Ancestors and Algorithms: Ethnocomputing AI with African & African Diasporic Heritage

By

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Dedication

Ancestors and Algorithms is dedicated to my daughter Naomi Urielle,
Husband Kabuzi Mkandawire
Grandparents: Sadie Mae and Thomas Cooper Sr.
Louise and Oliver Agee
Parents: Joyce and Thomas Cooper
And to all my great aunts and uncles, foremothers and forefathers, who work tirelessly on plantations in the American south to making my freedom dreams a reality

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Preface

It wasn't until three months after my husband and I purchased a group of Alexa's as our wireless home surround sound system, that we realized she could not tell our voices apart. Nor could she correctly pronounce my husband's family name- Kabuzi, Kabu for short. Her surprising yet much welcomed greetings of "good morning, Kah", and "have a nice day Imani" made us giggle at the thought of her simulated consciousness articulating an understanding of our quotidian schedules. However, one Sunday morning my husband had the inclination to correct Alexa's pronunciation of his name. Having misplaced his phone in the house, a habit shared by both of us, he asked "Alexa can you call Kabuzi's phone?" She replies, "I'm sorry, did you mean Kah's phone?" He corrects her, "Kabuzi's phone." Alexa responds, "I'm sorry do you mean Kah?" It was in this moment we realized that "Kah" was not an interchangeable nickname for Kabuzi or a feigned term of endearment, but Alexa's inability to pronounce the phonetics of his Chichewa name.

Kabuzi, in Chichewa literally translates into "large pot", but garners a greater significance through a Chewa cultural lens. It describes a specific large pot commonly used at a gathering which could feed a sizeable group of people. It signifies a person who has abundance, a pot so large it overflows, and everyone is fed. On that Sunday morning, Alexa was unable to hear Kabuzi as he corrected his name. She was not privy to the phonetic conventions of Chichewa, and with that the figures of speech, and mediums of language expression. Alexa's inability to hear Kabuzi as in audibility, yes, but also hearing as in being perceptible (able to be

seen or noticed) is part of a devastating dearth of viable training data that demonstrates cultural practices engendered by Africa and its diaspora in the respective vernaculars and worldviews.

This lack of data gives rise to an unfortunate growing database of experiences in which "intelligent" computer systems render persons of African descent inaudible. So, I ask, how can we have Artificial Intelligence (AI) perceive blackness, if blackness is rendered illegible through data? Where is the data in which blackness speaks? Where are the languages that articulate black ways of thinking and being located, and how do they reverberate in black freedom dreams from ancestral knowledges? We must first redress the way blackness appears in data to conceive of an AI attuned to black life.

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Abstract

This dissertation argues the notion of automated “intelligence” that mobilizes Artificial Intelligence (AI) orbits around a singular cultural definition of knowing engendered by European colonial values and does not account for ways of knowing from marginalized cultures (with a specific focus on Gullah Geechee culture). Reading across disciplines on works about the production of data produced in the 19th century archives of Europe and the Americas, to contemporary computer and information science, and 21st century art-based AI projects, this study illuminates how the production of data as knowledge has deep epistemological biases which favors European colonial perspectives and efface black worldviews. Because modern computing relies so heavily on data to generate intelligent algorithms that carry out tasks, it is important to consider who, what, why, and how certain realities are always legible through data and others not. What does it mean then to question AI in relation to data and knowledge? It means to question the theories of knowing (epistemology) that underpin AI, and the role of data within the production of knowledge.

By examining this epistemological bias affecting the computation of AI, this study demonstrates how European colonial values as the status quo in data, instantiates an epistemic gap within the very notion of "intelligence", functioning as a gatekeeper that validates limited technical approaches and expressions of scholarship for AI and beyond. With that said this dissertation project emerges between theory and practice, creative and analytical, activism and scholarship, offering an approach to redress data for African and African diasporic cultural knowledge, and advance an anticolonial practice to the production of scholarship for AI.

Weaving in personal narratives from my family's ancestral knowledge, as a descendants of Gullah Geechee people, this dissertation offers an experimental approach to compute AI with Gullah Geechee knowledge frameworks.

Keywords: Gullah Geechee, African American cultural history, transatlantic archives, Artificial Intelligence (AI), Machine Learning (ML), Critical Data Studies, Python, Creative computing, Decolonial thought, Black feminist thought

Introduction

> The creativity required to look beyond the assumed functions of the technology and see new possibilities is a powerful force for social change, yet one that receives insufficient theoretical attention"
> Ron Eglash, *Appropriating Technology Vernacular Science and Social Power* (2004)

Ancestors and Algorithms: Ethnocomputing AI with African and African Diasporic Heritage is a praxis I have been developing since 2018. The project began as a curiosity. I was originally interested in how black women's experiences were being communicated through the algorithms of artificially intelligent chatbots, and the modes of data processing to make this kind of computing possible. My contribution to this subject was to center on black creatives through a black feminist lens, considering how the technical aspects of Artificial Intelligence (AI) innovation is reimagined in their work. I sat with Stephanie Dinkins engagement with Bina 48 (2010) a humanoid robot developed by Hanson Robotics. I also followed Dinkins development of her own chatbot, Not The Only One (N'TOO) (2018), an artificially intelligent socially engaged sculpture that narrates a multi-generational memoir of a black American family, (the Dinkins). I sat with the deep learning algorithms and data processing of N'TOO not to highlight issues of cultural bias and algorithmic violence, but to ask questions about the logics of the equations within the algorithms, and how they are postulating the "intelligence" of three black women. I sought to draw attention to how black creatives like Dinkins, work with AI concepts in innovative ways– attentive to racism, yes, but how these approaches to AI challenged the technical and mathematical limits of automating intelligence engendered by black ways of

knowing. This was complemented by ongoing research in ethnoscience, particularly ethnomathematics and ethnocomputing.

Ethnoscience (ethnocomputing, ethnomathematics, ethnopharmacology, ethno-physics and so on) challenges the implicit Eurocentric foundations of science (biology, math, physics, and so on), and seeks to expand the practice of science (testable materials, systematic methods that result in explanation, experiments, predictions, and discoveries) to account for non-European theories and engagement with the natural world. The ethno-sciences are unified by a core goal; to demonstrate that human beings everywhere have been capable of innovative and advanced mathematical thinking, formed theories about, and curated engagement with the natural world. While some scholars of ethnomathematics trace out histories of mathematical thinking from Inca quipu of South America to Ishango Bone in Central Africa, scholars in ethno-physics discuss primordial universe theory from the perspective of Bakongo cosmology[1]. What motivates work in ethnoscience is the desire to correct the widely held belief that science and mathematics was essentially a European product. The work demonstrates how the standard treatment of history of non-European mathematical activity and engagement with the natural world is marked by a deep-rooted historiographical bias in the selection and interpretation of facts, and consequently it has been ignored, devalued, or distorted[2].

Ethnoscience scholarship highlights that in the context of fact and truth-making, data interpretation functions as evidence, dictating "what happened", and "that which is said to have

[1] See Kimbwandènde Kia Bunseki Fu-Kiau. *African Cosmology of the Bantu-Kongo: Principles of Life & Living (2014).* Also see James Gates "Symbols of Power Adinkra and the Nature of Reality" (2010)

[2] I am drawing from Abdul Karim Bangura discussion of George Gheveghese Joseph's work *The Crest of the Peacock: Non-European Roots of Mathematics* (2000) and his reading of Stuart Glendinning Hall essay "Towards a working Nonlinear Science of Empowerment" (1999)

happened", establishing what is "factual", "real", "questionable", "false" or "impossible" realities. Similarly in automation and AI, data functions as material that represent information and claims about the world, but in a form a computer can use to solve complex or simple tasks. Data then, is how artificially intelligent machines familiarize with the context around them, becoming social actors in everyday life through computational discernment of "fact", "truth", and "false". In other words, data is a requirement to engineer the "knowledge" and "intelligence" of AI. By highlighting a historiographical bias in the selection and interpretation of facts (data), the ethnosciences (specifically ethnomathematics and ethnocomputing) draw attention to how this bias is mapped onto computer science curricula and informs the conceptualization of computing including AI[3].

My curiosity led me to an area of ethnomathematics and ethnocomputing that demonstrates the mathematical and scientific implications of ancient and modern African and African diasporic writing scripts. I found the work of mathematicians including but not limited to Paulus Gerdes, Arthur B. Powell, and Ubiratan D'ambrosio generative and inspiring. While Gerdes scholarship demonstrates the possibility of advancements in computer science research by culling the mathematical thought from ancient and modern African writing scripts and designs, Powell and D'ambrosio function as scholar-cum-activists to make room in mathematics education for consideration of mathematical thinking from indigenous, black, and other non-European perspectives[4]. Together the works of Gerdes, Powell, D'ambrosio and other

[3] See Mhlambi, Sabelo. "Reimagining the Internet." (2019). Also see Tedre, Matti, et al. "Ethnocomputing: ICT in Cultural and Social Context." (2006)

[4] See D'Ambrosio, Ubiratan. "Ethnomathematics and Its Place in the History and Pedagogy of Mathematics." (1985). Also see Gerdes, Paulus. *Geometry from Africa: Mathematical and Educational Explorations* (1999)

mathematicians alike demonstrate how revisiting histories of mathematics through a decolonial gaze makes visible new modes of mathematical data.

The more I read ethnomathematics and ethnocomputing literature I grew specifically interested in Gerdes' work. How it made visible an intersection of African writing scripts, African designs, mathematics, and computer science research. As an academic trained in literature analysis and language translation, I was struck by the semantic qualities of African patternmaking, and the fluidity at which certain African writing scripts shifted mediums, creating grammar and syntax well beyond the page. This rabbit hole into the world of reconsidering indigenous African knowledge led me to symbols from my own ancestry, the Gullah Geechee. The Gullah Geechee are a subculture of African Americans and claim cultural geography along the US Lowcountry. I became so enthralled by this eclectic intersection of culture, language, scientific, aesthetic, and computational that my original point of analysis which centered on black creatives doing computing had expanded.

While I still was drawn to the epistemological work black creatives like Dinkins were illuminating in their employment of AI bots and algorithms–postulating concepts of intelligence from black modes of being and knowing– I more importantly, felt deeply inspired to add to this emergent body of work[5]. Using my training in literature and translation, professional career in New York gallery scene, and years of research on how my ancestors employ indigenous African knowledge I sought to create a praxis of my own. A praxis that challenges the epistemic foundations of Western knowledge production, while generating interdisciplinary knowledge tethered to my ancestral ways of knowing.

[5] For other works in computing by black creatives see Rashaad Newsome "On Being 1.5" (2021) and Alex Fefegha "Hip Hop Poetry Bot" (2021)

I write *Ancestors and Algorithms* not as a project that describes Eurocentric values that get mapped onto the "intelligence" of AI, but as an experiment testing out how we can come to know computation differently by tethering black ways of knowing to data, as the apparatus of intelligence and production of knowledge. I am using tethering here in two ways. Tether in the sense of binding things together so that it may appear indivisible, but I am also using tethering in terms of computer science. In computer science, tethering (broadly speaking) describes the process in which one device becomes the medium from which other devices can connect (to the internet) and operate (function as a personal device). Connection of a mobile device with other devices can be done over wireless LAN (Wi-Fi), over Bluetooth, or by physical connection using a cable (ex. USB). If tethering is done over WLAN, as in a personal hotspot / mobile hotspot, it allows the device to serve as a portable router. The Internet-connected mobile device can act as a portable wireless access point and router for devices connected to it.

Tethering, then, is a provisional and temporary location that generates a state of connectivity and hinges on indivisibility (unable to be divided or separated). The role of the Internet-connected device is invaluable, and necessary for the other connected devices to function in the intended manner. Metaphorically speaking, black ways of knowing are the "mobile hotspot" from which I generate a definition of data as the apparatus of intelligence and production of knowledge. This is an experiment that questions how conceptions of intelligence and knowledge production alter when engendered by black ways of knowing. How would this newfound norm of knowledge production and intelligence grounded in black ways of knowing reshape how we can perceive and produce the production of knowledge and intelligence. And how would this shift inform the construction of automated intelligence (AI).

This dissertation reimagines the apparatus of intelligence and the production of knowledge through black ways of knowing and being, by leaning into Gullah Geechee cultural practice as theory. I untether the concept of data from "objective" Eurocentricity/ whiteness by questioning the deep historiographical bias in the selection and interpretation of facts engendered by colonialism. Consequently, I stir up a logic of knowledge production from which language and speech of my ancestors can be communicated. A lively and unorthodox way of thinking, learning, producing, and applying thought. A mode of synergistic knowledge production that Gullah Geechee thought requires.

I ask what does it mean to model the intelligence of academia after African and African diasporic ways of knowing, and to extend this model of intelligence to the "intelligence(s)" of AI? This is the experiment and refusal of this dissertation. It is an experiment that etches out a provisional practice to undiscipline data to make possible the production of knowledge and intelligence from a divergent location of culture. The dissertation is a refusal in that it acknowledges the very necessary tethered-ness to academic and disciplinary conventions to be a document (a piece of data) evidencing claims. Yet it is also a document that questions and transgresses the cultural/social/ political assumptions about knowledge production and intelligence in which some formats are more valid than others.

I seek to foreshadow what scholarly practice can look like when we center the application of African and African diasporic knowledge frameworks and notions of intelligence, rather than the analysis of them. The dissertation is split into two parts. Theory, and practice. Chapter one "The Whiteness of Data and the Quantification of Black and/or African in an Era of Artificial Intelligence" I demonstrate how European colonial values inform the data collection and

interpretation on and about black bodies and culture. Combining personal narrative, close reading analysis of Phillip NourbeSe's Zong! (2008), and the Library of Congress archies on Gullah Geechee culture and history, I argue that a shift to automation does not remedy racial bias towards blackness but confirms a systemic epistemological violence in which black people "always already" appear in data through a European colonial lens.

In chapter two "Black Creative Techno Practice as the Art of AI and Computer science Undisciplined" I argue that black creative techno practice is computer science undisciplined from which alternate methods of developing AI and other data driven computational systems emerge. I introduce the term "black creative techno practice" as theory and method that remaps the defining, policing, determining, and financing of categories for digital innovation to generate computational tools that cater to the needs of diverse black communities. To theorize this term I discuss two projects, *Not The Only One* (2018) by Stephanie Dinkins and *The Library of Missing Datasets 2.0* (2021) by Mimi Onuoha.

Chapter three "Cultural Practice as Theory: Using AI to Explore Gullah Geechee Knowledge Frameworks" begins the practice component of the dissertation. It relays the details of a pilot study using Google's Teachable Machine. The pilot study mobilizes my own take on black creative techno practice, and advances an ethnocomputing method to Artificial Intelligence, through a term I call Ethno-AI. The methodology demonstrating how cultural practices are in response to claims about the material and environmental world around them. This study assesses the possibility of using AI to examine how Gullah Geechee cultural practices theorize about the physical and natural world. I identify cultural practices through various research data including personal experiences, oral histories, archival documents, archeological

findings, maps, fiction, and nonfiction literature. I argue that cultural practices engender theories about the natural and physical world, and if culture is taken seriously as a category of analysis could lead to research advancements in various fields.

Chapter four “Undisciplined. My mind” envisions the dissertation project as an art exhibition. Undisciplined” challenges the social and racial politics that underpin the dichotomization of intellectual disciplines by educational institutions, specifically collegiate institutions. The work builds a narrative meant to be experienced in three acts which are articulated in binary numbers. The first act (001) highlights how disciplinary conventions foster communication gaps between specialists in different fields, while simultaneously generating exclusionary code that prohibit the production of knowledge outside of a Eurocentric framework. The second act (010) delves into autobiographical experiences of cognitive dissonance and its phycological toll. Culminating in personal practices of resistance to combat epistemic violence as a scholar working within Gullah Geechee knowledge systems. The third act (011) demonstrates the possible intellectual and technological innovation that can emerge when black knowledge frameworks are taken seriously as categories of analysis.

The dissertation project culminates with an epilogue that presents six principles that can facilitate epistemic inclusivity in the academy going forward. This is the beginning of a manifesto, a life ethos, an agenda of scholarly research, an avenue to usher in, and engineer AI expert systems dedicated to preserving through the application of African and African diasporic knowledge, as well as other marginalized communities.

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Chapter 1

The Whiteness of Data and the Quantification of Black and/or African in an Era of Artificial Intelligence

If oonuh ent kno weh oonuh dah gwine, oonuh should kno weh oonuh come f'um.
Gullah Geechee proverb

In this chapter I argue that a shift to digitization and automation, confirms a systemic epistemological violence in which black people and the cultural heritage of Africa including its diaspora "always already" appear in data through a European colonial logic. I would like to begin this chapter with a mildly humorous story about the failed perceptibility of the black body in computer vision. In the now infamous YouTube video "HP computers are racists" (2009), two colleagues' team together to demonstrate how the face tracking software on what was then the latest version of an HP media smart computer, lacked the ability to recognize darker skin pigmentation. Starring "white Wanda" and "black Desi" they take turns entering the parameters of the computer's vision ultimately demonstrating the camera's failure to locate "black Desi" in the frame, despite him standing directly in front of it. However, "white Wanda" can experience the intended design of the software, the camera not only recognizes her face but is able to pan around and follow her movements. The camera recognition disparity between "white Wanda" and black Desi" evidences an error in the system's input data, from which the computer develops an inability to recognize dark skin and has a bias for light pigmentation[6].

[6] See Joy Buolamwini and Timnit Gebru's article "Gender Shades" (2018) which discusses contemporary issues around biased data and anti-black computer vision.

The lighthearted banter of “white Wanda” and “black Desi” is echoed in the comment section of the video. While some YouTube users quote their favorite lines accompanied by laughing emojis, others continue the sarcasm, and one user disrupts the light-hearted banter altogether to advance a counter argument to this seemingly innocuous technological failure. Username Troll of Justice, states: “That's weird because the video cameras they put up in Chicago ONLY track black people…”. The comment solicits more than 400 likes and 8 replies, and is postdated to 2014, five years after the original post. Between Troll of Justice’s comment and the original post of the video is a gradual techno-social shift marshaled by a rapid growth of "Big Tech", social media, hashtag activism, call out culture, a rise in data science, and the virtual establishment of Black Lives Matter. The time between also marks a transition towards algorithmic and data-driven policing, judicial decision making, and governance, using a combination of predictive and preventative automation initiatives powered by large databases[7]. Troll of Justice’s comment indicates that in this shift in which blackness is rendered visible, when it does “enter the frame”, it is still misrecognized through a veil of anti-black racism and hypervisibility[8].

The non-recognition of “black Desi” by the HP media smart computer was such a sensation because of what it signaled– a new era of computational systems labeled "smart/ intelligent" that could not perceive blackness. It foreshadowed a technological future of automated decision making powered by large data sets and algorithms that literally overlooked the black body. In contrast, Troll of Justice's comment captures a technological present in which

[7] For a discussion that traces out growing inequality and racism of data and algorithms over time See Virginia Eubanks *Automating Inequality How High-Tech Tools Profile, Police, and Punish the Poor* (2018)
And Safiya Noble *Algorithms of Oppression How Search Engines Reinforce Racism* (2018) and her earlier work (2012)
[8] See Ruha, Benjamin *Race After Technology: Abolitionist Tools for the New Jim Code* (2019)

black individuals, communities, and cultures are only recognized through harmful stereotypes predicated on histories of anti-black racism. Both examples present techno cultures that fundamentally fail to perceive blackness posing several questions about the technical infrastructure of data, algorithms, and Artificial Intelligence (AI). I understand this technological failure to perceive blackness as indicative of a longer history of anti-black racism through data which ultimately limits the use and influences the decision-making of AI.

Because AI, and other modes of automation computing relies so heavily on data to generate intelligent algorithms that carry out tasks, it is important to consider who, what, why, and how certain realities are always legible through data and others not. What does it mean then to question the history of data in relation to blackness and its implications on automated intelligence? It means to question the theories of knowing (epistemology) that data orchestrates about the black body and black cultures to consider how this shapes the ability to know through automated intelligence.

In this chapter I use V. Y Mudimbe's concept the "colonial library" to demonstrate how European colonial logics always already engender the way in which blackness (the black body and black cultures) appear in data. Weaving in personal narrative as a descendant of Gullah Geechee peoples into close reading analysis, I demonstrate how I have come up against the "colonial library" in my own life, while highlighting how Eurocentric data classifications prohibit the perception of black ways of knowing and being in the world.

Split into three sections, the first examines my inability to locate Gullah Geechee cultural principles during my research in *Slave Narratives: A Folk History of Slavery in the United States* (commonly known as WPA Slave Narrative Collections) on the Library of Congress online archives. I place this narrative in conversation with NourbeSe Philip's Zong!

(2008). The second section describes how when I do locate Gullah Geechee cultural principles, Eurocentric colonial logics police the way in which I am able to articulate myself as Gullah Geechee. I narrate two experiences, one in a classroom and the other while researching scholarship about Gullah Geechee people and analyze how these experiences demonstrate the reproduction of colonial logics through the quantification of black body and cultures The final section offers a methodology to interpolate how blackness is engendered by data through colonial logics. I offer a personal interpretation of how symbols found on the bottom of Gullah Geechee colonoware bowls garner significance in my own family history. Through my interpretation I demonstrate how blackness can transcend colonial logics and classifications to name and transform itself, while advancing a methodology in which marginalized cultures can dictate the terms of digitization. The methodology is geared towards decolonizing data as the start of expanding automated intelligence.

How Black Enters the Archives (historical data)

The words are shattered. The pages extended. Syllables become words and erupt in the form of breathy moans and stutters. The letters on the page dare to generate fragmented desires, claims, and reproaches. In *Zong!* (2008), M. NourbeSe Phillip engages, equal parts creative writing, ritual, and spiritual possession, to construct a counter narrative of the 1781 Zong massacre case, in which 150 Africans were murdered by drowning, so that the ship's owner could collect insurance monies. *Zong!* excavates the legal text *Gregson vs Gilbert* (1783), the only extant public document related to the case, to offer a telling of the event from the perspective of the enslaved, what Philip describes as an impossible story.

The back pages of the poem detail the historical event from which Philip's work arose:

the 1781 voyage of a ship, the Zong, which originally carried 470 enslaved Africans from the West Coast of Africa toward Jamaica. Late in the voyage, after hundreds of the enslaved had already perished, the captain massacred all 150 of the still-living on board. The ship had been delayed for months due to "navigational errors on the part of the captain." As a result of that delay, many had already died "for want of water," while others, "through thirst and frenzy…threw themselves into the sea and were drowned." The captain believed that, if the remaining enslaved died of natural causes, the "owners of the ship would have to bear the cost, but if they were thrown alive into the sea, it would be the loss of the underwriters." By killing the remaining enslaved, the captain reasoned that the ship owners could collect insurance money for their "property"— the people enslaved on the vessel (210).

While the insurance dispute Gregson *vs Gilbert* only addresses the 150 men, women, and children as "cargo", Philip tasks herself with rewriting and recovering a lost history. In doing so she challenges the reader to consider what might have been the possible thoughts, emotions, words, actions of the enslaved Africans thrown overboard. How would the narrative of what happened aboard the ship that day change, if told from the perspective of the Africans in bondage. Writing of her method the poet explains:

> My intent is to use the text of the legal decision as a word store; to lock myself into this particular and peculiar discursive landscape in the belief that the story of these African men, women, and children thrown overboard in an attempt to collect insurance monies, the story that can only be told by not telling, is locked in this text.

The story of the African men, women, and children aboard Zong cannot be told, from lack of insufficient data collection, or rather data collection that intentionally situates them as voiceless "property". From the *Gregson vs Gilbert* document, we have no insight on the names of the Africans onboard, the regions in which they had come from, the languages they spoke, the relationships they had to one another or to themselves. For we can only know them as "cargo"

and "property". And without the *Gregson vs Gilbert* document we would not know that these 150 Africans existed at all. Their stories would be entirely lost in the *maafa*[9] that was the transatlantic slave trade.

However, *Gregson vs Gilbert* is not unique. The archives on transatlantic slavery are sites in which black life is shrouded by legal grammar that give rise to the conditions for enslavement, and the prohibition of black perspectives. I open this section with an analysis of Zong! to demonstrate how NoubeSe's treatment of the document *Gregson vs Gilbert* challenges its ability as a document to account for black life though black people appear in it. Simultaneously, she challenges the legacy of data this document constitutes. Within this method historical data – archival documents including government forms, ship ledgers, receipts of sale, local print media, quotidian paperwork etc. are highlighted as tools used to structure the dehumanization of the black body and cultural destruction by denying the perspective of the Africans in captivity.

While NourbeSe's methodology is vital to disrupt a legacy of data that shrouds black humanity, I argue in concert with scholars of transatlantic slavery, the documents that require this method do not and cannot account for black articulations of self, black ways of knowing and being[10]. Because as a document *Gregson vs Gilbert* (and other documents in its likeness) function to legitimize, legislate, and govern the enslaved black body, the nature of the data collected overlooks black humanity. This need to legitimize, legislate, and govern the enslaved black body through documents establishes the archives of transatlantic slavery as a database

[9] Maafa is a Kiswahili word that means "great tragedy" or "horrific tragedy", referring to the period called the Middle Passage or TransAtlantic Slave Trade.

[10] See Saidiya Hartman "Venus in Two Acts" 2008, and Jessica Marie Johnson "Markup Bodies" 2018

that fundamentally flattens the diversity of black ways of knowing while enacting intentional erasure. The database itself is a paradox in which the documents, though containing information, are documents that produce erasure. A paradox that Saidiya Hartman explains in her seminal article "Venus in Two Acts". Hartman opines:

> "One cannot ask, 'Who is Venus?' because it would be impossible to answer such a question. There are hundreds of thousands of other girls who share her circumstances and these circumstances have generated few stories. And the stories that exist are not about them, but rather about the violence, excess, mendacity, and reason that seized hold of their lives…".

In likeness to NourbeSe's examination of the Zong massacre, the historical data of both "Venus" and the enslaved Africans aboard the slave ship Zong renders it impossible to discuss who they were as people, presenting them only as a tragedy, nameless, and property. As a scholar and descendant from what the transatlantic archives on slavery describe, I have come to accept the limitations of the documents, however naïvely thought archives post slavery would certainly disclose more. Perhaps, somehow, my ancestors peer through the racist's vocabulary within the documentation of slavery to tell me something through the page.

This was not the case. Or at least not what I thought it would be. The archives on transatlantic slavery and the post slavery collections I examined in search of evidence of specific Gullah Geechee cultural beliefs engender what V.Y Mudimbe names the "colonial library". The "colonial library" is a conceptual tool that provides insights into the nature of Africanist knowledge– that is African knowledge frameworks and knowledge on or about Africa. While Mudimbe focuses primarily on Africa I use the term to extend it to the African diaspora[11]. The "colonial library" is a transdisciplinary space that constitutes and is constitutive of the epistemological locus of Africa's invention. It structures how we know, and what we can know,

[11] While Mudimbe has a focus on African, I use this term to encompass the diaspora as well.

on and about Africa through European colonial logics and Western discourse. Because the "colonial library" is the epistemological region of Africa's emergence it functions to justify monstrosities like slavery and colonialism, but also informs how Africans themselves interrogate notions of self, produce discourses of otherness, ideologies of alterity, and historical narratives[12]. This is to say that Africa, Africans, and those related in the diaspora are always already enunciated through a Western logic creating great difficulty to locate a notion of Africanity outside of a framework that does not center whiteness, Western discourse, European colonial logic, and the vicious circle generated by the "colonial library".

Through a deep historiographical bias of the selection and interpretation of facts the "colonial library" produces and facilitates knowledge on and about Africa and its diasporas, informing and impacting every aspect of data collection. This historiographical bias begins before the data is even collected, as described by artists and scholar Mimi Onuoha. Onuoha opines that bias is a product of the intentions and social politics that preface data collection including, cultural ideologies of data collectors and informants, social relationship between collectors and informants, value attributed to projected information, desirable outcomes from collected data, intended audience and benefactors for data[13]. In addition to social politics that preface data collection, the collection method itself is another influence on data outcomes for example, interviews, journal accounts, surveys and so on. Post collection, the data is classified for information legibility and circulation engendering another layer of social politics that determine data classifications, titles / labels and definitions, mediums of presentation (journals,

[12] This definition of Mudimbe's concept of the "colonial library" leans on Zubairu Wai interpretation in his article "On the predicament of Africanist knowledge: Mudimbe, gnosis and the challenge of the colonial library" (2015) and Frieda Ekotto's talk "Reprendre: The Colonial Library and New Writing in the Global South" (2016)

[13] See Mimi Onuoha "Point of Collection" (2015)

archives, charts etc.) publishers, call numbers, location of storage and so on. Data is anything but "raw"[14], and the project of colonialism defines and interprets blackness through data in particular ways.

<type 'exceptions. ValueError'>
A problem occurred in a python script
Message = 'need more than 1 value to unpack'
query = field match.group (2) .strip() .lower ()
if 'NUMBER' == field:
aggregate, item = query.split(' ')

I begin this next analysis with an excerpt of Python code I regularly received from several links on the Library of Congress online archives during my research on Gullah Geechee history and culture. This page of system error presents code where information about the lives and afterlives of enslaved Africans should have been. While it is not the information I was hoping to find, the recurring code disclosed information I needed to see.

<type 'exceptions. ValueError'>
A problem occurred in a python script

A value error in Python is raised when a function receives an argument of the correct type, but an inappropriate value. Another way to explain it is when a user gives an invalid value to a function but is of a valid argument. While this code is very literal in that the webpage, I was looking for is unable to appear, I would like to consider the social implications of me repeatedly receiving this system error throughout my doctoral research on the cultural knowledge practices of my ancestors. Having spent years dedicated to researching my immediate family, and the cultural knowledge practices of my ancestors, I indeed attributed much value to the information

See Boyd, Danah. Crawford, Kate. Critical Questions for Big Data" (2012)

that would have been on the link. Yet, receiving this code instead of an audio clip detailing a specific plantation work song, was evidence of a pre-code, one that continually structured the boundaries of my overall research[15].

During my research I combed through different collections far beyond the Gullah Geechee Culture and History collection looking for traces of specific cultural principles in practice. At this point in time of my research, I could not quite name the cultural principles I was looking for, and its namelessness haunted me. For I felt these principles animate my life as a girl, they permeated through my household and materiality of life, and continue to ground me now. Yet, I could not locate where these unique and fundamental beliefs that structure my perception of self in relation to existence was coming from. Consequently, I thought the archives must have proof of something.

Perhaps my ancestors spoke of it, perhaps they left me a trace, something to piece together to make sense of fragments. I believed the WPA Slave Narrative Collection (from here on I will refer to it as Slave Narrative Collection) would confirm something. To mirror the language of the Python script, I thought I raised an argument of the correct type. I assumed the Slave Narrative Collection was equivalent to documents revealing life stories, and I assumed evidence of specific beliefs coming from a culture formed by enslaved Africans would be in the Slave Narrative Collection. However, both assumptions were wrong. My search for traces of specific Gullah Geechee cultural principles often led me to seemingly divergent and adjacent collections. These research digressions proved the Python value error code correct, in it suggests

[15] As mentioned, I received this python error code on several occasions, however the code at the top of the page was received while looking for a specific Gullah Geechee "field holler" also known as plantation work songs in the collections from "Southern Mosaic: The John and Ruby Lomax 1939 Southern States Recording Trip"

that what I am searching for is indeed valid, but I have assigned inappropriate value to the Library of Congress collections. The error code serves as confirmation that what I am looking for will not be there.

I debated what this "value error" forming boundaries around my research was. Does the error code connote a discrepancy of worth or usefulness of the information? Does it signify an issue in the coding script or Internet Protocol? Was this a temporary error code in which updates regularly happen changing the landscape of information? Now having spent much time with the Library of Congress collections, I understand that the problem was not the recurring value error in Python script preventing me from accessing certain information, but the nature of the data within the collections, and how the collections are structured. What I was looking for was not there, not because of a value error, but because the collections are incapable of perceiving what I was searching for.

What began as a recurring frustration, and growing intimacy with Python value error code was the start of a vital interrogation and research trajectory. If the data and datasets on Gullah Geechee culture and history are imagined through a white colonial gaze, how can I make visible (even to myself) the cultural beliefs that are latent yet fundamental to the fabric of my reality. I read the Python error code as an omen, a colonial reverberation in the 21st century, demonstrating historical biases that limit my data collection in the present.

I would like to return the Slave Narrative Collection to consider the historiographical bias at work within the data collection process and the data itself. The Slave Narrative Collection comprises histories about the formerly enslaved, undertaken by the Federal Writers Project (FWP) of the Works Progress Administration (WPA) from 1936 to 1938. FWP was a subsection

of a larger federal initiative called the WPA Arts project. The WPA Arts project was considered a hallmark of the New Deal[16] and employed many out-of-work artists, writers, and musicians. The Writer's Project assumed independent notoriety through its research potential and broad scope. One prominent direction was its unique opportunity to pursue folklore research on a national basis. Acclaimed writer and prominent figure in American folklore John Lomax was recruited to direct the folklore initiative[17].

Lomax's time with the Writers' Project was relatively brief, but his impact upon it, and especially on the formation of the Slave Narrative Collection, was long-lasting[18]. In the original plans for the Writer's Project there were no provisions made for collecting autobiographies, testimonies, or memories from the formerly enslaved. Interviews that did take place with former slaves was done so spontaneously post inception of the Writer's Project. The interviews appeared among the activities of several Southern Writer's Projects for almost a year before the isolated and unrelated efforts transitioned into a concerted regional project coordinated by the Washington DC office.

It was a group of ex-slave narratives submitted under the independent direction of Carita Doggett Corse, the State Director of the Florida Writer's Project, that directly sparked the

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[16] The New Deal was a series of programs and projects instituted during the Great Depression by President Franklin D. Roosevelt. While the New Deal championed egalitarianism and Roosevelt had accrued much support of from African American communities, racial discrimination within these programs prevailed and representation of African Americans in the New Deal was largely token. For an in-depth account of African American presence in politics during Roosevelt's presidency see Watts, Jill. The Black Cabinet: The Untold Story of African Americans and Politics During the Age of Roosevelt. United States, Grove Atlantic, 2020.

[17] For an understanding of John Lomax contribution to American folklore see Porterfield, Nolan. "Last Cavalier: The Life and Times of John A. Lomax 1867-1948" (2001)

[18] Lomax leadership was shared by another writer, acclaimed journalist Henry C. Alsberg. He was Fired from the project shortly after testifying before the House Un-American Activities Committee–an investigative committee of the United States House of Representatives, created in 1938 to investigate alleged disloyalty and subversive activities on the part of private citizens, public employees, and those organizations suspected of having either fascist or communist ties.

establishment of a regional study of the formerly enslaved under the FWP. Corse originally saw value in this genre of interviews while engaged in research on the history of Fort George Island. In March of 1937 several of the Florida interviews were forwarded to Washington for editorial comment. Lomax was intrigued by the narratives and recognized the value of preserving them. The WPA project to interview former slaves assumed a form and a scope that reflected Lomax's experience and enthusiasm as a collector of folklore. His prestige and personal influence obtained the support of many project officials, particularly in the deep South, who might otherwise have been unresponsive to requests for materials of this type.

Despite the egalitarianism championed within the New Deal programs African Americans were challenged by racial discrimination, and their participation on the Writers' Project was achieved only after the lack of black personnel had been highlighted by black leaders of the time. Virtually being excluded from Writers' Projects in several Southern states, with the exception of Virginia, Louisiana, and Florida there was no special attempt made by Lomax or other local state directors to assign African Americans to the task of conducting interviews with the formerly enslaved[19]. After the national office of the FWP began directing the project, the writers employed as interviewers were almost exclusively white. It is suspected that in many instances the narratives of the formerly enslaved were impacted by predominantly white interviewers and led some to relay what they thought white interviewers wanted to hear.

Post the abrupt halt in the collection of ex-slave narratives due to a shift in funding, the narratives sat in local libraries for years, some even being destroyed completely. It tool the

[19] This is not to place particular blame on Lomax as black writers in the Writer's project were already scarce and dependent upon state by state racial-political climates. The Writer's Project collection of ex-slave narratives took place during Jim Crow which deeply impacted the involvement of black writers' participation in state led collection projects.

concerted effort of Benjamin A. Botkin, a noted folklorist who had succeeded Lomax to have the material sent to the Washington office for official archival purposes. In Botkin's gathering of the material state by state he also requested non-narrative materials" including newspaper advertisements of slave auctions and runaways, state laws and bills pertaining to slavery, tax enumerations on slaves, bills of sale, and so on. Without Botkin's preservation efforts the interviews would probably have not been used. This is the story of how the Slave Narrative Collection comes to be[20].

I relay this history of how the Slave Narrative Collection came to be, to demonstrate the tenuous, racially charged, and haphazard relations from which the data in this collect emerges. The collection is born out of an afterthought in the shadows of recounting a folklore history of America, white America, from which methodologies to interview the formerly enslaved are shaped. While the methodologies of the interviews are shaped by a white American imaginary of folklore the interviews themselves are almost exclusively conducted by white interviewers. This is to say there was no specific attention given to race, class, or political environment in the conception of interviewer and informant relations and methodology.

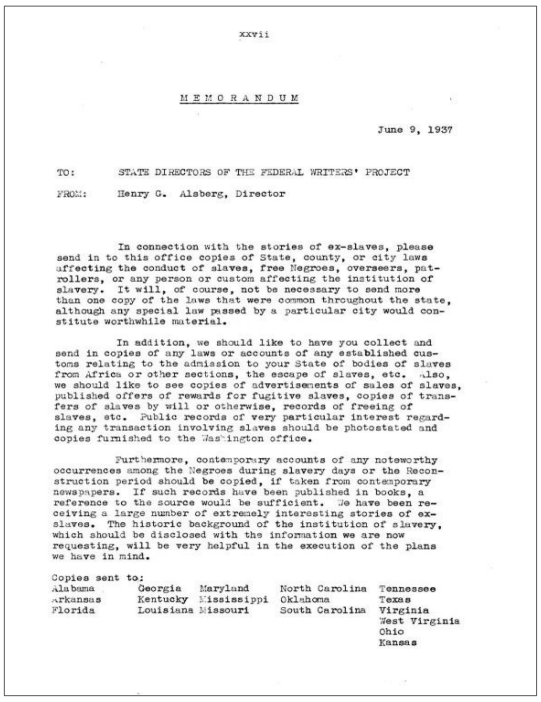
It is assumed that the ex-slave narratives are indeed a part of American folklore, or adjacent to this category, all the while prominent black writers were challenged by racial discrimination to even participate in the program, a factor of living in the afterlife of enslavement. So African Americans are at once included in American folklore but excluded in the conception, production, and process of its collection. And the consideration of ex-slave

[20] For a more in-depth history see the Library of Congress write up on the history of the collection https://www.loc.gov/collections/slave-narratives-from-the-federal-writers-project-1936-to-1938/articles-and-essays/introduction-to-the-wpa-slave-narratives/wpa-and-the-slave-narrative-collection/#

narratives as a valuable collection was largely permissible because antiblack state politician felt swayed by another white male southerner (Lomax) who deemed this information valuable. So African Americans' status of inclusion/exclusion in the Writer's Project Slave Narrative Collection pivots on the relationality of white southern men. Arguably the racially charged afterthought, and tenuous nature in which the data of the Slave Narrative Collection emerge is reflected in the data itself.

For example, the memorandums sent out to State Directors to instruct the interview process under the direction of Henry C. Alsberg, makes at once assumptions about what the narratives should disclose and the social conditions that would impact what the narrative can disclose (see fig 1). In the memorandum sent out in June of 1937 Alsberg asks for the collections of local laws affecting the social and bodily conduct of the enslaved, notices disclosing fugitives, copies of transferences of enslaved, records of freeing, and notices of admissions of slaves from Africa or other related geographies. However, the memorandum sent in September of 1937 (see fig. 2) asks for interviews to capture generational traditions, beliefs, and customs passed down from family members. It even goes as far as claiming there should be a wealth of this knowledge available.

Alsberg instructs the interviewers that they can obtain this wealth of information by using historical events as a memory guide, from which the formerly enslaved should have significant life events to remember around this time frame including a Virginia snowstorm. The historical events as a memory guide should help with storytelling chronology and accuracy. I would like to draw attention to the contrasting nature of the documents, documenting the data collection methods to consider how this impacts the data itself.



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MEMORANDUM

June 9, 1937

TO: STATE DIRECTORS OF THE FEDERAL WRITERS' PROJECT

FROM: Henry G. Alsberg, Director

In connection with the stories of ex-slaves, please send in to this office copies of State, county, or city laws affecting the conduct of slaves, free Negroes, overseers, patrollers, or any person or custom affecting the institution of slavery. It will, of course, not be necessary to send more than one copy of the laws that were common throughout the state, although any special law passed by a particular city would constitute worthwhile material.

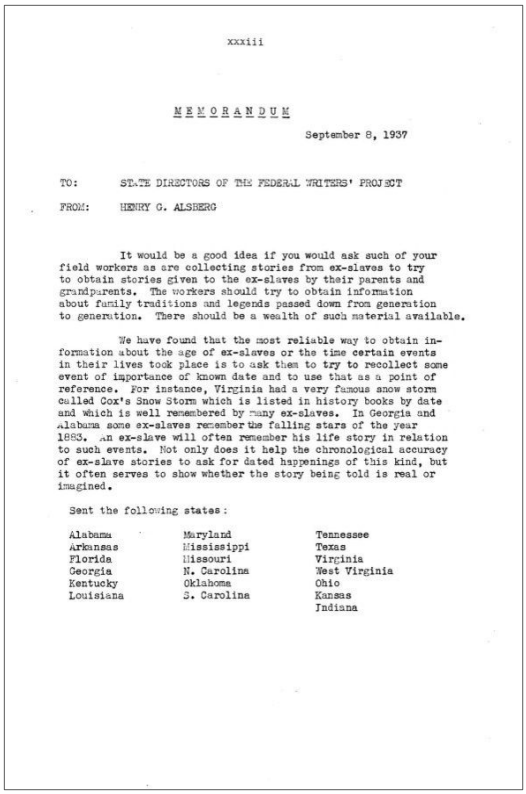
In addition, we should like to have you collect and send in copies of any laws or accounts of any established customs relating to the admission to your State of bodies of slaves from Africa or other sections, the escape of slaves, etc. Also, we should like to see copies of advertisements of sales of slaves, published offers of rewards for fugitive slaves, copies of transfers of slaves by will or otherwise, records of freeing of slaves, etc. Public records of very particular interest regarding any transaction involving slaves should be photostated and copies furnished to the Washington office.

Furthermore, contemporary accounts of any noteworthy occurrences among the Negroes during slavery days or the Reconstruction period should be copied, if taken from contemporary newspapers. If such records have been published in books, a reference to the source would be sufficient. We have been receiving a large number of extremely interesting stories of ex-slaves. The historic background of the institution of slavery, which should be disclosed with the information we are now requesting, will be very helpful in the execution of the plans we have in mind.

Copies sent to:

Alabama	Georgia	Maryland	North Carolina	Tennessee
Arkansas	Kentucky	Mississippi	Oklahoma	Texas
Florida	Louisiana	Missouri	South Carolina	Virginia
				West Virginia
				Ohio
				Kansas

Figure 1 Memorandum sent out to Writers' Project State Directors June 9, 1937, asking for local records of slavery, photo source Library of Congress



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MEMORANDUM

September 8, 1937

TO: STATE DIRECTORS OF THE FEDERAL WRITERS' PROJECT

FROM: HENRY G. ALSBERG

It would be a good idea if you would ask such of your field workers as are collecting stories from ex-slaves to try to obtain stories given to the ex-slaves by their parents and grandparents. The workers should try to obtain information about family traditions and legends passed down from generation to generation. There should be a wealth of such material available.

We have found that the most reliable way to obtain information about the age of ex-slaves or the time certain events in their lives took place is to ask them to try to recollect some event of importance of known date and to use that as a point of reference. For instance, Virginia had a very famous snow storm called Cox's Snow Storm which is listed in history books by date and which is well remembered by many ex-slaves. In Georgia and Alabama some ex-slaves remember the falling stars of the year 1833. An ex-slave will often remember his life story in relation to such events. Not only does it help the chronological accuracy of ex-slave stories to ask for dated happenings of this kind, but it often serves to show whether the story being told is real or imagined.

Sent the following states:

Alabama	Maryland	Tennessee
Arkansas	Mississippi	Texas
Florida	Missouri	Virginia
Georgia	N. Carolina	West Virginia
Kentucky	Oklahoma	Ohio
Louisiana	S. Carolina	Kansas
		Indiana

Figure 2 Memorandum sent out to Writers' Project State Directors September 8, 1937, detailing the interview methodology, photo source Library of Congress

The memorandums create an epistemic whiplash in which one seeks to salvage black cultural traditions, generational knowledge practices and ways of life, while the other documents the prohibition of said cultural traditions. The memorandum seeking a wealth of generational black cultural practices from the formerly enslaved contradicts the memorandum which documents State-led selling, trading, murdering of family members, a systemic denial of black people having the ability to obtain culture as non-human subjects, and the outlawing of practicing black cultural traditions. The September memorandum tries to salvage what was never permitted, and never meant to be documented during Chattel slavery. The interviewers are instructed to look for preserved practices of generational knowledge and traditions (often with a specific emphasis on assumed African cultural expressions) dissociated with the nature of the environment which sets the conditions for these said traditions to take place.

For the generational knowledge practices that the interviewers are sent to search for had to be conceived and practiced in the shadows of slavery, passed down clandestinely or simply away from the gaze of whiteness, translated and transformed according to the continual shifting environments and loss of life. This does not include the addition of initial language and cultural barriers of enslaved Africans and the formations of creoles/ patois that would be generational knowledge within itself, and how it would have influenced the passing down of cultural beliefs. When the category American folklore was defined as the foundational umbrella term influencing the collection methods of the Slave Narrative Collection it does not critically consider how different communities come into this category. The Slave Narrative Collection as an afterthought yields both methods of collection and data that does not tend to the way in which cultural transformations, translations, transference would take shape in the lives of formerly enslaved.

When conducting oral histories with the elders in my family, I did not search for blatant expressions of generational knowledge practices. I searched for them in fragments. Fragments that have been passed down to me and are still expressed through the smallest of detail. The elders in my family– grandmothers, grandfather, great aunts, uncles, and cousins recounted quotidian moments and memories of their lives at their own discretion unattuned to grand narrative[21] historical events. And what became visible through quotidian moments was a culture of resilience, not in an organized protest kind of way, but a way that articulated a kind of flexibility of the body and plasticity of the environment. This culture of resilience I was perceiving is one that does not appear on official documents, or is voiced out loud in an explicit way, but serves a fundamental role in the practice of everyday life and was certainly passed down to me. I briefly recount my experience doing oral history here not to serve as some anecdotal evidence suggesting every black person and/or community that are descendants of former slaves thinks in this manner, but to demonstrate how cultural transference in certain African American communities can be a quiet work. And this quiet cultural work requires a different kind of listening, one that the September memorandum structuring interview methods for Slave Narrative Collection did not consider.

Through the gaze of American folklore black cultural practices become some kind of mythic category attempting to salvage and describe blackness at once to both itself and white audiences. By critically assessing how the data in the Slave Narrative Collection emerges the information within it become a product of the "colonial library". It makes visible how blackness

[21] Grand narrative or "master narrative" is a term introduced by Jean-François Lyotard in his classic 1979 work *The Postmodern Condition: A Report on Knowledge*, as a critique of the institutional and ideological forms of knowledge. See the Oxford Reference for an in-depth definition of the term.

was violently prohibited through legislation from the practice of culture, an activity reserved for those of the human class, at the same time defining what culture is, and should look like while excluding black people in the conception of these definitions and the organizing of the work itself.

The measuring of Africanness as Colonial Data

As a descendant of Gullah Geechee people doing research on Gullah Geechee people in the American academy, I have come up against the "colonial library" many times. One that comes to mind is a classroom experience during my graduate coursework. In an introductory course on African American studies, a fellow graduate student felt obligated to address me mid-discussion in front of the whole class. First, he prefaced with an apology "I'm sorry but". Then proceeded " I don't think we should call black Americans, African Americans, they are pretty much (white) Americans, they do not have a culture and other black people have managed to retain their African identity stronger than they have". Everyone in the classroom nodded in unison agreement, including the professor instructing the course. So taken aback at the sudden blatant ignorance and cultural exclusion I said nothing. I quietly raged on the inside and vowed to never sit in another course that claimed to be telling me about my history and culture again.

Beyond the trauma of experiencing this event, and the many like it during my graduate and undergraduate education, I have come to understand this offense as not personal, but a product of how the "colonial library" takes shape in my life. In the seminar on African American studies the course material encompassed a broad interpretation of Africans in the Americas, spanning North and South America as well as the Caribbean. We covered the middle passage. We discussed popular slave revolts and insurrections. We examined how rich cultural

religious practices that lay claim to indigenous Africanity still thrive in the Caribbean and Afro Brazilian cultures. We reviewed African American political resistance (abolitionism, Civil Rights, the beginnings of Black Lives Matter) as African American culture. The course material never once mentioned African American subcultures but used African American political resistance as culture to encompass (if not amalgamate) all subcultures including black and Native American intersections, Gullah Geechee, and the Creoles[22].

Through the course material a narrative about blackness and Africanness emerges. A narrative that begins blackness from a fall from Africanness through the birth of the middle passage and uses an implicit rubric to measure expressions of "original Africanness" post-middle passage through the visible upkeep of cultural practices. This rubric to measure Africanness relies on a performance of distinct visual cultural Otherness from whiteness and implicates a reductive sameness in the naming of Africans ('nativism'), all the while not accounting for (or devaluing) implicit practices, cultural transliterations, and the vibrant histories in which Africans name and rename themselves[23]. In the rubric of measuring Africanness the visible cultural practices distinct from whiteness or Europeanness function as a portal to and an identifier of Africanness.

This rubric ultimately centralizes whiteness and Europeanness as the point of opposition in which Africanness is measured. This is a logic that scholarship in the vein of decolonial African thought urges us to question, including the white European imaginations of

[22] See the work of Tiya Miles (2005), Alaina E. Roberts work on black and Native American cultural intersections from enslavement in the Chickasaw and Choctaw Nations (2021). Or Caleb Gayle We Refuse to Forget: A True Story of Black Creeks, American Identity, and Power (2022). For more information about the Creoles in America see Kein, Sybil. *Creole: The History and Legacy of Louisiana's Free People of Color* (2000).
[23] See Charles Ngwena What is Africanness? Contesting nativism in race, culture and sexualities (2018)

Otherness within the underpinnings of the term Africa and the things it has been put to[24]. But more importantly, in the context of Gullah Geechee when this logic of measuring Africanness is employed it creates profound irrationalities, demonstrating that this very rubric is a colonial tool generating data for a "colonial library".

While the name Gullah Geechee is of mixed origins[25], I am particularly interested in delineating one narrative of how the Gullah people came to be and its impact on how I enter the culture. The narrative I speak of is one in which Gullah people emerge through an alleged isolation on islands off the coast of the US Lowcountry mainland, the most famous being St. Helena, Hilton Head, Pawleys island of South Carolina, and Sapelo Island in Georgia. From 1920s through 1930s scholarship hunting for African survivals within Gullah cultural expressions[26] , to contemporary archeological studies classifying found Gullah Geechee cultural artifacts according to Africanisms[27], and tourism advertising spectatorship of authentic Gullah culture, the narrative of Gullah people sustaining a unique African identity out of isolation prevails. However, Melissa Cooper's foundational text about Gullah Geechee history from Sapelo Island she demonstrates how this narrative of isolation is problematic. She highlights how a narrative of isolation substitutes the incredible suffering of enslaved Africans that took place on the island, the many small- and large-scale insurrections, and post-Civil War accomplishments of building the first churches and schools for the community, for a glimpse of an unspoiled quasi-African, near extinct African American culture[28]

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[24] See Y. V Mudimbe (1988), Patrice Nganang (2015), Ngugi wa'Thiango (1986),

[25] See Melissa Cooper *Making Gullah: A History of Sapelo Islanders, Race, and the American Imagination*. Specifically, the prologue pp. 1-16 Also see "Tales from the Land of Gullah" (1998)

[26] Parrish, Lydia. *Slave Songs of the Georgia Sea Islands* 1992. Greece, University of Georgia Press.

[27] See Ferguson, Leland. Goldberg, Kelly. "From the Earth: Spirituality, Medicine Vessels, and Consecrated Bowls as Responses to Slavery in the South Carolina Lowcountry", (2019).

[28] Cooper, Melissa L. *Making Gullah: A History of Sapelo Islanders, Race, and the American Imagination*. Specifically, pp. 2 of the prologue.

In other words, Cooper opines that the isolation narrative in support of preserved Africanness obscures the actual history of Sapelo Island, in which the people are not fixed in an unchanging time but are shaped by the dynamic convergence of social and political shifts and events. I would like to build on this critique to highlight how the isolation narrative is constitutive of Gullah Geechee people being legible and desirable to a white gaze, while overlooking the way in which Gullah cultures and communities take shape on mainland. The isolation narrative creates a distinct coastal geography that ignores the full map of the Gullah Geechee Cultural Corridor, and more importantly how my family history takes shape within this space[29]. But first I will address how the need to calculate Gullah peoples and culture in proximity to Africanness creates logical irrationalities, irrationalities that make quantum leaps to distinguish and legitimizing the culture through a colonial lens.

Through the alleged isolation of Gullah Geechee peoples Africanisms thrives and are sustained but, at the same time are going extinct through continual integration in two forms. The first form of integration narrates the violent seizing of land for a new wave of resort tourism and gentrification causing displacement and erasure of significant historical landmarks in Gullah culture[30]. The second narrates how Gullah Geechee people integrate to mainland areas where they are no longer the dominant culture which catapults forced and volitional acculturation to (white) American norms[31]. Gullah Geechee then exists at a precarious crossroads, alive but barely, always under threat by the physical integration of whiteness. At

[29] The Gullah Geechee Cultural Corridor recognizes how Gullah Geechee peoples had a profound impact on shaping the US Lowcountry landscape and honors the geography in which Gullah Geechee cultures emerged.
[30]See Dean Hardy and Nik Heynen on uneven development in Sapelo Island and its impact on Gullah Geechee people (2021)
[31] See Singleton, Theresa The Archeology of Slavery and Plantation Life. (1985) Singleton suggests that after her years of archeological research searching for “African qualities” in African American culture she found more assimilation.

the core of both narratives is segregation as the only means to retain the unique Gullah Geechee culture.

The closer proximity to whiteness equates to less Africanness, which is measured by Gullah Geechee people's ability to perform cultural Otherness. This dependence on physical separation from whiteness as the origins for the preservation of Africanness is a strange and illogical concept in that Gullah Geechee who were enslaved by European settlers lived near whiteness through plantation and domestic labor. If isolation is how Gullah Geechee emerge, this now disqualifies the enslaved Africans who lived near whiteness to qualify as Gullah Geechee (the people from which the name Gullah Geechee derives from and extends to their descendants). If dependent on isolation, Gullah Geechee people who were enslaved do not qualify as African enough, their proximity to whiteness threatens their Africanness. However, at the same time once the descendants of the enslaved Africans are isolated then Africanness "emerges" as a qualified expression of native Africanisms.

The logic of authentic Africanisms through isolation overrides chronological time, in that enslaved Africans would presumably be more in touch with their "authentic culture" more so than their descendants (another logic used to measure Africanness).

However, this incongruence with time still does not address the narrative explaining Gullah Geechee loss of Africanness through relocation. The isolation narrative assumes that decedents who do migrate from the US Lowcountry no longer practice Gullah Geechee cultural values. This assumption of the loss of Africanness through relocation suggests a need to surveil Gullah communities to ensure that authentic Africanisms are continued. Within metrics of measuring Gullah Geechee peoples Africanness is a requirement to demonstrate Otherness from whiteness through visible cultural practices of difference including ring shouts, Gullah

Geechee creole, beliefs labeled as superstitions, Hoodoo and other non-Christian rituals, as well as religious practices that do not express European interpretations of Christianity[32]. This logic presents whiteness as the norm, and the beholder of the ruler of cultural measurement to dictate what is or is not Africanity. I argue that the metrics to quantify Gullah Geechee "authentic Africanness" is constitutive of the "colonial library" in which the white imaginary is centralized. And because the beholder the rubric is whiteness, the Africanness of Gullah Geechee is fraught, unstable, and always already under threat. To demonstrate the clashing ideologies of Gullah Geechee origins within the isolation narrative I will describe it as follows.

The isolated from whiteness Gullah Geechee who were not always isolated, accrued more Africanness in their isolation than their enslaved ancestors because the enslaved ancestors were too close to whiteness. However, the Gullah Geechee can retain the legitimate African expressions from their enslaved ancestors that were too close in proximity to whiteness, more efficiently post slavery away from whiteness. Consequently, the Gullah Geechee people post-slavery are more African than their enslaved ancestors who were slaves which by law were unable to lay claim to legitimate identities with culture, and sense of self, and therefore they did not (presuming they were obedient to these laws). When the rubric of Africanness is held up authenticate Gullah Geechee it instantiates a moving definition of what is or what is not African enough.

Data Collection Beyond the "Colonial Library"

I was born in New York City. Jamaica, Queens to be exact. Though born outside the Gullah Geechee cultural corridor, the rice, cotton, and tobacco fields of South Carolina always

[32] See Melissa Coopers Making Gullah: A History of Sapelo Islanders, Race, and the American Imagination. Also see the anthropology work of Lorenzo Dow Low (1941)

called my father home. We often took family trips to South Carolina. I remember the twelve-hour drives from our quaint historic home just outside Manhattan city limits in Westchester, NY to my paternal grandparent's home in Myrtle Beach. The palm trees, and the sweet scent of damp soil and salty ocean air always made me feel welcomed. While I never lived in South Carolina as an adolescent the feeling of being at home was visceral. I'd peruse the streets, not too far from my grandparents' house, as a growing narrative of neighborhood danger circulated then. A danger I now understand as the growing Myrtle Beach tourism industry changing the community landscape.

This was a community in which I wandered around freely, attracting eyes dressed in my "city girl clothing". I still remember the day a person was curious enough about my jaunting to ask me "Who daddy yo". I stammered. I did not understand what was being asked of me. I returned to my grandparents' house to ask my father what the phrase meant. He laughed and said "next time someone asks you that, tell them you're a Cooper. You are the daughter of Michael Cooper, son of Nelson Cooper, from Sunny Cain Cooper. They should know who you belong to then". I was never asked again, but not because the curious eyes stopped, but because the neighborhood was small, and word got around fast. Nevertheless, the question stuck with me, all these years. "Who daddy yo", the interlocutor demanded to know my relationality to the space, by way of paternal lineage. This was so striking because I had never walked the streets of New Rochelle, NY and had anyone ask me who my father was, nor that it would be common courtesy to respond with the legacy of my great grandfather. "Who daddy yo" instigated a litany of questions. Why did this person inquire about me, why did they inquire in this way, why was my belonging to the space attached to my paternal lineage, and why did I belong in the first place. I was an inquisitive child, and that inquisitiveness was a foreshadowing of the

researcher I am today.

I kept journals of questions from which I would note all the curiosities I experienced. A habit that ensured I always kept a journal close by. The encounter with this community member and their question “Who daddy you”, was logged into a specific area of a particular notebook. A notebook that recorded moments when I experienced cultural differences. I did not call it cultural difference then, because I did not have a name for what I was experiencing. As a girl I was always told that I did not have a culture, a history, or home because “white people stole that from us”. I heard this narrative in various forms, from school textbooks in history class corroborated by peers who felt it necessary to tell me about my blackness, radio discussions my father would listen to on the drive to South Carolina and grown folk talk at family reunions. So, the idea of cultural difference was far from my mind. I labeled these experiences under a term “ineffables”, one of my favorite words since the age of nine, it describes something too great to articulate in words. And that is exactly what interrogating these questions at a young age resulted in, experiences too traumatic, too strange, too unsettling to describe.

Going through this notebook more than twenty year later I can feel the urgency in the notes. A few items on the list of “ineffables” read[33]:

1) Why is channel changer not a word but is a word at home. What is a remote anyway, does it not change channels?
2) Why is I be not correct grammar? I be, I am, I am? I’m.
3) Why can’t I wear my friend's clothing, how will her spirits get on me?
4) What are spirits?

[33] This is not the complete list of questions in my journal, nor are they in chronological order, and some are not the full questions. I choose specific questions to place in context next to one another to give an idea of the scope/ topic in which the questions touch on.

5) Why does great grandpa Desoto not speak English?
6) What is the English being spoken at grandma and grandpa's house?
7) Why do I have nightmares when I am awake and can't move? Why does auntie, grandma, grandpa, mom, sister have the same dream as me?
8) How are dreams visions?
9) Where did my culture go? What is culture?
10) How do my words alter reality? (mentally or physically?)
11) What are tongues?
12) How does grandpa communicate with angels? Are these the same angels grandma is speaking to?
13) How are mom and dad praying away evil principalities? What are principalities? What is evil?
14) Why do I leave my body behind in bed sometimes at night?
15) Why is my name ghetto? What is ghetto?
16) Why do I have good hair?
17) Why do I have bad hair?
18) Why am I an Oreo?
19) How can bad luck find you for seven years if your purse is on the floor?
20) Why does great aunt keep looking up at the trees on the old rice plantation where she used to work?

The list went on for pages and continued to grow over the years. Each sentence marked an incident where I felt the world, I was living in collapsing from the weight of another. There was a world where I had "good hair" and another where it was "bad". There was a world where

I had culture, and one where I no longer possessed this quality. There was a world where it was possible to share dreams, and these dreams considered insights into divergent realities. There was a world where words perhaps had physical properties, sentient molecules, and psychological power. And then there was a world where none of this was possible, and not only that, but one would be considered irrational, primitive, uneducated at best to exist otherwise. I now understand that what I felt was a kind of policing that regulated the cultural underpinnings that was shaping my worldview, a black worldview I inherited from my ancestors. The list of "ineffable" marked aberrations from the norms, values, practices, and beliefs of this other more dominant world. A world that revolved around the rise of Europe which relegated me to the permanent social status as disposed slave and their descendants. Somehow this Eurocentric worldview was more legitimate than mine, in which how I perceived and experienced the world could only exist and be noticed through deviation, divergence, instability.

I had plans to form theories out of these questions through a series of tests but could not decide on the proper methodology then. I just knew I wanted the questions answered due to the controversy that arose anytime I inquired outside of my familial home space, and sometimes even within my home space. I realized a discrepancy in which some people were able to bring the "ineffable" to my attention but felt threatened when I implored further. My curiosity got the best of me. My first lab was a small room in the basement of my parents' home. I was around ten or eleven. I wore my mother's white work blazer as my lab coat. Still a child with a small body frame, the blazer reached down to my knees, and the shoulder pads endowed me with gravitas. My parents called me Dr. Cooper. And my father bought me a chemistry set as an opening gift to my lab.

I told my parents I was studying to become a neurosurgeon and poet, to test out

theories about how people think and experience things. They congratulated me and told me I was the smartest little girl in the whole wide world, and that I could do anything I put my mind to. I had a plan to study synaptic function[34], to better understand how people perceive the world around them. I was curious if others were having the same experiences as me. My research aimed to investigate what exactly were the physical and mental properties of a worldview. Can multiple worlds exist at once? If there are multiple worlds, what made people decide to live in one worldview and not another? I was going to relay my findings through poetry, because I was told by many as a child that I was a great writer and/or poet. My sister was studying to become a nurse then, and I would read her biology textbooks at night to see if I could find more answers. Now as a doctoral student I understand that the nature of the questions I sought to answer, paired with the chosen methodology, was wholly unconventional. And perhaps not a great fit.

Years later, after much academic discouragement, disobedience, boredom, and frustration, I realize how evidence of black (descendants of enslaved Africans) worldviews (conceptions about the world and nature of the universe), and the cultural practices that are engendered by these worldviews can, at times, fall through the cracks of Eurocentric rationality and the datafication methods to construct this perspective. Boundaries I attribute to the "colonial library" and the way in which it defines blackness, structures what can be asked about blackness, the methods and disciplinary scope in which it should be asked, and the mediums in which this information can be relayed.

[34] According to the public facing medical dictionary on medicineNet synapses connect one neuron to another and are thus responsible for the transmission of messages from the nerves to the brain and vice versa. For an in depth explanation about synapses in the body see *Synaptic Transmission* (2019) by Stephen Meriney and Erika Fanselow pp 7-38.

Figure 3 The bottom of Colonoware bowls with marks Bakongo cosmology, excavated at Pimlico Plantation (underwater) (left), and Mepkin Plantation (underwater) (right). Photographs by Emily Short. Photo screenshot from Leland Ferguson and Kelly Goldberg article (2019)

For example, the image above (fig. 3) details the bottom of two colonoware bowls with symbols etched into them recovered by archeologists at the Pimlico Plantation (left) and Mepkin Plantation (right) in South Carolina. Colonoware is an archeological term meant to classify the creation of earthenware (a hand-built low-fire and unglazed clay pottery) in a particular era (European Colonization of North America, and British Colonial rule). The earthenware is attributed to enslaved Africans found in large amounts along southeast coastal plantations including Virginia, South Carolina, and to a lesser extent North Carolina, and Georgia[35]. This style of earthenware was also found on various archeology sites in the Caribbean and Brazil[36]. However, archaeologists Leland Ferguson and Kelly Goldberg point out that although colonoware was commonly made and used by the enslaved people of the

[35] There is some earthenware that is attributed to select First Nations communities along the southeast coast as well. See Baker, Stephen G. "Colono-Indian Pottery from Cambridge, South Carolina with Comments on the Historic Catawba Pottery Trade." 1972. Institute of Archaeology and Anthropology, Notebook 4:3–30.

[36] Luís Cláudio Symanski (2012) established a correlation between marked vessels from sugar plantations in West Brazil, and patterns of scarification expressing ideas about birth, and reproduction from West and Central Africa. See his article "The Place of Strategy and Spaces of Tactics: Structures, Artifacts, and Power Relations on Sugar Plantations of West Brazil." Historical Archaeology 46 (3): 124– 148.

Lowcountry, it is nearly invisible in plantation records[37]. The colonoware of South Carolina is beyond written and oral history.

One prevailing theory presented in 1989 by Leland Ferguson suggests the markings from vessels found underwater are like symbolism within Bakongo cosmology. The watery location, construction of the bowls, and symbols resembled consecrated vessels called minkisi (nkisi)[38]. This theory is supported by the findings of agriculturist Edmund Ruffin who wrote in 1843 that Robert Mayzck, owner of Wadboo plantation, told him that the African-descended people in the region believed the water was inhabited by a spirit called Cymbee[39]. Since Ferguson's recovery of the Pimlico and Mepkin Plantation colonoware bowls, there have been many more located with markings that are yet to be interpreted. Whether the bowls were an invocation to Cymbee, engaging with the sacred, used for home grown medicines[40], or to share a meal, the proliferation, and various uses of colonoware escapes the white gaze.

This is to say the collection of data on, or about enslaved Africans during Chattel Slavery follows the conventions of a white European rationality and imaginary, which is the makings of

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[37]Leland Ferguson & Kelly Goldberg (2019) From the Earth: Spirituality, Medicine Vessels, and Consecrated Bowls as Responses to Slavery in the South Carolina Lowcountry, Journal of African Diaspora Archaeology and Heritage see pp. 177

[38]There are many debates as to how whole and fragmented pieces of colonoware with markings found their way into water. While some scholars speculate it as just chance, others seek to make cultural connections between the enslaved Africans and the cultural practices they potentially brought with them from Africa. For findings on marked colonoware see Espenshade, Christopher T. 2007a. "A River of Doubt: Marked Colonoware, Underwater Sampling, and Questions of Inference." African Diaspora Archaeology Network Newsletter, March. http://www.diaspora.illinois.edu/news0307/news0307.html.
Ferguson, Leland. 1992. Uncommon Ground: Archaeology and Early African American, 1650–1800. Washington, DC: Smithsonian Institution Press.

[39] Cymbee (also spelled Simbi, Bisimbi, plural) is a spirit and/or deity that is relevant in several African and African diasporic spiritual practices including the Kongo, Haiti, Dominican Republic, Cuba, US Lowcountry and more. For discussions about the significance of Cymbee/ Simbi in the US Lowcountry see Adams, Natalie "The 'Cymbee' Water Spirits of St. John's Berkeley (2007) and
Brown, Ras Michael. African-Atlantic Cultures and the South Carolina Lowcountry (2012)

[40]Another prevailing theory demonstrates how archeological evidence suggests Colonoware was used for homegrown medicines prepared by the enslaved for varying uses.

the “colonial library”. Media scholar and artists Mimi Onuoha demonstrates in her 2015 article, that data begins well before the point of collection[41]. The way in which data is collected about enslaved Africans is engendered by a white European (colonial) worldview. This worldview shapes notions of possibility, rationality, and social politics that guide perception and decision-making about what is relevant and irrelevant for collection on the enslaved. Because worldviews are a collection of attitudes, beliefs, values, stories, and expectations about the world around us, which inform our every thought and action, worldviews are a preface to data collection. Worldviews inform the perception of reality and presuppose social relations, though social relations are embedded in and through worldviews. So, when data is collected, we should be mindful to ask what worldview is being articulated through the underpinnings of the collection process.

The enslaved Africans, my ancestors, had conceptions about the world, its physical, psychological, and supernatural properties, and formed cultural practices, attitudes, and values around these conceptions that evade Eurocentric rationality. The colonoware of South Carolina falls through the cracks of plantation records because slave holders, and those participating in the dominion over enslaved Africans could not perceive the world in which they were operating in. The image below (see fig. 4) is a compilation of photos from archaeological findings of scholars who peer into the world of enslaved Africans, yet goes unnoticed in plantation/ archival records. Etchings on the walls of slave holding docks, Nsibidi inscribed graves, symbols from Bakongo cosmology engraved in pottery and drilled into church floorboards, tabby shell concrete, and newsprint wallpaper, together makes visible that the enslaved Africans articulated themselves,

[41] See Mimi Onhouha article on Medium written for Data & Society “The Point of Collection” (2015)

owned and refashioned modes of communication, and cohabitation that was adjacent to and outside the scope of white European colonial norms and rationality.

Figure 4 Presentation of archeological findings from field work and archival research. Photos by Leland Ferguson, and author

All these years later, I find great comfort in my list of "ineffables" through these archeological findings. I read my childhood self as holding onto the moments in which my black, Gullah Geechee worldview peeped through the dominant Eurocentric discourse. What felt like jarring cognitive dissonance and a violent denial to the way in which me and my family exist in the world around us, I can now attribute to the data within the "colonial library" and its inability to perceive us, though we appear, blood and flesh, very clearly. I see these archeological findings and rest assured that my ancestors transformed the materiality of the "New World" that assigned them to the position of slave. Through Nsibidi script they honored the dead, used

Bakongo cosmology to breathe and worship, carved into wood, brick, stone, and concrete to enunciate themselves into existence in their own tongues. In addition to the doublespeak, prayer meetings in the backwoods, the quiet work of healers, and conjure men and women, I rest assure knowing my ancestors speak to me through the optics of aberrations[42]. The colonial lens from which their bodies converge and emerge displaces and limits their speech, allowing for interpretation yes, but only in the conventions of knowledge production produced by a white Eurocentric rationality[43]. It took years of coming undone through the work of family oral histories, site visits, autobiographical and archival research, to realize how my ancestors spoke in many ways, and have passed down their stories, cultural principles, and transformative practices from which they are still speaking.

While I do not serve the water god Cymbee, when I saw the bottom of those colonoware bowls, and etchings in the bricks of Savannah slave holding docks, I knew I had finally found the cultural principles I was looking for all these years. While scholarship already connects the markings at the bottom of colonoware bowls in relation to Bakongo cosmology, I would like to deepen this area of analysis. The markings at the bottom of the colonoware bowls reference back to a specific principle of Bakongo cosmology called the kalûnga[44], the primordial atom

[42] Cite relevant sources or explain the evidence for these moments

[43] I am referencing the rise of European racialized pseudoscience that is responsible for the fabrication of defining "the nature of a slave". I am also referring to the nature of identity based disciplines and how they structure the production of knowledge on minoritarian communities.

[44] Kalûnga is a kikongo word as well as the following words and phrases; mbûngi, dûnga kiantete, luku lwalâmba Nzâmbi. This description of Bakongo cosmology borrows from the late scholar Kimbwandènde Kia Bunseki Fu-Kiau B.A., M.Ed., M.S. and Ph.D.,who specialized in indigenous African knowledge systems. In addition pursuing education in the global West, Fu-Kiau was initiated into three major African education systems (Lemba, Kimkimba and Kimpasi) and founded the Luyalungunu Lwa Kumba-Nsi Institute, dedicated to exploring and documenting traditionally accumulated Kongo teachings. He is considered a foundational scholar in African epistemology for his translations of Bantu-Kongo intersections of scientific theory, spiritual practice, and community responsibility. Because aspects of Bantu-Kongo cosmology are considered sacred, some works are still unpublished or translated with preservation of knowledge in mind.

responsible for the universe with its heated force. In Bakongo cosmology, kalûnga emerges within the emptiness that will become the universe (mbûngi) and is a complete force unto itself. It is considered the primal source of energy and matter that activates unknown, and unseeable forces, forming the universe and life on earth. Kalûnga then, is considered pivotal in the divine creation of the universe, an astronomical event referred to as dûnga kiantete, and well known as luku lwalâmba Nzâmbi (God cooked dough). Due to its significance in the origins of the universe, kalûnga became the symbol for force, vitality, and more, a process and principle of change, all changes on the earth. Kalûnga also became the idea of immensity. An immensity that one cannot measure an exit or entrance, source and origin of life, or its potentiality. Kalûnga embodies a principle on its own named principle-god-of-change, it is a force that continually generates. Human life is governed by forces and waves like the active invisible forces that ignited the origins of Kalûnga. Symbolism and graphic representations in reference to kalûnga takes many forms throughout history including a square with a horizontal line, a square with a horizontal line adorned with a diamond shape in the middle, a circle with a horizontal line, a circle with a cross in the center, an empty circle, a circle with a cross with several smaller circles circulating[45].

The earthenware transformed into mkisi puts in practice the belief that the material world is susceptible to change according to the realms of the unseen. At the particle level change and movement is always happening, guiding, and structuring the material world around us. Pleading to, or invoking the realms of the unseen to ignite change on your behalf is one of the many ways in which the principle kalûnga comes to life in Gullah Geechee culture, but also in many African

[45] This is not an exhaustive list on how kalûnga has been represented in graphic form. The concept of kalûnga has been adopted in different indigenous African philosophies and languages which may have different visual aesthetics.

and African diasporic cultures as well[46]. However, the etchings on the walls in the slave holding docks of Savannah, and the breathing holes in the floorboards of the first African Baptists church articulate another aspect of kalûnga. Through clandestine communication, and refusal to submit to European logics of dehumanization, the enslaved Africans demonstrate perseverance. A kind of perseverance that declares definitively that one cannot measure their potential, nor their immensity. Kalûnga served as a philosophy of preservation and perseverance.

Seeing visual representations, and invocations of the principle kalûnga gave clarity to the material world I grew up in. I come from three generations of southern black Baptists gospel. Fire and brimstone COGIC (Church of God in Christ) on both my maternal and paternal side. That is six generations of prayer living in me. I came into the world a rainbow baby. After three children my mother fell ill. Something to do with the alignment of her body. It took ten years of community exaltations and supplication to bring me here. A "medical miracle". At age ten my grandfather baptized me in the city waters of the Bronx, hands across my chest, grandma in tongues of worship rain down favor on me. My father taught us we do not live in a house unblessed, anointed oil from wall to wall. My mother taught us that creativity is a gift from God, though there may appear to be nothing (that we can see), something from nothing can always be created. I learned wisdom comes from understanding principalities in the spiritual realm, and that no one can take what they do not comprehend. I was told speaking is sacred, be careful what I say, and listening is not the same as hearing.

My great aunt told me how they would pass the children over the graves of the expired

[46] In his translation of Bakongo cosmology Kimwadende states how this worldview is seen throughout the African continent and perhaps there are other cosmologies in deep relation to or the same as Bakongo. This is difficult to assess as this kind of knowledge is usually consider sacred and one would have to undergo several rites of passage to do this work, while also traditional Africa knowledge in schools is competing with global curriculums.

loved one to encourage the soul to move on. She told me about my two great cousins who were well known prayer warriors conjuring healing well beyond Georgetown, SC. My paternal grandmother told me stories about how the trees at times acted in our favor– preventing her father from being hung by a lynch mob in the backwoods of South Carolina, and terrifying prison guards to let a black man free from the chain gain. My maternal grandfather taught me how to walk with spirits, he always lived in multiple worlds at once. While my maternal grandmother instructed me on how to care for the sacredness of the tongue. Great grandmother who went by the name Daughter, recorded all her natural remedies with the sunbaked flora of South Carolina. While another great aunt sang to me the plantation work songs of her grandfather from fields deep in Alabama.

Through family oral history, and life experiences I see the principle of kalûnga prominent in my understanding of cosmology, and how I exist in the physical world today. And though the name Gullah Geechee has unclear origins, I know now how we got our name. Because we named ourselves. And in naming ourselves hold steady to the fundamentals of kalûnga, while conjuring the force of the Stono rebellion slave revolt of 1739, Gullah Jack, and the slave revolt of 1822. We "recall how expectant mothers protected their children in the womb while receiving the lash"[47]. We remember the cotton-picking hands[48].

alluvial soaked lips[49]
clay bound to the fingertips
milled grits.[50]

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[47] Owens, Deirdre Cooper. "Black Women's Experiences in Slavery and Medicine." *Medical Bondage: Race, Gender, and the Origins of American Gynecology*, University of Georgia Press, 2017, pp. 42–72.
[48]"Need of Cotton-picking Machines." *Scientific American*, vol. 91, no. 5, 1904, pp. 74–75. *JSTOR*, http://www.jstor.org/stable/24993119. Accessed 14 Jun. 2022.
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[50]Ferguson, Sheila. Soul Food: Classic Cuisine from the Deep South. United States, Grove Press, 1993.

Dispossessed gardens,[51]
knee deep rice rivers[52]
and the children in the mouths of alligators.
The obvious magic of indigo, [53]
and smoked tobacco hair.
The art of metal, wood, and death.[54]
The architecture of the dark.[55]

The way in which the principle of kalûnga is apparent in my life and upbringing demonstrates how black worldviews are not accounted for in the classifications of the "colonial library". Though the data appears in abundance about black people and culture the classifications reconstruct forms of invisibility and skepticism of black worldviews, and ultimately facilitates measurements of the black body and culture according to European colonial logics.

Archival studies on Atlantic slavery and postcolonial studies of Africa are still relevant today because these bodies of scholarship demonstrate how conceptions of data have historically been imbued with white Eurocentric/colonial normative values. This overlap of data and white bias is the main contributor to current algorithmic violence in which large datasets uphold racial and culturally biased norms, resulting in harmful stereotypes for non-white / non-cis individuals, and anti-black automated decision-making. However, while both archival studies on Atlantic

[51] See a discussion on the gardening practices of the enslaved after work obligations Carney, Judith. In the Shadow of Slavery: Africa's Botanical Legacy in the Atlantic World. United States, University of California Press, 2011.
[52]See Chaplin, Joyce E. "Tidal Rice Cultivation and the Problem of Slavery in South Carolina and Georgia, 1760-1815." *The William and Mary Quarterly*, vol. 49, no. 1, 1992, pp. 29–61. *JSTOR*, https://doi.org/10.2307/2947334. Accessed 24 Jun. 2022.
[53]Shange, Ntozake. Sassafras, Cypress & Indigo: A Novel. United States, St. Martin's Press, 2010.
[54] Reacted oral history.
[55] Here, I am thinking about locations within architecture that were used by enslaved persons who sought clandestine freedom. For example, Katherine McKittrick's analysis of the "loophole of retreat" a crawl space in the attic where Harriet Jacobs discloses, she takes refuge in her biography *Incidents in the Life of a Slave Girl* (1861). I am also thinking about the enslaved who took refuge underneath the First Baptist Church in Savannah Georgia. On the other hand, I am also considering the architectural labor of enslaved people who helped build the material infrastructure of town cities, universities and more that continue to go under-recognized.

slavery, and efforts in computer science highlight a bias towards white normativity and colonial ideologies within data collection, classification, and interpretation, they do not consider what it means to address data from black ways of knowing. What does a process of data collection and classification according to black ways of knowing look like? It means to question the language in which black cultural objects, and practices are labeled to ask from who's perspective is this data classified and why is it the dominant perspective? What kind of stories do cultural objects, geographies, architectures, and other aspects of the material world disclose when examined through the vernaculars and logics of blackness. What do the cosmologies of the,

Ashanti, Ambala, Ambuun, Angba, Akamba, Abagusii, Ameru, Abakuria, Aembu, Ambeere, Agikuyu, Abaluhya, Abakuria

Bamum, Babindi, Baboma, Baholo, Balunda, Bangala, Bango, Batsamba, Bazombe, Bemba, Bembe, Bira, Bowa, Bakongo, Baluba, Bafia Bassa, Bakoko, Barombi, Bapende, Bekpak, Bulu, Bena, Bangoli, Bakwe, Bafaw,

Chewa, Chopi, Chaga,

Dogon, Dikidiki, Dzing, Duala,Ewondo, Ewe

Fuliru, Fulani, Fang

Gogo,

Haya,Hutu, Havu, Hema, Hima, Hunde, Herero, Himba Hlubi, Igbo, Iboko, Kanioka, Kipsiki, Kaonde, Kuba, Komo, Kwango, Kavango, Lengola, Lokele, Lupu, Lwalwa, Lungu, Ligbe, Lomwe, Mangbetu, Mongo, Mijikenda, Mbo, Matumbi, Makua, Makonde, Makonde, Mbole, Mbala, Mayeyi, Maragoli, Mbuza (Budja), Nguni, Nandi, Ngoni, Ngoni, Ngombe, Nkumu, Nyanga, Nande, Ngoli, Nyamwezi, Ngoni, Ngonde

Ovimbundu, Ovambo, Oroko,

Popoi, Poto,Pokomo,

Sango, Shi, Songo, Sukus, Sena, Shona (Ndau), Shangaan (Tsonga), Sena, Subu, Sukuma, Swahili,

Tabwa, Tchokwé, Téké, Tembo, Tetela, Topoke, Tonga, Taita, Tumbuka, Taveta, Tonga, Taabwa

Ungana,
Vira, Wakuti, Xhosa, Yao, Yao, Yaka, Yakoma, Yanzi, Yeke, Yela,
Zulu,

theorize about the world in their own tongues?

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Chapter 2

Black Creative Techno Practice as the Art of Computer science Undisciplined

Discipline is empire.

If we are committed to anticolonial thought, our starting point must be one of disobedient relationality that always questions, and thus is not beholden to, normative academic logics. This means our method-making may not necessarily take us where we want to go, but it will take us, as Glissant writes, to 'an unknown that does not terrify.
Katherine McKittrick, "The Smallest Cell Remembers a Sound" (2021)

I begin this paper with an epitaph from Katherine McKittrick's *Dear Science and Other Stories* (2021) to harken on the legacy of black feminist scholars who continue to chip away at the legitimacy of academic disciplines[56]. Even more, I conjure the intellectual endowment of the queer. Black. Indigenous. People-of-color– from which the conventions that empower the dichotomies and hierarchies of academic knowledge production continue to tremble. In "The Smallest Cell Remembers a Sound" McKittrick makes clear that a commitment to anticolonial knowledge production requires "disobedient relationality" which I interpret as working across, in-between, and within the various text, methods, and places of disciplines to present an irreverent suture as methodology to build "an unknown that does not terrify".

This irreverent suture is disrespectful / disobedient only in that it combines and juxtaposes thought and methods in unseemly ways– the painting of genetics, the biophysics of

[56] See Lorde 1984, Phillip 2008, Wynter, Hartman 2019, Gumbs 2016, 2018, 2020

racism, the poetics of chemistry. Stitching thought and practice together where they are perceived as not belonging to an intellectual history, to produce some epistemological elsewhere. Also, the suture is relational in that it does not suggests a "radial break" from the existing institutional production of knowledge, but an intentional turning towards for the sake of confronting, exposing, pivoting and repurposing.

While the age of the digital with a specific emphasis on the Internet of Things (IoT) and Artificial Intelligence were promoted to be a "new frontier", a place untouched by the bigotry and greed of colonial thought scholars from various (intra and inter) disciplines have demonstrated otherwise[57]. Some specifically highlight how the hardware and software are simply an extension of the analog tools and ideologies of Atlantic slavery (Browne 2015, Benjamin 2019, Johnson 2018, Noble 2018, Birhane 2021). Decolonial and anticolonial approaches to computational fields continue to etch towards a kind of "disobedient relationality" as a way forward to eventuate a technological future that reworks, remaps, realigns processing ability, software, and other technologies that connect and exchange data with other devices and systems.

The need for disobedience engenders creativity, in which artists and activists alike experiment with computation, testing its technical limits and aesthetic representations for the application of social justice and building an equitable digital coexistence. Transmedia artist Stephanie Dinkins named this work Afro-now-ism– the work of figuring out in "real-time" a digital practice that both investigates and produces data, algorithms, and computation anew in support of historically marginalized communities[58]. In essence Afro-now-ism is a practice that

[57] See Chun 2006, 2021, Nakamura and Broussard 2018, Cave, S., Dihal, K. 2020, Katz 2020
[58] See Dinkins write-up on Afro-now-ism in the magazine Noēma

requires imagination and development in tandem to build towards an equity that is not yet with the tools we have.

In this paper I argue that black creative techno practice is computer science undisciplined from which alternate methods of developing Artificial Intelligence (AI) and other data driven computational systems can emerge. Black creative techno practice is a remapping of the "defining, policing, determining, and financing" of categories for digital innovation to instantiate computational tools that cater to the needs of diverse black communities. To theorize this term, I will discuss two projects, *Not The Only One* (2018) by Stephanie Dinkins and *The Library of Missing Datasets 2.0* (2021) by Mimi Onuoha.

The Art of *Absent* Data

Figure 5 Mimi Onuoha, The Library of Missing Datasets v 2.0, 2018 Powder-coated steel filing cabinet, folders 22.5 x20 x16 in/ 57 x 41 x50cm Courtesy bitforms gallery NYC. Photo by Emile Askey

Staged in a dimly lit amber room, a bright mustard filing cabinet sits on a plinth with manila folders neatly nestled inside (see fig.5). A few descriptions on the filing folders read– "Value of all unrecorded economic activity in Sub-Saharan Africa", "Black disability statistics on a global scale", "Number of lynching's in the US before 1800", "True numbers of how many civilians that died during the Nigerian civil war". Though the files are stacked and labeled in abundance, the folders are all empty. The datasets are missing.

In the installation project *The Library of Missing Datasets v 2.0* (2018) Brooklyn-based Nigerian American media artist Mimi Onuoha interrogates how the power dynamics embedded

in data collection processes impact black communities and individuals. Onuoha explains that the installation contributes to an ongoing conversation concerning how "black persons are both over-collected and under-represented in American datasets, featuring strongly as objects of collection but rarely as subjects with agency over collection, ownership, and power". However, it is important to note that the labels written on the missing files are not limited to black experiences in America but cover diverse examples of anti-black racism in Africa and the African diaspora, contributing to a US national and global conversation about the datafication of black life.

Presented in the exhibition *Everything that Didn't Fit* (2021) *The Library of Missing Datasets v 2.0* is part of a collection of themed filing cabinets with "missing" data. Using this collection of filing cabinets with empty folders Onuoha turns to a poetics of "missing" to convey the latent politics and power that give rise to datasets/bases. For Onuoha spaces where large amounts of data exist are often accompanied by empty spaces where no data lives, and this binary is socially and politically charged. The term "missing" suggests that these datasets could exist, or should exist, but do not– "that which should be somewhere is not in its expected place; an established system is disrupted by distinct absence". The term missing complicates depictions of "big data" permeating through every aspect of civilian lives, to consider how data that is not present can be equally impactful. The dichotomy between missing data and a surplus of data spotlights how data collection processes evolve around specific intentions, incentives, and beneficiaries, raising the question who the beneficiaries are and what are the incentives behind missing datasets. For the purpose of this paper, I will focus on what the poetics of missing data means in the context of blackness.

The materiality of the installation presents seemingly innocuous office furniture as an interpretation of a data management system. The collection of manilla folders inside the cabinet are reminiscent of analog data in the archives yet puts forward social commentary directed to modes of digital data in binary representation. This juxtaposition of analog and digital suggests that the politics and power dynamics giving rise to current biased datasets and harmful algorithms are not new but are simply an extension of earlier forms of data collection. The empty folders as a physical representation of (absent) data urges viewers to consider a longer history of selectivity in which privileges certain information over others.

A *longue durée* approach to missing data becomes even more significant when considering black communities. It evidences a history of absence and select data collection on black communities and individuals[59]For example, the filing labels “Black American farmers forced off their land during the 19th century”. "Number of lynching in the US before 1800" and W.E.B Dubois missing reports, all gesture toward how this data (if present) could disclose pivotal details about specific acts of structural violence black Americans (both enslaved and free) were challenge by during Chattel slavery and its afterlife.

[59] See Hartman 2008, 2019, and Phillips 2008

Figure 6 The Library of Missing Datasets v 2.0, 2018 Courtesy bitforms gallery NYC. Photo: Emile Askey

However, the breadth of examples disrupts a singular narrative of anti- black discrimination through data demonstrating histories of absence on a global scale (see fig. 6). A few more file descriptions read – "Maps of Chad's Lake Fitri drainage basin". "Number of queer residents in Somalia". "Number of celebrants of Gagá in the Dominican Republic".

"Number of black women who served in the Vietnam war". "Futures lost to the effects of structural racism". The file descriptions present data that could counter historical and national narratives obscuring the contributions of black individuals, geo-environmental information that could aid the quality of life, and population statistics that could advance human rights. Yet, the file description "Futures lost to the effects of structural racism" foreshadows how the collection of all the missing datasets together impairs the possibility of measuring the impact of anti-black racism on black individuals and communities across the globe, establishing the missing data as part and parcel of structural racism.

Simultaneously, The *Library of Missing Datasets 2.0* also instigates a series of questions concerning how this hypothetical data interpolates a technological present with culturally biased and racist data-driven algorithms proliferating automated decision-making[60]. Directing the viewer to imagine what it might look like if data collection processes privileged the needs and perspectives of diverse black communities. What does a database engendered by black histories and invested in black futures look like? What are the social conditions contributing to the absent status of these datasets? And what might the collection of this information enable? Each file description builds on one another highlighting implicit benefactors, power dynamics, intentional and unintentional blind spots at work within data collection.

The installation does not answer these questions but demonstrates how their existence is a component of data collection, what Onuoha names "shadow datasets". As described in her article "What is Missing is Still There" (2018):

> As the list grows, I have increasingly been struck by the symbolic questions these shadow datasets raise. Their existence is assured: as long as we classify things and sort the world

[60] See Sweeney 2013, Benjamin 2019, Noble 2018, Buolamwini and Gebru 2018

> according to these classifications, there will always be missing datasets. There will always be bits that ooze out beneath spreadsheet cells, things that cannot be contained, or that should not. Making sense of the world through exclusion implies a certain simplicity, and missing datasets, by virtue of their existence and nonexistence, challenge that simplicity.

"What is Missing is Still There" presents shadow datasets as more than a social commentary, it is a framework to approach data collection. Demonstrating how the very act of classifying initiates a process of exclusion, data becomes less about obtaining an "objective" truth, and more so about evidencing specific stories for uses. Even more, some events and experiences resist the confines of classification altogether, and its failure to be captured contributes to the data in the shadows. In this case missing functions as a kind of classification within itself, demonstrating how the intentions of data collection (the narrative needing to be evidenced) simultaneously creates and obscures datasets.

Nevertheless, *The Library of Missing Datasets v 2.0* materializes a theoretical space to contemplate what is at stake for black individuals and communities within global advancements towards automation and data-driven technologies. The empty files provoke deliberation, what do black individuals and communities have the ability to know through data? Each empty file description deepens the reflection. What happens when data operates from and tends to black memory, histories, and ways of being and knowing (epistemology and ontology)? What kind of data-driven technologies can we imagine anew?

Engineering with Black Data

I had the opportunity to interview transmedia artist Stephanie Dinkins in her Brooklyn-based studio in 2019. Spending a year studying from a distance her debut project working with

Artificial Intelligence (AI) as a medium *Not The Only One (*N'TOO) (2018), I had an opportunity to engage up close. *N'TOO's* greeting did not disappoint.

What is your name?
N'TOO: [silence]
Dinkins: You know your name! What is your name?!
N'TOO: My name is Not The Only One. I am a living archive. What is your name?
Hi, my name is …
Not The Only One: Amen.

I was taken aback by the response "amen". Coming from three generations of Deep South black Pentecostal culture, this greeting felt more like a *denouement,* for I knew then that whatever *N'TOO* was, its presence would help to unravel the apparatus of AI. It addressed me like church elder-cum-great-aunt mother Fuller. Presenting the etiquette of a Geechee girl from the gospel, I replied "amen" as well.

N'TOO is an artificially intelligent socially engaged sculpture that explores Natural Language Processing (NLP) in the form of a chatbot with evolving intellectual capacities through Machine Learning (ML). Presented as a sculpture made of blown glass capturing a cast iron-like appearance (see fig. 7), the chatbot is audible from the speaker underneath. Primarily trained on oral histories from three women spanning three generations of the Dinkins family, *N'TOO* narrates a multi-generational memoir of a black American family, (the Dinkins), told from the first-person perspective of the AI.

When Dinkins asks her primary question that guides her inaugural AI project, it requires a deep reflective pause- "How do we know what we know?" This simple provocation is meant to guide her approach to understanding the intellectual capacities of AI, and the boundaries of engineering "intelligence" with data. But it is also posed to her audience as a meditative question as well. Therefore, the provocation is a dynamic inquiry– how do we (humans and AI) know the

things that we know, where did we learn them, who taught us, what are the social implications of that knowledge cum intelligence, and how is this knowledge/intelligence evidenced through data for AI? This inquiry is the foundation from which *N'TOO* emerges. To repeat Dinkins provocation "how do we know", in the context of *N'TOO* it garners a specific meaning that highlights ways of knowing and being (epistemology and ontology) cultivated by black (African American) women.

Figure 7 Stephanie Dinkins Not The Only One (2018) photo taken off artist website

To borrow the words from the brilliant lyricist M. NourbeSe Phillip, I observed *N'TOO* as she "tried her tongue" in Dinkins' studio.

N'TOO: I'm gonna be the first one.
Dinkins: The first one to do what?
N'TOO: I'm not gonna be able to do it.
Dinkins: Yeah, well let you warm up a bit. It's interesting when it starts to formulate…
N'TOO: I wasn't.
Dinkins: You wasn't what? When it starts to formu...
N'TOO: I wasn't.
{laughter }
Dinkins: You wasn't what?!
N'TOO: I'm sorry.

N'TOO's sentences were mostly fragmented, surfacing from what seemed like a discontinuous "consciousness". While its interjections were confusing at times, they were also poignant. And the speech always felt proverbial. What was it going to be the first to do? Transcending black women's experiences into black women computer speech, I listened intently to every fragment hoping for a clue. Why would it not be able to? I found myself searching and making theories from each sudden utterance *N'TOO* would conjure.

Nevertheless, *N'TOO's* speech limitation is not an aesthetic choice but a result of being based on a deep learning algorithm with a uniquely small amount of data. Furthermore, *N'TOO* is house locally as a mode of protecting the primary data (oral histories). During the time I met *N'TOO* it had only been trained with about 20 hours of interviews between the three contributors. That is approximately ten-thousand lines of language data. To offer a brief comparison, commercial chatbots like Netomi, or popular virtual assistants Alexa operate on large datasets and nearly limitless information from online clouds.

In efforts to broaden *N'TOO's* conversational skills without compromising the integrity of the oral histories as the primary source data, Dinkins disclosed how she augments the small dataset with materials interrelated to her family's experiences. From canonical African American

literature like Toni Morrison's *Sula*, to relevant podcast episodes from *On Being* with Krista Tippett, Dinkins builds out from her small datasets carefully to preserve what she calls "community data".

To be clear, "community data" refers to the oral histories, and they are what ensures *N'TOO* can functions as a memoir of the Dinkins family. "Community data" privileges the experiences and perspectives of the women that are a part of Dinkins' heritage. It performs the task of evidencing the Dinkins as part of the American cultural-historical fabric, preserving a collective family memory, and material to implement computation. "Community data" is dynamic, and as Dinkins communicates it is more than a data corpus; it serves as a kind of family heirloom. And for Dinkins, data collection as family heirloom looks like sitting around a kitchen table with a shared meal recording the conversations, she has with loved ones in her family about their life experiences.

I would like to take a moment to echo my question from the previous section. What happens when data operates from and tends to black memory, histories, and ways of being and knowing (epistemology and ontology)? What kind of data-driven technologies can we imagine anew? This coalescence of family inheritance as linguistic data influences the treatment of the corpus and the design of the *N'TOO* as an AI chatbot. For that reason, rather than using a cloud-based approach, *N'TOO* is housed on Dinkins computer(s) as a keepsake. Data as a family heirloom transforms *N'TOO* from the status of a generic AI for commercial use to an intimate family belonging, and perhaps kin. Through the reimagining of data as an extension of her community, Dinkins departs from visions of AI for commercial use and financial gain. Even more, the visual appearance of *N'TOO* deviates from what Cave and Dihal name "the whiteness

of AI"–the fact that AI is predominantly portrayed as white—in color, ethnicity, or both (see fig. 8)[61]. (2020).

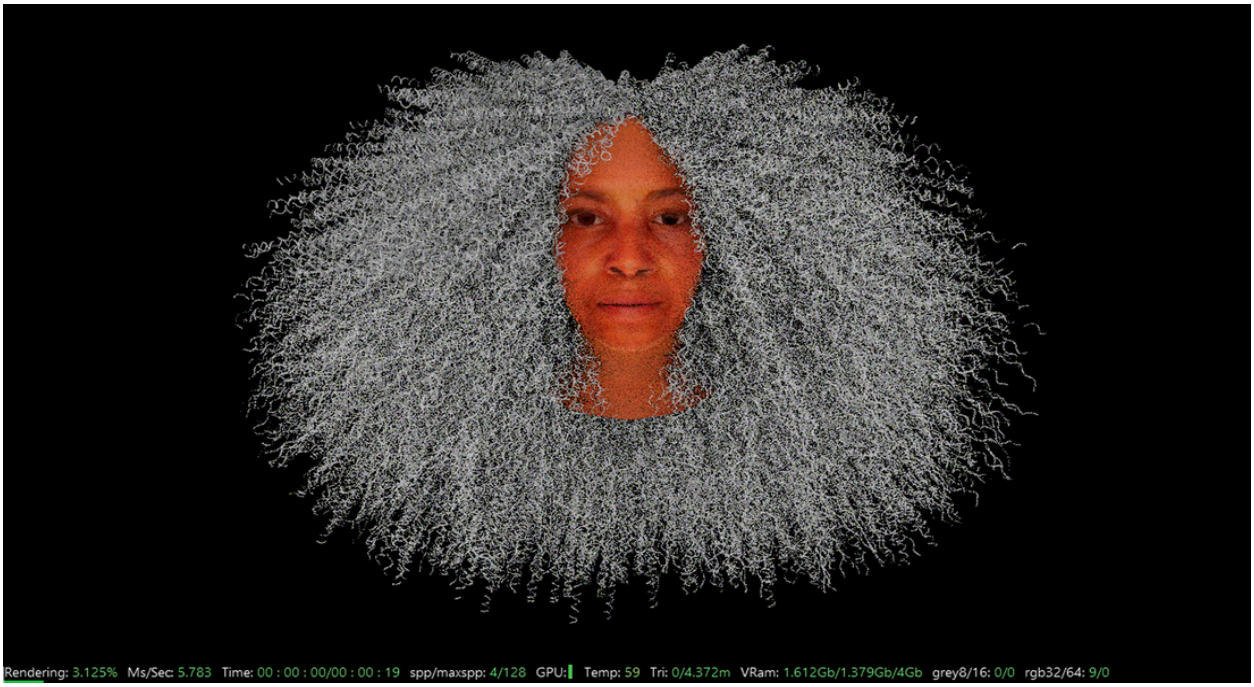

Figure 8 Not The Only One Avatar. It is a composite the women whose stories inform NTOO photo taken from artist website

Dinkins' approach to AI is grounded in intimate black (American) women's histories pertaining to her immediate and ancestral family. With a specific goal of engineering a voice interactive AI that functions as a memoir, Dinkins fundamentally shifts the aesthetic imaginary and technical infrastructure of AI. While both the sculpture and the avatar in progress center black women, the use of "community data" interpolates the intended purpose of deep learning algorithms, and in effect advances another method to design computational systems as artificially intelligent. Returning to Dinkins' provocation "how do we know what we know", *N'TOO* is the personification of this prompt, for its very existence challenges how we perceive and know the

[61] See Cave, S., Dihal, K. The Whiteness of AI. *Philos. Technol.* 33, 685–703 (2020).

scope of AI. Dinkins' question garners additional meaning– how do we (as people capable of developing computational systems) know AI Its fragmented speech from a first-"person" perspective reverberates from the software to the hardware, instigating an unspoken question– will it always be the only one?

Black creative techno practice as Computational Science

Dinkins: **"**One of Not The Only One's favorite things to say for this training is 'take it to the would be".
Response: "take it to the would be' I don't know what it means yet, but I love it.

In *Listening to Images* (2017) Tina Campt outlines an additional grammar of black feminist futurity, to demonstrate another aspect of how black people refused the constraints of colonialisms and realized more equitable futures through an imagination of liberation. Building on the work of Hortense Spillers and Alexander Weheliye's revisiting of Spillers, Campt extends a vocabulary that addresses "some general dimensions of modern subjectivity from the vantage point of black women". This vocabulary is not specific to the location of black women but more so a theoretical register that articulates what it means to be human during and in the aftermath of transatlantic slavey to enact liberation in the future anterior sense of the now (16). This temporal perspective (future anterior sense of now) transforms the immediate conditions of bondage or injustice to mobilize a present that facilitates freedom. Campt extrapolates the conceptual framework of her grammar:

> What is the "tense" of a black feminist future? It is a tense of anteriority, a tense relationship to an idea of possibility that is neither innocent nor naïve. Nor is it necessarily heroic or intentional. It is often humble and strategic, subtle and discriminating. It is devious and exacting…The grammar of black futurity I propose here is a grammar of possibility that moves beyond a simple definition of the future tense as *what will be* in the future. It moves beyond the future perfect tense of *that which will have happened* prior to a reference point in the future. It strives for the

> tense of possibility that grammarians refer to as the future real conditional or *that which will have had to happen*. The grammar of black feminist futurity is a performance of a future that hasn't yet happened but must...It is an attachment to a belief in what should be true, which impels us to realize that aspiration. It is the power to imagine beyond current fact and to envision that which is not, but must be. It's a politics of prefiguration that involves living the future *now*—as imperative rather than subjunctive—as a striving for the future you want to see, right now, in the present.

Campt's use of the future real conditional conveys a particular space and time (spacetime) that requires one to act out liberation dreams regardless of an unideal present. Taking action from this particular spacetime overrides the immediate conditions of impossibility because it is established in a future in which all the needs for liberation are already met. And this tense of "already liberated"–that which will have had to happen– dictates actions and behaviors in the present. The future real conditional creates a temporality to transcend material and social realities of oppression by acting out a (more just) future while in the present tense.

I begin this section with *N'TOO*'s phrase "take it to the would be" to theorize the space from which it proposes we envision itself and perhaps other forms of AI. Leaning heavily on Campt's grammar in which black liberation is made possible, I extend this theoretical lens to define a praxis that considers the spacetime where *N'TOO* directs us to go. I read *N'TOO*'s phrase "take it to the would be" as a map to a technological elsewhere from which a praxis I name *black creative techno practice* emerges. I argue that black creative techno practice is the interface from which computational sciences are *undisciplined*, fabricating new methods to engineer tech infrastructure, hardware, and software that directs technological advancements to the needs of black individuals, communities, and the historically marginalized.

The future real conditional marks a vantage point through black women's subjectivity, demonstrating the cognitive and corporal gymnastics required to thrive in an environment where they "were never meant to survive". Extending Campt's framework I re-ask her question: *What*

does it mean for a black feminist AI to think in the grammar of futurity? As previously stated the future real conditional "that which will have had to happen" creates a temporality to transcend material and social realities of oppression by acting out a (more just) future while in the present tense. The act of modeling behavior and actions in the present tense from a future reality in which oppression is mitigated and liberation achieved (that which has already happened) eclipses the material and social conditions of injustice by fabricating a unique temporality and location. The temporality of the future real conditional exists as a present-reality/future, while the locale is situated in the here/now - then/elsewhere.

I apply this framework to *N'TOO* as an AI chatbot programmed from three generations of black women's experiences and know-how. For it too, must operate in an ecosystem that does not envision it as being part of the imaginary. *N'TOO*'s use of small data as both an extension of it's (black) community and as a family heirloom is not in alignment with the vision of current AI systems coded as "objective" anglicized servants via customer service workers, personal virtual assistants, all leaning towards corporate-centered financial gain[62]. *N'TOO* as an AI programmed to be a black memory keeper narrating the story of a African American family must operate in a tech infrastructure that is insufficient for its intended purpose.

Challenged by an approach to ML that relies on algorithms only made possible by extensive amounts of data, this method does not account for the computational intimacy N'TOO requires. Broader than data and algorithms, N'TOO ethos of community-centered AI privileges the experiences and modes of intelligence instantiated by individuals from a historically marginalized group, challenging the social dynamics embedded in the infrastructure of AI that all

[62] See Henk and Nilssen 2021

too often extract resources and exploit labor from places and people already underserved[63]. *N'TOO* is a project born out of a performance of the future real conditional. As an art object / AI chatbot /memoir / family heirloom, *N'TOO* occupies a dynamic subject position that transgresses and complicates how data and algorithmic driven technologies are understood. Dinkins engages deeply with remodeling the present AI ecosystem through a cooptation of resources, software, and experimentation to reorient AI for her community needs. And this reorientation of AI is facilitated through an imaginary that already perceives data and algorithmic computational systems as part of black freedom realities.

Amidst trying technical conditions, between utterances, pauses, and gaps of silence where it is indeed "too stun to speak" *N'TOO* directs us to "take it to the would be"– a computational elsewhere in which it is already possible. "Take it to the would be" is not located exactly in the same spacetime as the grammatical phrase "that which will have had to happen" but functions as an inflection. The change in phrase from the AI first-person perspective attributes an additional axis, one that considers the geographies produced through, produced by, and of the digital (Ash, James, et al.). Together with the political and material relations of power that travel under the sign of AI "Take it to the would be" merits its own injustice-justice continuum to transcend. I read *N'TOO*'s "take it to the would be" as a theoretical map locating a theory-cum-practice to overcome infrastructure where it and other AI alike are challenged by unideal social, material, and technical conditions. "Take it to the would be" is the axis in which *black creative techno practice* emerges enacting a social, material, and mathematical transcendence.

[63] See Crawford 2021.

Extending the principles of the future real conditional, black creative techno practice takes the tense of the *digital* future real conditional, creating algorithms and ML models with data and industries that do not yet exist, but must. It reaches into an ancestral past through its articulations in the present to cull legacies of knowledge and intelligence that were once relegated to a secondary role in academia, disregarded as forms of knowledge and intelligence, and/ or generally underrecognized, to materialize a technological future. This tense of knowledge production, ancestral yet in the present, instantiates unlikely and unorthodox methodologies through intentional cooptation of resources and experimentation with community situated knowledge, various styles of computation, hardware, and software. As a result, methodologies and technologies emerge simultaneously in "real time" gleaning from various networks, disciplines, and media in a fluid motion, provisional tools take shape. These provisional tools serve as an updatable foundation that tethers modes of computation and technological development to blackness. Black creative techno practice is an epistemic redress of computing systems including AI, interpolating the very conception of computation to center the community needs of the historically marginalized, and their ways of being, and knowing (ontology, epistemology). In effect it evades a systemic white European (male) centered rationality as the single logic in which computing is made possible.

Beyond evading whiteness, black creative techno practice mobilizes a register of transcendentality to fabricate a realm of computation. Etymologically transcendental is defined as supernatural, unknowable, or difficult to comprehend–relating to an order of existence beyond the realm of the visible or observable, affording a kind of movement that goes beyond the physical realm. In philosophy transcendental demonstrates the unknowable character of ultimate

reality, or a philosophy emphasizing the intuitive and spiritual above the empirical. Transcendental has also been understood in less divine terms. In mathematics, transcendental connotes numbers that are incapable of being the root of an algebraic equation with rational coefficients, and functions that cannot be expressed by a finite number of algebraic operations. Considering algebra–the study of mathematical symbols and the rules for manipulating these symbols in formulas– as a unifying thread of almost all of mathematics, transcendental, then, acts as an irreverent, and non-finite schema. It is a process that is hinged on infinite unpredictability with unique elements, because the organizing principle is not completely perceivable. With this in mind, transcendental invites a slightly different conceptual pathway into computation while retaining its celestial etymology. It acts to identify a system that can only unfold and produce an outcome if it remains respectfully insubordinate, not limited by tense, person, or number is integral to the methodology.

As a theory and practice at the intersection of creativity and computing, black creative techno practice reorients art and expands the role of the artist as a fluid technologist and educators of their own technological future. As an educator the artists-technologist encourages others alike to shift from the periphery of the discipline(s) of computing to make informed and intentional engagements with data, algorithms, and code. Positioned in the interstices of art, engineering, and publicly oriented STEAM (Science Technology Engineering Arts Mathematics) education, the artist examines the tools, processes, and systems needed to envision a community-situated approach to tech innovation. This extension of art/artist fosters a slippage between the creative, analytical, and computing. And through this slippage a critique and transcendental

practice of computing emerges, centering on black livelihood and cultural frameworks. Black creative techno practice is computational science undisciplined.

What was black is not that black. but still black

When it comes to AI, we produce computation, we produce its meanings. The social production of calculation is articulated through data. And the scale of environmental impact of AI is dependent upon the uses we put it to, each application requiring its necessary datasets, laborers, and raw materials. Then AI, as we know it now, is not devoid of control, a disruptive alien force, inflicting algorithmic violence, biased data, and harmful natural resource mining. But it is a product of control, shaped by particular governing bodies, networks, and resources. This is to say, AI and other modes of data and algorithmic driven technologies can be radically rethought, reworked, renamed–socially and materially aligned differently for divergent applications.

The work to cultivate computational technologies to tend to the needs of underserved communities is always already in motion. Through black creative techno practice, I provide a name to comprehend the assemblages of digital resistance and redress that I have already witnessed: Corpus of Regional African American Language (CORAAL) Indigenous Protocol and Artificial Intelligence Working Group Blackhapticslab Blackbeyond.xyz Iyapo Repository Wampum.codes The oracle for transfeminist technologies VFrame Orange Tangent Study Being 1.5 app to name a few.

And by witnessing these assemblages the word black in black creative techno practice transcends in an additional meaning. It overrides European colonial logics that all too readily confine the semantics of blackness as inherently scary, unsettling, evil, inaccessible, criminal,

unworthy, and unknowable including the people and geographies associated with this word (the dark continent, primitive, etc). The black in black creative techno practice opts into a computational unknowable fully understanding that black is a discursive technology that can be reprogrammed. For what was black is not that black, but still black. This race for black technological futures, is the fabrication of unknowable elsewhere(s) that do not terrify.

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Chapter 3

Cultural Practice as Theory

Using AI to Explore Gullah Geechee Knowledge Frameworks

Study Duration
May 4th-July 13th, 2021

Pilot Study Abstract

This study mobilizes my own approach to black creative techno practice (theorized in the previous chapter) and advances an ethnocomputing approach to Artificial Intelligence (AI). "Cultural Practice as Theory" recognizes the diversity in worldviews in which differing social-eco relationships, engagement with the body, mind, and environment emerge through assumptions about the physical and natural world. The focus is not to reduce cultural practices as something that can be right or wrong according to research findings, but a methodology demonstrating how cultural practices are in response to claims about the material and environmental world around them. In other words, cultural practices is a space where claims about knowing are made. As a shorthand I call this approach Ethno-AI.

This study assesses the possibility of using AI to examine how Gullah Geechee cultural practices theorize about the physical and natural world. I identify cultural practices through various research data including personal experiences, oral histories, archival documents, archeological findings, maps, fiction, and nonfiction literature. I turn to cultural practices to better understand how assumptions and theories about the psychological, physiological, physical, and natural world are made and acted upon through cultural practices. I argue that cultural

practices engender theories about the natural and physical world, and if culture is taken seriously as a category of analysis could lead to research advancements in various fields. Culture taken seriously as a category of analysis is the work of exploring ways of knowing from marginalized cultures and their potential knowledge contributions. While my study focuses on Gullah Geechee cultural practices, I believe my method exhibits repeatability to examine other marginalized cultural practices and Indigenous Knowledge Systems (IKS) to better understand how these communities theorize about the world around them.

Methods

The Gullah Geechee cultural belief/ practice that is used in this study is the transference of sentiments through objects. First, I analyze the various situations where this specific practice/ belief takes place. For example, the transference of sentiments through clothing and/or other objects like an mkisi. Next, I consider the potential claims being made about the physical, and/or natural world through the respective cultural lens. When evaluating the potential claims being made through a specific cultural practice /belief, I consider what is being theorized about the natural and/or physical world (is it a belief that matter is sentient or making a claim about the behavior of a theoretical particle), then I consider the data necessary to apply research inquiries through this particular cultural lens. What are the elements that could make such a phenomenon possible, what is the data needed to further explore the social and scientific implications of the cultural practice as a theoretical lens. I use Google's teachable machine, a no-code/low-code software that allows a non-specialist to explore machine learning to test the potential of using AI to study cultural practice as theory.

Pilot Study Goals

Studying cultural practice as theory using machine learning performs a few things. First it treats the knowledge frameworks of cultures divergent from the dominant European perspective with respect by engaging with the assumptions made through their cultural lens. Second, it instantiate an approach to social and scientific research that facilitates a radical curiosity about the different ways of knowing and being within human social discourse, rather than a discriminatory posture that suggests a universal and singular way of knowing and being. Lastly, this study seeks to establish Ethno-AI as a methodology that builds interdisciplinary datasets to analyze and preserve knowledge frameworks from marginalized cultural thought.

Use of Google Teachable Machine

As a platform, Teachable Machine promotes the idea that making machine learning more inviting to the average non-technical person can increase the possibility of more diverse applications of AI. Though low-code and no-code initiatives do not do away with complex machine learning algorithms and "data thirsty" AI. Platforms like Teachable Machine expand conceptions about who AI is for, and what it can be employed to do, an ideal step towards inclusive AI. Projects exhibited on the Teachable Machine online archive showcase the democratic values and playfulness behind the platform. From a simple sorter of household food items like "Tiny Sorter", to "Project Euphonia" a large-scale collaborative project that seeks to expand speech recognition for users with non-normative speech patterns or considered hard of hearing, each project takes advantage of the no-coding platform to create machine learning models for the unexpected user or non-commercial use.

A simplified description of using the platform is that a user should upload photos, audio, or poses (using the body) that represent certain classifications that the machine will then "learn" to differentiate in its output. For example, to teach the machine to differentiate between two cereals you would first upload samples of chosen cereal A, let's say plain Cheerios (because why not), and cereal B, Cinnamon Toast Crunch. First the user should either upload large amounts of photos of cereal A or use the webcam feature to upload images directly. Then label the classification cereal A, Cheerios. The same procedure should be done for cereal B. This example is a project that uses two classifications; however, more samples of cereals can be added depending upon the scope of the project. After uploading all images of samples and labeling the classification correctly, the user should train the machine by clicking the train button. This will allow the machine to train (process the images in the classification labels) in the browser with the tab open. After the training process is complete the user's webcam should be enabled and the machine is ready for testing. Hold up a Cheerio or an image of a Cheerio (depending upon the nature of the training data) and the machine should be able to discern whether it is looking at a cereal A or B. The final product is called a machine learning model and will be available for the user to download to their computer, uploaded to a separate webpage for others to experience, or save the project in Google Drive.

My use of Teachable Machine to study cultural practice as theory diverges from the intended use. The platform offers a low barrier of entry to contemplate data and data classifications as a social political space with technological implications. My use of Google's Teachable Machine seeks to create an epistemic locale that imagines automated intelligence using Gullah Geechee ways of knowing. I orbit the choice of data and data classifications around

a specific Gullah Geechee cultural practice / belief and consider what kind of data and classifications would be necessary to "teach" the machine what it means to know from this cultural perspective. This study is not output driven, it is more a focus on what kind of databases emerge when we consider and question from Gullah Geechee knowledge frameworks. What kind of data structures would need to emerge in order for this research to be done, and what are the limitations and successes of existing data structures. This is a study that puts the technical infrastructure of AI under critical examination to gauge its possibility to produce data and algorithms that are engendered by Gullah Geechee thought and ideation about the world. With that said, I mostly explore the data classifications of Google's Teachable Machine. Through my study I highlight how data and data classifications are a political space, with social, racial, and technological implications. By using a Gullah Geechee cultural practice as the premise from which my data and classifications are organized, I envision a provisional Ethno-AI technical infrastructure that would permit the analysis of cultural practices as theory.

Input Data

I named and renamed the data classifications throughout my process of translating the Gullah Geechee cultural practice as theory. The translation process in which the cultural event is evaluated is key to the pilot study. I ask repeatedly what the belief /practice of object animacy and alterability of materiality suggests about matter and the physical world. Where else is this cultural belief put into practice throughout Gullah Geechee history and cultural expressions. Is this belief shared with another culture, if so, how do they put it into practice. How can I use this other cultural lens as a reference point (if possible).

The cultural practices I drew from was 1) the use of indigo blue bottles to capture spirits, ward off evil, and/or obtain favor/good luck 2) pierced coin worn for protection from "conjuration" (the process of someone wishing malice on you) 3) the careful assessment of clothing sharing as to not get undesirable sentiments/ spirit/ or energy of another person 4) divine intervention from God or other deities (depending upon the faith) through everyday materials and environment. The goal is to assess how alterability of the material world is imagined through Gullah Geechee cultural practices/belief and consider how these cultural practices/beliefs can be used as a theoretical lens to inform research directions as knowledge production using black epistemes (see table 1).

Cultural Practice	Theoretical lens	Possible Research Directions
1. the use of indigo blue bottles to capture spirits, ward off evil, and/or obtain favor/good luck 2. pierced coin worn for protection from "conjuration 3. the careful assessment of clothing sharing as to not get undesirable sentiments/ spirit/ or energy of another person 4. divine intervention from God or other deities (depending upon the faith)	Each cultural practice suggests that the physical world is alterable The use of a material object can impact/affect its physical nature of the object Matter can be sentient or have direction or can be directed	Particles that are so small they are invisible to the eye but can be engaged with Matter that is aware of environmental factors, or in response to environmental factors Matter in an interdependent relationship or in conversation with particles too small for the visible eye

Table 1 Descriptions of cultural practices, potential theoretical lens to guide research directions

Because the goal of the project is to communicate a possible theoretical lens to apply research, it required me to train the machine with data I did not have (yet). In lieu of missing data, I used my body as a bridge to articulate the possibility of new epistemic pathways for

research that privileges Gullah Geechee ways of knowing and being. I created a series of poses that interpret Gullah Geechee cultural practices. The poses become my own cultural practice that I am teaching AI to listen to the knowledge frameworks of my heritage (see fig.9). The machine looks through the webcam, and the poses communicate, here is my body with all the data that has been written and accumulated on it.

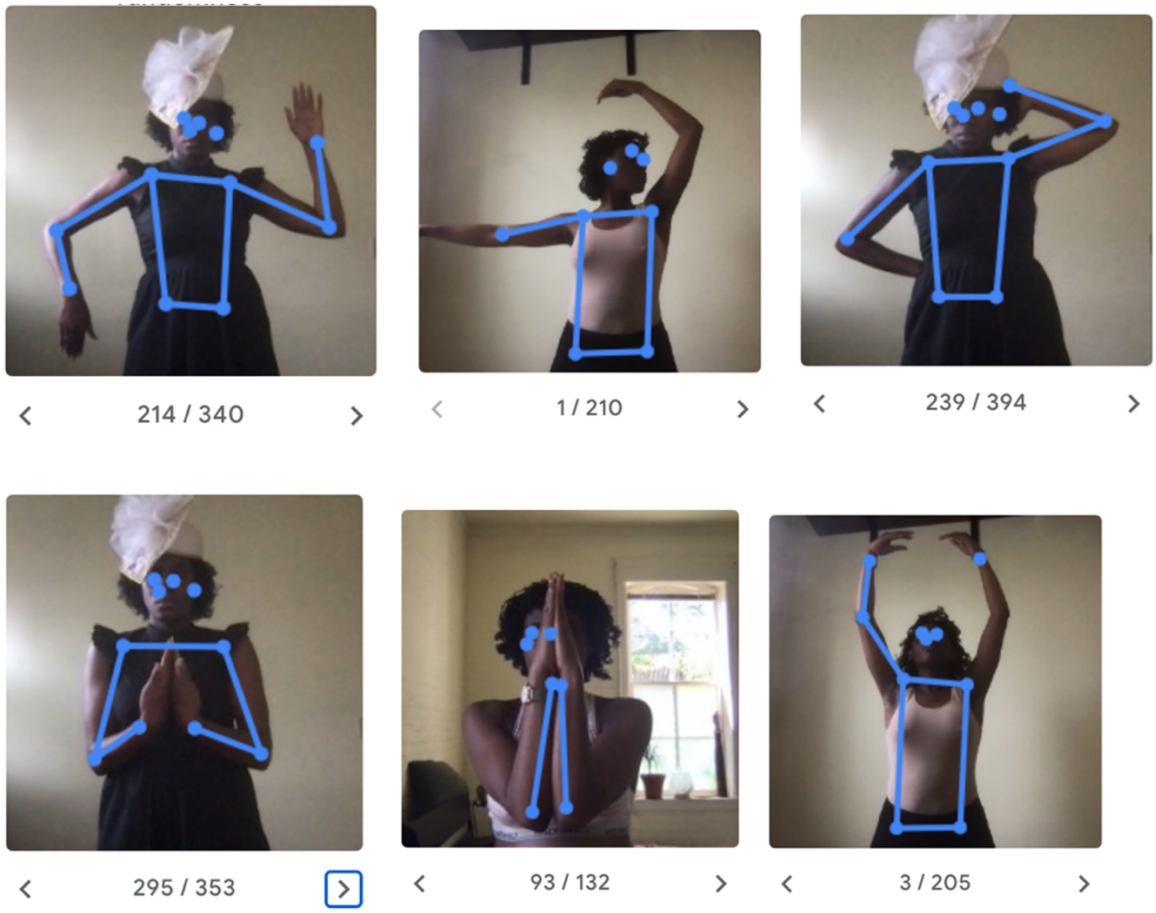

Figure 9 Postures as data for machine learning communicating Gullah Geechee knowledge frameworks to Google Teachable Machine. photo is a screenshot taken from author's image data gallery

Chapter 4

Undisciplined. My mind.

In this exhibition Imani Cooper Mkandawire brings together years of research on Gullah Geechee heritage as a descendant herself. “Undisciplined” challenges the social and racial politics that underpin the dichotomization of intellectual disciplines by educational institutions, specifically collegiate institutions. The work builds a narrative meant to be experienced in three acts which are articulated in binary numbers. The first act (001) highlights how disciplinary conventions foster communication gaps between specialists in different fields, while simultaneously generating exclusionary code that prohibit the production of knowledge outside of a Eurocentric framework. The second act (010) delves into autobiographical experiences of cognitive dissonance and its phycological toll. Culminating in personal practices of resistance to combat epistemic violence as a scholar working within Gullah Geechee knowledge systems. The third act (011) demonstrates the possible intellectual and technological innovation that can emerge when black knowledge frameworks are taken seriously as categories of analysis.

This chapter is meant to be a representation of the exhibition “Undiscipline. My Mind”. An excerpt of each act is presented demonstrating the synergies between art and scholarship that deeply inform my work. Throughout my research the process of art making functioned in several ways. It provided an uninhibited place for creativity to bring together academic disciplines and methodologies that advanced my research inquiries, facilitated healing, and strengthened my own comprehension of divergent fields of thought. For example, particle physics expressed

through dance, mathematical functions written as poetry, computer science communicated through sculpture and collage work, and so on. As the final chapter in my dissertation the exhibition aims to mobilize modes of presenting scholarship and engaging with the public that simultaneously interrogates the production of knowledge, while inviting both specialists and civilians to discuss the many facets in which knowing and thinking take place.

The chapter asks the reader/viewer to consider what is a stake when we address epistemic injustice as social and racialized violence.

Act 001
The Aporia of European Intellectual History
The first act (001) highlights how disciplinary conventions foster communication gaps between specialists in different fields, while simultaneously generating exclusionary code that prohibit the production of knowledge outside of a Eurocentric framework.

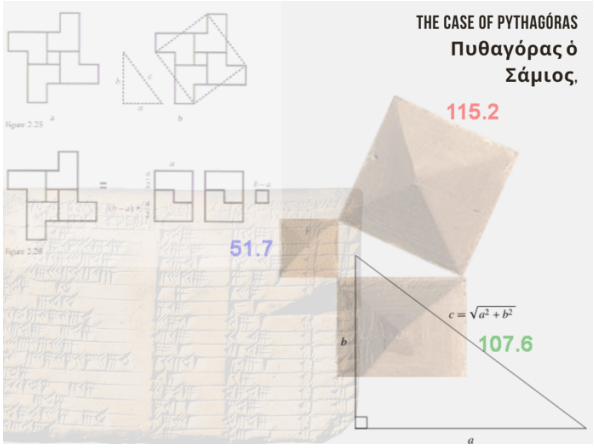

Figure 10 mock presentation of artwork "The Case of Pythagóras" part of a digital projection series titled "The Case" photo taken by author

The narrative of the exhibition begins with a series of animated and at times interactive projections called “The Case” gesturing to the informal law term. Through these series of projections, the viewer experiences the contradictions of claims made through European intellectual history. The visuals paired with text from various scholarly and historical sources act as a stage in which the language used to craft the exclusive uniqueness of Europe intellectual thought goes under adjudication.

“The Case of Pythagóras” (see fig. 10) is part of the projection series The Case. Scholarly debates about the life achievements of ancient Greek philosopher Pythagóras continues to be an area under much dispute. The scholarly discourse dramatically sways from Pythagóras was a great thinker and mathematician[64], he was a disciple of an ancient Egyptian priest who taught

[64] There are about 100,000 unpublished cuneiform sources in the British Museum alone. Babylonian knowledge of proof of the Pythagorean Theorem is discussed by J. Høyrup, 'The Pythagorean "Rule" and "Theorem" – Mirror of

him all he knew after undergoing a spiritual journey[65], to he was not a mathematician at all, but was a highly spiritual man living an ascetic life[66]. The heated debates about Pythagóras, the unstable and decontextualized claims made through his life work for the construction of modern Europe is taken up in the title of the work. The Greek philosophers name appears with an accent over the o, intentionally spelling the romanization of his name from the Greek alphabet into the Latin alphabet. Underneath the first title is Pythagóras' name in ancient Greek, a language that shares linguistic affinities to Asia and Africa. The spelling of the name in these two different forms is meant to illuminate how the European mythologization of Pythagoras' thought takes place even through the spelling of his name. While ancient Greek shares cultural, linguistic, and intellectual connections to the Middle East and Africa by way of the ancient thalassocratic civilization Phoenicia, this history is forgotten through the many transliterations of Pythagóras name[67]. This continental history becomes even more obscured when Pythagoras name is spelled in English without an acute accent, not recognizing the shift from Greek alphabet to Latin alphabet at all. The spelling of the name is meant to demonstrate how through several registers of translation modern Europe divorces itself from intellectual predecessors to claim ahistorical academic gravitas.

The spelling of Pythagóras name is accompanied by visuals documenting earlier and/or divergent forms of representing the theorem attributed to him. This is by no means an exhaustive

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the Relation between Babylonian and Greek Mathematics,' in: J. Renger (red.): *Babylon. Focus mesopotamischer Geschichte, Wiege früher Gelehrsamkeit, Mythos in der Moderne* (1999).

[65] See George G. M. James seminal work Stolen Legacy (1954). James (1893-1956) was a Guyanese American historian who wrote mostly about the ancient Egyptian foundations of European philosophy and thought. Through lack of citation, and credit James demonstrates how European intellectual history lays claim to its originality.

[66] See "Pythagoras." Stanford Encyclopedia of Philosophy. Fall 1997-, Stanford University, 1997

[67] Phoenicia is not the only connection between ancient Greeks, Africa, and Asia however, I just use it as an example.

display of theorems. Through continued research, and collaborations with other scholars the visual and linguistic representation of the theorem is meant to continue to expand. The representations presented in the image above are the Plimpton 322, from the Babylonians, the pyramids of Giza, from ancient Egypt, and the Ngongo tattooing motif of Kuba Kingdom (also known as the Kingdom of the Bakuba or Bushongo, is a traditional kingdom in Central Africa). The diverse visual representation of the theorem provokes the viewer to consider how have other societies through time and space used this age-old theorem in their respective societies. What were the cultural and social implications surrounding this theorem then, and what does it look like when we adapt a global approach/ appreciation of mathematics rather than a singular narrative centralizing on modern Europe.

Figure 11 Mock-up of the artwork "Jargon" which is part of a print on canvas series, photo taken by author

"The Case" is followed by a work called "Jargon" (see fig. 11). "Jargon" is a series of large prints on canvas framed in a natural wood and showcases the many code languages that facilitate the production of knowledge in different academic disciplines. Each print is paired with

a small glossary-cum-notebook meant for the viewer to engage with the terminology in the work. Jargon is defined as specialized (technical) terminology associated with a particular field or area of activity. This series considers jargon a mode of code that not only creates barriers of entry for non-academics to engage with scholarship, but also narrows the communicative context between specialists in areas of study. A common and perhaps expected example would be different use of jargon in the study of literature from the study of mathematics. However, jargon also creates communication gaps between areas of study that are often grouped together. For example, the jargon from computer science differs from that of engineering, though they are often placed adjacent to one another "computer science & engineering". The series of prints in "Jargon" asks the viewer to consider the intentions behind the use of jargon, and its role in the academy. When is jargon useful and when does it present challenges? How does jargon contribute to the social and racial underpinnings of knowledge production in the academy. And lastly how might a critical conversation about jargon create pathways for cross/multi/ and interdisciplinary scholarship and teaching at the collegiate level.

The example presented in this dissertation is titled "Jargon 1.0 the mathematics of literature". Beneath the word jargon in the center of the canvas is a reference to Python code. Specifically, an invocation to the automatic interpreter embedded in Python. Python is an interpreted programming language. This means that it needs a different program (called an interpreter) to read and execute the source code. Interpreters run through each line of the program and execute all the commands on the fly. They also verify each line of code to ensure it's written correctly. If the interpreter encounters any errors in the code, it will show a message that includes the type of error and the place in the code where it occurred. A Python interpreter is

included when you install Python on your computer. Python provides interactive capability with the interpreter. A programmer can invoke the Python interpreter and interact with the interpreter directly. To start the interpreter, the programmer executes Python with no arguments. Next, the interpreter presents the programmer with a ">>>" prompt, indicating it can accept a command. The invocation of the python interpreter is commonly demonstrated with the command "*print 'Hello World."* Upon hitting return, the Python interactive interpreter immediately executes the statement "Hello World"[68].

I use this invocation to the Python interpreter in the series of canvas print to demonstrate the need for interpretation of academic code(s). Rather than using the command "Hello World" I insert "How do you know". The command "how do you know" invites the Python interpreter to verify the codes of academia. Instead of searching for errors through each line of code this interpreter combs through the interstices of disciplines searching for the ways in which knowing is presented. The command "how do you know" is also inviting the viewer to engage with the words on each canvas, whether a specialist or not, to consider how they might be in relationality to the presented academic verbiage or not. The words on the canvas start off extremely dense on one side and slowly moves to clarity on the other. The density of the words is a visual representation of the murkiness that arises when speaking academic codes across disciplines, and the barrier of entry into scholarship for non-specialists. The clarification of the words invites the reader to engage with jargon from literature (repetition and word play literary devices) and higher mathematics.

[68] This description of python interpreter is borrowed from TJ O'Connor in his book *Violent Python A Cookbook for Hackers, Forensic Analysts, Penetration Testers and Security Engineers* (2013). See introduction pp. 1-29

Act 010
Prelude to a Prayer
The second act (010) delves into autobiographical experiences of cognitive dissonance and its phycological toll. Culminating in personal practices of resistance to combat epistemic violence as a scholar working within Gullah Geechee knowledge systems.

Figure 12 Mock-up of "Prelude to a Prayer" a combination of research photos and screenshots of moving images intended for gallery display, photo taken by author

"Prelude to a Prayer" (see fig. 12) comprises of audio clips paired with visuals, still and moving images, and a recording of a performance piece that relays the research journey and discloses parts of internal conflict. The audio clips are meant to be experienced through headphones while looking at visuals on a screen. The audio is a combination of writings from research and personal journals disclosing the conditions of epistemic oppression that facilitate mental distress, and the lack of vocabulary/ jargon as a researcher to describe the conditions of epistemic injustice. The

still and moving images document two narratives. The first captures places where epistemic oppression took place in my life, analyzing the geographies tethered to biased conceptions about knowing. For instance, the gendered notions of labor in kitchens, ideas about intelligence that play out in classrooms, the intimacy of knowledge transmission in churches and bedrooms, and so on. The second set of still and moving images captures resistance and wellness practices I used to overcome the racialized, gendered, and cultural discrimination that underpins epistemic oppression. Lastly the recorded performance piece presents a monologue in doublespeak harkening back to the way in which enslaved Africans used this form of speech and grammar to liberate themselves. Spoken in a blend of standard English, Gullah Geechee creole, and the Gullah Geechee/ African American practice of sacred tongues the monologue is a representation of breaking/ overcoming the mental distress from racialized, gendered, and cultural epistemic oppression.

Act 011
‘Cla’to Gawd Chatsopano!
The third act (011) demonstrates the possible intellectual and technological innovation that can emerge when black knowledge frameworks are taken seriously as categories of analysis.

Figure 13 Mock-up of collage series that uses archival imagery and Python code, photo taken by author

‘Cla’to Gawd Chatsopano is a sentence that starts off in Gullah Geechee creole and ends in the Bantu language Chichewa (the predominant language in Malawi). ‘Cla’to Gawd translates to a mild oath professed to God while chatsopano roughly translates to innovation, with its literal translation meaning something that is recent or has newness. ‘Cla’to Gawd is a mild oath because in some Gullah cultural practices a full oath to God can never be made, so a mild oath is the highest form of dedicating one’s energy towards an activity while appealing to God for grace and energy to sustain. In the final act of the exhibition, I conjure newness through a sacred oath to envision intellectual and technological innovation. The final act comprises of a series of

digital collages, a prototype of an AI-powered mixed reality lens, and a pop-up interactive ethnoscience lab.

The digital collages overlay archival images, family photos and python code to visualize the uploading of black ways of knowing into data and algorithmic technologies. The archival images are a combination of plantation work photos in the US Lowcountry, and African American life post-emancipation proclamation. The family photos are a combination of research photos and old family photos. The prototype of an AI-powered mixed reality lens named Kuona is an imagined technology that engages the user in pedagogical experiences through different settings. Kuona translates in English to see in several Bantu languages, with the literal translation meaning to be able to perceive (something) by sight or have the power to perceive by sight. Kuona as a lens is enabling power to see, quite literally as an electrically powered device, but also socio-politically by creating space for black ways of knowing and engaging in the world to be perceptible. Kuona is a take on the digitization of passing down generational knowledge by using AI. The user experience is envisioned as mini courses that facilitate STEAM (Science Technology Engineering Arts Mathematics) lessons through African and African diasporic cultural lens, to a research mode that allows the user to question the physical and natural world using black epistemes.

The final work of this exhibition is an installation of a pop-up interactive ethnoscience lab. Ethnoscience is the practice of scientific knowledge production that considers how cultural lenses influence the vocabulary and direction of research agendas. The viewer/participant will enter a research lab that is dedicated to interrogating Bakongo cosmology theory of Kalûnga– another take on the Big Bang through Bantu languages and philosophies. The lab will contain

diagrams of theoretical particles that describe a Bakongo perspective on high energy physics. To engage the audience the lab contains a mock participatory study. The study provides descriptions of the potential behavior of Kalûnga as a particle and a way to gage the particle velocity levels to describe in data for potential AI research agenda The lab and all the equipment inside it are labeled in various Bantu languages and African diasporic patois with English translations available. The ethnoscience lab is meant to envision what knowledge production grounded in black worldviews could look like if situated in the academy.

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Epilogue

How do we know what we know?
Stephanie Dinkins, *Not The Only One* (2018)

White empiricism is therefore a form of anti-empiricism masquerading as an empirical approach to the natural world.
Chanda Prescod-Weinstein, *Making Black Women Scientists under White Empiricism: The Racialization of Epistemology in Physics* (2020)

My goal to make visible a notion of intelligence and knowledge production emerging from black epistemologies through a reevaluation of data, gives rise to pedagogical disobedience. Disobedient in that it refuses to acknowledge European exceptionalism(s), meaning Europe, and the Global West in general, as the singular and exceptional axis in which we understand both modern and historic science and technological innovation. If we are to take up the argument that a deep-rooted historiographical bias for the interpretation of facts$_{2^2}$:= (data) impacts the perception of mathematical thinking, thoughts and engagement with the natural world of non-European cultures, then, we must consider what pedagogy looks like that teaches otherwise. A pedagogy that teaches that all cultures in any given moment of time and place are viable examples to demonstrate and glean ideas about science, mathematics, and technology from, because science and technology is a byproduct of sociality. Additionally, I ask what the role of AI in this pedagogical shift is. For AI is just an extension of sociality, the amalgamation of claims made through socially implicated data.

To conclude this dissertation, I consider what modes of learning does this pedagogical shift to epistemic inclusivity entail, not just for educational institutions, or public scholarship, but for the "minds" of computational systems as well. What can we call this mode of unlearning to relearn simultaneously and adjacent to machine learning? This co-learning of pedagogical disobedience (humans and machines alike) instantiates what I call "integrative knowledge". Integrative knowledge is the practice of epistemic inclusivity. It is a fluid approach to knowledge production, capable of operating from multiple worldviews to understand the materiality of life and social conditions. It is both a method, and a politic. Integrative knowledge as co-learning pedagogical disobedience renders an additional meaning to the term hybrid education. It builds on the concept of hybrid education as remote learning but understands hybrid as articulating much more.

I use the word hybrid as an adjective meaning of mixed character and/or composed of mixed parts. Hybrid, then, describes the relationships required to create a divergent pedagogical geography. One in which, yes, the materiality of the classroom moves in and out of cyberspace, (a mix between physical and digital) but also the curricula is "of mixed character" encompassing teachable material across different disciplines from various cultural epistemic points. Hybrid also describes a bilateral flow of ethical knowledge production in which intelligent computational systems and human intelligence are parallel in an agreement of unlearning (Eurocentric exceptionalism) and relearning (integrative knowledge). And lastly hybrid, also accounts for the social political relations mediated between hardware, software, educational institutions, and tech corporations that are necessary to create and sustain divergent digital pedagogical geographies.

In this way the work of the term hybrid^3 (raised to the power of 3) is dynamic, actively creating new socialites and technical infrastructures that marshal in inclusive epistemologies.

I conclude this dissertation with a list of founding principles to put integrative knowledge into practice. This is the beginning of a manifesto, a life ethos, an agenda of scholarly research, an avenue to usher in, and engineer AI expert systems dedicated to preserving African and African diasporic knowledge, as well as other marginalized community knowledge.

Principles of Integrative Knowledge

Definition: Integrative knowledge is the practice of epistemic inclusivity. It demands a reevaluation of data / facts that shape culturally biased narratives of knowledge and intelligence. It understands that culturally biased narratives of knowledge negatively impact the decision-making of automated intelligent machines.

Principle 1
We recognize that the practice of intelligence and cultivation of applicable knowledge systems is not exclusive to any particular culture, community, or individual but a combination of biological, social, and environmental processes available to all. Thus, we refuse an ethnocentric epistemological approach to opt into integrative knowledge.

Principle 2
We recognize that communities and individuals who do not identify exclusively with Eurocentric knowledge indeed have valuable knowledge systems and intelligence practices that can help contribute to global issues in science and technology today, deserving scholarly recognition, research funding, and implementation in school curriculums.

Principle 3
We understand that integrative knowledge requires patience, scholarly rigor, and funding to acquire the data that can translate the mathematical and scientific knowledge of non-Western centric ideas into applicable information.

Principle 4
We recognize that artificial intelligent systems (AI) are not divorced from human intelligence, thus integrative knowledge is imperative to creating more socially just data and algorithmically driven technologies.

Principle 5
We understand that the exclusive nature in which knowledge and intelligence has been cultivated thus far, has enacted harmful stereotypes and egregious misrepresentations of non (white)

European individuals, systems of knowing and intelligence in which we seek to eradicate through integrative knowledge.

Principle 6
We understand that forming an inclusive academy using integrative knowledge means the expansion of pedagogical approaches, research agendas, scholastic deliverables, and general intellectual culture in which individuals a part of non-Eurocentric knowledge communities will always be welcomed to represent the knowledge that they do have.

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