

Introduction

The Power of Algorithms

This book is about the power of algorithms in the age of neoliberalism, and the ways those algorithms reinforce oppressive social relationships, and enact new modes of racial profiling, which I've termed "technological redlining." By making visible the ways that capital, race, and gender are factors in creating unequal conditions, I am bringing light to forms of technological redlining, which are on the rise. The near-ubiquitous use of algorithmically-driven software, both visible and invisible to everyday people, demands a closer inspection of what values are prioritized in such decision-making systems. Typically the practice of redlining has been most often used in real estate and banking circles that create and deepen inequalities by race, where, for example, people of color are more likely to pay higher interest rates or premiums just because they are Black or Latino, especially if they live in low-income neighborhoods. On the internet, and in our everyday uses of technology, discrimination is also embedded in computer code and, increasingly, in artificial intelligence technologies that we are reliant upon, by choice or not.

My goal is to further an exploration into these digital sense-making processes as the source of racist and sexist representations, and how they have come to be so fundamental to the classification and organization of human activity. As a result, this book is theoretically and practically concerned with examining the commercial co-optation of Black identities, experiences, and communities across some of the largest and most powerful technology companies to date, including Google, Facebook, Yelp and Zillow. I closely read a few distinct cases of algorithmic oppression for the depth of their social meaning to raise a public discussion of the broader implications of how privately managed, black-boxed algorithms have become

essential to many information-driven decisions. I want us to have broader public conversations about the implications of the artificial intelligentsia for people who are already systematically marginalized and oppressed, in the United States, and beyond.

I situate my work against the backdrop of a 12-year professional career in multicultural marketing and advertising where I was invested in building corporate brands and selling products to African-Americans and Latinos (before I became a university professor). Back then I believed, like many urban marketing professionals, that companies must pay attention to the needs of people of color and demonstrate consumer respect by offering services to communities of color, just as is done for most everyone else. After all, to be responsive and responsible to marginalized consumers was to create more market opportunity. I spent an equal amount of time doing risk management and public relations to insulate companies from any adverse risk to sales that they might experience from inadvertent or deliberate snubs to consumers of color who might perceive a brand as racist or insensitive. Protecting my former clients from enacting racial and gender insensitivity, and helping them bolster their brands by creating deep emotional and psychological attachments by communities of color to their products was my professional concern for many years, which made an experience I had in Fall 2010 deeply impactful. In just a few minutes while searching on the web, I experienced the perfect storm of insult and injury that I could not turn away from. While “Googling” things on the Internet that might be interesting to my stepdaughter and nieces, I was overtaken by the results. My search on the keywords “Black girls” yielded “HotBlackPussy.com” as the first hit.

Hit indeed.

Since that time, I have spent innumerable hours teaching and researching all the ways in which it could be that Google could completely fail when it came to providing reliable or

credible information about women and people of color, yet experience seemingly no repercussions whatsoever. Two years after this, I collected searches again, only to find similar searches, as documented in Figure I.1.

{~?~IM: insert F_I_01_NOBLE here.}

Figure I.1. First search result on keywords “Black Girls” in September 2011.

In 2012, I wrote an article for *Bitch Magazine* about how women and feminism are marginalized in search results. By August of 2012, Panda (an update to Google’s search algorithm) had been released and pornography was no longer the first series of results for “black girls,” but other girls and women of color like Latinas and Asians were still pornified. I can’t say that it was my writing of that article that changed the algorithm. But I can’t say that it wasn’t. I have no way of knowing, but I do know that it changed, and it can change, and I often wonder what kind of pressures account for the changing of search results over time. It’s impossible to know when and what influences proprietary algorithmic design, other than that human beings are designing them, and that they are not up to public discussion, except as we engage in critique and protest.

This book was born to highlight cases of such algorithmically driven data failures that are specific to people of color and women, and underscores the structural ways that racism and sexism are fundamental to what I have coined, “algorithmic oppression.” I’m writing in the spirit of other critical women of color, like Latoya Peterson, co-founder of the blog Racialicious, who opined that racism is the fundamental application program interface (API) of the internet. Peterson argued that anti-black racism is the foundation upon which all racism toward other

groups is founded. Racism is a standard protocol for organizing behavior on the web. She said, so perfectly:

...the idea of a nigger API makes me think of a racism API, which is one of our core arguments all along -- oppression operates in the same formats, runs the same scripts over and over. It is tweaked to be context specific, but it's all the same source code. And the key to its undoing is recognizing how many of us are ensnared in these same basic patterns and modifying our own actions.¹

Peterson's allegation is consistent with what many people feel about the hostility of the web toward people of color, particularly in its anti-Blackness, which any perusal of YouTube comments, or other message boards will serve up. On one level, the everyday racism and commentary on the web is an abhorrent thing unto itself, which has been detailed by others; but it's entirely different with the corporate platform vis-a-vis an algorithmically crafted web search that offers up racism and sexism as the first results. This process reflects a corporate logic of either willful neglect, or a profit imperative that makes money from racism and sexism. This inquiry is the basis of this book.

In the following pages, I will discuss how "Hot," "Sugary," or how any other kind of "Black Pussy" can surface as the primary representation of Black girls and women on the first page of a Google search, and suggest that something other than the best, most credible, or reliable information output is driving Google. Of course, Google Search is an advertising company, not a reliable information company. At the very least, we must ask when we find these kinds of results, "Is this the best information" for whom? We must ask ourselves who the intended audience is for a variety of things we find, and question the legitimacy of being in a "filter bubble,"² when we do not want racism and sexism, yet they still find their way to us. The

implications of algorithmic decision-making of this sort extends to other types of queries in Google, and other digital media platforms, and are the beginning of a much needed reassessment of information as a public good. We need a full-on re-evaluation of the implications of our information resources being governed by corporate-controlled advertising companies. I am adding my voice to a number of scholars like Helen Nissenbaum and Lucas Introna, Siva Vaidhyathan, Alex Halavais, Christian Fuchs, Frank Pasquale, Kate Crawford, Tarleton Gillespie, Sarah T. Roberts, Jaron Lanier and Elad Segev, to name a few, who are raising critiques of Google and other forms of corporate information control (including artificial intelligence), in hopes that more people will consider alternatives.

Over the years, I have concentrated my research on unveiling the many ways that African American people have been contained and constrained in classification systems from Google's commercial search engine to library databases – the development of which was born of my research training in library and information science. I think of these issues through the lenses of critical information studies and critical race and gender studies. As marketing and advertising has directly shaped the ways that marginalized people have come to be represented by digital records like search results, or social network activities, I have studied why it is that digital media platforms are resoundingly characterized as “neutral technologies” in the public domain, and often, unfortunately, in academia. Stories of “glitches” found in systems do not suggest that the organizing logics of the web could be broken, but rather, that they are occasional one-off moments where something goes terribly wrong with near-perfect systems. With the exception of the many scholars that I reference throughout this work and the journalists, bloggers, and whistleblowers that I will be remiss in not naming, very few are taking notice. We need all the voices to come to the fore and impact public policy on the most unregulated social experiment of

our times: the internet.

These data aberrations have come to light in various forms. In 2015, the *Washington Post* reported that a “glitch” in Google’s algorithm led to a number of problems through auto-tagging and facial recognition software that was apparently intended to help people search through images more successfully. The first problem for Google was that its photo application had automatically tagged African Americans as “apes” and “animals.”³ The second major issue reported by the *Post*: Google map searches on the word “N*gger”⁴ led to a map of The White House, a story that went viral on the Internet after social media personality, Deray McKesson, tweeted it.

{~?~IM: insert F_I_02_NOBLE here.}

Figure I.2. Google images for the keyword “gorillas,” last accessed on April 7, 2016.

{~?~IM: insert F_I_03_NOBLE here.}

Figure I.3. Google map search on “N*gga House” leads to The White House, last accessed on April 7, 2016.

{~?~IM: insert F_I_04_NOBLE here.}

Figure I.4. Tweet by Deray McKesson about Google map search and The White House.

These incidents were consistent with the reports of photoshopped images of a monkey’s face on the image of First Lady Michelle Obama that were circulating through Google Image search in 2009. In 2015, you could still find digital traces of the Google autosuggestions that associated Michelle Obama with apes. Protests from The White House lead to Google forcing

the image down the image stack from the first page so that it was not as visible.⁵ In each case, Google’s position is that it is not responsible for its algorithm, and that problems with the results would be quickly resolved. In *The Washington Post* article about “N*gger House,” the response was consistent with other apologies by the company:

“Some inappropriate results are surfacing in Google Maps that should not be, and we apologize for any offense this may have caused,” a Google spokesperson told U.S. News in an email late Tuesday. “Our teams are working to fix this issue quickly.”

{~?~IM: insert F_I_05_NOBLE here.}

Figure I.5. Standard Google’s Related searches associates “Michelle Obama ape.”

These human and machine errors are not without consequence, and there are several cases that demonstrate how racism and sexism are part of the architecture and language of technology, an issue that needs attention and remediation. In many ways, these cases I present are specific to the lives and experiences of Black women and girls, people largely under-studied by scholars, who remain ever precarious, despite our living in the age of Oprah and Beyoncé. The implications of such marginalization are profound. The insights about sexist or racist biases that I convey here are important because information organizations, from libraries to schools and universities to governmental agencies, are increasingly reliant upon or being displaced by variety of web-based “tools” as if there are no political, social, or economic consequences of such. We need to imagine new possibilities in the area of information access and knowledge generation, particularly as headlines about “racist algorithms” continue to surface in the media⁶ with limited

discussion and analysis beyond the superficial.

Inevitably, a book written about algorithms in the 21st century is out of date immediately upon printing. Technology is changing rapidly, as are technology company configurations via mergers, acquisitions, and dissolutions. Scholars working in the fields of information, communication, and technology struggle to write about specific moments in time, in an effort to crystallize a process or a phenomenon that may shift or morph into something else soon thereafter. As a scholar of information and power, I am most interested in communicating a series of processes that have happened, which provide evidence of a constellation of concerns the public might take up as meaningful and important, particularly as technology impacts social relations, and proffers unintended consequences that deserve greater attention. I have been writing this book for several years, and over time, Google's algorithms have admittedly changed such that a search for "black girls" does not yield nearly as many pornographic results now as it did in 2011. Nonetheless, new instances of racism and sexism keep appearing in news and social media, and so I use a variety of these cases to make the point: algorithmic oppression is not just a glitch in the system, but, rather, is fundamental to the operating system of the web. It has direct impact on users and on our lives beyond using Internet applications. While I have spent considerable time researching Google, this book tackles a few cases of other algorithmically driven platforms to illustrate how algorithms are serving up deleterious information about people, creating and normalizing structural and systemic isolation, or practicing digital redlining which reinforce oppressive social and economic relations.

While organizing this book, I've wanted to emphasize one main point: there is a missing social and human context in some types of algorithmically-driven decision making, and this matters for everyone engaging with these types of technologies in everyday life. It is of particular

concern for marginalized groups, those who are problematically represented in erroneous, stereotypical, or even pornographic ways in search engines, and who have also struggled for non-stereotypical or non-racist and non-sexist depictions in the media and in libraries. There is a deep body of extant research on the harmful effects of stereotyping of women and people of color in the media, and I encourage readers of this book who don't understand why the perpetuation of racist and sexist images in society is problematic to consider a deeper dive into such scholarship.

This book is organized into five chapters. In chapter one, I explore the important theme of corporate control over public information, and I show several key Google searches. I look to see what kinds of results Google's search engine provides about various concepts, and I offer a cautionary discussion of the implications of what these results mean in historical and social contexts. I also show what Google Image offers on basic concepts like "beauty" and various professional identities and why we should care.

In chapter two, I discuss how Google search reinforces stereotypes, illustrated by searches on a variety of identities that include "black girls," "Latinas," and "Asian girls," and more. Previously, in my work published in *The Black Scholar*,⁷ I looked at the post-mortem Google auto-suggest searches following the death of Trayvon Martin, an African-American teenager whose murder ignited the #BlackLivesMatter movement on Twitter, and whose death brought attention to the hundreds of African American children, women, and men killed by police or extrajudicial law enforcement. To add a fuller discussion to that research, I elucidate the processes involved in Google's PageRank™ search protocols that can include leveraging digital footprints⁸ from people, to how advertising and marketing interests influence search results, to a discussion about how beneficial this is to the interests of Google as it profits from racism and sexism, particularly at the height of a media spectacle.

In chapter three, I examine the importance of non-commercial search engines and information portals, specifically looking at the case of how a mass shooter and avowed White Supremacist, Dylann Roof, allegedly used Google search in the development of his racial attitudes, attitudes that led to his murder of nine African American A.M.E. church members while they worshiped in their South Carolina church in the summer of 2015. The provision of false information that portends to be credible news, and the devastating consequences that can come from this kind of algorithmically driven information, is an example of why we can't afford to outsource and privatize uncurated information on the increasingly neoliberal, privatized web. I show how important records are to the public, and explore the social importance of both remembering and forgetting, as digital media platforms thrive on never or rarely forgetting. I discuss how information online functions as a type of record and I argue that much of this information and its harmful effects should be regulated or subject to legal protections. Furthermore, at a time when "Right to be Forgotten" legislation is gaining steam in the European Union, efforts to regulate the ways that technology companies hold a monopoly on public information about individuals and groups needs further attention in the United States. Chapter three is about the future of information culture, and underscores the ways that information is not neutral, and how we can re-imagine information culture in service of eradicating social inequality.

Chapter four is dedicated to critiquing the field of information studies, and foregrounds how these issues of public information through classification projects on the web, like commercial search, are old problems that we must solve as a scholarly field of researchers and practitioners. I offer a brief survey of how library classification projects undergird the invention of search engines like Google, and how our field is implicated in the algorithmic process of

sorting and classifying information and records.

To conclude, I move the discussion beyond Google, to help readers think about the impact of algorithms on how people are represented in other seemingly benign business transactions. I look at the “colorblind” organizing logic of Yelp and how business owners are revolting due to loss of control over how they are represented, and the impact of how the public finds them. Here, I share an interview with Kandis from NY⁹, whose livelihood has been dramatically affected by public policy changes like the dismantling of Affirmative Action on college campuses, which have hurt her local Black hair care business in a prestigious college town. Her story brings to light the power that algorithms have on her everyday life, and leaves us with more to think about in the ecosystem of algorithmic power. The book closes with a call to recognize the importance of how algorithms are shifting social relations in many ways – more ways that this book can cover – and should be regulated with more impactful public policy in the United States than we currently have. My hope is that this book will directly impact the many kinds of algorithmic decisions that can have devastating consequences for people who are already marginalized by institutional racism and sexism, including the 99% of us who own so little wealth in the United States that the alarming trend of social inequality is not likely to reverse without our active resistance and intervention. The financial markets are just one of many of these institutional wealth consolidation projects driven by algorithms. We need to cause a shift in what we take for granted in our everyday use of digital media.

This book is written in the tradition of many other critical race theorists and feminist scholars. I consider my work as a practical project, the goal of which is to eliminate social injustice and change the ways in which persistently marginalized people are further oppressed with the aid of allegedly neutral technologies. My intention in looking at these cases serves two

purposes. One: we need interdisciplinary research and scholarship in information studies and library and information science that intersects with gender and women's studies, Black/African-American studies, media studies, and communications to better describe and understand how algorithmically-driven platforms are situated in intersectional socio-historical contexts, and embedded with social relations. These contexts function as expressions of power. My hope is that this work will add to the voices of my many colleagues across several fields that are raising questions about the legitimacy and social consequences of algorithms and artificial intelligence. Two: now, more than ever, we need experts in the social sciences and digital humanities to engage in dialogue with activists and organizers, engineers, designers, information technologists, and public policy makers before blunt artificial intelligence decision-making trumps nuanced human decision-making. This means we must look at how the outsourcing of information practices from the public sector facilitates privatization of what we previously thought of as the public domain,¹⁰ and how corporate controlled governments and companies subvert our ability to intervene upon these practices.

We have to ask what is lost, who is harmed, and what should be forgotten, with the embrace of artificial intelligence in decision-making. It is of no collective social benefit to organize information resources on the web through processes that solidify inequality and marginalization—on that I am hopeful many will agree.

A Society, Searching

On October 21, 2013 the United Nations launched a campaign directed by advertising agency Memac Ogilvy & Mather Dubai using “genuine Google searches” to bring attention to the sexist and discriminatory ways in which women are regarded and denied human rights. Christopher Hunt, Art Director of the campaign said, “When we came across these searches, we were shocked by how negative they were and decided we had to do something with them.”¹ What the campaign determined to show was how “the ads are shocking because they show just how far we still have to go to achieve gender equality. They are a wake up call, and we hope that the message will travel far,” according to Kareem Shuhaibar a copywriter for the campaign who was quoted on the United Nations website. Over the mouths of various women of color were the autosuggestions that reflected the most popular searches that take place in Google search. The Google search autosuggestions featured a range of sexist ideas, such as:

- Women cannot: drive, be bishops, be trusted, speak in church
- Women shouldn't: have rights, vote, work, box
- Women should: stay at home, be slaves, be in the kitchen, not speak in church
- Women need to: be put in their places, know their place, be controlled, be disciplined

{~?~IM: insert F_01_01_NOBLE here.}

Figure 1.1. Ogilvy & Mather Dubai advertising campaign for the United Nations.

While the campaign employed Google search results to make a larger point about the status of public opinion toward women, it also served, perhaps unwittingly, to underscore the