecca Skloot uncovers (and subsequently exploits) in her groundbreaking *The Immortal Life of Henrietta Lacks*.

due to the extent of the contamination, geneticist Stanley Gartler used genetic markers associated with DNA from African-descended individuals to identify the contamination of other cell lines by the HeLa cells. He announced his findings at a conference on cell tissue and organ culture in 1966, and Lacks's identity as unwitting donor and black woman was made public knowledge.

The discourse generated by HeLa cells illustrates a particular difficulty in dealing with the separation or identification of a human being from a collection of their cells. Priscilla Wald notes that while scientists continue to refer to and publish articles about the cell line using the name HeLa, journalists writing about scientific developments and global movements of the cell began to refer to the cells as "Henrietta" or "she," producing and proliferating a confusion of Lacks and her body with her persisting cells. As this confusion deepened, racist descriptions of the cells' actions aligned with negative contemporary and historical descriptions of black women—the cell line itself took on human or less than human characteristics, becoming a "bestialized, invasive, contaminating, and sexually promiscuous" entity.[102] This language, as Roberts insists, betrays the already raced and racist implications of any and all genetic research. Thus, as HeLa revealed new information about genes and cellularity, and redefined the human species based on the body of a black woman, familiar language and persons used as negative definitions for the human or humanity resurface. Lacks and her cells then figure as both the future of humanity and its proliferation into immortality, while at the same time standing as figure denigrated from this very future. Still, with this kind of cancerous "talent," HeLa continues to push at the boundaries of the human both discursively and scientifically. HeLa cells continue (at this very moment) to live and proliferate some sixty-seven years after Lacks's death. Lacks's body has not ceased—her cells refuse to expire. The granular expression of Lacks's

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[102] Priscilla Wald, "Cells, Genes and Stories: HeLa's Journey from Labs to Literature," In *Genetics and the Unsettled Past: The Collision of DNA, Race, and History*, edited by Keith Wailoo, Alondra Nelson, and Catherine Lee (New Brunswick: Rutgers University Press, 2012), 251.

body, her cells and DNA, persist, creating an immortalized cellular line that destabilizes definitions of the human body. These cells, in a sense, make her immortal. Lilith inherits this legacy. In *Dawn*, she reveals that she has a matrilineal legacy of cancerous cells and tumors, and finds from the Oankali that they have removed an unknown tumor. The Oankali project that, due to their intervention, she will live past her 130th birthday. This projection is on top of twenty-four years she lived on earth, and includes the two hundred years she spent in stasis.[103] The novel presents this cancerous history as a genetic tool that remains unexplored. To see this possibility, we must go back to Lilith's first alteration by the Oankali. About her cancer she is told, "'Correcting genes have been inserted into your cells, and your cells have accepted and replicated them. Now you won't grow cancers by accident.' That she thought, was an odd qualification, but she let it pass for the moment. 'When will you send me back to Earth?'" (*Lilith's Brood* 31). Lilith pauses after this explanation, wondering at what she calls this odd qualification, but doesn't linger, because returning to Earth, escape, is more important. But the qualification "by accident" sets up a peculiar and altogether alien frame: growing cancers by accident is deadly, but the ability to grow them at all, at will, could be imperative. Lack of accident suggests a place where talent takes over. Human cancer, an unauthorized and deadly proliferation of cells, is valuable to the Oankali. Cancer could regenerate lost limbs, assist Oankali in altering body shape and form, or increase longevity; and just as these things are a potential for the Oankali as we know them, they are a reality for human-Oankali generations of the future.[104] Lilith, as the keeper and successor of her family's deadly cellular habit, has the potential to leverage this cancer herself, on purpose, in the future, just like the ooloi. While the

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[103] Additionally, the Oankali have made copies of her DNA and they have the ability to replicate her in ad finitum. Lilith can effectively live forever in different places and across different time lines.

[104] Of the possibilities Nikanj notes, " Our children will be better than either of us…We will moderate your hierarchical problems and you will lessen our physical limitations. Our children won't destroy themselves in a war, and if they need to regrow a limb or to change themselves in some other way they'll be able to do it. And there will be other benefits." (*Lilith's Brood* 248).

series never returns to this question, notes from Butler's research suggests she too readily imagines the possibilities.
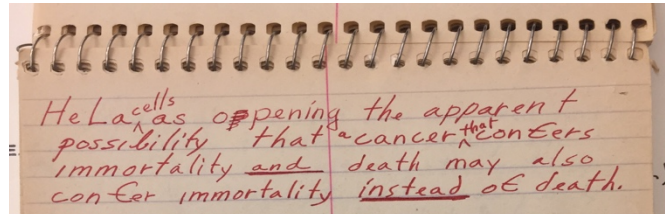

Figure 6 Notes from a commonplace book

She writes, "HeLa cells opening the apparent possibility that a cancer that confers immortality and death may also confer immorality instead of death."[105] Cancerous cells, a real illness that ails many, for Butler, opens up an existential paradox: the proliferation of one's own cells outside of the general healthy operation of one's body causes harm to that very body. In this time of illness, one's cells become immortal, simultaneously conferring death to the rest of the body.[106] Here, both Butler and the Oankali suggest that this illness might present different results should the frame of humanity shift. This radical suggestion is not a particularly fleeting one; in his overview of the Butler archive, Canavan notes that Butler even drafted an alternate title for the novel, *Dawn: Carcinogenesis*.[107]

With HeLa cells and Lilith's narrative, we see the beginnings of a black technological ontology in an uncomfortable place. The relationship of these two figures, protagonist and cell line, for Butler acts as provocation for readers to think about the kind of radical restructuring definitions of the human can undergo with new methods of survival and frames of reproduction. Still Butler's suggestion raises ethical questions about the roles of race and gender in narratives of cancer. Lacks's narrative—not only the treatment of her body and information as a black

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[105] Butler, "Commonplace Book: medium,"1982, *Octavia E. Butler papers*, Box 173, Folder OEB3179.
[106] This language used by biotechnologists to identify cell lines like HeLa that grow without facing metastasis.
[107] Canavan, *Octavia E. Butler*, 210.

woman, but even the cervical cancer that caused her to seek treatment in the first place—

generates these questions. Both her body and cells are raced and gendered in both narratological

and biological ways. It seems cancer, even in the service of altering the definition of humanity,

rests inside matrices of history in which black women's bodies are used up, abused for medical

and technological gain or in narratives in which methods of care and healing are specifically

withheld from them.[108] We can see this pain, this reality, in another narrative concerning black

womanhood and cancer, Audre Lorde's *The Cancer Journals*. In her introduction to the book,

Lorde includes a journal entry from September 1979, written several months after her first

mastectomy. She writes:

> There is no room around me in which to be still, to examine and explore what pain is
> mine alone—no device to separate my struggle within from my fury at the outside
> world's viciousness, the stupid brutal lack of consciousness or concern that passes for the
> way things are. . . . What is this work all for? What does it matter whether I ever speak
> again or not? I try. The blood of black women sloshed from coast to coast and Daly says
> race is of no concern to women. So that means we are either *immortal* or *born to die* and
> no note taken, *unwomen*.[109]

Lorde, reeling from physical loss and from her body turning against her, is frustrated in

her attempts to isolate this personal loss from her political work. There is no space, no room, to

consider a personal struggle that does not immediately yield to anger over the larger "problem"

of her embodiment. It is worth noting that Lorde writes this after her struggles with breast

cancer, a disease particular to the female reproductive system. This fact resonates doubly in the

context of her struggle, and the politics of her body burst with incredible energy into this private

pain. What is her work for, or what is her life for, if even agents of equity she fights for will turn

against her? Her sisters in struggle, white feminists, Mary Daly, refuse to consider race as it

affects their feminist arguments. Lorde reveals the way individual ailments, and personal

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[108] This is a legacy that extends from historical programs forced sterilizations, the breeding programs of chattel slavery, to the origins of gynecological science, the theft of Henrietta Lacks's cells and DNA. For more of this history see, Holloway's *Private Bodies, Public Texts* and Roberts's *Killing the Black Body*.
[109] Lorde, *The Cancer Journals* (Argyle, NY: Spinsters, Ink, 1980), 15.

reckoning, cannot for the black woman fully operate outside of the narratives into which her body has already been conscripted. What should be a personal health struggle quickly expands into a battle of embodiment and humanity. For Lorde, battling cancer within the political frameworks that rejects and undoes black women compounds these issues, making black women always *immortal*, *born to die*, or *unwomen*. These haunting attributes render the spaces between immortality, living death, and being unidentified or indiscernible too close for comfort.

Strangely, in this constellation, Lorde prefigures what Spillers just seven years later calls an "American grammar," proposing that the distinction of body and flesh is a discursive acknowledgement and praxis, a "text for living and dying."[110] Such praxis applies to black woman's bodies and the ways in which they fall out of slave records, their flesh and trauma rendered in terms of men—alien to the concerns and problems of white women. Lorde and Spillers speak the same language of embodiment, or living and dying, with the same concerns around what seems like an irreconcilability of black women's lives within the narratives of Western capitalism. Lorde's is exasperated with Mary Daly and the refusal of white feminists to remember that black women are born into a well-oiled symbolic apparatus that began in a subjective death and a rebirth into objectivity, and that this historical practice is at work un-gendering or un-womening black women even as they struggle for equity. Yet there is one word here that Spillers and Lorde do not share: "immortality." This is where Lorde's prefiguring sidesteps Spiller's narrative of embodiment that generally guides our interrogations and investments with embodiment in contemporary black scholarship. Instead, Lorde's words, her choice of "immortality," resonate with Butler's words and her quest for shifting the paradigm of humanity. Allying these two in a consideration of immortality, especially through the actions of cells, opens the final door through which we can see the ways other black feminists consider

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[110] Spillers, "Mama's Baby, Papa's Maybe: An American Grammar Book," *Diacritics* 17, no. 2 (1987): 67.

black cellularity, or black cells and their proliferation, as a configuration of black feminist ontology.

Proliferation, Immortality and Black Feminist Cellularity

The final moments of *Dawn* begin with a conversation between Lilith and the ooloi Nikanj. The experiment to Awaken the other humans has gone awry, and after losing a few human subjects, the Oankali decide to try again in the future. As they talk, Lilith tries to explain to Nikanj why the majority of humans cannot conceive of a future on Oankali terms, and would prefer a "clean death" for humanity. Then it asks her, "Is it an unclean thing that I have made you pregnant?" (*Lilith's Brood* 246). This question sends Lilith reeling.

> She was staring at it speechless. It was speaking as casually as though discussing the weather. She got up, would have backed away from it, but it caught her by both wrists.
> She made a violent effort to break away, realized at once that she could not break its grip. "You said—" She ran out of breath and had to start again. "You said you wouldn't do this. You said—"
> "I said not until you were ready."
> "I'm not ready! I'll never be ready." (*Lilith's Brood* 246)

Readers might have anticipated this moment because of Butler's consistent invocation of the historical background of plantation rape, breeding programs, eugenics, gynecology, forced sterilizations, and the demonization of African American motherhood across the text.[111] Still these last moments are surprising enough, if only for Lilith. Very quickly, her powerlessness, and the violence of this powerlessness, reframe the conversation, making it first incomprehensible, alien, and then unbelievable. Nikanj, whom Lilith was initially tasked with mothering, wrests away what little autonomy Lilith felt she had acquired during her Awakening of the other humans and her body's alteration. In this moment, even her freedom of movement is eliminated;

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[111] Dorothy Roberts notes that there is a particular American narrative that certain kinds of procreation are problematic. Black reproduction is always treated as a form of degeneracy. Black mothers are seen to corrupt the reproduction process at every stage, from conception onward. This pervasive narrative of "degenerate" black motherhood works to obscure the structures of power that manifest black poverty and disenfranchisement, and is yet another layer in the violence and neglect that follow black women and their reproductive lives. See, *Killing the Black Body*.

the ooloi grasps her in an intimate and violent way that also recalls the intimacy of past sexual encounters. During her struggle, Lilith and Nikanj argue over the biggest problem with human-Oankali relations: the language of consent. Because the Oankali value biological determinacy so strongly, they argue that they already know what is best for humans, scientifically. Here, when Lilith insists that she is not "ready" for a child and that she will never be ready, Nikanj later argues that nothing "but her words reject this child" (*Lilith's Brood* 247). Thus, due to the structuring of Oankali society, paternalism and colonialism are not only built into any human-Oankali relationship, but remain active even as Lilith acquiesces to Oankali plans, gaining various amounts of social privilege and autonomy through learning the language, joining a family, and being biologically altered. Lilith is forcefully impregnated even without a conventional script of sexual violation. Reproduction, even outside of the frames of human reproduction, is still fraught, overshadowed by historical violence. Her body is taken from her for the purpose of Oankali propagation, and she eventually bears the first human-Oankali child. Xenogenesis complete.

Scholars like Lisa Dowdall suggest that the xenogenic nature of Lilith's brood, the children she creates with the Oankali intervention, presents symbiosis as a method of human survival after catastrophic, world-ending events. She argues that these children present the evolution of the species. Thus, the series as a whole points to "*generation* rather than *reproduction*" as an important element of fostering the survival of human life.[112] For Dowdall, human-Oankali hybrids are posthuman figures that also achieve Lilith's original goal: survival. In the creation of her brood, Dowdall finds Lilith's assertion of personhood and her ability "to mount resistance."[113] I agree with Dowdall; Butler suggests that human reproduction[114] cannot

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[112] Dowdall, "Treasured Strangers," 506.

[113] Dowdall, "Treasured Strangers," 506. Lilith's children, the protagonists of *Adulthood Rites* and *Imago*, do fight for changes in human/Oankali relations. Especially for the reversion of the Oankali's sterilization of all humans

not be a method of Lilith's and humanity's survival here. However, reading explicitly for the new generation leaves too much space to look past or forget Lilith's final moments of horror in *Dawn*. Lilith's creeping disbelief, and her repeated rejections of the baby, "But it won't be human, … It will be a thing. A monster," are too haunting to forget (*Lilith's Brood* 247).

As readers, we don't see this child. In fact we don't meet any of Lilith's early children, as many years have passed before the beginning of the second novel, *Adulthood Rites*. Lilith's reaction to these children falls from the record, while her proclamation about her inhuman child echoes across the remaining novels, especially as sterile and resisting humans look for ways to have or attain children. Instead of a turn toward xenogenic offspring, the resonating horror of Lilith's story suggests a turn away from motherhood entirely towards a different kind of generation, cellular generation, and the self-ownership it can entail. In focusing on the generations of cellular growth, Butler envisions a method of production that is possibly a step away from the narratives and expectations that seem to haunt black motherhood regardless of time or place. Cellular generation is already present in the narrative, and is the backbone of what Butler sees as potential for the posthuman: cancer, and the limited immortality it suggests.

The concept of immortality, much like Lilith's life, HeLa's cellular line, and Lorde's cancerous cells, is an idea, a suggestion, that is at work in the shadows of all of these texts. At these texts' metaphorical and scientific hearts, readers are asked to consider the mitotic nature of cells,[115] the splitting and replicative nature of life and death or the cyclical (re)development of

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living outside of Oankali compounds. However, these hybrids can only do this work by leveraging their positions and status within Oankali society, as Oankali. See *Imago* in particular.

[114] Oankali-human hybrids are created when the ooloi genetically mixes the DNA of four partners, two human, two Oankali, and implants the zygote in either a human woman or Oankali female. The child is considered to have five parents: four parents who donated genetic material, and one ooloi who put all of the material together. This process can be completely distinct from sexual intercourse, which is a three-person process where the Oankali are involved—the ooloi acting as the arbiter and conduit of both reproduction and pleasure.

[115] It's important to consider the nature of mitosis or cellular division. During this process, DNA, the genetic building tool for the organism, is replicated and proliferated into a new developing cell. This same process happens during reproductive cell replication, but the DNA isn't fully duplicated (see, meiosis). Additionally, if we remember

self over days, months, and years. What is at stake for Lorde, Butler, and the Lacks narrative is a definition of humanity, a call for a radical redefinition of the liberal human subject, and the simultaneous cessation of the continuing dispossession of black bodies under capitalism. This mitotic ritual, this splitting and proliferation of self sits at the heart of a potential owning of oneself.

"One day I will give birth to myself, lonely but possessed."[116]

Several years after the last *Xenogenesis* novel was published, Patricia J. Williams meditated on navigating the assemblage that is blackness, genetic reproduction, and self-possession in *The Alchemy of Race and Rights*. In her essay "Owning the Self in a Disowned World," Williams uses the language of science and cells, mainly the mitotic metaphor, as a methodology to generate the black feminist self. Suffering through a brief fever, she muses on strange moments of intra-racial reincarnation, and the contemporary genetic gaffs, the accidental births of black babies inseminated to white parents.

> I wonder, in my disintegration into senselessness, in whom I shall be reborn. What would the "white Pat Williams" look like? Have I yet given birth to myself as "the black Pat Williams?" I wonder about children, how I might be split in order to give life; I wonder how to go about inventing a child.[117]

In this fever dream, Williams wonders at a possible reincarnation or replication of her white self, and whether she's fully birthed herself, or her identity as "black Pat Williams," a concept to which she returns throughout the essay. Williams quickly moves from self-birth to the splitting of self that seems necessary to produce a child. Focusing on the word "split" and the concept of invention pushes this errant thought through imagery of the eruption of an infant from

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Margulis' theory of evolutionary biology, this process was developed out of a radical symbiogenesis, the consumption of one prokaryotic cell by another.
[116] Williams, *The Alchemy of Race and Rights*, 183.
[117] Williams, *The Alchemy of Race and Rights*, 183.

a body, to a consideration of cellular reproduction that returns to a production of self.[118] Birth is

not just about reproduction of babies, a process that is heavily policed and medically dangerous

if you are a black woman, but a cleaving production of selves, and with advancement of genetic

therapies this cleaving can produce various selves, both white and black. Almost as a response to

this idea, Williams notes later on the page, "one day I will give birth to myself, lonely, but

possessed."[119] Here we get a glimpse at the heart of Williams's piece. Conceptions of her own

black female self are consumed by the ability to not only perform particular black selves (mainly

professional), but also to dissemble completely, and un-identify herself. This creation of various

identities is inevitably wrapped up in both a staving off and an aspiration to motherhood. As

seemingly always, this black motherhood is fraught, and (according to a piece by Derrick Bell,

which Williams summarizes), for the professional black woman, impossible.[120] Williams

vacillates between images of splitting and shattering as they relate to and combine with moments

of birth or self-propagation and identity. At first, it seems that there might be power in this

dissolution:

> My power was in the temptation to dissemble, either out of love or disaffection. This is
> blacks' and women's power, I used to think, the power to lie while existing in the realm
> of someone else's fantasy. It is the power to refrain from exerting the real, to shift
> illusion, while serving someone else's weaponry, nemesis, or language club.[121]

Williams's initial fantasy is that the power of black people and women is that they can

affect the narratives and selves of others. It would seem that in black women this power is

doubled, in that she as black woman can either extend fantasies in love or shatter them in

disaffection. Black women are keepers of the real; even though they are forced to hide

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[118] I'm not the only one who has noted this focus on cells, biology, and self-creation. Dorothy Roberts quotes William's work in *Killing the Black Body*.

[119] Williams, *The Alchemy of Race and Rights*, 183.

[120] Bell theorizes the figure of young, black professional women through a story in which on their twenty-seventh birthday, these women fall into comas only to wake up forever changed, and basically as unproductive and unfruitful vegetables… *sigh*

[121] Williams, *The Alchemy of Race and Rights*, 200.

themselves, they are producers of others' narratives. This narrative support, especially when compelled by love, comes from reproduction and kinship, her relationship with her mother or father, and the "invention" of a hypothetical baby. Williams's theory of dissembling speaks to her struggle to own herself, and her identity, instead using disguises and faces to support others' narratives. Dissembling acknowledges her difference and isolation as a black woman, an identity that must be split, or taken apart, in order to reproduce a self that is about and reflects the imagined realities others, in effect reproducing a self that is always inherently other, not quite self-ownable.

Williams next insists that dissembling is not a representation of power for black women, but perhaps a lie and limitation she crafted for herself. In this realization she considers what it would be like to operate not as an identity, a narrative, that is derivative of black or white male experience, but as an honest, unattached whole. The essay ends as Williams wakes from a dream, as "a propagation of me's"—a striking image.[122] Her language of propagation invokes not only reproduction, or multiplication of an organism, but also the extension of that same organism. In an essay focused on the generation of identity, of new kin, Williams complicates the conventional line of human reproduction and proliferation, instead taking the cellular route of propagating, of extending herself. In this she establishes a path and reason for a practice of black feminist cellularity, an ontology that we can clearly see in the threads of Butler, Lorde, and even in the full acknowledgement of Henrietta Lacks's contribution to contemporary biotechnology. Williams, like Butler, asks readers to consider alternate forms and narratives of self-extension, of family production. Self-proliferation, or propagation, is key to Williams's crafting of her identity and possession of self. Propagation, not reproduction, is the ontological condition that can interrogate the complicated forms of agency, coalition, and survival that speaks to the production

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[122] Williams, *The Alchemy of Race and Rights*, 201.

of a new form of humanity, and the narrative difficulties of black womanhood as it intersects

with parenthood. These narratives upend narratives of reproduction, and instead focus on the

literal generation, proliferation, extension of self.

In the last moments of *Dawn* Lilith thinks about her future:

> At least she would get another chance with a human group. A chance to teach them…but
> not a chance to be one of them. Never that. Never?
> Another chance to say, "*Learn and run!*"
> She would have more information for them this time. And they would have long,
> healthy lives ahead of them. Perhaps they could find an answer. . . . A few fertile people
> might slip through and find one another. Perhaps. *Learn and run!* If she were lost, others
> did not have to be. Humanity did not have to be. (*Lilith's Brood* 248)

Instead of thinking of the baby she carries, of the "home" she must return to, Lilith

focuses on her second chances and on the second chances she can offer new humans. These new

chances are contingent on the long lives of people, not their ability to create progeny. While

resistance and escape are not possible at the moment, and perhaps never possible for Lilith, her

measure of survival is based in the individual, the sustainment and self-possession of individual

life. This is Lilith's plan, and the secret hope she fosters across the remaining two books. The

only possibility for humanity's survival is individual longevity—to survive, to live, to continue

generating cells until the humans can learn enough to run far enough. Thus the generation of a

conceptual legacy of propagation provides a reason for Lilith to live, to relent, and ultimately, in

later books, to choose to participate in the end of humanity through the symbiogenetic

production of a new generation, wholly different from herself.[123] It's the relentless propagation

of her own cells in her own body—the potential indefinite persistence and proliferation of self—

that speaks more to a condition of black technological identity than any child she can ever

produce.

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[123] These future generations of human-Oankali hybrids also become important as they (Akin and Jodas) begin to
advocate for human interests and the relinquishment of Oankali control.

A Black Feminist Posthuman

This chapter has traced what could become a larger black feminist posthuman intervention during an explosion of public and scientific posthuman thought and discovery. In reading Butler's *Xenogenesis* trilogy and her developmental research, a tradition of black feminist cellular ontology that was present in the fiction, nonfiction, and theoretical works of black women during the 1980s–90s is illuminated. Butler and writers like her access the public and cellular focuses of science discourse of the time to imagine new ways of being human, and of extending the human race. Their writing highlights the ontological difficulties of black motherhood, linking it to a history of pain, science, and dispossession, and suggests looking to the cellular, and the life-cycle or generation of self (somatic cells), as a method of extension, production, and resistance. This refocusing provides a cellular method of existence and survival within the circumstances and narrative conscriptions placed on black womanhood.

We can see this how this ontology might be read through the cultural and historical discourses produced out of Henrietta Lacks's stolen cells. This interest and focus on cells, and mitotic proliferation, does two things in relation to the discourse of the human and the posthuman. First, this legacy directly aligned this moment of black feminism within conversations of mainstream science and journalism. This black feminist cellular moment reveals occluded narratives of biotechnology and genomics that are representative of black women's integral relationship to such research and thinking, as well as their relationship to definitions of humanity. Secondly, engagement in black feminist cellularity argues for a redefinition of humanity founded in black life and realities by adopting alternative biotechnological traditions and epistemologies that override and reject social Darwinist traditions historically used to foster racial hierarchies.

Finally, this focus on black cellularity is a prompt for readers, asking them to consider the creation and propagation of black femme selves outside of and alongside conventional narratives of (failed, painful, complicit) motherhood and fleshy embodiments. Together, these novels, journal entries, letters, and essays ask, and answer, how black women might exist in life (and through death) in a world in which the definition of the human/posthuman is radically redefined and based in their own stories instead of dissemblement. Each author considers the implications and affordances of such a life and such a definition for humans—including a gesture, Butler's gesture, to the way this refiguring of what is human, this jettisoning of humanity as we know it, might stretch and redefine the limits of mortality. Her novels and her research are the cipher to decode this tradition. In her novels, there is aggregation of all of these feelings, considerations, and theories. Without Butler, we wouldn't be able to see this lineage quite as clearly. With her, I hope to find more examples of the ways in which black women attending to the cellular, the smallest bits of their embodiment, forge a new, radical, embodied future.

NNEDI OKOROFOR:

COMMUNICATION, POSTHUMAN LEGACY, AND EMBODIED DATAFICATION

Buried in a four-hundred-page account of an alien invasion of Lagos, Nigerian author

Nnedi Okorafor asks readers of *Lagoon* (2014) to pause, consider, and mourn a child. This

unnamed, mute child is killed by a woman who misidentifies him as an emissary for the newly

arrived aliens, who have assumed the shape and color of the citizens of Lagos. Unfortunately, the

child is not related to the aliens, does not have supernatural powers, and expires quickly on the

scene. In his last moments, the novel refuses to move to the point of view of this unnamed boy.

Instead the point of view shifts to an anonymous young man, a bystander with a camera. Let's

call this man "the poster."

> He'd never seen death. He'd always thought he'd run from it when he came across it, yet
> there he was, pushing his camera up into the boy's face. No one stopped him. He and his
> camera were capturing the boy's soul.
>   The young man with the recording camera would post the boy's death on the
> Internet minutes later using his phone. Millions would watch the boy's surprised but calm
> face turn toward the camera. . . . The boy would join the group of murdered young people
> who became iconic figures of troubled times, like South Africa's Hector Pieterson and
> Iran's Neda Agha-Soltan. This child would become the Boy Who Died So the World
> Could See.[124]

The poster has never seen death, but his horror prompts him to witness and to film the last

minutes of the boy's life. The poster takes cinematic liberties, zooming close to the boy's face,

panning to catch the boy's final looks and the blood that pools and frames his face. The poster

suggests that in recording this moment, "he and his camera are capturing the boy's soul."

Okorafor uses these two witnesses, the poster's eyes and his camera, to highlight the way in

which this moment of private tragedy publicly witnessed becomes spectacle and emblematic of a

larger narrative being built about an African extraterrestrial occurrence. The narrator notes that

this moment of spectacle-making is a product of history, and that "troubled times" seem to

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[124] Nnedi Okorafor, *Lagoon*. (New York: Saga Press, 2016), 192.

necessitate. The boy's death is an image that is generated to alert millions to problems and

resistance struggles happening elsewhere. His fictional death slots in to the very real way

tragedies in regions of the Middle East and Africa operate in a contemporary Western cultural

imaginary—as spectacle. What is different about this boy's image is the rapid nature of its

dissemination and the technological apparatus that is leveraged for this kind of spectacle sharing.

Millions will see his face, his surprise, and his calm. Unlike the circulated images of Pieterson or

Agha-Soltan, the unnamed boy's image is circulated at the then-apex of social media via the

platform Twitter.[125] The novel de-centers the moment of filming and capture, leaving the

specifics of the poster's recording apparatus vague, calling it a "camera" or "recording camera,"

and mentions that he would upload the video using his phone, because the photographic arm of

history-making is tried and true. Instead the novel highlights the method of dissemination, of

"posting" and sharing. This is where the reality of sharing and media technology reshapes the

way this narrative is created. Okorafor is specific in this allusion, for when the narrator initiates a

new chapter, providing meta-commentary, the narrator focuses on the way the mute boy's death

figures in an international context outside of the scope of the novel. In describing the technology

of sharing and its impact, the novel is specific:

> That was the real introduction to the great mess happening in Lagos. Nigeria. West
> Africa. Africa. Here. Because so many people in Lagos had portable chargeable glowing
> vibrating chirping tweeting communicating connected devices, practically everything was
> recorded and posted online in some way, somehow. Quickly. The modern human world is
> connected like a spider's web. The world was watching. It watched in fascinated horror,
> for information . . . but mostly for entertainment. Footage of what was happening
> dominated every international news source, video-sharing website, social network, circle,
> pyramid, and trapezoid. (*Lagoon* 193)

Here, the narrator highlights the method of the story's dissemination and the reason why

this information, this originally ignored story, is shared in this manner. The death of a boy at the

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[125] Agha-Soltan's death was circulated on Twitter and shared virally. However, her death came before Twitter
became the website that it is in 2014 and one of the most visited websites on the internet by 2015.

hands of another human woman is a strange headline for an alien invasion, but it is a moment

easily isolated, and quickly shared by a network of "chirping, tweeting, connected devices."

Okorafor takes the time to insert specific social media platform Twitter into the narrative as the

narrator builds an image of a technologically active Lagos connected to a networked world. The

phrase "tweeting communicating connected devices" stands out; it calls readers to a specific

platform that features in the circulation of not only world events and public rhetoric, but also

stories and videos that feature black death and black pain. The actions of the poster calls to mind

a countless digital archive of black death propagated, circulated, and revealed via personal

recording devices and social media. It locks this fictional moment into a larger real-life legacy of

expectation and platform use.

Stranger still, near the beginning of the poster's encounter, he insists that "he and his

camera were capturing the boy's soul." In this short statement is perhaps the most radical,

paradigm-shifting suggestion of the entire exchange. The poster believes, accepts, and willingly

suggests that this recording not only records the image of the boy, but is working to retain the

boy's soul, his personhood in the moments of his death. The poster then disseminates this soul

via a file uploaded to the internet. This soul is called and recalled and embedded in various

websites and platforms; this is a soul that is played, reposted, and replicated, tweeted, and shared

ad infinitum. His recording is not simply a series of images but instead a datafication of the boy's

body, a familiar language for his transformation into actual bits, into technology. This

transformation into data and technological infrastructure is quick, sudden, and unquestioned. It

chafes at mainstream understandings of what data and technology are, and how they should be

considered—inanimate and inhuman. This new suggestion of embodiment, the possibility that

bodies and personhood can be transferred into new medium, or new technologies, is a posthuman

concept that is not foreign within the novel. *Lagoon*'s plot includes aliens who claim to *be*

technology, and can take any form, and manipulate any medium, including human bodies. Under these circumstances, the boy's dissemination could be considered, expected, unsurprising, or a primitive iteration of the technology the aliens wish to share. Capturing and disseminating a human this way is no longer metaphorical but matter of fact.

Nnedi Okorafor is a Nigerian American science fiction and fantasy author. She first began publishing short stories in 2001. Since then she has published thirteen novels and the majority of her work is deeply concerned with the kinds of embodiment afforded by new and old technologies as we see them. Her work continually melds the black and the technological, in a way that suggests readers think about the human, black, body as much of a form or medium as technological apparatuses like a computer, a hard-drive, or an ebook—she turns conversations of the posthuman from conversations of incursion of technology onto human bodies to the ways in which technology can already be translated into and between the biological apparatus of the body and technological media, in order to address what that means in terms of the human life and ethical survival on planet Earth. While alien encounters easily prompt such conversation, these moments of embodied tech, of technological embodiment, focus discussions and have the possibility to constellate ongoing theoretical and practical conversations about data, data culture, or the way we collect and represent human interactions with handheld personal technologies that network private individuals to larger archives that are usually surveillant. This is not an isolated problem; instead it is possibly one of the most persistent and pressing global conversations of the early twenty-first century.

Datafication, or the process whereby life-processes are converted into streams of inputs for computer-based processing, is a pressing ontological and ethical issue when it comes to conversations of human autonomy, freedom, and privacy. Yet the naturalization of data and datafication through societal and state generated language has made resisting the continual

transformation of human lives into data point for use and profit difficult.[126] Black science and

technology scholars, like Jessica M. Johnson and Kim Gallon, insist that this practice of

collected data extends to the academy and illustrates the ways in which structures of race, class,

and gender are endemic to data collection.[127] Tanya Clement and Amelia Acker argue that

datafication processes are revelatory of the continued "code-ification" of social biases into data

collection systems and the algorithms that rely on them. They continually produce more

structural bias, but this time using mathematics. These scholars have called for those who collect,

use, and manipulate data to always acknowledge data as a "cultural product," always already

placed in existing cultural narratives—instead of unrefined "objective" information.[128] Those

who focus and think about the ways narratives of blackness have been established across

centuries have also been identifying the ways in which methods of datafication, especially

surveillance, has shaped and affected black life. Simone Browne in *Dark Matters* suggests that

the precursors to generalized datafication can be seen in the surveillance of black life and the

collection of black data across the United States from the period of chattel slavery onwards.

Browne's third chapter is an analysis of the use of biometrics data as it is used to fortify the

border, surveil communities for policing, and encourage various forms of disenfranchisement. As

she investigates these issues it is easy to become attuned to the slippages of language at play in

her analysis. Browne suggests that contemporary algorithms used to run over biometric data code

not only encode pieces of the body (like fingerprints) but also encode performances (or moments

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[126] In fact, various forms of datafication have been conscripted into utopian and democratic narratives of connectivity, functionality, and "individual and social empowerment." Historically, mainstream thinking on data and data culture has been that data, a "naturally" occurring raw resource, collected through technology, an always "neutral" process or apparatus, generates a common good structured by this data. Thus through its collection, data can create a state of "well being" that can only be achieved through the gathering and processing of information that benefits society. Nick Couldry and Jun Yu, "Deconstructing Datafication's Brave New World," *New Media & Society* 20, no. 12 (December 2018): 4473–91.

[127] Especially within the realm of the digital humanities.

[128] See, Amelia Acker and Tanya Clement, "Data Cultures, Culture as Data," *Journal of Cultural Analytics*, 2019.

of living, of embodiment), effectively generating what I will call a datafied body.[129] Because of this process of generation Browne then asks how anyone is to understand the body once turned into data.

The thrust of Browne's analysis stems from oppressive surveillance of states and the border, especially as white enforcers use biometric bodies against their black body counterparts or vice versa. Looking at moments when the two are judged by authorities to misalign, her analysis of such datafication practices also provides an avenue for thinking through personal and public data creation and collection outside of the state. Coupled with Weheliye's technological assemblage theory, this frame of the datafied body begins to address what can be seen as a counterpoint to surveillance datafication: black people, their technophilia, participation, and creative use and re-use of platforms and applications that simultaneously collect and generate their bodies and generate virtual data-filled ones out of scraps of human life and identity. The datafied body becomes especially important as these participatory scraps, or data points, not only reflect public communication, narrative building, and protest, but also living and being black in data-producing spaces.

So, how *do* we understand the black datafied body? The chapter that follows looks at the way Nnedi Okorafor addresses the question of the black datafied body—how her *Binti* trilogy addresses the way we might understand the datafied body, as it operates as a new moment of technological embodiment and identity, in tracking both biometric collection of data and communicative and interactive data generated by black technology use. I argue that Okorafor's works, especially her *Binti* trilogy (2015–2017), takes the ongoing conversations of black datafication, the collection of data from and generated by humans, biometrics, and the translation

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[129] The development of this language comes from Browne's discussion of digital epidermalization, a concept that will return in this chapter. Simone Browne, *Dark Matters: On the Surveillance of Blackness* (Durham: Duke University Press, 2015), 109.

of human data, that scholars like Browne take up. Okorafor's representation of embodied technology and the way black bodies reflect and interact with particular kinds of data generation in her novels opens up a door for new considerations of what/who is human. In three short novellas, Okorafor asks and answers how we might conceptualize how black users and creators of technology are building the datafied black body together.

Binti

Nnedi Okorafor's award-winning *Binti* trilogy is a futuristic space-opera bildungsroman that follows Binti, a young Himba girl, living hundreds of years in the future in what is now Namibia. She is the youngest daughter of a tight-knit family, who reign as the technological pillars of an insular community. Over the course of the series, math, technology, and ancestral beliefs work together to form a kind of magic that structures daily life. For example, Binti's mother uses mathematical equations and currents to sustain and protect the family. Binti's father builds the best astrolabes (handheld communication technology) in the region, and because of this her family wields great influence. Binti, being their daughter, easily drops into mathematical trances (a process she calls "treeing"), establishes colorful currents that help her build new and better technologies. She also has a deep belief and connection to her ancestral roots, evidenced by the way she covers her skin with ojitze, a smooth clay used for modesty, and braids her hair in fractal patterns telling the history of her family. Because of who she is, and her talent, Binti is tapped to be the community's next master harmonizer, an individual who settles disputes and brings harmony to the community at large.

Yet when readers first meet Binti in the first book, *Binti*, she has made a controversial and secret decision to leave her home, people, and future to travel light-years away in order to attend the most prestigious university in the galaxy, Oozma University. Her departure is unthinkable. Binti's community, the Himba, based on an indigenous contemporary tribe in

Namibia, are a very insular people. On Earth, they are treated poorly by the fair-complexioned Khoush people, who are engaged in a centuries-long war with the jellyfish-like alien species the Meduse. The Himba imagine themselves as both stuck between these intergalactic races, but also agnostic to their political struggles. For Binti, to step out of her community is not only an opportunity to experience new worlds, information, and ways of being but also to open herself to prejudice, hate, and intergalactic conflict.

Before she arrives at school, she encounters tragedy on the intergalactic trip to Oozma. On the living ship ferrying new students and faculty from Earth to Oozma, Binti becomes the sole survivor of a massacre, as the Meduse perform a ritual killing—the first act of war in centuries. Due to her *edan*,[130] Binti survives as a hostage of the Meduse, and later as a harmonizer brokers a temporary peace between the Meduse and the Khoush at Oozma through a bodily sacrifice—the exchange of her hair for Meduse tentacles called okuoko.

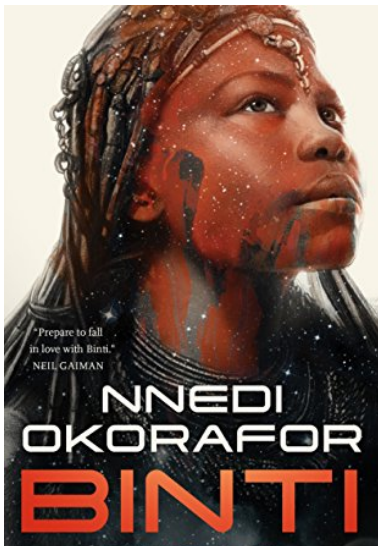This moment of diplomacy is only the first time Binti finds herself called to fix and

Figure 7: Re-issue cover for Binti where we can see both her braids and ojitze

mitigate historical rifts and political scars on her planet. The second and third novellas, *Binti: Home* and *Binti: The Night Masquerade*,[131] follow Binti as she becomes increasingly alienated from her family, her home, and her body due to her new Meduse tentacles and the communal anger that comes with them.[132] Feeling her body has been corrupted, Binti returns home for a pilgrimage. However, instead of a pilgrimage she encounters the Night Masquerade and learns about her father's lineage as part of a tribe of Enyi Zinariya. The Enyi Zinariya have technology inside

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[130] An inert piece of technology she found in the desert as a child.
[131] These texts will be cited and noted in text as *Binti, Binti: H* and *Binti: TNM* respectively.
[132] The Meduse have a collective consciousness or hive mind. They are reminiscent in some ways of Butler's Oankali.

of them, alien nanobots living in their bloodstreams. Binti, as her father's daughter, has them too. Once activated, these nanobots allow her to engage in a virtual communication interface that only other Enyi Zinariya can access. In the final installment of the series, *Binti: The Night Masquerade*, Binti, barely comfortable with her new abilities, attempts to stop a brewing escalation of the Meduse-Khoush war and dies trying. She is reborn a new person, a hybrid of herself and a shrimp-like intergalactic Miri12 ship called New Fish[133]—the child of the ship that took her on her initial voyage. Once resurrected, Binti returns to school, containing more than she ever has, her body irrevocably changed, alive with possibility for the future.

The *Binti* series asks and considers myriad questions about belonging, community, and identity. Binti continually struggles, as a young woman, to manage her wants and desires as they push against what she values, her heritage, and the ideas of her community. As if adolescence weren't difficult enough, Binti must readjust as her body is forced to change, to take on new forms of technology at each narrative turn: first Meduse tentacles for her hair, then Zinariya nanobots in her blood, finally her body consumed, built, and shared with New Fish, the Miri12. Each of these new technologies are communicative, adjusting, reforming, or sharing her body, while allowing her to talk with new people and species in different ways. These require ontological adjustment, and integration of new understandings of life, culture, and society, even as Binti wants and needs to cling to her own community's ways. At series end, she has to become more than herself, Meduse, Enyi Zinariya, and Miri12, to become the self she was meant to be. Her DNA is altered, her alignment with her community is put to task both socially and biologically, and she becomes more than she could possibly know.

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[133] This living ship is a contradictory echo of Butler's living Oankali ship. Here the ship is a haven instead of a prison.

This narrative of growth is why it's difficult to separate Binti and her hybrid lineage from her name and its patronymic connotations. In Arabic,[134] Swahili, and Hausa, "bint" means daughter, and "binti" means daughter of, or my daughter. Throughout the trilogy Binti's name grows longer and longer, each addition addressing her new composite, hybrid, self.[135] Thus Binti, as her name suggests, turns out to be the daughter of many, and many lay claim to her through technological adjustments and recreations of body, through her body's datafication and the adjustment of her DNA. In these alterations, and because of them, Binti is vanguard of a new kind of generation, a new kind of human, based on her specific experiences, her existence as technology and her manipulation of it, in addition to her personal struggles with identity and mental health. Binti is the culmination of a long, and possibly unending, conversation Okorafor is generating about the limits of the human body and identity when faced with the inclusion of foreign, alien, and even domestic technology.[136] All of these conversations about technology and embodiment happen within a thematic frame in which while Okorafor reminds readers of what Anna Everett calls "black technophilia"[137] or the creative mission of Afrofuturism (which Okorafor adjusts to Africanfuturism): to place black stories and technological futuristic stories on the same plane. She reminds readers that blackness is more technological than mainstream narratives of science fiction and technology can imagine, and that to be black is to be on the forefront of the posthuman question. Okorafor uses black female protagonists to engage with such posthuman conversations in each of her works.

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[134] The novel hints that the Khoush, the community that is the community outside of the Himba, who once may have been more closely related, has a culture that is analogous to contemporary Arab society.

[135] Binti's full name grows from Binti Ekeopara Zuzu Dambu Kaipka of Namib to Binti Ekeopara Zuzu Dambu Kaipka *Meduse Enyi Zinariya New Fish* of Namib. The last three names indicate the new parts of herself and her acceptance of these new legacies. (*Binti: TNM* 169).

[136] This kind of addition or technological extension seems like a tempered but positive possibility in Okorafor's work.

[137] Anna Everett, "On Cyberfeminism and Cyberwomanism: High-Tech Mediations of Feminism's Discontents," *Signs* 30, no. 1 (2004): 1279.

The remainder of this chapter considers Okorafor's *Binti* series in particular, as a framework for imagining and understanding the translation of black life and communication into communication and technological data. Okorafor is traditionally unconcerned with generic barriers between what can be called science fiction, fantasy, or magical realism.[138] Instead she structures various technological, magical, and faith-based apparitions, so that they can be engaged on the same plane, in the same register, with similar language. In identifying the embedded structural conceits of the trilogy, we can interrogate the ways in which the novel structures or restructures familiar narratives and concepts in order to open up new possibilities of living, identity, and storytelling. Okorafor's method of incorporation and translation of various epistemologies can help us think further about datafication and black embodiment, and how we might excavate an ethical practice and methodology for approaching the collection and use of black data. Additionally, the series serves as an analog for how black use of technologies and digital platforms for communication and narrative building might work with and in spite of problems of datafication, to produce new technological black ontologies.

Foundational Structures: Mathematical Sight

In *Binti*, mathematics, or the "science of space, number, quantity, and arrangement,"[139] operate in unexpected ways. While math is familiar to readers, in that numbers, equations, and concepts work in the same way, the primary use of math, the description and representation of phenomena—counting objects, measuring curves and spaces, naming shapes and ideas, considering infinity—is not all that math does. For Binti, math is active, generative, and continually forges new possibilities for being and communicating. Isolating two technological trajectories in the novels illuminates the expanded nature of such math (a science that is both forging and inventive and retains its traditional descriptive functions): the astrolabe and

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[138] Nnedi Okorafor, "Organic Fantasy," *African Identities* 7, no. 2 (2009): 284.
[139] See the Oxford English Dictionary, the entry on "mathematics."

tessellating fractals. These trajectories, one historical object and one contemporary mathematical

concept, are early anchors in the series that are fully incorporated and structure Binti's world.

Understanding the way this object and concept operate in the novels reveals the ontological aims

of the work. While Binti incorporates new and alien kinds of technology to her body by series

end, these first two technological and mathematical concepts are the basis for Okorafor's world

building, and Binti's genius. Their presence combines two different mathematical,

computational, and historical moments, the ancient (astrolabe) and the twentieth century

(fractal); they also illuminate the kinds of technological narratives that Okorafor actively weaves

into Binti's futuristic story.

The Ancient and Medieval (Arab) Astrolabe

> I brought my astrolabe to my face. I'd made the casing with golden sand bar that I'd molded, sculpted, and polished myself. It was the size of a child's hand and far better than any astrolabe one could buy from the finest seller. I'd taken care to fashion its weight to suit my hands, the dials to respond to only my fingers, and its current were so true that they'd probably outlast my own future children. I'd made this astrolabe two months ago specifically for my journey, replacing the one my father had made for me when I was three years old. (*Binti* 34)

On Binti's Earth the astrolabe is a prominent form of handheld communication. Her family,

given their abilities and mathematical prowess, build many.

Building astrolabes is their trade; astrolabe use is a fact of

Earthly life. However, within the genre context of

contemporary science fiction, an astrolabe is a strange

handheld computer for the characters to adopt. A series of

rotating discs, made of metal, wood, or even paper,

astrolabes use stereographic projection, the mapping of a

sphere onto a flat circle, to tell users their location and the

time. These computers were big, flat, circular, tactile things,

Figure 8: An 18th-century Persian astrolabe, kept at the Whipple Museum of the History of Science in Cambridge, England.

wherein users rotated plates to understand the world and the stars. Astrolabes were engraved with complex charts for completing mathematical calculations, and could assist in surveying cities and measuring different things. There are many other lineages of handheld devices that could predate or mirror handheld microcomputing technology in a science fiction narrative. Most are more familiar; think *Star Trek*'s communicators, handheld or wearable communication devices that are small, immaterial, and reminiscent of a cellular phone or wearable device. An astrolabe is not within the same technological narrative, trajectory, or mold of contemporary popular sci-fi. It's centuries old. While it is known to be one of the first medieval computational tools, deftly able to orient users in time and space, it has fallen out of the contemporary imagination. Astrolabes are about the physicality of doing math to translate the three-dimensional world onto a flat surface. They allowed ancient and medieval humans to connect with the visible and invisible world—the earth and stars around them—in order to answer every day temporal, navigational, and mathematical problems.[140] An emphasis on scope, position, and connectivity make the astrolabe much different from other communication and handheld devices, and this is perhaps one reason Okorafor turns to it.

Binti's astrolabe is an extension of this particular technological trajectory, not an anachronistic gesture. Her device is weighty; it doesn't fold or light up, and its metal is cool and conductive, making the device both mechanical and mathematical by nature. Earlier, when Binti describes her personal astrolabe, she lists the conductive nature of gold sand bar components, the astrolabe's perfect weight, and the dials that respond to her touch. Binti's astrolabe is developed in the future, and includes voice controls and three-dimensional image projection. However,

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[140] For more information, see J. D. North's explanation of the astrolabe or Tom Wujec's TED talk. Even Chaucer wrote about the astrolabe. J. D. North, "The Astrolabe," *Scientific American* 230, no. 1 (January 1974): 96–106; or Geoffrey Chaucer, *A Treatise on the Astrolabe* (Oxford: Early English Text Society, 1872); Tom Wujec, "Learn to Use the 13th-Century Astrolabe." filmed July 2009 at TEDGlobal, video. https://www.ted.com/talks/tom_wujec_demos_the_13th_century_astrolabe.

much like its historical precedent, this technology is of a tactile and sensory nature during use.

Later in the novella, readers learn that the astrolabe warms and cools in response to requests, and

can be programmed to emit calming scents and noises. The physical ancient nature of Binti's

tech diverges from the presumably sleek, small, virtual future. As technology it encourages even

an "inward" looking people, like Binti's, to understand their place stereographically in position

relative to the larger universe. The astrolabe is an astronomer's tool, after all. The inclusion of

the astrolabe also indicates the kinds of alternate technological trajectories that Okorafor's novels

inhabit. Instead of engaging white Western narratives of technology, Okorafor uses the astrolabe

to insert narratives of ancient and medieval Islamic nations and the reality of their mathematical

and technological prominence. About her family history, Binti tells readers,

> I come from a family of *Bitolus*; my father is a master harmonizer and I was to be his
> successor. We Bitolus know true deep mathematics and we can control their current, we
> know systems. We are few and we are happy and uninterested in weapons and war, but
> we can protect ourselves. And as my father says, "God favors us." (*Binti* 29)

Bitolus was a famous astrolabe maker living in Baghdad in the tenth century. Binti's

family being of a tribe of Bitolus gestures to this particular legacy of astrolabe crafting. Bitolus is

also known to have had an apprentice, Mariam "Al-Astrolabiya" Al-Ijiliya, who was the

daughter of one of his other apprentices. Al-Ijiliya was a respected astrolabe crafter and

astronomer, working for the king of Aleppo in the mid-tenth century. Okorafor has publicly

noted that Al-Ijiliya is historical referent for Binti's character.[141] In these choices, Okorafor

weaves new non-Western histories into her narrative of the future. She links the ancient and the

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[141] Okorafor became aware of Mariam "Al-Astrolabiya" Al-Ijiliya during a book festival in the United Arab Emirates (the setting of which inspired much of the series). While not much is known or written about Al-Ijiliya, she has become a popular narrative circulated around the internet when recovering women in tech or science narratives. Nnedi Okorafor (@Nnedi), "More Context for Binti," Twitter, May 5, 2016, https://twitter.com/Nnedi/status/734805919817666560. Emily Asher-Perrin, "The Inspiration for Nnedi Okorafor's Binti is a Muslim Scientist from the 10th Century" *Tor.com*, accessed May 31, 2019, https://www.tor.com/2016/06/02/the-inspiration-for-nnedi-okorafors-binti-is-a-muslim-scientist-from-the-10th-century/.

futuristic, the mathematical genius of one Arab woman and one Himba girl. This technological history becomes the favored one, especially since the Bitolus have existed for what could be millennia, assuming our contemporary Earth as a historical antecedent for the trilogy.

Astrolabes are also one of the first places we can see or imagine the active nature of math in Binti's word. In both excerpts, Binti mentions current. Of her astrolabe, she notes that it has currents "so true" that they would outlast her children. Of her people, she notes the following: we "know true deep mathematics and can control their current, we know systems." This sentence suggests that mathematics is something that engages current, which can perhaps be understood as some sort of electrical-informational field.[142] To engage and master math is to be able to control such current (and for Binti, this current often manifests as a blue electrical charge). Current and its control seem to be the purview of the second mathematical principle that structures Binti's world, the consideration of various infinites, and the concept of fractals.

Fractals and Tessellating Technology

During emotional and dangerous moments in the *Binti* trilogy, readers witness Binti drop into mathematical meditation, a practice she calls treeing. The first time she explains the process, she talks about engaging in the practice with Khoush students she befriends on the ship to Oozma. She recounts,

> . . . They were girls who knew what I meant when I spoke of "treeing." We sat in my room . . . and challenged each other to look out at the stars and imagine the most complex equation and then split it in half and then in half again and again. When you do math fractals long enough, you kick yourself into treeing just enough to get lost in the shallows of the mathematical sea. None of us would have made it into the university if we couldn't tree, but it's not easy. We were the best and we pushed each other to get close to "God." (*Binti* 22)

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[142] This is further theorized in a review of the book by Vajra Chandrasekera in the science fiction magazine *Strange Horizons*. Vajra Chandrasekera, "Binti by Nnedi Okorafor," *Strange Horizons*, February 29, 2016, strangehorizons.com/non-fiction/reviews/binti-by-nnedi-okorafor/.

The girls "tree" by breaking down numbers and equations indefinitely and infinitely. From a single numerical beginning or possibility, they break the concept down, into smaller and smaller parts, generating with their minds new nodes of the equations that if drawn might resemble a tree. This practice is infinite, meditative, and holy. For Binti, treeing is the way she sees the world. It is a way to manage scale and complexity, a way to engage and manipulate scope, and a tool for breaking situations and structures into new legible parts. This process is also how Binti learns. Her father and professors instruct her while she is in the tree, and through treeing, whether with ease or frustration, Binti is able to make difficult decisions again and again. Treeing is much more than a math game or exercise—it is a way of life, a method of maintaining mental health, and a religious experience. Treeing suggests an approach to life that is wholly different from expected frames of references—one that is infinite with ever-changing perspectives.

Treeing, similarly to the introduction of the astrolabe, prompts the reader to consider a new frame and legacy of reference for the story. Yet, it can be easy, perhaps even an act of self-preservation, to read past and over the math. Okorafor inserts complex equations into the text and Binti often meditates using the number 5, but on a first or even second engagement with the text, the math can seem extraneous and difficult, a disservice to the movement of the plot. However, in considering the ontological stakes of Binti's world—how she exists in the future, as a mathematician and scientist, and a Himba women with faith in her gods and masquerades;[143] and as a hybrid being, not fully human, Meduse, or Miri; and as a master harmonizer—it becomes impossible to ignore math as it prompts the reader to remember (or learn) about the infinities that exist between two numbers, two points, or two possibilities within a fixed system.

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[143] "A rich tradition in Nigerian culture, masquerades are spirits and ancestors who visit the physical world by passing through anthills." Nnedi Okorafor, "Organic Fantasy," 282.

The fractal concept of treeing, the generating of binary trees, is what gives Binti her mathematical power, and her position as master harmonizer. She notes that as her father instructs her "in the tree" she ". . . could communicate with spirit flow and convince them to become one current. I was born with my mother's gift of mathematical sight" (*Binti* 32).

These two sentences are the clearest statement of Binti's power as harmonizer and mathematician. Treeing engages with "spirit flow" and convinces spirit and math to become one. It is an echo of her earlier statement, that to engage in creating binary trees is to approach God. If spirit, what one can believe to be the immaterial manifestation of gods or belief (and that includes pantheon of "the Seven" to which Binti prays), are individual moving entities, currents that can become one, the electrical current that Binti can manipulate and generate is not simply electrical or mechanical manifestation of her mathematical prowess and will, but it is native, and a part of nature.[144] It is a reminder of her spiritual connection to her land and her culture.[145] The current can also be math in its purest form. Binti's technology is mathematical, natural, and spiritual all at once—a belief, a description, and an action. And because of her genius, this overlaying of science, belief, and action becomes a technological assemblage that is entirely her own.

One way to see how this math is natural, rooted in land and culture for Binti, is to think about the nature of the "math fractals" involved in her technology. In reality fractals are visible phenomena in nature much like Binti's current. Perhaps this is why the fractals, as a conceptual mathematical legacy, work so well in this story. If astrolabes are Okorafor's introduction of

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[144] Nature and the land are important aspects of the Himba culture and belief in the novels. Binti and the other women cover themselves in special clay called ojitze as a way to practice modesty and emphasize to the importance of the physical Himba homeland.
[145] Perhaps this current is a thematic extension of the current possibilities of Ellison's current in Chapter 1.

Islamic mathematical history, fractals, and their twentieth-century discovery,[146] echo another kind of technological trajectory. Unlike many math concepts and theorems, fractals were not invented or applied but recognized. While they can be generated and studied in labs using computer-powered calculus, fractals are first and foremost natural phenomena. The best examples are the infinite intricacy of a coastline, or the tiny crystalline structures that combine to make snowflakes, or the similarity of a Romanesco broccoli floret to the entire tree. Fractals abound in nature, where similar shapes exist across scales and zooming in resists the clarification of these structures. The presence of fractals and their foundation is in the natural world, and not descriptive mathematics, like Euclidean geometry. This naturalness makes them generative clues requiring deeper meaning and structure in Okorafor's work, because in theorizing her own work, Okorafor has suggested that her stories derive power from the land (mostly that of Africa) and that the land and its translation of intersections and strange histories and fantasies for her establishes the mode of "organic fantasy" or truth in her work.[147] Just as Okorafor looks to Nigeria to inform the structures of power and shifting hybrid identities identifiable across her canon, we see in *Binti* that this same attendance to mathematical nature brings knowledge and safety. Binti tells readers as much. She notes that understanding and deciphering structures is the work of generating harmony, for all good Bitolus know "deep mathematics" and can "control their current, we know systems" (*Binti* 29). Currents, math, and systems are all the purview of technology, worldview, and protection in this futuristic Himba culture. We see the physical manifestation of nature in math and current when Binti protects herself from the Meduse. Here

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[146] Benoit Mandelbrot named and theorized fractals based on the work of Gaston Julia's. For an overview or definition on what fractals are refer to Vi Hart's "Doodling in Math Class" playlist or Bruno Marion's "Fractals for Dummies."

[147] In "Organic Fantasy," Okorafor talks about her process and her interest in presenting the doubleness of place and identity that she experienced as a first-generation Nigerian American visiting Nigeria.

math, spirit, and conductive elements work together to allow Binti to become the first human to

ever converse with the Meduse.

> I looked at my cramped hands. From within it, from my edan, possibly the strongest current I'd ever produced streamed in jagged connected bright blue branches. It slowly etched and lurched through the closed door, a line of connected bright blue treelike branches that shifted in shape but never broke their connection. The current was touching the Meduse. Connecting them to me. And though I'd created it, I couldn't control it now. I wanted to scream, revolted. But I had to save my life first. "I am speaking to you!" I said. "Me!" . . . The door's organic steel was so thin, but one of the strongest substances on my planet. Where the current touched it, tiny green leaves unfurled. I touched them, focusing on the leaves and not the fact that the door was covered with a sheet of gold, a super communication conductor. Nor the fact of the Meduse just beyond my door. (*Binti* 41)

Above, Binti pushes the concept of math from interesting metaphor to lifesaving reality.

In fear and desperation, Binti uses her edan to generate mathematical current. This current flows

through her and branches much like the equations she manipulates with her friends—splitting

and branching where needed. Once the current encounters the gold-plated door, the

metaphorical, mathematical, electrical tree sprouts real green leaves. Leaves of all types are

fractal in nature, branching and building in self-replicating patterns and shapes. Binti focuses on

these leaves instead of the surreality of her physical connection with her Meduse captors, and her

sudden ability to speak with them. This connection, this ability to suddenly communicate, is a

theme to which I will return to shortly, as it is the heart of the trilogy. However, holding the

image of a blue electric branching tree sprouting green living leaves onto a steel and gold door is

enough to suggest the laws of science (of biology, engineering, metallurgy, etc.) are not as the

reader knows them. The influence of these new mathematical and technological legacies is

enough to shift the rules of the universe, and the register of scientific language, while strongly

ordering the world and the actions of its characters. With these two trajectories, Okorafor opens

up infinite possibilities, not only setting the novels in a known or imaginable future, but

remaking the world with two mathematical insertions.

Old Histories Meet New Technologies

Despite these new and altered technological trajectories, readers might recognize earlier-stated concerns when it comes to technology, privacy, and datafication, especially for marginalized and surveilled communities. Binti's identity as Himba, while she is engaged in radically futuristic legacies of technology and math, proves to be a cultural identity that faces recognizable oppressions. Binti is still black girl in a world that actively rejects, surveils, and mocks her, even when she is the arbiter, creator, and master of her own technology and that of others. The bias and oppression at work in Binti's homeworld, becomes particularly apparent when Binti leaves Osemba, her city, and has to interact with the Khoush. Once she is in their ports, the data on her astrolabe is scanned and analyzed, in a manner reminiscent of border control. In these moments, Binti must negotiate the protection of both her material body and the data generated around and about her body, both her material blackness and digital blackness. For instance, many of the Khoush mock her ojitze-covered body and braids, calling her dirty. Binti takes this taunting, the denigration of her physical body and her cultural traditions, in stride. However, once she attempts to board the ship her data also becomes vulnerable and she falters:

> The travel security officer scanned my astrolabe, a full *deep* scan. Dizzy with shock, I shut my eyes and breathed through my mouth to steady myself. Just to leave the planet, I had to give them access to my entire life—me, my family, and all forecasts of my future. I stood there frozen, hearing my mother's voice in my head. "There is a reason why our people do not go to that university. Oozma Uni wants you for its own gain, Binti. You go to that school and you become its slave." I couldn't help but contemplate the possible truth in her words. I hadn't even gotten there yet and already I'd given them my life. I wanted to ask the officer if he did this for everyone, but I was afraid now that he'd done it. They could do anything to me, at this point. Best to not make trouble. (*Binti* 13–14)

As the security officer scans her astrolabe, Binti relinquishes herself, her data and body, to the state—both to the Khoush and to Oozma University. This access isn't separate from or isolated to herself. It includes not only her personal history,[148] but her family's history, and all of

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[148] She's owned and carried an astrolabe since the age of three years old.

her possible futures. As Binti experiences the scan, she remembers her mother's singular warning about leaving and education and enslavement. A familiar slippage of language between body and data (that information generated by a body) appears in this moment. Binti even responds to the scan of her astrolabe physically, immediately becoming dizzy and having trouble breathing during the process. Her response suggests that this slippage of body and data is indeed more than metaphorical. Here, her body and her data are read and experienced as one. Browne provides language for this exchange in her creation of the term "digital epidermalization."[149] Digital epidermalization engages the Fanonian concept of epidermalization[150] in order to acknowledge the way contemporary biometrics and technological data are employed by institutional entities against black subjects. Browne argues that this data and its collection work to not only identify black people but to actively construct black identities in the eyes of the state—thus biometrics is both the technological collection and analysis of identity and the exercise of power inherent in the exchange. The process of digital epidermalization threatens not only the digitally datafied body (the collection of information), but its "material human counterpart" as well.[151] Thus, just as Binti's information can be scanned and she can be visible registered as a black Himba body, her physical body can then be datafied, and used digitally just like the body and spirit of the mute boy in *Lagoon*, or Browne's datafied black body as revealed at the border. Perhaps because of this knowledge, or intuition of the collapse of data and body, Binti fears she has given them her *life* and there is no going back. The scan of her astrolabe is so invasive, that coupled with her mother's warning, there is no suggestion that this surrender of her life is anything but literal. Furthermore, there is no way for Binti to know what will be done with her datafied body, but it is clear that there has potentially been a shift in ownership, and anything

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[149] Browne, *Dark Matters*, 110.
[150] The alienating and objectifying recognition of black bodies by a white gaze. C.f. Fanon's *Black Skin, White Masks* (New York: Grove Press, 2008).
[151] Browne, *Dark Matters*, 115.

could happen to her and her futures after such an exchange. This exchange is the navigation of Browne's datafied, but physical, body at work. Best not make trouble.

This uncomfortable suggestion of ownership and potential violence links and translates the physical and datafied black body, making it as much a problem of surveillance and control as it is a problem of human and posthuman definition. Historically, the aims of human definition have not been about cells and bytes, nor the materiality of the body's medium, but instead the conceptual creation of the liberal human subject during the simultaneous establishment of an economic system that facilitated the easy translation of black humans from material, physical, bodies, to notated numerical values and back again.[152] This ongoing historical conversation over who is human inflects and compounds Binti's astrolabe scan. This futuristic moment acknowledges the deep history regarding the way black bodies have not always been, or have easily ceased to be, human.

Similarly, negotiating the scan is a posthuman moment. Conversations of the posthuman, while a logical extension of this eighteenth-century definition of the human, have not yet addressed the problem above. Thus, the posthuman and the majority of such representations continue to be the purview of white masculine imaginations in which such conversations must be defended and defined by the limits and representations of human beings that only really reflect themselves. These posthuman narratives repeatedly ask, what are the stakes of data, of extending the human body with technology, of AI for humans (who are white and male)?[153] So this old posthuman conversation swings radically from erecting hard lines around who or what the

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[152] This is conversion is apparent in the selling of the enslaved, their representation on ledgers and legal documents, the language of the 3/5ths compromise, and the archival remnants of slavery. Even Binti's mother's warning invokes a middle passage of sorts. Cf. Hortense Spillers, "Mama's Baby, Papa's Maybe: An American Grammar Book." *Diacritics* 17, no. 2 (1987): 64–81; or Simon Gikandi, *Slavery and the Culture of Taste* (Princeton, NJ: Princeton University Press, 2011).
[153] This holds true, unless somehow you are Will Smith and the figurehead for several AI and robot narratives. Browne has an analysis of this as well.

human is physically, to the complete relinquishment of fleshy cellular bodies altogether in order to preserve the human mind and its data, an extreme of Cartesian/Gibsonian dreamscape.[154] In more contemporary arguments for inclusion of women and people of color into posthuman narratives, scholars suggest that this the material body must be the site of conversation with regards to the posthuman, as it is a figure, a flesh that creates identity, creates the limits and identity of the human in a way that the mind or the intellect cannot.[155] Thus the posthuman conversation extends and retracts between the eighteenth century and contemporaneity, and it is a conversation that Okorafor and her *Binti* trilogy cannot escape. Instead this is a trilogy that engages quite fully, not only due to the science fiction conventions and tropes found in the novels, but also because Okorafor diverges from expected generic narratives and forms, adding something new to add to this old conversation. With *Binti*, Okorafor offers a new posthuman story ultimately unconcerned with the incursion of alien biology or tech into the human body, or various genetic permutations of the species. Okorafor offers a series that presents these kinds of new and adjusted bodies as adaptable, possible, and productive futures, for any self-respecting human. In presenting a new kind of posthuman story that functions through, not outside of, deep considerations of materiality and embodiment, Okorafor offers a compelling narrative of what it might mean to be fully posthuman, by locking focus not on mutation or form, but on exchange and narratives and the way species communicate and connect with each other. For Okorafor, the posthuman is about the generation and revealing of narrative and cultural truths.

Communication: A New Trope for Posthumanity

It is not difficult to see the familiar posthuman heart of the *Binti* novellas. Plot-wise each novella culminates in a moment in which Binti's human body is altered by some kind of

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[154] C.f. almost any William Gibson novel and the myriad of posthuman theorists who write about his work, especially *Neuromancer*.
[155] Sheryl Vint, Katherine Hayles, and Isiah Lavender take up these issues in their respective works.

biological alien technology, a trajectory that one can even follow through each novella's cover art. The first book establishes the world and culminates in Binti receiving okuoko, or tentacles from the Meduse. These okuoko replace her hair and allow her to speak, engage, and feel with the Meduse collective. The second novella follows a similar path of body alteration. This time Binti learns about the alien nanoids that have always existed in her blood due to her father's ancestry. This installment ends as Binti travels to her father's community, meets her grandmother and other Enyi Zinariya, and has her nanoids activated. Activation allows her to manipulate a virtual platform that only the Enyi Zinariya can see and access. This platform is represented by colorful script that hangs in the air, or physical buttons one can engage. Using this embodied but invisible platform, Binti can send messages to other Enyi Zinariya. The third and final installment follows Binti through death. When after several days she is returned to her body, she is told that she has a new body constituted by alien microbes from New Fish. Additionally, she is no longer a single body; instead she is linked to the ship itself, and Binti can inhabit either her human body, or the larger body of New Fish at will. She is both human and ship always and at the same time. The acquisition of Binti's new parts is not only a posthuman intervention but can return us to datafication, adjusting our reading of the datafied body from oppression and surveillance to its potential and affordances.

While Browne's outlook regarding the datafied black body is bleak, still her language provides space for potential. When she writes about how data records become a translation of the body's "parts, pieces, performances," this language aligns with the language Alexander Weheliye uses to describe the possibilities of technological assemblage.[156] Habeas viscus, Weheliye's configuration of Spiller's flesh, is founded on the concept of technological assemblage, in which technology and technological practice are circumscribed in the broadest

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[156] Browne, *Dark Matters*, 110.

sense to encompass both epistemological and practical aims and techniques of black life.[157] It's in this kind of living that we can begin to see how Browne's biometric body will not leave the material body alone, and that this datafied relationship might not be entirely destructive. It's in these moments of "pieces and parts" that Weheliye joins Browne to point to something alive and embodied in these translated technological identities and assemblages. Even though Binti's information is collected, by trilogy's end, she no longer has the same body, or same future that she does at the beginning. This initial violation, her surrender of this data, sets her on a path to become someone different and new, made up of completely new data in a completely new body. Yet her recognizable form as Binti reminds her community and friends of the narratives at stake. Together, Weheliye, Browne, and Okorafor might suggest that black datafied bodies, once collected and created, *can* operate as, or in the stead of, the body in the physical world. Perhaps Binti, or the unnamed boy, or other black datafied bodies also have the potential to reestablish storied narratives and do just as much work in changing the way blackness and black identity are constructed as their material, fleshy counterparts.

Binti's body endures an incredible amount in the series, and in the end, it is an accretive, maximalist entity. And constantly Binti worries over the person she is becoming. Each new addition to her body is represented in her name. Her name grows and grows to include the Meduse, the Enyi Zinariya, and the Miri12 to her Himba human lineage. Strangely, this anxiety about alteration, about being herself, feels adolescent, the problems of a bildungsroman. Unlike other posthuman narratives, Binti's concern doesn't immediately extend to being "human"; instead she worries about losing her culture and identity as Himba. Lars Schmeink notes that while *Binti* joins a long legacy of literature that seeks to negotiate the posthuman, for Okorafor, these new technologies are always sites of development, offering nuanced possibilities of the

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[157] Weheliye, *Habeas Viscus,* 12.

posthuman and challenging contemporary notions of humanism.[158] Binti fights for her Himba identity in addition to, not instead of, the other new parts of her body that could be considered to threaten her humanity. Amazingly, this is the *same* problem of identity she wrestles with at the beginning of her journey, before her body changes at all. It seems by series end, everything comes back to her ability to encase herself in ojitze, no matter how her body looks or what makes it. For Binti, gaining new pieces of self is normalized. The new parts simply need to be understood and her body recalibrated. They don't make her less human or less Binti. They make her *more*.

This attitude is a departure, a new conversation in iterations of the posthuman. Standing out from even in the few tomes gathered in this project. *Binti* is a posthuman narrative that lacks an anxiety over who is human (Ellison), or even who might stay human (Butler). Still it is a narrative that considers changing, adapting, evolving the human form, and while a conventional posthuman narrative of anxiety is thwarted by the way Binti's culture manifests on her skin, these posthuman transformations point to the larger issue at play in the novels, that of communication.

Each of Binti's alterations, okuoko (tentacles), nanoids, and microbes, enhances her ability to speak with new species. In fact, in each case these alterations assist Binti in talking to species or communities to which no one speaks: The Meduse have been in a war with the Khoush for millennia, but no human has ever been able to talk to them before Binti. The Enyi Zinariya, known to the Himba and Khoush as the Desert People, are an enclave that is even more isolated and denigrated than the Himba. Through her final transformation, Binti communes with New Fish in a way neither of their species has before. Additionally, in her union with New Fish,

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[158] Schmeink highlights that Okorafor's representation of this posthuman potentiality is a serious departure from contemporary portrayals of humanism in the genre, and gestures back to stories written in the 1980s, the cyberpunk period. Lars Schmeink, "'I Am Humanity': Posthumanism and Embodiment In Rick Yancey's the 5th Wave Series," *Journal of the Fantastic In the Arts* 28 no. 3 (2018): 344.

she connects the Miri12 to both Meduse and Enyi Zinariya communities. This acquisition of language and communication is part of Binti's job as master harmonizer. Yet the extent to which her position is really one of mastery or harmony, especially limited by her human education and perception, becomes quite clear. Even our heroine operates through her own deep prejudices, fear, and misunderstanding, though these things are at odds with true harmony. Alteration becomes imperative for revealing and rendering the problems and limits of Binti's education and the narratives that sustain them. These additions, forays into the posthuman, are the catalysts to reveal various truths and histories for Binti and the world that that the lives in. Thus, the story, in reframing the expectations of a posthuman narrative, in resisting a focus on humanity and its limits, looks to capacity, investigation, and understanding of both human and alien cultures. This journey for Binti and the reader is difficult but in some ways a less fraught approach to certain kinds of technological futures. *Binti* sidesteps these bodily and human anxieties, refusing to erase the embodiment of humanity (or posthumanity) and instead locating humanity's origins in a black Himba young woman.

Such an approach lends an ontological frame for approaching the future and what it means to be human while still lending an interesting analog for the reader. This analog is best represented in Binti's edan, the mysterious object she finds in the desert, which protects her in space, and which she decides to study as a student at Oozma University. In the last moments of this chapter, we will look at Binti's edan as a communicative object accessed through posthumanity; as the technology that both begins and ends the narrative; and as the object that acts as anchor and propeller for all of the world-building and narrative action across the series.

The Edan: A Language Puzzle Worth Solving

They left an *edan*. No instructions. No purpose. But it could make you more if you let it. I'd found it. (*Binti: TNM* 168)

While the astrolabe is the organizing technology of Binti's world, the tech everyone uses, the edan is a singular mystery. Across the novellas it takes many forms: a stellated cube, a golden ball, and finally a shiny silver pyramid. Binti carries it everywhere and at the beginning of the series she uses it as a comfort talisman:

> I pulled my plaits to my front and touched the edan in my pocket. I let my mind focus on it, its strange language, its strange metal, its strange feel. . . . "Edan" was a general name for a device too old for anyone to know its functions, so old that they were not just art. (*Binti* 16–17)

Throughout the series the edan is called several things—a "good luck charm," a "god stone," and an "inert computative apparatus"—but the word "edan" means ancient technological junk. In interviews, Okorafor has revealed that a true edan is an object used by Yoruba "sorcerers (for lack of a better word) to find their way. It's sort of like a magical GPS."[159] Yet for Binti, the edan can be anything, and that her culture has a name for old technology gives more information about her world than about the object itself. Even in its introduction, Binti makes a suggestion about its potential. It's not what the device does, or is, but instead the edan is a problem of language that interests Binti. The "strange metal" and the "strange language" connect in her harmonizer's mind, identifying something that could be more. The idea that even metal can have language comes back when Binti talks about gold, and its super-*communicative* conductive power. The first real indication that the edan is powerful is manifested during her experience with the Meduse. Looking back to that tree imagery, it is important to note that Binti's current, possibly the strongest she's ever generated, radiates from the edan into the golden paneling on the door. This current connects her to the Meduse and she is unable to control it. The edan is also her weapon, initially killing one Meduse soldier before it is able to kill her. Suddenly and inexplicably the edan is weapon and translator that keeps Binti safe.

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[159] It is interesting that the technology has a real-life referent because the edan works to locate Binti literally and spiritually across the novels. Christian Coleman, "Interview: Nnedi Okorafor," *Lightspeed Magazine*, March 28, 2017, http://www.lightspeedmagazine.com/nonfiction/interview-nnedi-okorafor/.

Binti's edan continues to be an object of experimentation for her. It becomes her primary

object of study during her first year at Oozma University and is the technological object that

encapsulates and codifies all of her abilities as a master harmonizer.

> As I hummed, I let myself tree, floating on a bed of numbers soft, buoyant, and calm like
> the lake water. . . . My hands worked and soon I slid a finger on one of the triangular
> sides of the edan. It slid open and then slipped off. Inside the pyramid point was another
> wall of metal decorated with a different set of geometric swirls and loops. Professor
> Okpala described it as "another language beneath the language." My edan was all about
> communication, one layer on top of another and the way they were arranged was another
> language. I was learning, but would I ever master it? (*Binti: H* 86)

The edan is the compounding and translation of languages, both alien and mathematical.

To master it, to figure out the mission it is sending Binti on, she must learn and acquire new

forms of communication. She is equipped for the journey but her perception must shift radically.

This shift will not happen without the redefinition of her body, and a new relationship with her

culture that follows. Once that happens, once her body is new, more, and multiple, she can finish

her mission. Below are the last moments she spends "unravelling" the edan.

> Holding it [the edan] on the palm of my right hand, I touched my index and middle
> fingers to their spots on the golden ball and immediately it began to hum and vibrate. . . .
> Softly, I whispered, "$(x–h)^2 + (y–k)^2 = r^2$" and the equation floated from my lips in a
> way that reminded me of the zinariya. . . . I chose the equation for circles because it was
> all coming back around and around and around. And the equation stretched into a circle
> as I let myself tree, surrounding me before it faded away. . . . The moment I called up a
> thick strong current, blue like Okwu, the Undying trees in the room began to vibrate too. .
> . . As I led the current to the golden ball, the trees' vibrations had becomes so fast and
> steady that they began to hum. Slowly the ball rose. It hovered before my eyes, a foot
> away, and began to slowly rotate. (*Binti: TNM* 167)

As Binti, in her new form, finally unravels the mystery of the edan, what it is and what it

is for,[160] she engages all that she knows and has experienced to activate it. She calls up an

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[160] In the novel, Binti finds that the edan is left by the Zinariya, golden aliens who once lived among humans in the
desert, making the humans Enyi Zinariya, people with alien nanoids in their blood. Once Binti finds and unlocks the
edan, it turns out that the Zinariya simply want a recommendation for Oozma University. She tells them about it and
they decide to attend. This ending or quest that Binti on is finally revealed to be a red herring. The true plot is the
altering of her body.

equation and the action manifests as the zinariya. As she climbs the tree, she calls a thick blue

current as blue as Okwu and her own okuoko. The equation takes her around and around in a

circle that reminds readers not only of her rebirth, but the way in which histories have ways of

revisiting themselves, and the ways people and concepts are connected in unexpected and infinite

ways—if only you consider the splitting, fractal nature of things. In the end, Binti repeatedly

identifies the edan as the thing with the potential to make one, an individual, a town, a

civilization, more—the edan makes her more: "They left an *edan*. No instructions. No purpose,

but it could make you more if you let it. I'd found it" (*Binti: TNM* 168).

It is the object that initiates her adventure, keeps her safe, and reveals all of the lost

narratives and methods of communication to her. Yet when it comes down to it, the edan is

simply a purposeless piece of tech, left by aliens (whose names sound like a fractal) long ago in

an effort to prompt a simple conversation and ask for the equivalent of a college

recommendation. It is a purposeless device that instills purpose, that changes Binti into

something impossibly new, different, and exciting. This change for communication breaks all of

the rules and all expectations of tradition, biology, gender, and procreation.[161] Through her use

and interaction with the edan, she begins to engage in one of her best possible futures—a future

not predicted by even the strongest astrolabe. Okorafor has noted herself that the edan is a

commentary on intersectional identity.[162] It's clear that the hybridity and multiple perspectives

that Binti can navigate and communicate are the heart of what's at stake in this novel. The edan

is the key that unlocks the entirety of this project.

What is perhaps most interesting to me about the edan is its analogous relationship to the

cellular phone, or other sorts of handheld contemporary communication technology, especially

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[161] At the end of *Binti: The Night Masquerade*, Binti is told by an Oozma doctor that Okwo, who has been assumed male, might carry their child, and that child might end up being mostly Miri12.

[162] Okorafor also notes that the edan is an object that revealed itself as much to her as to Binti. She placed it in the story without quite knowing what it was. Coleman, "Interview: Nnedi Okorafor."

the way in which humans currently use mobile devices. A cellular phone is a technological relic that quickly can become old and obsolete.[163] The edan is also a device that works, even if users have no idea how to navigate its technology. The cellular phone in its current iteration as mini-computer is about generating language, revealing and accessing new narratives. Even Binti's mission with the edan turns out to be a way for Binti to deliver a group of ancient aliens a review of Oozma University, similar to a futuristic Yelp. There is a kinship between the edan's ability to render truth or reveal new narratives for its user and others, and the earliest days of platforms like Twitter, in which people used mobile phones, not laptops or computers, to reveal truths both personal and political, and to attempt to foment revolution. The work of the edan also incorporates Okorafor's Africanfuturist project, in beginning this lineage and narrative DNA of science fiction from Africa. The edan and its relationship to recognizable handheld communication technology, is a technological legacy in which residents of Nigeria and other nations that fall out of technological narratives are quick adaptors of mobile technology, even when other infrastructural elements of the countries do not "match" Western ideas of technological progress.

The edan, and Binti's interest in learning communicating and harmonizing, are the real focus of this trilogy, and the posthuman elements are necessary flavor. Orienting a posthuman story in such a way offers a positive and possible narrative of the future and present. It offers ways of being (human) that take humanity and its precarity as something to be celebrated, as something that is useful and can be improved upon. Okorafor only does this work by centering a posthuman story on a futuristic black girl and by considering the way data affects her life. Binti herself upsets earlier conversations and anxieties about the human, by being herself and changing. She takes these changes as improvement. They aren't coerced, but chosen, and while

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[163] Anyone remember the Motorola Razr, or the Sidekick, or the Blackberry?

these choices are not easy, they are hers alone. The math and faith in this story also make such a narrative possible; treeing and fractals foreground acknowledging complexities, understanding the infinite possibilities of a system, and considering the ways in which self-replication can be a powerful operator and organizer. Binti's datafied body at the Khoush border encourages us to think about the way data can be used to change narratives and tell new histories. Finally, the trajectory of this narrative not only looks forward but connects to contemporary narratives and archives that people are actively building to set the record straight, to tell accurate narratives of marginalized and oppressed communities, much like the archive we will look to in the next chapter.

COMMUNICATING THE BODY:

LANGUAGE AND BLACK VIRTUAL EMBODIMENT

In Ralph Ellison's 1952 novel *Invisible Man*, the narrator witnesses the senseless police murder of his friend and comrade Tod Clifton. The twenty-first chapter of the novel follows the immediate aftermath of Clifton's death and funeral, in which the invisible man gives the eulogy. He begins by addressing the crowd, asking, "What are you waiting for, when all I can tell you was his name?" (*IM* 455). Still, despite this exclamation, the speech goes on. It spans several pages and is comprised of short direct sentences with the narrator repeating Clifton's name like an incantation. He says:

- "His name was Clifton and they shot him down."

- "His name was Clifton, Tod Clifton, and like any man, he was born of a woman to live awhile and fall and die."

- "His name was Clifton and he was black and they shot him."

- "The story's too short and too simple. His name was Clifton, Tod Clifton, he was unarmed and his death was as senseless as his life was futile."

- "So in the name of Brother Clifton beware of the triggers; go home, keep cool, stay safe away from the sun." (*IM* 455–59)

These statements are abrupt and their aphoristic nature shifts the rhythm of the novel from the complex internal musings to explosive circular utterances. The narrator can only tell the crowd three things: Clifton's name, the brief details of his murder, and the possible ways the murder affects the rest of the community. In a novel that goes to great lengths to withhold the name of the invisible man, from both the reader and himself, this extended treatment of another's name is striking. Analysis of word frequencies within the chapter shows "clifton" appears 34 times and "tod" 18 times. In a chapter that includes 1,440 unique words, "clifton" and "tod" are

the two most frequent words, accounting for 2.36 percent and 1.25 percent of the text

respectively. Additionally, across the entire corpus, "clifton" numbers as the fifty-seventh most

frequent word across the novel, making up 1.23 percent of the novel overall.[164]

Figure 9 Frequent words found in Invisible Man Chapter 21

Together these statements and those like them create a chorus that encompasses the grief,

anger, bewilderment, and matter-of-fact acknowledgement of the realities of police violence

against the black community. Each time I read through this novel, the familiarity of the

narrator's oratorical choices remains provoking. His impulse to name and to enumerate the dead

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[164] Here I've used a word frequency program called Voyant Tools to illustrate an idea about the text that readers can come to quite quickly on their own. Throughout the rest of the chapter, I will use various digital humanities methodologies to illuminate things about texts, and to supplement close engagement with the text and archives I have collected.

and his struggle to make sense and report on a story that is "too short and too simple" are if not the same, striking analogs to the contemporary technological moment. With the narrator and his work of publicly naming Tod Clifton, one might start to consider the histories of storytelling and rhetorical liberation that are embedded in the social media naming and archiving practices of a Twitter hashtag like #sayhername.

The final chapter of this project investigates the echoes of this eulogy and literary moments like it in contemporary internet practices that are public and discursive. Using a corpus generated in 2018 and 2019, we will look at the operation of the #sayhername hashtag on Twitter, and consider the hashtag as it operates as a black technological and rhetorical device. The archive of tweets, much like the eulogy, are coded and contextualized in the mode of the brief, the political, the recuperative, and the memorial. It reveals formal echoes and resonances of the historical and fictionalized rhetorical practices, mainly the act of naming and enumerating as a form of narrative building and resistance.[165] If such literary resonances persist into the real and the digital, what form does this practice take in this new space? How is such a practice changed and what are its mechanisms? Additionally, how might we interact with or interpret tweets and hashtags that are reporting collective and individual realities, while responsibly acknowledging and investigating not only their literary commonality, but also their response to rhetorical, political, and memorial practices found across black literature? These questions organize the methodology and analysis that follows.

Why Twitter, Why Hashtags, Why Black Literary Studies?

Aside from the haunting historical and literary analog to works like *Invisible Man*, using Twitter to study contemporary moments and representation of black technological embodiment

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[165] This is a practice that we see across the black literary canon, for instance in M. NourbeSe Philip's *Zong!*, in which the poet gives names to the lives lost in passage. We see a similar impulse in the in the *Binti* Trilogy, and her renaming her new body.

is particularly illustrative of the potential affordances of technology when it comes to black

embodiment, and theorizing black technological ontology. With Twitter one can consider the

limitations and concerns of such practices. Still, the platform makes itself interesting for literary

studies through its focus on language, public discourse, and (sometimes) spontaneous

community building. The microblogging site, while incorporating images and videos, privileges

text and limits length, thereby prompting textual brevity and rhetorical ingenuity from users. The

application features of "following" on Twitter allow for different kinds of social media publics to

form, instead of friend-based interactions—posts and interactions can be more public. Twitter

also encourages the use of hashtags, which allow users to organize their posts in a way that

suggests a conscious and decided participation in myriad and varied conversations and

communities on the platform. Communities on Twitter often define themselves through hashtags,

and these conversations can be fleeting or ongoing. Hashtags are also an additional way to gather

and analyze data. Instead of generating metrics based on the impact of individual tweets or uses

(looking at retweets, likes, or number of friends), hashtags reveal engagement with and

popularity or growth of conversations and communities on Twitter. These conversations and

communities are fluid, always changing, gaining and losing participants at any second. Thus

Twitter, in its early years as a platform that foregrounded the use of text messages or SMS over

downloaded applications, operated as a space that could generate and publicize grassroots

conversations quickly and organically.[166]

Yet as the company matures, issues of surveillance, harassment (online and in real life),

and data theft and misuse have not gone unnoticed by its users and the general public. The

corporate nature of Twitter makes it a difficult object of study, but using Andre Brock's critical

technoculture discourse analysis (CDTA) methodology provides an analytic that can realistically

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[166] C.f. Narratives of the Arab Spring or the hashtag activism of the Movement for Black Lives, #blacklivesmatter.

attend to affordances and limitations black users face. CDTA prompts researchers to analyze the material, practical, and discursive properties of technological objects or platforms, and also the cultural practices that take place within these spaces, which includes how these practices misalign and make new practices within or outside of these technological objects. In fact, the work of scholars like Brock, Sara Florini, Catherine Knight Steele, and Jessica Lu affirms that new technologies like Twitter facilitate the extension of preexisting strategies for black life like "song, storytelling, and signifying," for instance.[167] At present, there is no other space, or population of users, in which the black language and public rhetoric engages both the reality of Browne's datafied black body and Weheliye's technological assemblage so readily. Through collective interest in telling and retelling stories of self that generate new black realities and ontologies,[168] Twitter or black Twitter, as a particular community of users was once deemed, lends more fodder for considering the real-life analogs and applications to the work uncovered in this project.

Hashtags as Praxis

There are several well-developed theoretical frameworks of hashtag use within the black community on Twitter. These frameworks map onto familiar literary analyses of literary, vernacular, and rhetorical practices. For one, hashtags often operate as an invitation or gesture to audience. They set parameters and tone of the discussion. Hashtags also invoke a "call and response" space wherein an audience can participate in the tweet, affirming or adjusting the original post as they see fit. Thus, they operate in a similar vein of signifyin', where language is used to establish community and language within that community. Florini argues that hashtagging takes literary signifying to the next level by maximizing verbal wordplay. Here, the

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[167] See Steele and Lu's "'Joy Is Resistance': Cross-Platform Resilience and (Re)Invention of Black Oral Culture Online." *Information, Communication & Society* 22, no. 6 (May 2019): 823–37, for an overview of the language and history here.
[168] This is a practice and process in which all of the protagonists highlighted in this project have readily engaged.

mechanism and affordances of the platform (tight word counts and the privileging of rhetorical prowess) coupled with already existing practices makes a cultural practice new. Brock notes that hashtags, most importantly, enable "black Twitter users to mediate communal identities in near-real time; allowing participants to act individually yet en masse and still be heard."[169] Brock suggests that hashtags also provide a level of obfuscation, allowing black users to gather and discuss mainstream culture while remaining hidden from dominant groups.

These conversations, or gatherings, initiated by hashtags are fortified by other mechanisms available on the platform. Retweeting—an action in which users repost another's tweet with or without alterations—can amplify or diminish voices in these conversations. Retweeting adds another layer to the concept of the signifyin' hashtag as we consider the different ways community members respond to or amplify original posts. Because of the ways the existing frameworks of black orality interact with user interfaces, hashtag signifyin' serves as an interactional digital framework that allows black Twitter users to do myriad things: to "align themselves with black oral traditions, to enact Black subjectivities, and to communicate shared knowledge and experiences."[170] The framework allows users to easily call on and interact with a range of existing black narratives and traditions without exceeding a two-hundred-and-forty-character limit—the conversations are never simply one thing. Steele and Lu perhaps articulate the alternate possibilities, playful, political, and otherwise, of the space best:

> While platform affordances are available to all users, they enable Black people to cultivate networks of support and solidarity across time and space. Such use of technology is particularly poignant for Black people whose physical movements and gatherings have been and continue to be heavily policed. Furthermore, as Black users purposefully leverage these affordances, they expand their networks in both reach and

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[169] Andre Brock, "From the Blackhand Side: Twitter as a Cultural Conversation," *Journal of Broadcasting & Electronic Media* 56, no. 4 (October 2012): 539.
[170] Sarah Florini, "Tweets, Tweeps, and Signifyin': Communication and Cultural Performance on 'Black Twitter,'" *Television & New Media* 15, no. 3 (2014): 224.

visibility, forcing even casual social media users to reckon with a feed that dispels the myth of a single narrative of Blackness.[171]

Twitter as it has existed relies on already existing practices of storytelling and orality, and couples it with black technophilia that spans time and space in order to produce a black technological ontology of the early twenty-first century. In order to look at these practices more fully, it was important for me to pick a hashtag that was unique in the circumstances of its conception, was interested in creating new narratives and addressing incorrect ones, and a hashtag that has persisted across several years and conversations. #sayhername was a perfect fit.

Why #Sayhername?

"Fill the Void. Lift Your Voice. Say Her Name."[172]

The repetition of Tod Clifton's name in *Invisible Man* is presented as a political act. While the invisible man ends the speech feeling like a failure because he was "unable to bring in the political issues," he identifies the energy of the crowd and their growing emotion and energy as he repeats Clifton's name (*IM* 361). The narrator suggests that this energy can and needs to be organized. There is power in calling and naming the dead—a power that can be generated through language. #Sayhername, as a hashtag, understands this and is the black feminist response to this very idea, especially as women and their presence within the novel as political actors are nonexistent. Using the idea of this political power and energy of naming, #sayhername initiates a new narrative of memorialization and political possibility.

In December 2014, the African American Policy Forum (AAPF) launched the hashtag #sayhername. According to documents published by the forum, Kimberlee Crenshaw and Andrea Ritchie created the hashtag in an effort to "highlight and demand accountability" for

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[171] Lu and Steele, "'Joy Is Resistance,'" 831.
[172] Encouragement from promotional material published by the African American Policy Forum for the Say Her Name campaign. See "About the Campaign."

"countless Black women killed by police over the past two decades."[173] The Say Her Name initiative sought to shed light on black women's experiences of police violence in an effort to generate and support a gender-inclusive approach to racial justice, asking the then-burgeoning movement to "center all Black lives equally" in the contemporary fight. With the hashtag, the African American Policy Forum created a social media presence that operated alongside existing racial justice campaigns, like the Movement for Black Lives and the corresponding hashtag #blacklivesmatter. Perhaps some of the most recognizable uses of the hashtag were around the stories of Rekia Boyd, Sandra Bland, and Mya Hall. Since 2015, the hashtag has seen global use and garnered wide attention. What drew me, as a researcher, to this hashtag was its particular development and introduction into the community. Unlike many hashtags that are spontaneous and native to a platform and that explode from lived experience, popular analysis, or creative games (see #blackgirlmagic, #demthrones, etc.), #sayhername was developed for the Twitter community to do particular work. In its initial presentation, #sayhername raised questions about the possibilities and ability to embody and memorialize women who lost their lives to police brutality in the early twenty-first century. As Bonilla and Rosa describe in their article on #Ferguson, #sayhername works to organize tweets by signaling significance and offering a performative gauge for the context of the overall political conversation.[174] This conversation is not only a conversation about police violence and black women, but also a revision of previous black civil movements, effectively re-centering the continued frontline organizing work and support of black women in fights for liberation.[175] This is the work the hashtag does and was developed to do. But how does the practice look after several years of circulation and use? The

[173] Kimberly Crenshaw and Andrea Ritchie, "Say Her Name: Resisting Police Brutality Against Black Women" (New York: African American Policy Forum, 2015), 4.

[174] Yarimar Bonilla and Jonathan Rosa, "#Ferguson: Digital Protest, Hashtag Ethnography, and the Racial Politics of Social Media in the United States," *American Ethnologist* 42, (2015): 4–17.

[175] Safiya Umoja Noble and Brendesha M. Tynes, "Digital Intersectionality Theory and the Black Lives Matter Movement," in *The Intersectional Internet: Race, Sex, Class, and Culture Online* (Bern: Peter Lang, 2016), 21–40.

data I've collected here begins to show that while the hashtag not only continues to operate in its initial role of memorialization, it has evolved, with users also considering the hashtag as a tool of historical excavation and retelling, and shorthand for black women's political and social struggles, more generally. By looking closely at this archive, we can see that under such a hashtag, not only are black women introduced (and re-introduced) to the world through a system of technology, but they can be imagined more fully, in historical and contemporary bittersweet and joyful moments that stand as context to the revelations of the deadly trauma affecting them. And using this corpus, we can see if through the identification of language within the hashtag, we might assess the way people use the hashtag, especially through analysis of particular words used. We can also ask how archiving the tweets might illustrate the ways the hashtag continues to be an enlivened space of memorial and justice-seeking, on a platform that is crumbling due to large scale automation, trolls, and increased surveillance efforts by state, business, and private actors.

Methodology

In order to even begin such an investigation, one needs a corpus. During the years 2018 and 2019, I spent each week collecting instances of tweets using the Twarc tools from the digital project Documenting the Now.[176] Using Twitter's API (application programming interface), the tool searches for terms, user names, and hashtags. Twarc gathers search results into a file that includes not only the text of tweets but also user information about the poster, the date of posts, etc. Thus, my particular #sayhername archive is composed of tweets collected from January 13, 2018 to May 28, 2019. Due to restrictions on how researchers can interact with the Twitter API, each file spans a week back from the date of scraping. Additionally, this archive does not include

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[176] As a response to the flurry of research on Twitter and black liberation after events and work of #Ferguson and #blacklivesmatter, Documenting the Now is a digital humanities project and suite of tools that helps scholars interact with Twitter's API in order to search various topics, users, and hashtags on Twitter, for analysis. "About," Documenting the Now, accessed July 30, 2019, https://www.docnow.io/.

the tweets of users who have deleted said tweets within a week's time, or users who might have been removed from the platform during that week.

As I continued to collect and work with this hashtag, I wanted to consider three things: how the formal resonances of historical, political, and fictionalized rhetorical practices, primarily naming and enumerating the dead as a form of resistance and counter-narrative building, fare in technological spaces; and how researchers might think about the translation of these resonances of literary forms as they work with the ephemeral nature of tweets and hashtags that are reported stories of real individuals. In looking at the tweets collected, it became clear that one way to investigate these questions was to look at the political mission of the hashtag as established by the AAPF and then to look to tweets drafted using it to consider the ways users continue to adopt the hashtag several years after its initial conception. This kind of comparative frame establishes a baseline for user interaction, one that is apparent to users as well. Using this baseline as frame and using words and textual analysis to determine user engagement made sense. Thus, in order to begin analysis, I selected several computational tools that might help in the textual analysis of the corpus.

Once I collected the archive, I used distant reading techniques to view and analyze the text collected for the corpus. While there are many noted concerns about the affordances and limitations of distant reading[177] in literary studies, it was important for me to be able to achieve a distant view, because considering Twitter as a literary object suggests that at any one time or instance, one might consider the platform as a collective writing project, especially when it

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[177] For arguments for and against c.f. Ted Underwood, *Distant Horizons: Digital Evidence and Literary Change* (Chicago: The University of Chicago Press, 2019); Andrew Piper, "Novel Devotions: Conversional Reading, Computational Modeling, and the Modern Novel," *New Literary History* 46, no. 1 (2015): 63–98; Armstrong, Paul B.,"In Defense of Reading: Or, Why Reading Still Matters in a Contextualist Age," *New Literary History* 42, no. 1 (2011): 87–113; and Annie Swafford, "Problems with the Syuzhet Package," *Anglophile in Academia: Annie Swafford's Blog*, March 2, 2015, https://annieswafford.wordpress.com/2015/03/02/syuzhet/. Swafford is talking about sentiment analysis and not topic modeling, which I use. However, her piece articulates some of the coding problems that exacerbate problems of inaccurately reading at a distance.

comes to users and hashtag application. As I noted above, hashtags operate in such a way that generally users knowingly join or respond to conversations and topics held within that hashtag. Thus, I'm not concerned what a particular user is "saying" but instead what direction a tweet moves the conversation or how the hashtag is generally being put to use, what kinds of conversations and ideas users have decided to attribute to this concept. Once the archive was compiled, I used three methods of analysis: Voyant, an online suite of tools that generate images and tables based on word frequency in a provided text; a topic modeling program called MALLET, which reads over a series of texts to identify particular topics or subjects within them; and Microsoft Excel for closely examining individual tweets. With the first two tools, I approached the archive as one large text, which could be broken down into calendar weeks. Thus, a collective corpus of tweets from the week generated by multiple users, not individual tweets, became the main organizing unit of data. The files MALLET used to generate topics were text documents scraped from a week's worth of tweets collected by Twarc. This organization was important to me for several reasons: a good deal of the content generated for the hashtag follows a news cycle, whether these stories have been covered by the news or not. This cycle gives what initially felt like a limitation of interacting with the API. The week model became a helpful way to organize files by date, and to consider them entities and individual conversations in their own right. The larger files also allowed me to sidestep issues of using topic modeling on short texts. Additionally, I came to focus on the tweets as corpus and literary object, after thinking about ethical non-surveillant ways to use such technology. Since my interest is primarily in the hashtag and its use, focusing on the archive created around it seems like a way to acknowledge the work and public writing done by users around the hashtag and its political and social ends without opening unwilling individuals up to surveillance or scrutiny with my

research.[178] Thus Twitter under the auspices of such a hashtag might be read as a community and collaborative writing project in which the reader experiences the full or partial labor of various users and in which the writers come and go. It is safe to imagine an incidentally collaborative space within an analysis that seeks to investigate the discourse of the hashtag in particular. As I hoped to consider the subjects of tweets using the hashtag across an entire year, for instance, what one would experience, learn, or read, if following this particular hashtag, this method of data organization and curation worked best for the project as it developed.

I found the work of collection and analysis quite difficult, at times. The technical aspects included a steep learning curve, but the most difficult aspect of approaching, collecting, and analyzing such an archive was the way the texts represented in this chapter were wildly different in circumstance and content than other textual objects of study. During the analysis and composition of the chapter, maintaining a sustained workflow was difficult due to the overwhelming nature and violence of the archive's content. These women were murdered, were lost, and in many cases, there is still no justice. I wanted to be sure to treat this archive with as much care and respect as I could muster. As a literature scholar, training has made talking about imaginary characters a matter of course and analysis often based on an analog, a world and characters created for pleasure, analysis, and investigation. This chapter required a shift in analysis, or at least my approach to analysis. For instance, close reading tends to be definitive, correct, a reading that one can identify as all or nothing. Here, I want to exercise caution, as these are real actors engaging in writing from their own perspective with their own intent. While I do think that large-scale data analysis can reveal something about the language of the tweets, and

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[178] This consideration was prompted by several talks given by Toneisha Taylor, a series of articles written by Bergis Jules, and almost every conversation, meeting, and panel I've been on with other scholars who do similar work. Toniesha Taylor, "We Speak, We Make, We Tinker: Afrofuturism as Applied Digital Humanities," presented at Scholars' Lab DH Speaker Series, Charlottesville, VA, September 23, 2017; Bergis Jules, "Some Thoughts on Ethics and DocNow," *Documenting DocNow*, June 3, 2016, https://news.docnow.io/some-thoughts-on-ethics-and-docnow-d19cfec427f2.

the discourse generated by the hashtag, the new critical injunction to kill the author, a suggestion that is exacerbated when using distant reading methodologies, does not sit well in this space, in this archive. This discomfort is something that I kept with me throughout this analysis, as a quality that inflected the ways in which distance and proximity operated in my readings.

Once such a plan for collection and analysis is delineated, what might we see when looking at the hashtag #sayhername? How does this hashtag look in practice after several years of circulation and use? In looking through the generated corpus with both my own eyes and the assistance of computer programs, several developments became quite apparent. The hashtag primarily operates in a couple of ways: retweeting acts as a way to strengthen the mission of the AAPF, users use the hashtag to extent of the AAPF mission through new discourses, users continually add new types of women to a historical archive, and finally users engage and leverage the hashtag as a political shorthand for political engagement of black women and ally communities.

Say Her Name: Retweets as Revision

It is important to first acknowledge the composition of the archive regarding both original posts and retweets. As noted earlier, retweets can operate as the response to a digital "call," acknowledging the original poster and amplifying sentiment. More than simple signal boosting, retweeting hashtagged tweets establishes frames of agreement, acceptance, and critique. Just as Ellison's orator pauses for reactions to gauge the energy of the crowd, retweets as a platform mechanism work as a formal holdover from literary modes we already know. Across an average week #sayhername has a large number of users retweeting instead of posting originally. In order to determine this fact, I removed tweets from retweets using a script that separated these from the archive. After, I found that on an average week of tweets, the difference between tweets and retweets can be by an order of ten thousand tweets. For example, during the week of March 27th

to April 3rd in 2018, 18,301 tweets were collected; of those collected tweets only 1,491 were original postings. Within the dataset, retweets mainly do two kinds different kinds of work. First, they disseminate and magnify additions to the hashtag's archive, boosting new stories and information about black and transwomen. These retweets also do authenticating work wherein the community decides if users are using the hashtag in its intended and extended form correctly.

Figure 10: #sayhername tweets from March 27–April 3, 2018

This word cloud (Figure 10) is a representation of word frequency across the week's collected tweets. Some of the most prevalent words are "murdered," "stories," "american,"

"trans," "acknowledge." From this image alone, one can get an idea of what the conversations in this hashtag community are. However, for a better analysis of the actual discourse we can eliminate these retweets (16,810 of them) in order to generate a bit more scale of use.

Figure 101: #sayhername tweets from March 27–April 3, 2018 (without retweets)

Figure 11 represents the same week and illustrates the most frequent words that appear in the week's corpus including only original tweets. While the corpus including retweets provides a general narrative, in this refined corpus, individual narratives and people are revealed. Several of the largest words that appear can be expected given the intervention's initiative: "black," "women," "woman," and "police." The second largest word is "naomi," which can reference Naomi Hersi, a black transwoman murdered in London, England in March 2018, and Naomi Walder, an 11-year-old black girl who gave a speech about school gun violence at a March for Our Lives rally in Washington, DC. Other prominent words include "amia," "tyrae," and "berryman," together the name of a black transwoman killed in Baton Rouge, coupled with the prominence of one other name, "decynthia" and "clements," who was killed by police officers in Illinois the week before. With only the names we can see here (and there are many more), we can begin to see how users engaged the hashtag in several ways. Users publicly ask and call for a variety of things: "power," "acknowledge"-ment, "remember"-ance, and a "future." The hashtag here also interacts with another hashtag, #transdayofvisibility. Thus #sayhername is used by users to expand in its original mission, which is to witness and archive the black women who are the victims of police brutality, to also address another place in the community where rampant violence against transwomen often goes entirely unnoticed.[179]

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[179] Sherri Williams argues that the hashtag is one of the main public conversations that actively reveals the ways that "black, gender nonconforming woman experience complex and layered policing from authorities that affect the way they are perceived by both journalist and authorities as legitimate victims." The hashtag pushed against these dynamics lends its own authority through constant representation. Williams,"SayHerName: Using Digital Activism to Document Violence Against Black Women," Using Digital Activism to Document Violence Against Black Women." *Feminist Media Studies* 16, no. 5 (2016): 922–927.

Sun Mar 25 21:12:34 +0C	9.7802E+17	Sandra Bland #SAYHERNAME #UNCFSU_RYS18 #UAPB_RYS18 #LANE_RYS18
Sun Mar 25 21:09:01 +0C	9.7802E+17	My signs. #blackwomensmarch #HudsonValley #sayhername #MariellePresente #Boricua https://t.co/1swy7OgTGr
Sun Mar 25 21:08:22 +0C	9.7802E+17	Rest in Power Naomi Hersi.\n#sayhername\nNaomi Hersi. https://t.co/lDklvUsgzO
Sun Mar 25 21:00:46 +0C	9.7801E+17	The latest The Keystone Progress Daily! https://t.co/oMqxB0dcrX #sayhername
Sun Mar 25 20:54:03 +0C	9.7801E+17	I‚Äôm heartbroken to hear about the death of Naomi Hersi so close to me in Hounslow, and outraged by the transphobic‚Ä¶ https://t.co/WYNVRqnniG
Sun Mar 25 20:50:43 +0C	9.7801E+17	The Children Are Our Future: 11-Year-Old Naomi Wadler Asks Us to #SayHerName¬† https://t.co/lukygR2h30
Sun Mar 25 20:41:02 +0C	9.7801E+17	What being let go from my job during Sandra Bland and #SayHerName taught me about diversity and inclusion‚Ä¶ https://t.co/Ot5np9FaZb
Sun Mar 25 20:34:26 +0C	9.7801E+17	The Children Are Our Future: 11-Year-Old Naomi Wadler Asks Us to #SayHerName https://t.co/qKB3aMvUSS
Sun Mar 25 20:33:10 +0C	9.7801E+17	Rest in power Naomi Hersi. Rest in power Naomi Hersi. #SayHerName https://t.co/8ES48O0tcc
Sun Mar 25 20:31:44 +0C	9.7801E+17	#BlackLivesMatter #SayHerName #BlackTwitter #America https://t.co/ulcBj8fG7R

Figure 12: Selection of CSV file from #sayhername tweets collected March 27-April 3, 2018

As we can see in Figure 12, the first way users interact with #sayhername is in the original mode and intent of the initiative. Users build counter- and new narratives to alert other users to the stories of black women. Users do the important work of filling in gaps with regards to coverage of the murders of countless black women, nonbinary people, and transfolk. In many cases, the original formal argument of responding specifically to police violence is expanded and the hashtag collects, reports, archives, and embodies data around violence against black women due to more generalized workings of white supremacy, toxic masculinity, transmisogyny, and state-sanctioned violence. Additionally, the hashtag expands to include the words of the living, especially in political spaces, as in the case of the second Naomi represented within the frequency, a concept we will return to a bit later. Finally, these tweets can be international in scope, as with Naomi Hersi, and provide context for buried and difficult-to-find local news stories. In following these tweets, I wanted to conceptualize how this form of memorialization might be functionally different from other literary models of names and listing I had witnessed in twentieth century texts. While the stakes of representation, and datafied embodiment are high, due to the ephemeral nature of tweets for users, as tweets flash across timelines organized by algorithm, it is close to impossible to verify and educate oneself about all these women, especially on an international scale. This is perhaps the first trade-off of such a black technological practice of memorial: scale and scope for longevity of duration of information.

This problem of duration is not the case for several figures in the archive, Sandra Bland for example. Bland, who in 2015 was arrested by Texas police and later found dead in a holding cell, continues to appear in the archive of tweets, looming large in the cultural memory years after her death.[180] In fact, looking back to figure 2, the words "sandra" and "bland" appear on the top middle and right middle respectively. The rate at which she has become a digital and physical presence within the archive highlights the ways users continue to expand not only the conversation of the archive but their methods of engaging with it. Thus, the second way data mining reveals the ways users engage the hashtag #sayhername is through methods of historicizing and excavating of the archive, or the continued memorialization of those lost. People who tweet #sayhername recognize it as an archive and a place of memorialization and return to those who have been named, searching for justice and recognition repeatedly. It is a place and conversation to come back to.

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[180] For good reason, as updated cell phone footage was released to the public in May 2019, reigniting questions about her death.

Figure 13: #sayhername tweets from May 3–May 10, 2019

Figure 13, above, was generated from tweets collected over the week Sandra Bland's own cell phone footage of her arrest was released and circulated on the internet in May 2019. As expected, the most frequent words are "sandra," "bland," "video," and "still," pointing to the continued outrage of a community *still* seeking justice. The story of Sandra Bland's death cannot end with her death. Instead it is one that is digitally alive, and circulatable, and engaged in the acquisition of justice. Bland is partly alive in her digital memorial, and an entity that one might virtually bump into, just like her extant Twitter handle.

Yet, engagement with the hashtag is not totally memorial. Bland and the way her narrative operates through the discourse generated by the hashtag is a window into understanding another mode of the hashtag, and of black technological ontology. In looking to a particular span of weeks in early February, one can see something that feels thematically unexpected as a shift from discourse that focuses on death and injustice. In the first week of February across the archive, there is joy. In their 2019 article about joy and cross-platform creation, Steele and Lu note that "joy" is a mode of "resistance particularly applicable to Black users in digital spaces."[181] While much research has focused on the ways social movements and political campaigns are employed in the pursuit of freedom, this focus ignores other modes of use, namely "black oral practices and intentional expression of joy" in socially mediated spaces.[182] We can see ready expressions of joy during the early weeks of February across the archive.

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[181] Lu and Steele, "'Joy Is Resistance,'" 824.
[182] Lu and Steele, "'Joy Is Resistance,'" 824.

Figure 114: #sayhername word cloud February 6–February 13, 2018

Figure 125: #sayhername February 5–February 12, 2019

Figure 14 includes birthday salutations for Bland during the week of her birthday in 2018, with "happy," "birthday," and "sandra" standing out among the most counted words. This practice happens again the following year, allowing us to see the ways in which this expression of joy is a consistent form of engagement that is also at play within the hashtag's archive at all times. Sandra Bland's name is large in Figure 15, in which her birthday is again celebrated; this is indicated by her name, "years," and a smaller "happy." Faced with such a deluge of well wishes and their accompanying images, Sandra Bland remains a familiar face, recognizable and knowable through this centralizing hashtag—perhaps more knowable in these compounded moments of memorial than in the weeks after her death.

These birthday wishes uncover the final way the hashtag works when analyzed across a weekly basis. While users excavate the archive, remember those already named, and suggest others,[183] the discursive power of the hashtag and its mission is leveraged as a political shorthand for events and political conversations, especially those deemed "intersectional" and "feminist." These uses, whether for memorial, excavation, or political purposes, happen simultaneously, with users applying the hashtag to their tweets in the ways they see fit. One instance of these simultaneous uses appears during the same first weeks of February 2018 and 2019, and are represented by Figures 14 and 15. Each week contains an example of the consolidation and interaction of several modes of the hashtag, focusing on a single word: today. "Today" appears frequently in early February 2018 because of a retweeted tweet marking Bland's thirty-first birthday. It gains prominence in the corpus because of the promotion of an event at Ohio University ("TODAY is the #SayHerName event. . . . Stop by . . . to explore the intersections of police violence against women with us"). "Today" is also found in a tweet (and subsequent

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[183] People will sometimes use #sayhername to talk about black women figures in history. These additions in effect extend the archive's reach historically. See Sherri Williams, "SayHerName: Using Digital Activism to Document Violence Against Black Women."

retweets) about Tanya Harvey, a transgender woman murdered in Buffalo, NY. Still the next year a similar overlap happens, the same modes operating atop the same single word. In February 2019, "today" is a very prominent word due to two popular tweets about Bland's birthday, i.e., Sandra Bland "would have been 32 years old today," or "Today would have been Sandra Bland's 32nd Birthday." Upon closer inspection of this document it becomes clear that the word appears even more frequently due to an announcement for a new podcast about intersectionality: "Today! @sandylocks, Professor of Law . . . premieres our newest #podcast: #IntersectionalityMatters." Here, the discourse of the hashtag shows how agile the hashtag is in the compounding of a birthday celebration, a memorializing tweet, and language promoting an event about intersectionality, through a single word. To be clear, the word "today," while a common herald of time and date, is not a particularly prevalent word across the canon of tweets. Instead in the word's surprising prominence the multiple modes of the hashtag become clearer.

The larger political conversations attached to #sayhername is the final mode that can be witnessed in the hashtag archive. Like in the examples above, the hashtag is often appended to conversations, articles, and events about the general state of black women in society. These conversations can include the topics of healthcare, employment, and safety. In several instances, the hashtag collects and organizes literary, cultural, and artistic events that center black women's voices. As the framework of signifyin' suggests, for all tweets it seems up to the community to gauge whether these applications are within the spirit and mission of the hashtag. Across the archive retweets represent the encouragement or censure of the hashtag's use given any week.

Figure 136 and 17: #sayhername October 3–October 10, 2018 (no retweets and retweets)

The word clouds above (Figures 16 and 17) indicate the impact of user engagement in negotiating and proliferating information. In Figure 16, the week's prominent words are represented with the retweeted material stripped out. This week's archive contains 2,601 total tweets, a generally light week. Of those 2,601, 346 are original tweets using the hashtag. The map of word frequencies illustrates this difference. The word cloud on the left shows an even balance of words, where not enough instances of any one thing give individual words enough frequency to scale the others, whereas on the right there is more variation in frequency. In the left cloud the words "heather" and "heyer," the name of a white woman counter-protester who was murdered in Charlottesville on August 12, 2017, appear. The second word cloud (Figure 17) includes retweets. In this image, we achieve some size differentiation and new keywords appear due to repetition across the corpus, words like "women," "liberal," "white," "justice," and "help." This new set of frequent words is in this case due to a single tweet that was retweeted

1,606 times. The text of this tweet was sixty-two percent of the total language I collected for that

week. The tweet reads as follows:
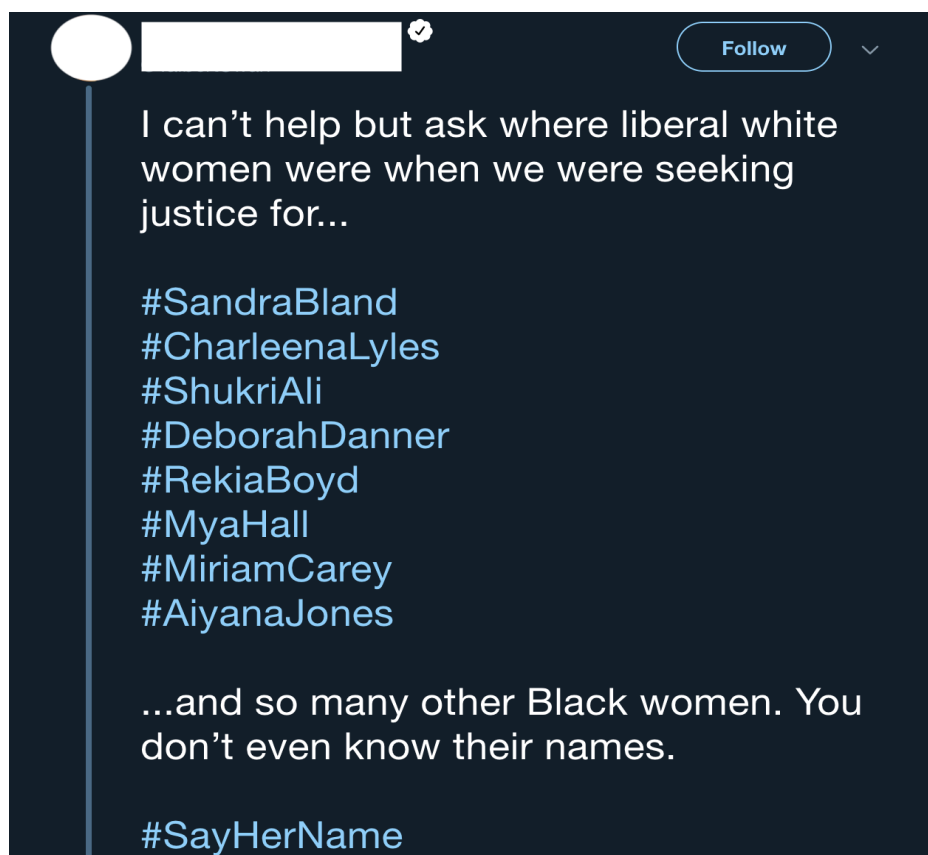
Figure 148: Popular Tweet

Interestingly enough, the text of this tweet is not part of a conversation that started within

the hashtag itself. Instead it is part of a longer thread written by the user that became popular,

and newsworthy. In the original tweet the user, a popular internet activist, slams white women

activists for co-opting black tactics for liberation, namely kneeling during the national anthem.[184]

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[184] This tweet is from a user who is a "verified" by Twitter. They have many followers and high circulation. This also factors into the prominence with which their words appear in this weekly archive. The existence of verified users and spheres of digital influence are definitely at play within this archive as well. However, such investigation ended up being outside of the scope of the project at present. In the future, I intend to continue to look at the operation and use of this hashtag and will include the operations of such networks.

The user connects this work and sentiment with contemporary calls for alliance and true feminist engagement in the struggle for rights. While the original tweet does not specifically engage with the mission of the hashtag, the tweet still responds to the hashtag in context and form, and others in the community can be seen to agree given the proliferation of retweets. Thus, uses of the hashtag that don't quite seem to fit are buried under a tweet that highlights the original intent of the hashtag, by mentioning those who have been included and remembered in the archive. The original poster also alludes to the hashtag and archive's place within broader political conversations about alliances, white feminism, and justice. These retweets represent an audience that recognizes the "call" and offers a "response" in kind by proliferating shared language and community. The retweets also define the boundaries and limits of inclusion into the archive generated by this hashtag. Not everyone can be represented by this hashtag, and perhaps that is why it continues to have longevity as a virtual politics of black feminist resistance.

Scraping the Archive for the Topics That Matter

In an analysis that looks to both distant word frequencies and established theoretical models of black Twitter use to reveal moments that exemplify the rhetorical work of an archive as users build and interact with it, it seems possible to turn to other established technological modes of analysis to see whether these programs can offer insight into the operations of the hashtag itself. In the remainder of this chapter, we will look to topic modeling, both its affordances and limits, in reading over this archive.

Topic modeling programs like MALLET run a script over texts in order to collect a group of words that can be then be identified as a topic. The computer, not knowing the meaning or sentiment of the words, goes over them and includes frequent word combinations in corresponding "buckets." The idea is that if the creators or writers of particular texts sat down to write about something, anything, these words would correspond to the topics (subjects) of their

prose. Interest in reading many documents to make a large-scale analysis about what they contain or what they might be about comes to literary studies by way of Franco Moretti's concept of distant reading.[185] For the purpose of this project, I acknowledge that the ability of this technique is as a methodology of scale, in that it is not necessarily revealing anything truer or realer than human close reading by way of programming, but is instead providing a different approach for analysis. While the final analyses of this collection are best done with full understanding of the contexts and contingencies of the users and written texts, a certain extent of what we know about the content of this archive is due to distant reading analyses of various kinds. This includes the content of what most people are writing about, and how popular ideas rise to the surface. So why not see to what conclusions another computer program might come?
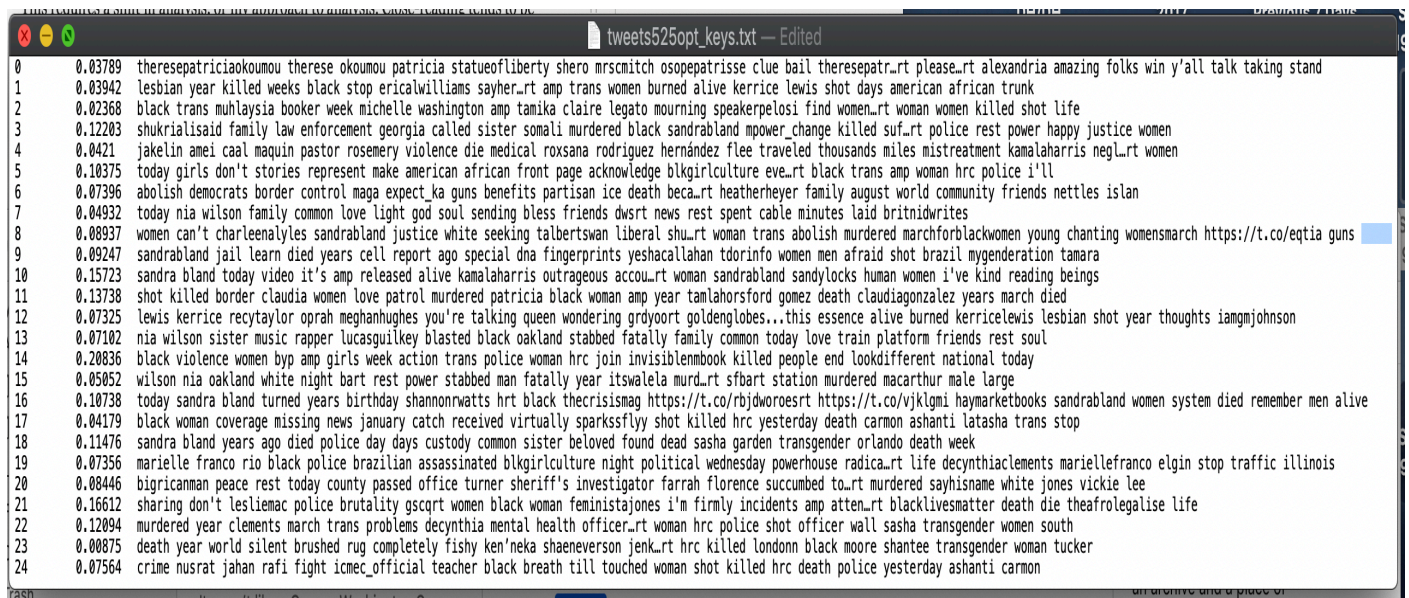
Figure 159: Topics from MALLET with 25 keys

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[185] For distant reading, see Franco Morretti, *Graphs, Maps, and Trees: Abstract Models for a Literary History* (London, New York: Verso, 2005).For an overview of topic modeling, see Ted Underwood's "Topic Modeling Made Just Simple Enough," *The Stone and the Shell*, April 7, 2012, https://tedunderwood.com/2012/04/07/topic-modeling-made-just-simple-enough/.

Figure 19, above, is a list of keywords from a model produced by limiting the program

MALLET to 25 keys[186] in a topic modeled with 20 topics. The first number on the left identifies

the number assigned to the topic, and the second identifies its weight or frequency across the

corpus. After receiving this data, I generated names or "main ideas" that these topics indicated

according to what I knew about the possibilities of the corpus and the actual text itself. Where

there are some errant words in the topics,[187] those topics assembled here tell a story that refines

or adds context to the analysis presented earlier in the chapter. In what follows, I will focus on

six topics, and the ways they address the modes of memorialization, excavation, expansion, and

celebration, and the general politicization of the hashtag as a corpus. Additionally, the topics

reveal meta-narratives about the hashtag's work, and how users conceptualize their use of it.

 The first thing that is striking across topics is the proliferation of names present. A closer

look reveals not only the names of individuals who are being memorialized in the hashtag, but

some the Twitter handles of several notable activists and news organizations. The presence of so

many names suggests that the general mission of the hashtag is recognizable in this form.

Familiar names Sandra Bland, Kerrice Lewis, and Recy Taylor show up within and across a

couple of topics. Given the proliferation of names and information about them, it seems that for

this archive of tweets, topics can also be understood as stories, stories that the archive tells about

others and itself. Many of the topics are familiar, expected stories, and are the ones that can be

found or analyzed through other methods. For instance, Topics 16 and 18 have already been

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[186] Twenty-five keys is closer to a general overview than more expansive list of possible topics. However, given the nature of the tweets, the actual tweet length and the size of the corpus, and the general content structure of them, a more limited number of possible topics produced more coherent collections of topics than larger offerings. This has been true across other instances in which topic modeling was used to analyze tweets. C.f. *Dash-American* http://dashamerikan.scholarslab.org/

[187] For instance, the word "amp" has been retained from part of the Unicode for the ampersand (&) sign. Cleaning the archive was perhaps the most difficult and time extensive part of the process. Tweets are not the relatively clean text of novels, letters, or longer rhetorical objects. Instead, the language of actual text even when isolated includes a good deal of Unicode that can generally be eliminated (or not prevalent), but continues to be recognized in processing. This perhaps suggests that alternate and future forms of analysis are needed for this archive, as well.

covered in this chapter in conversations about Sandra Bland and the active nature of her narrative across the archive. What the topics newly reveal are the journalistic publications and publishers that also participate in this conversation—thecrisismag (The Crisis Magazine) and haymarketbooks (Haymarket Books) being important handles users mention or retweet. Much in the same way, several topics include popular public handles like @feministajones (a writer), @osopepatrisse (Patrisse Cullors, co-founder of Black Lives Matter), and @talbertswan[188] (a pastor/activist). The topics, unlike the word frequency charts, show who is telling these stories.

Topics also arrange the related words in such a way that we begin to see the associated names and stories that extend the hashtag's conversation. These are topics that are adjacent, but within the scope of the hashtag's mission. Topic 0 (see Figure 19) illuminates the expansion of the hashtag when it comes to recognizing activists and the work they do in contemporary justice struggles. This topic associates Patrice Cullors, or more specifically her hashtag, with Patricia Okoumou and her decision to climb the Statue of Liberty on July 4th, 2018, in protest of violence against migrants and asylum seekers at the US border. Okoumou protest, coupled with Topic 4, the subject of Jakelin Amei Rosemery Caal Maquin, a young girl who died in the custody of US Border Control, reveals that users are integrating stories that address violence against black and brown women via numerous state actors—both Jakelin, who died due to the violent exercises, regulations, and negligence of the state, and Okoumou, who was arrested for her protest of that same border violence. Both of these topics reveal the way #sayhername, and the political crises behind it, apply to not only domestic enforcement and violence against black women, but to the border enforcement that affects Central, South American, and indigenous women and girls.

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[188] Whom we saw earlier in the chapter. That these users are so prominent whether through retweets or mentions, a practice that puts usernames into the text of the tweet, poses an interesting question for the researcher. It would seem that in order to achieve a fuller understanding of engagement within this hashtag, it might be important upon further study to consider the networks and influence of the users themselves.

The second arrangement of topics I will highlight focuses on the way transwomen are disproportionate victims of the violence the hashtag seeks to report. Publications about the initiative note that the hashtag is meant to support and offer a gender-inclusive approach to justice. Crenshaw and Ritchie note:

> Say Her Name sheds light on Black women's experiences of police violence in an effort to support a gender inclusive approach to racial justice that centers all Black Lives equally.[189]

and that,

> Acknowledging and analyzing the connections between anti-Black violence against Black men, women, transgender, and gender-nonconforming people reveals systemic realities that go unnoticed when the focus is limited exclusively to cases involving Black non-transgender men.[190]

Yet many popular, publicized applications of the hashtag tell and retell the stories of black cisgender women. Such analyses of words and topics across the archive remind users and participants that the hashtag has always been about highlighting the experiences of communities and individuals who fall outside of historically exclusive modes of rallying in response to police brutality against black men. Say Her Name has from its conception been interested in reporting and archiving state violence, and that encompasses black women's risk for domestic, sexual, homophobic, and transphobic violence. Topics 1, 2, 22, and 23 (see Figure 19) highlight different stories about transwomen that need attention, especially as they are seemingly murdered with hate and impunity. These topics confirm that the conversation as it includes transwomen takes place across the archive not just during particular weeks.

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[189] Crenshaw and Ritchie, "Say Her Name: Resisting Police Brutality Against Black Women," 4.
[190] Crenshaw and Ritchie, "Say Her Name: Resisting Police Brutality Against Black Women," 8.

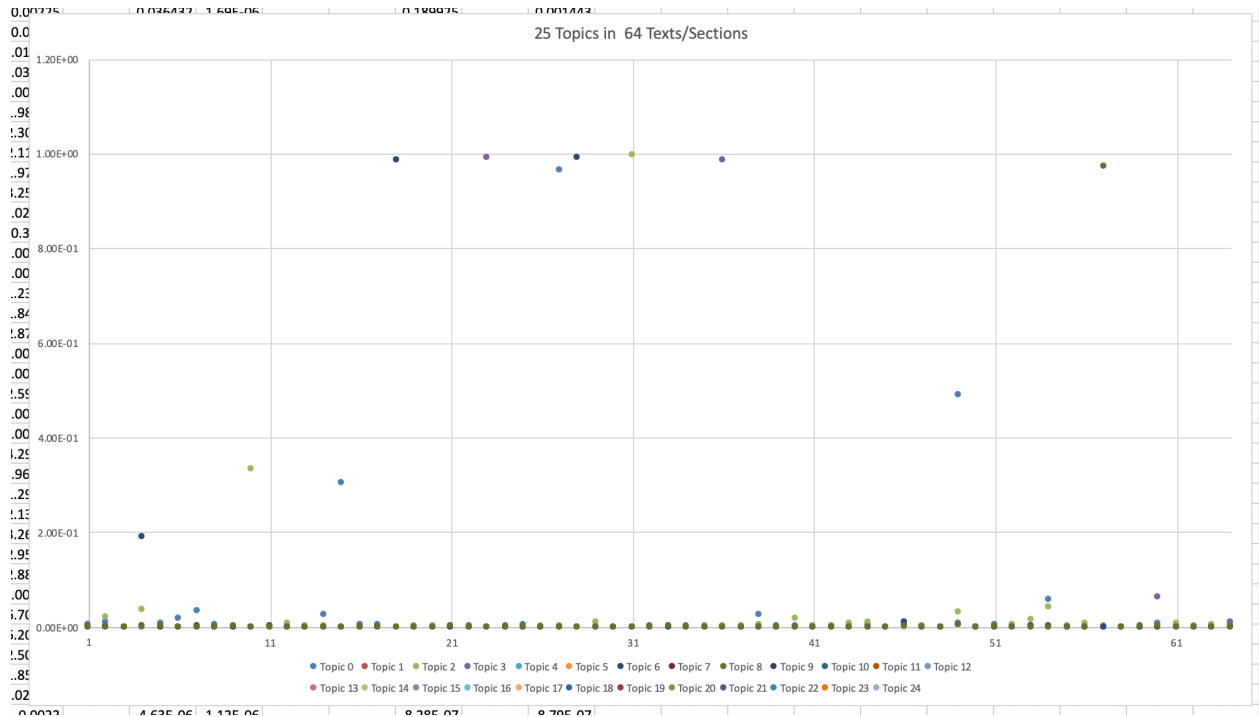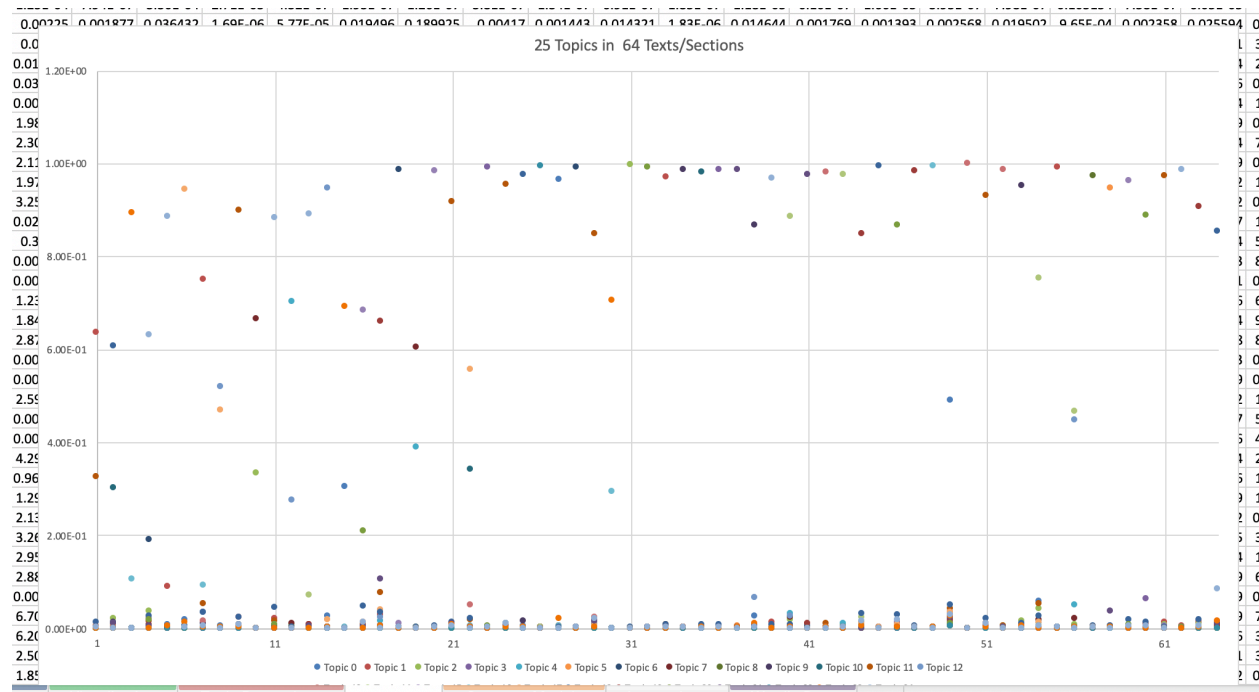*Table 1: Scatter plot with topics including transwomen*

Table 2: Plot of all topics across the corpus

We see this ongoing conversation across weeks as represented in this scatter plot graph. The topics above have been highlighted, showing their rate of appearance across the corpus. The second graph, Table 2, shows all topics as they appear across the corpus. While both graphs' topics peak near particular weeks, the lower clusters show small countable engagements across the entire collected corpus.

The final set of topics reveals the meta-narratives or meta-conversations in operation across the hashtag's archive. In topics 5 and 17 (Figure 19), available words within the topics reveal concepts of coverage and stories. Topic 5 begins with the words "today girls don't stories represent make american african front page acknowledge." This series of words presents language in tweets about work the hashtag is doing. These words could easily be representative of a conversation about story, narrative, and representation of black women, pertaining to the Movement for Black Lives, justice struggles, or narratives both journalistic and fictional. Topic 17 identifies the journalistic and cyclical new nature of the archive as it operates, including "black woman coverage," "news," "virtually," and "hrc," or the Human Rights Campaign, which publishes and tweets articles that collaborate the tweets aggregated by the hashtag.

Table 3: Scatter plot that shows topics about narrative
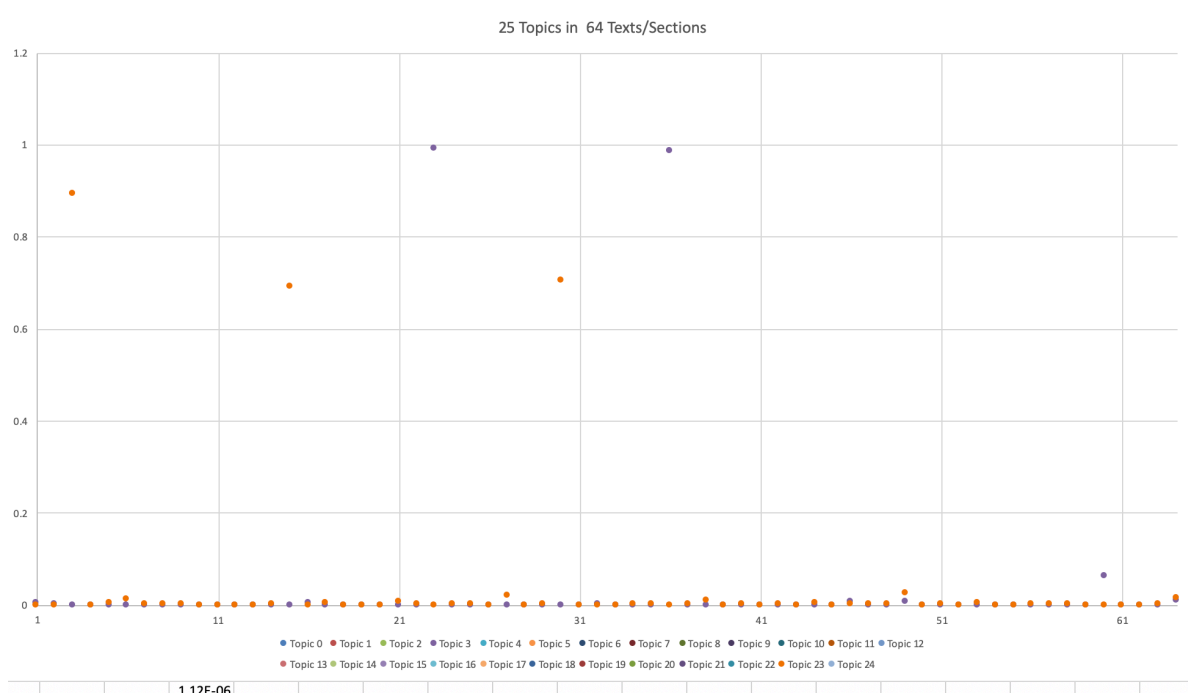
It's not that these topics are particularly prevalent across the archive. In fact, the graph above shows a sparsity of engagements with this topic. The sparse nature of these topics could be for several reasons: the limited characters available for use and posting; many of the close engagements with the hashtag being based in reporting stories, highlighting women, or calling for justice; or a technical programmatic issue or discrepancy. However, only in running this model did it become clear that there are several places in which users use the hashtag to talk about the work itself. Other forms of word counting and close engagement revealed the first two prominent topics, but this developing, or perhaps fleeting, meta-narrative in which users talk about the work of representation as it pertains to black women is only revealed this way. These meta-narratives evidence the ways in which the hashtag's mission has been metabolized and its discourse and mission are able to spread into new narratives and conversations. As there is a selection of tweets that engage in conversations about the hashtag, it would seem that even

within its dedicated mission, #sayhername and the African American Policy Forum have been able to not only provide a space for memorial, acknowledgement, and celebration, but have also generated a community of users who can begin to leverage the discourse generated in this space, add to it, and repurpose it for other justice struggles.

Fluidity, the aggregation and compilation of many conversations while keeping a central core, is something recognizable across all forms of textual analysis of this archive. Fluidity, or more specifically, an amount of selective capaciousness, is what makes this hashtag, as a five-year-old initiative, functional and special. Unlike other political hashtags of the early twenty-first century, after five years, #sayhername retains its general focus.[191] The specific initiative of the hashtag, its relatively small engagement, and the explicit organization from the community through response processes like retweets are what give this hashtag continued life and utility. Its capaciousness of scope and direction, even while having a specific investment in a community outcome, is not only what makes it a political tool with longevity. The facilitation of an ongoing conversation through black mastery and manipulation of a technological platform makes #sayhername a promising example of black technological ontology.

Lingering Data and the Physicality of the Dead

While above, it is clear that the #sayhername archive is a rhetorical and cultural extension of a black practice of enumerating, listing, and publicly cataloging the dead to seek closure and justice, the #sayhername archive is not the only instance of memorialization through social media. In fact, its existence and success coincides with ongoing developments of public memorialization on the internet, more generally. The practice of social media memorialization, which includes users continually visiting and posting on profile pages and the last posts of the deceased, is an extension of a contemporary phenomenon in which users integrate the dead into

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[191] There is one topic, topic 6, that holds all of the narratives that "don't fit." However, looking at its frequency across the texts of the corpus shows that even this divergence is short lived.

their ongoing social relationships. Researchers have suggested that within these social media

practices there is a challenge to the concept of death and its positioning as the end of personhood.

Online, the dead cannot remain static and instead continue to evolve through the construction of

new interactions and new public and posthuman memories. Gibbs et al. suggest that the

persistence of these collective representations is, or can be read as, a social life, a series of

relationships that "persist beyond biological life," and "a construction of collective or

intersubjective memory" that challenges understandings and constructs of life and death.[192] Even

here, in mainstream conversations of social media, death, and archive, the problem of the

datafied body resurfaces, and will remain a problem or question that will persist well into the

century.

While it is difficult, impossible, and perhaps ridiculous to suggest that a deceased person

still engages in social practices, it is becoming increasingly difficult to let the dead rest when

their datafied bodies, the discourse they generated, and people's public interactions with them

both before and after their passing, persist and remain accessible. In thinking about this kind of

datafied embodiment, I cannot separate the analyses of contemporary mourning from how I felt

having collected and analyzed parts of the #sayhername archive. There is an incredible

physicality or realness these stories and names generate through this archive.[193] However, one

might wonder how this archive is different from the traditional personal archives found in

libraries and attics arounds the world. Acker and Brubacker suggest that the public and

networked nature of social media restructures user engagement with such texts.[194] Thus millions

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[192] Martin Gibbs, James Meese, Michael Arnold, Bjorn Nansen, and Marcus Carter, "#Funeral and Instagram: Death, Social Media, and Platform Vernacular," *Information, Communication & Society* 18, no. 3 (2015): 255–268.

[193] This "realness" is part of the difficulty of methodology I note earlier in the chapter.

[194] As personal archives document cultural memory in private and individualized ways, the identity represented via social media platforms consistently acquire new layers of context as other users interact with it. Because of these relationships and the ability of other users to contribute content to these archives, researchers and archivists need to create new ways of interacting with contemporary digital personal archives as artifacts.

of people know Sandra Bland through a virtual extant social media archives:[195] which includes her prevalence as a figure of memorial through hashtags like #sayhername that celebrate her birthday, and continued revelations and information about her death. These interactions are only possible through the work of the hashtag and the platform affordances of social media platforms like Twitter. Furthermore, these interactions don't seem to fall far from the translations and slippages of body and data that Browne suggests, and Okorafor presents in her novels. This embodiment constellates not only technological embodiment, but also forms of extensive and engaged political activism and memorial that pose questions about the ways in which data connected to bodies can operate in its stead. These hashtags and data questions press the limits of the human, and suggest that such archived and organized data proxies can become re-embodied, posthuman, and affect our cultural understandings of death.[196]

Shifting, postponing, or redefining death is certainly not the object of a project like #sayhername, which is dedicated to memorializing women, and supporting the families they left behind. Yet, it's difficult to think past this coincidence of concept, or the similarity that is found within another lineage of black theory: works concerning memory, re-memory, and haunting. Strangely enough, there is already language for this kind of physicality of memorial, or the ability to bump into and feel the dead and weight of history. The way datafied embodiment operates to create digital ghosts echoes the physicality of re-memory in Morrison's *Beloved*. Also, these digital ghosts easily recall the work of Avery Gordon, and then Marisa Parham on public and social haunting in the black community.[197] These hauntings are considered by these

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[195] Users continue to reply to or engage on Sandra Bland's Twitter handle and handles that spoof or look like hers.
[196] There are already many projects about this underway. Researchers and engineers are training AI on large textual corpuses of the dead or dying in order to generate bots that their families can chat with. Also, "Be Right Back" is a compelling episode of the popular Netflix show *Black Mirror* that posits this concept.
[197] Avery Gordon, *Ghostly Matters: Haunting and the Sociological Imagination* (Minneapolis: University of Minnesota Press, 1997); Marisa Parham, *Haunting and Displacement In African American Literature and Culture* (New York: Routledge, 2009).

scholars to be fundamental to black understanding of life and early death. Parham also suggests that this kind of haunting is not only informative but constitutive of black self or selves. Given her more recent work on the inherent blackness of technology, it is particularly provoking to think of haunting shifted into the arena of the digital.

In its use as a hashtag, #sayhername reveals several methods of black constitution and of embodiment. The hashtag reveals contemporary communal and digital practices of resistance and justice through the mechanism and vernacular of a particular platform, Twitter, and affirms the ways black people are technophilic and interested in telling and revising their own political narratives. This hashtag is a powerful example in and of itself, yet when captured within a larger narrative of black technological ontology, the ways of being black and technological, the operation of the hashtag within a nexus of larger questions of digital data, personhood, and posthumanism gestures to the ways in which black life and ontologies are always already informing technological quandaries of the past and present. Much like the women we remember represented in this archive, it seems that once again black writing and narratives about how to be, how to live, how to survive, and how to remember align, and predate their contemporary scientific and technological discourses. Looking to these black posthuman moments never has been more important.

RESPONDING TO THE DEVICE

The black technological is an ontology of technological constitution, or blackness as constituted through or in tandem with various technologies. This is an ontology represented in the imaginative work of several authors, who have asked what might it mean to "be a technological problem."[198] They wonder how might the struggle of black people for the recognition of their humanity map onto, inform, and examine a concurrent conversation of technological progress and posthumanism. While the novels (and one archive) I've engaged work in their own ways, with their own histories, it becomes clear that across this assembled canon, themes of identity, survival, and self-ownership or making remain paramount. Ellison's invisible man seeks to escape, to play, and to control his own narrative. He does this through his understanding of and ability to see the system controlling him. He is able to see the cybernetic nature of society. Butler's Lilith stands as the last human, who engages in dangerous alliances to persist and survive by regenerating her cells for another day. Her insistence on survival coupled with the novel's focus on her cells opens up a narrative space for considering the importance of cells and cellular language in black feminist writing.

Okorafor's Binti destabilizes contemporary narratives of humanism and posthumanism by choosing to become a new physical self that incorporates many alien forms and technologies, while staying true to her Himba identity. The mediation of her body and the information collected about it reveals the easy slippages and dangers of data that might constitute new forms of the human in the twenty-first century. Finally, the hashtag #sayhername is an example of a historical and literary practice activated in real life, where black user engagement in the hashtag reveals the workings of a long-term political project, and in its archive begins to echo those same

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[198] See, Du Bois for the original quote, and think of this as an update inspired by the authors in this project.

slippages of humanity and data. In the frame of this memorial, old black theories become new and technologically applicable.

Each moment of black technological ontology is wildly different, but together they represent not only a short incomplete history, or the constellation and excavation of popular scientific and technological discourses, but also a trajectory from individual participation to collective interaction, moving from the fictional and the theoretical to the very real and contemporary. Each work provides a moment of clarity and synthesis across two narratives, the black and the technological, that continue to be sequestered from each other. Each provides a new node from which to investigate the long history of the posthuman, and argue for a radical redefinition of what it means to be human.

What we get when we read all of these narratives together is a better picture of what posthuman futures can be. Not desolate white wastelands, but something closer to Binti's future and her ability to take life as it comes. We can expect more. While each of these authors presents a hesitance to look to technology as a savior, or as inherently progressive (because it is not), in these narratives readers can catch glimpses of moments in which the affordances of machines, of technologies, and of science can be manipulated by black users, and are accepted by them in order to make something better for themselves. It is within these scraps, these glimmers,[199] that black technological ontologies really shine. It is in these small moments that we can find respite from the echoing laughing of the Device.

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[199] Weheliye in *Habeas Viscus*.

Appendix

Chapter 1

Figure 1: Tenth Annual Macy Convention; https://www.scaruffi.com/mind/ai.html

Figure 2: *Retreat* by Gordon Parks; "A Man Becomes Invisible"; *Life Magazine*; 25 Aug 1952; https://books.google.com/books?id=g1YEAAAAMBAJ&pg=PA9&dq=ellison&hl=en&sa=X&ved=0ahUKEwjr9Iyzjo3jAhWIXM0KHXYIAhcQ6AEIMjAC#v=onepage&q=ellison&f=false

Chapter 2

Figure 3: Xenogenesis Research Envelope by Octavia E Butler; "Xenogenesis- drafts." *Octavia E. Butler Papers, 1958–2006*. Manuscripts Department, Huntington Library, San Marino. (taken by author)

Figure 4: Oankali Doodle by Octavia E. Butler; "Xenogenesis- drafts." *Octavia E. Butler Papers, 1958–2006*. Manuscripts Department, Huntington Library, San Marino. (taken by author)

Figure 5: "Involution is death" by Octavia E. Butler; "Commonplace Books." *Octavia E. Butler Papers, 1958–2006*. Manuscripts Department, Huntington Library, San Marino. (taken by author)

Figure 6: HeLa Cell by Octavia E. Butler; "Commonplace Books." *Octavia E. Butler Papers, 1958–2006*. Manuscripts Department, Huntington Library, San Marino. (taken by author)

Chapter 3

Figure 7: Cover for Binti Kindle edition; https://www.amazon.com/Binti-Nnedi-Okorafor-ebook/dp/B00Y7RWXHU

Figure 8: An 18th-century Persian astrolabe, kept at the Whipple Museum of the History of Science in Cambridge, England, https://en.wikipedia.org/wiki/Astronomy_in_the_medieval_Islamic_world

Chapter 4

Figure 9: Frequent words found in *Invisible Man* chapter 21

Figure 10: #sayhername tweets from March 27–April 3, 2018 (without retweets removed)

Figure 11: Word cloud #sayhername March 27–April 13, 2018

Figure 12: Selection of CSV file from #sayhername tweets collected March 27–April 3, 2018

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