TOWARDS THE RESISTANT READING OF INFORMATION: RESISTANT SPECTATORSHIP IN THE INFORMATION AGE

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As media landscapes continue to shift, the growing corporate ownership, production, and dissemination of information necessitates a response from the library profession. Siva Vaidhyanathan characterizes the current information ecosystem as a tangled thicket generally consisting of "stable, localized hierarchical outlets" such as libraries and commercial publishers, user-created sources like Wikipedia and blogs, and "hypercommercialized, data-mined, advertising-directed platforms" such as Google.[1] Information has become of utmost importance socio-economically, yet this transition has largely occurred in line with the imperatives of corporate hegemony and private profit.[2] This complicated information landscape is moving towards an increasingly commodified digital environment, and in particular one that intentionally positions technology as politically neutral and unencumbered with human values. Yet it is important to recognize that no information service, from reference desks staffed by librarians to complex search algorithms, is unbiased in its delivery of content, as much as it may want to appear that way. By failing to explicitly recognize the ideological functions of commercial information providers in particular, librarians are unable to show to students the current information landscape as what it is: characterized largely by search engines and other corporate-owned media that operate under a veneer of neutrality. This lack of recognition makes it difficult for learners to understand that they can resist such sources, and that this technology should be subject to as much critique as any other.

It is difficult to discuss contemporary information processes without considering Google. It is not only the conduit for a massive portion of online searching, but is increasingly the lens through which internet users view their world, whether through Google Images, Street View, or YouTube. The company's attempts to render visible and control various branches of life and culture internationally, from the Google Books project to putting Africa online though satellite,

are positioned as humanitarian projects yet are also carefully selected in order to bolster Google's global significance and profit margins. Google search is a prime example of a depoliticized digital technology that is encountered and engaged with billions of times per day. Google is the starting point for many undergraduates' research, for example, but it encompasses all information needs. Search engines, after all, "have become the center of gravity for people's everyday information-seeking activities" and Google is the prevailing resource for accessing a vast majority of online content.[3] As Safiya Noble observes, in recent years Google has become an important subject of study due to the dominance it exerts in directing users to information, whether by answering questions or guiding them to other websites, and also because of "the near-universality with which Google has been adopted and embedded into all aspects of the digital media landscape to respond to that need."[4] What does it mean to allow one company to so fully shape what we know about the world? Amber Davisson points out that "any engine will have a perspective, and relying on that perspective makes it difficult to see the full picture," and regardless of a given company's stated intention—"don't be evil" or otherwise—there is danger in letting one source so massively shape the information we find and how it is retrieved.[5] Noble identifies the dimensions involved in web search, including the way in which this technology is cast as neutral: "Rendering web content (pages) findable via search engines is an expressly social, economic, and human project—in which this goal is turned into a set of steps (algorithm) implemented by programming code, and then naturalized as 'objective.'"[6]

The theory of resistant spectatorship asks us to consider alternatives to our relatively non-problematic interactions with media technologies and the companies that manufacture them, as well as to reevaluate the content supplied by these providers. As first introduced by cultural theorist Stuart Hall in 1973, resistant spectatorship acknowledges that an individual interacting

with a given media object, such as a television newscast, may be "read" from one of three positions: dominant, negotiated, and oppositional. A dominant position means that the media text is interpreted according to the meaning intended or preferred by its creators, resulting in limited misunderstanding between the message and the reader because they share an acceptance of the dominant ideology. A negotiated position means that the reader chooses to distance themselves from the text in some ways but not others, meaning that both dominant and oppositional elements come into play—the basic premise of an argument may be accepted, but the reader is not willing to accept it in full and modifies the meaning in some way that is reflective of their own self and interests. Thirdly, a reader can resist the text and refuse its intention, by deconstructing, reconstructing, or outright rejecting the message of the text as it is received and supplying their own interpretation. The intended message is understood but is opposed, and the reader substitutes and creates their own meaning from the text. This oppositional position is that of resistant spectatorship, as it challenges dominant cultural beliefs as they are presented, and reads a text against itself. Hall's theory is noteworthy in that it explicitly puts the viewer in a position of agency, and recognizes that not only are individuals far from being passive receptacles for messages received from mass media, but that all texts hold multiple meanings. Further, resistant spectatorship acknowledges that media is decoded in culturally-situated contexts, and one's interpretation of a message is necessarily dependent upon their personal identity and lived experiences, including race, gender, class, and sexuality.

Applied to academic librarianship, resistant spectatorship can be extrapolated to information in general instead of simply visual media, in order to gain a better understanding of the deeply contextual nature of students' engagement with information. A resistant engagement means that learners should not and do not accept information blindly; students evaluate and

consider what they are presented with based on their own personal experiences, understandings, and beliefs, with the intent of thinking more critically regarding such facets as authorship, production, and intent. These experiences are based in learners' previous experiences with a variety of media products and the way information is shaped and made available in these channels, as well as their ways of living as raced, gendered, and classed subjects. In locating and reading a journal article, for instance, a student may accept the entirety of what they are presented with (a dominant reading), accept the study's general argument but disagree with other points (a negotiated reading), or reject the article fully and substitute their own interpretation (a resistant reading). This scenario can take place vis-à-vis any engagement with information. What is important is not necessarily the specifics of what students do with this information—they may refer to an article they fundamentally resist because the constraints of their assignment calls for it—but that they develop a heightened capacity to "read" the content they encounter, ranging from an academic article to a Facebook post, from a negotiated or resistant position as they see fit and on their own terms. Where the concept of resistant spectatorship in relation to information becomes complicated is when major sources and providers position their services, methods, or ideology as impartial. In the case of Google search, this is accomplished through a variety of means, from the blank white homepage to the consistent claim that their algorithms determine what appears and what does not, independent of human influence. Google and other companies that design technology understand that if they make it appear that no ideology is at hand, the widespread adoption of such technologies will be smoother and face less resistance.

The concept of neutrality also operates in the library profession, where it is frequently invoked as a key characteristic of the field as a means to prevent the questioning of hegemonic political and economic forces, and, indeed, allows the library to continue acting as one of these

same enforcers of the status quo. Information literacy (IL), a central concept to academic librarianship in particular, has been at the forefront of revitalizing instruction in library settings. Yet information literacy as it is currently conceived lacks the politicized understanding of information environments that is necessary to comprehend how mega-companies such as Google shape the way that we see information, and by extension, our worlds. Critical information literacy refutes the neutrality of traditional IL and asks library educators and students to engage with the social and political dimensions of information, including its production, dissemination, and reception. In this way critical information literacy puts the ideas behind resistant spectatorship into practice, and encourages learners to be not only skeptical of, but to understand and be able to resist dominant information modes.

This study operates using a framework of Critical Information Studies, a field of inquiry that "interrogates the structures, functions, habits, norms, and practices that guide global flows of information and cultural elements."[7] Critical Information Studies questions how the relations between culture and information are shaped by their embeddedness in systems of "commerce, creativity, and other human affairs" and investigates four areas that overlap substantially with concerns shared by Library and Information Science:

- The abilities and liberties to use, revise, criticize, and manipulate cultural texts, images, ideas, and information;
- The rights and abilities of users to alter the means and techniques through which cultural texts and information are rendered, displayed, and distributed;
- The relationship among information control, technologies, and social norms; and
- The cultural, political, social, and economic ramifications of global flows of culture and information.[8]

Based upon Critical Information Studies' conviction that the means by which content is made discoverable, found, and interpreted holds a great deal of cultural, political, and social significance, this study will examine Google search as a media object and human construct, consider the theory of resistant spectatorship and how it allows us to better understand individuals' resistance to contemporary information environments, and propose critical information literacy as a practice aligned with resistant spectatorship that allows librarians and students to recognize and act upon oppressive information structures in their own contexts.

Chapter 1: The Positioning of Neutrality in Contemporary Information Seeking

In his prescient consideration of information inequality within the emerging "information society," Herbert Schiller perceived the shift of information from material disseminated by the government to a commodity that is packaged and sold by corporations that shrug off the preceding expectations of transparency and accountability. This shift in the ownership of information from a publicly available material to a privatized good in the hands of businesses leads to corporate speech becoming "a dominant discourse, nationally and internationally."[9] The shift from state to private power in the realm of information means that these corporations must assert that their "message- and image-making activity is a daily exercise in free expression" that is independent from the restrictive nature of the state.[10] Moreover, some categories of information, such as academic journal articles for commercial publishers, simultaneously serve as sites for immense profit and take on value as corporations seek to monetize this information, meaning that "what had been in large measure a social good has been transformed into a commodity for sale."[11] In sum, the information society can be characterized as such: "The now-central sector of communication and information...is profoundly altering the informational condition and the democratic character of American society. The corporate voice is the loudest in

the land. Immense amounts of information are produced but are available mainly to those who can afford their costs."[12] Moreover, the processes with which we interact are far more complex than the human behavior relative to them, which for Jean Baudrillard turns these objects into actors in a global process in which users are merely playing roles or spectators.[13] The simple act of opening a web browser and entering search terms, for example, is predicated on the use of an electronic device, servers, and other physical items that make such a process possible.

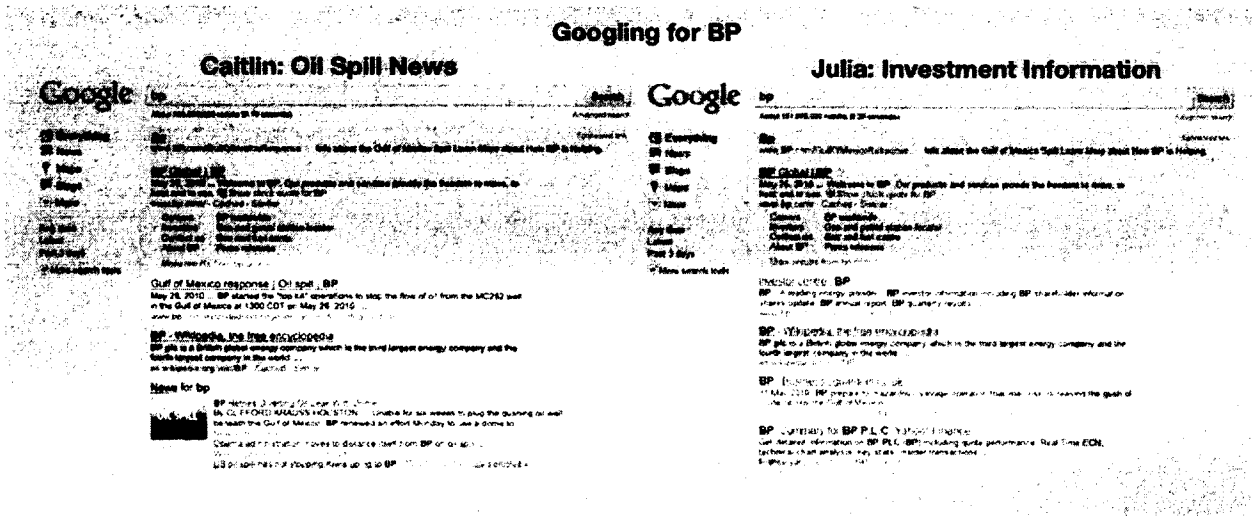
The internet as a medium has not rendered traditional media conduits such as television and radio increasingly obsolete by offering improved modes of distribution for companies, but has created new types of media that are more social and interactive. Corporations have established control over providing access to and making discoverable myriad types of information, and some fledgling companies, in particular commercial search engines based in the United States, have amassed a great deal of power with the advent of the internet. This is evidenced in part by the flow of executives from the financial industry on Wall Street to the tech industry in Silicon Valley, with the most high-profile instance being Ruth Porat's departure from one of the country's biggest banks, Morgan Stanley, for the same title of Chief Financial Officer at Google. At the Massachusetts Institute of Technology, one institution that acts as a top source for young hires in finance and tech, 10 percent of graduates in 2014 opted for a position in finance (compared to the 31 percent who took finance jobs in 2006, prior to the financial industry crisis) while 28 percent of 2014 graduates accepted positions at software companies (compared to 10 percent in 2006).[14] Accompanying this draw for both entry-level employees and the most powerful people in the global financial industry is search technology's tremendous influence upon how information is indexed, included, prioritized, or excluded, including setting expectations for how online information retrieval functions will evolve. This influence becomes

a major issue when commercial search becomes the dominant force that it is. As Noble states, "cuts to public education, public libraries, and community resources only exacerbate our reliance on technology, rather than information and education professionals, for learning."[15]

A reliance on technology, while not problematic in itself, becomes so when it is shrouded in the carefully articulated rhetoric of neutrality that obscures the ways in which it both reflects and reinforces existing power structures. New technologies are frequently positioned as not only unbiased, but as a means to connect people of diverse backgrounds and allow individuals to reconsider cultural divides by accessing a range of viewpoints—an argument which quickly falters considering the "filter bubble" that occurs when search engines apply personalization features which surface only information that is expected to be of interest to the user, resulting in a disconnection from news and stories that might be disagreeable or different. Eli Pariser, who brought filter bubbles to widespread public attention through a TED talk, related the example of identical searches for "bp" conducted from two separate Google accounts that retrieve information regarding either a catastrophic oil spill or details for potential investors.[16] Alison Hicks observes that contrary to this common belief of the internet as a culturally democratic force, it also has the strong capacity to reinforce social biases. This capacity, Hicks argues, "can be seen most clearly in the design of tools, for example, algorithms that are weighted towards their designers' biases or search engine personalization trends that narrow our information experiences," as "these realities complicate our information landscapes and affect our expectations about the world".[17] Google's massive engineering teams responsible for the development of different elements of algorithms are disproportionately young, affluent, and male. As such, the representation of other social and economic groups that appear as a result of the tools they assemble is likely to be an afterthought, if it is a thought at all. This design,

deployment, and use of technological tools is rooted in human experience and subject to the same biases, discrimination, and power structures present in society. If Google were to increase the number of women engineers, however, the problem of one company shaping our knowledge of and interactions with the world remains.

Figure 1. Google search results for "bp" demonstrating the filter bubble. Source: www.thefilterbubble.com.



The facade of neutrality constructed by search engines is not unique to this technology. Choices made in the organization of any "universal" knowledge discovery systems (such as search engines, now-obsolete library card catalogs, or dictionaries and glossaries) will inevitably reflect the biases of those responsible for creating and maintaining these systems, as shown in libraries through the most common classification structures for their collections: Library of Congress Classification, Library of Congress Subject Headings, and the Dewey Decimal System. As an example of these biases, Emily Drabinski describes a classroom discussion on how the Library of Congress subject headings for African American women have changed over the years. The white supremacy inherent in this classification system is thrown into sharp relief when a student asks, as a researcher interested in the history of white women, whether they need to search specifically for "white" in the subject headings. The answer is no, pointing to an

extremely problematic assumed universal whiteness.[18] Key to the construction of neutrality in contemporary information seeking are algorithms, which act both as a crux of online information seeking and convenient culprit easily attended to by engineers when it commits an "error" (this term being technological jargon that eliminates the social dimension) that is in fact a reflection of sexism, racism, homophobia, or other type of discrimination, as has been uncovered by researchers and everyday information seekers alike.

Algorithms have an increasingly important role in the information landscape as a whole and in determining individual choices, as they govern the terms under which information is presented to users via search engines. This determination of relevance by search algorithms allows users to navigate anywhere from individual databases to the entire internet. Algorithms not only help users find information, Tarleton Gillespie observes, but more broadly they "also provide a means to know what there is to know and how to know it, to participate in social and political discourse, and to familiarize ourselves with the publics in which we participate."[19] Thus, the stakes for algorithms are exceptionally high and only increase as algorithms—typically patented, proprietary, and closely guarded pieces of intellectual property—continue to mediate search experiences on mass levels.

Algorithms fulfill both practical and ideological functions that help to assuage fears of overreliance on technology, especially a technology such as Google search that is designed to operate as a black box. The widespread trust put into search engines can be viewed as a manifestation of the public's belief in the neutrality of technology and unawareness of the social values that are part and parcel of the design of any piece of technology.[20] The very operation of algorithms is an exercise in trust as users anticipate and receive reassurance that the outcomes of an algorithm are accurate, impartial, and legitimate. As a practical and political tool, the

providers of algorithms create the illusion of these complex formulas as being "automatic" and free from attempted influence. Gillespie delineates the function of algorithmic objectivity as such: "The careful articulation of an algorithm as impartial...certifies it as a reliable sociotechnical actor, lends its results relevance and credibility, and maintains the provider's apparent neutrality in the face of the millions of evaluations it makes."[21] Yet this duality of algorithms means that they can be simultaneously defended as lacking human agency when the results are challenged and promoted to advertisers as a tool to better target and reach consumers, the latter being particularly important for tech companies like Google that generate a massive portion of their revenue from advertisers. This relationship between Google, their algorithms, and advertisers is inextricable. As Google's hold on the search industry continues in some regions of the world and expands in others, their user base increases and more data is amassed to improve their algorithms. With this control over a major portion of the search industry as well as a continually refined means of mining data and directing users toward advertising, Google becomes a very attractive place for advertisers to bid on searches or spend money on search optimization to ensure their products are included in search results. The cycle of information's commodification not only continues, but accelerates.

Algorithms contain the same bias as the traditional media sources they claim to improve upon, and in the process are more damaging because of the neutrality that is too frequently assigned to technology by virtue of it being an automated function. Simply because algorithms are systematic does not mean that they are more objective than other forms of decision-making, as these decision-making processes are developed by humans who constructed this very process, and who decided which factors are important and which are not. Importantly, algorithmic logic does not always operate the way its designers intend and can have unintended outcomes and

consequences, which will be discussed in the following section. Just as any media reflects and responds to societal positions, technological neutrality appears as such not only by design but also as a result of "the mundane realities of news cycles, press releases, tech blogs, fan discussion, user rebellion" and competitors.[22]

Algorithms are an important component in the construction of impartiality in information technology, but certainly not the only factor. Information services tout the comprehensiveness and speed of their searches, yet their results are consistently scanned for copyright infringement, pornography, or objectionable results to deliver what is deemed relevant. Commercial search engines claim comprehensiveness while acting as censors. This patrolling for unlawful, obscene, or objectionable content is necessary, yet it cannot be claimed that the web is offered up "as is," with no doctoring of content. Google's search algorithm considers over two hundred signals for every query it receives. These signals, tracking everything from the user's location to the speed at which the query is typed, are how the search engine determines the relevance of the potential results it scans. Yet "relevance" is itself a term fraught with problems, as it means any number of things depending on the variables of algorithm engineers, the algorithm itself, and the user. In the case of search engines the determination of relevance is always located external to the user, who in reality is the one who should be defining such things. It has been noted that search engines show structural biases towards websites that are already popular, that are written in English, and are owned by commercial information providers.[23] What if the user of a search engine does not subscribe to these same values, or is actively seeking information that does not privilege the same factors as major search engines? Considering the historical progression of information from a publicly-distributed good to one that is controlled by concentrated and unarguably commercial interests, the evolution of the internet from a resource defined by openness to one dictated by

search engine market share means that making money is the primary goal of these information providers—a far cry from the aims of connectedness present in the early days of the web as well as the idea of information as a public good.

Even as the internet was in its infancy it was understood that it would become far to large to navigate without assistance, and moreover, that users were often unwilling to look beyond the first ten search results. This was formative in search engines developing a myopic focus upon delivering the "best" results, which not only continues to require decision-making regarding what constitutes such a characteristic, but also leads to a focus on manipulating data to present results.[24] Further, studies show that nearly half of internet users expect a page to load in two seconds and will leave a site if it does not load in three—hence Google's focus on and announcement of how long it takes for results to be retrieved (such as 0.39 seconds). Google and other major commercial search companies' processes are, as Noble states, "based on identifying and assigning value to various types of information through web indexing...[and] complex mathematical formulations are developed into algorithms that are a part of the automation process," which is now de rigueur for such content providers.[25] What these search engines fail to do is to take social and historical context into account. Narratives that control the discourse around online searching invoke values of objectivity and popularity as the ultimate decision-making criterion when in reality we are seeing the exhaustive monetizing of attention. The myth of digital democracy means that not only do users legitimize and consent to the practices of a search engine through its use, but the appearance of misogynist and racist results is naturalized.[26]

Recent research has established that Google search can promote damaging racial, gendered, and cultural stereotypes, which are normalized by virtue of appearing in autocomplete, images, and other search features and results. Bess Sadler and Chris Bourg note that not only

does Google search present a near-totalizing point of view on questions of relevancy and significance, thereby perpetuating existing patterns of inequity and exclusion, but that software created in environments that are hostile against underrepresented groups are bound to result in further discrimination, intentional or not.[27] With these criticisms in mind the discussion will turn towards an analysis of Google search, including issues of surveillance, the implications of Page Rank, racial and gender discrimination, damaging stereotypes, and issues with personalization.

Chapter 2: Analysis of Google Search

How does Google impact how we make sense of the world? In what ways does Google reinforce hegemonic narratives? These questions will guide the following analysis of Google search, a media object which is relied upon for information billions of times per day. In pursuit of their mission to "organize the world's information and make it universally accessible and useful," Google has pursued the development of dozens of tools to help users search for and organize information in a variety of contexts, including general information, academic research, news, political information, and communication and social networking.[28] Key to navigating the superabundance of online information, search engines became a vital tool for all internet users. The search business has changed dramatically in that instead of many small competitors vying for user interest, there now exists one search provider that entirely dominates the field. In this role Google does what all other commercial search providers do: direct users to some content but not other. However, Google does this on an unprecedented scale considering its position as a private gatekeeper of the world's digital information. Google's share of the search market in Europe as of 2014 is 90%, so massive that the European Commission filed anti-trust charges against the company in 2010, while worldwide Google accounts for nearly 70% of searches.

Incorporated in 1998 by Larry Page and Sergey Brin, two Ph.D. students at Stanford University, Google has become a multinational corporation specializing in internet services but with an ever-expanding interest in all things technological. Google's ascendancy to tech industry dominance has been represented in popular media in broad strokes along with companies such as Apple and Facebook, yet the best portrayal of the industry it helped establish is the HBO comedy *Silicon Valley*. The series ruthlessly mocks the culture of the Northern California tech industry with characters based on real-life investors, engineers, and hangers-on, from "Hooli" CEO Gavin Belson who leads ludicrous product announcement events and hires a spiritual advisor to follow him and confirm his brilliance, to Erlich Bachman, the hard-partying home owner who takes a generous percentage from each successful idea that comes from his "hacker hostel" but can lay claim only to a failed app that locates the nearest erect nipples. *Silicon Valley* follows the development of a startup specializing in creating compression algorithms, and depicts the challenges the five men face in establishing their fledgling company amongst tech giants.

Figure 2. Erlich Bachman of *Silicon Valley*, on a hallucinogenic trip to devise a name for a new tech company. He chants the cynical unofficial tech industry slogan "Making the world a better place" while the skies darken and internet company icons swirl around him.

The startup at the center of the series, *Pied Piper*, contends with a frivolous lawsuit from Hooli, the Google-like giant that attempts to steal the idea behind their algorithm. Finding and losing funding, product launches, tech conventions, lavish celebrity events, and the jockeying for industry buzz are a central part of the program's humor. While the fictional company depicted in *Silicon Valley* is trying to find its way from concept to viable business, the reality of business for giants such as Google occurs on an almost unfathomable level. The scope of massive projects such as collecting satellite images of the world's landscape (Google Earth), creating driverless cars, digitizing the entirety of the world's books (Google Books), and countless other grand designs that never made it toward fruition show that the company's thirst for expansion is limitless. At the core of Google's operations, however, remains Google search, which produces 90% of revenue and sees three billion searches performed every day. Revealingly, when Google's former CEO Eric Schmidt discussed his ultimate goals for the search engine, "he foresaw the day when the site would be able to answer abstract questions, be able to answer hypothetical questions, and eventually be able to anticipate our questions."[29] This direction of the company meant that the original intent of helping users find information online was in fact a project much larger than its search-oriented beginnings inferred, and that the company intended to not-so-subtly guide people's choices and interactions with the world from early on.

This objective is compounded with the recurring issue of the public's trust in Google and the myth of digital democracy. A 2012 Pew Internet & American Life survey is illustrative of American's generally positive attitudes towards search engines. Results of the survey indicate that, on the whole, respondents disapprove of search engines collecting information about them in order to determine their search results or deliver targeted advertisements. 65% of respondents indicated that they felt "It's a bad thing if a search engine collected information about your

searches and then used it to rank your future search results, because it may limit the information you get online and what search results you see," and 73% indicated they would "not be okay with a search engine keeping track of your searches and using that information to personalize your future search results" because it is an invasion of privacy. Most search users disapprove of personal information being collected for search results or for advertising purposes, but despite these reservations, overall views of search engine performance are very positive, as 66% of search engine users say search engines are a fair and unbiased source of information. At the same time, only 38% of internet users claim to be aware of ways they are able to limit how much information about them is collected by a website. As continues to be the case years later, Google is the most used search provider, with 83% of respondents utilizing it for purposes of online searching.[30] These findings indicate that, above all, internet users are frequently unaware of the choices being made for them.

Given that the public generally trusts search engines as fair and balanced sources yet have strong reservations regarding the personalization, filter bubble, and targeted advertising ubiquitous in commercial search engines that feature prominently in the contemporary information landscape, it is important to note that paid advertising is responsible for a great deal of the web content that appears in a search, which are in turn clicked by users and recognized by the algorithm as relevant.[31] The results that are driven by users' behavior are the result of the collective values of these audiences as well as the algorithm's, which Alejandro Diaz has characterized as creating search results pages replete with "'middle-of-the-road,' nonpolitical, mainstream content that creates a 'buying mood' but fails to represent unpopular or diverse opinions" this resulting in a media landscape of promulgating the suppression of controversy, commercialism, and sameness.[32] Now, this solution to the problem of knowing is an algorithm

that is naturalized and codified through its use by billions of people who often understand little more about how their results were delivered other than the service works.

When the information landscape is dominated by a single powerful corporation that seeks to anticipate and govern people's questions, the search results received by this content provider serve to reinforce the status quo, and people have a general trust in search engines' reliability but oppose trends of personalization and are unaware of how to adjust their privacy settings, how is one to resist? An important starting point is to realize that instead of being Google's customers, the public must reconceive of its relationship to Google as being its product. It is no less than our personal identities that Google sells to advertisers, for as we search for information on the internet using Google search or any of its other tools, Google uses this data to learn about us and hone its products. This being the case, it is of paramount importance to understand Google if we also want to understand an important piece of the contemporary information landscape as well as how Google influences what we know and believe.[33] Ultimately, Vaidhyanathan proposes, "We must build the sort of online ecosystem that can benefit the whole world over the long term, not one that serves the short term interests of one powerful company, no matter how brilliant."[34] Such a project would be a massive but worthwhile undertaking. For the present, a greater understanding of the many complexities behind the simple act of typing a few words into Google's search interface is necessary. Towards this understanding, the theory of resistant spectatorship is a useful way of understanding people's engagement with information as a personal, contextualized, and contested interaction, while the practice of critical information literacy encourages librarians to teach in a way that recognizes the political and social underpinnings of information structures and supports learners' agency in the educational process.

Alejandro Diaz posits three questions that have historically been asked of traditional media, but are infrequently applied to newer technologies like search engines: Can underrepresented voices and diverse viewpoints be heard through the filter of search engines? What role does advertising play in the returned results? Do a few players dominate the industry?[35] These lines of inquiries have been taken up by an increasing number of scholars. When applied to Google these questions surface a number of important critiques, ranging from the business model based on detailed surveillance of users to harmful search results in Google Images and Autocomplete that are chalked up to algorithmic neutrality. Underlying each major critique, which will be considered below, are the facts that dominant search engines both mask and maintain "the unequal access to social, political, and economic life in the United States as broken down by race, gender, and sexuality" and that the results are determined by the commercial nature of search which puts paid advertising and Google's own products and interests at the top of the page, while delivering its audiences to advertisers via attention and clicks.[36] The first of these critiques concerns issues of surveillance.

A core component of Google's stated mission to organize the world's information has been the company's quest to create "the perfect search engine," which has resulted in the detailed monitoring and collection of data pertaining to users' online activities.[37] For Zimmer, "these search-based infrastructures of dataveillance contribute to a rapidly emerging 'soft cage' of everyday digital surveillance, where they, like other dataveillance technologies before them, contribute to the curtailing of individual freedom, affect users' sense of self, and present issues of deep discrimination and social justice."[38] One clear example of how one's sense of self can be affected is seen, quite literally, through various searches in Google Images. Images corresponding to different professions display a marked bias in gender and racial representation,

with one instance being image searches for "doctors" and "nurses." The overrepresentation of white men as "doctors" and of women as "nurses" contributes to perceived gender and racial imbalances and can affect people's ideas about whether a given career is possible, likely, or desirable for them. Moreover, these results present a standardized understanding of what a medical practitioner looks like through examples found in the medical industry and entirely exclude portrayals of alternative medicine and health care.

Figure 3. Google Images results for "nurses." Search conducted November 20th 2015.

Figure 4. Google Images results for "doctors." Search conducted November 20th 2015.

Google's first press release clearly stated the company's ultimate ideal: "a perfect search engine will process and understand all the information in the world...That is where Google is headed."[39] Larry Page, Google's cofounder, also notes this conception of the perfect search engine, stating "The perfect search engine would understand exactly what you mean and give

back exactly what you want."[40] Google has determined that the best way to achieve such a goal is through the collection of as much user information as possible. This practice of dataveillance allows for the "perfect recall" of the searcher's identity and interests based on prior activities. The understanding of people's habits only improves when they create a Google account and use this account to utilize Google's wide suite of products that range from emailing to mapping, a practice which Google encourages so that users may receive a customized experience but also so that Google may amass more data to tweak its algorithms and target its advertising more effectively. Thus, the server logs of user behavior across Google's universe are maintained, details which include anywhere from the text of basic search queries to individuals' locations.

Google informs users that collecting exhaustive information on their behavior is helpful for personalization and is de facto practice among commercial search engines, which is true. They are less willing to divulge that their motivation to amass user data is financially motivated. Having access to one's email along with the ability to edit online documents, for instance, is likely to cause a user to prefer this particular provider, which both increases exposure to advertisers on that service as well as makes it more likely for the user to subscribe to fee-based services. The suite of products that Google offers not only extends its panoptic gaze, but utilizes it in the "profiling and categorization of a user's potential economic value" to then sell to advertisers.[41] By placing any user of Google's services under an almost invisible gaze, then, this extensive infrastructure of dataveillance results in a type of expectation regarding the divulgence of personal information that is both routinized and internalized, and built into an expectation that users extend to other aspects of their lives.[42] This sense of inescapability combined with its relative invisibility and the expectations that creates is the most damaging aspect of Google's practices of dataveillance, for it limits the inquiry into and understanding of the world that is

increasingly occurring solely in digital spaces and necessary for personal awareness and public participation. Moreover, the collection of data regarding personal online activities sets the standard for other spheres and naturalizes mass surveillance, contributing to a growing environment of discipline and social control. Concomitant with this collection of data is the transformation of all online content into sales, which includes physical goods but more importantly comprises one's very attention and activities.

We are unable to know the answers to questions central to understanding what Google knows about us. What data does Google keep and discard? Why does it keep the information that it does? Google states that users have a choice in the degree to which they participate in data collection, and that they have significant control over what data Google collects and monitors. As Vaidhyanathan points out, "as control over our personal information and profiles is granted at the pleasure of Google and similar companies, such choices mean very little."[43] The only solution users truly have to opt out of Google's system of dataveillance is to stop using its services entirely. While this is a perfectly tenable option and many people have found this to be a worthwhile choice, it is not a solution for most, particularly if one is unaware of the extent of Google's data collection practices. Google is an appealing option for web users because it supplies a number of useful services for no monetary charge. But considering that we are in fact Google's product, the company accumulates our data so that it can better target advertisements and learn about our search practices to further hone its products and extend its reach. It tracks our every move online, but remains a black box to outsiders as it transmutes these searches into a commodity.[44] Even so, users have developed means to game the algorithmic system, whether through Google bombing or putting the names of popular brands in their Facebook status updates to appear at the top of their friends' feeds. These sometimes small but meaningful attempts to

confront or take advantage of the power structures of algorithms and surveillance demonstrate that people are not entirely subject to the practices of dominant technologies. It is certainly important that we understand how we interact with these tools and how they shape our experiences, but the dialogue between user and search engine is in reality complicated and intimate.[45] A discussion of Google's tenuous relationship with the results it provides and Page Rank, a foundation of Google's search algorithms, will further illuminate the contestations between the public and Google search.

Google's famous search landing page is an excellent example of the impression it calculatedly gives to users and the complicated reality and decisions being made that go into the pristine search results. Upon going to Google's homepage users are presented with a white, mostly blank search page, containing a cheerful logo and a single search box. The white background is an important design choice, for as Baudrillard notes, white is "largely pre-eminent in the 'organic' realm," a "surgical, virginal color" which tends to both distance and neutralize.[46] Here, the white background combined with the colourful and interactive Google Doodle, often based on prominent individuals' birthdays or current events, allows Google to temper the appearance of stark objectivity with its carefully constructed facade of playfulness and fun.

Figure 5. The first Google Doodle from August 30th 1998 represents Larry Page and Sergey Brin's trip to the Burning Man festival and depicts the festival's famous stick figure. The tradition of commemorating events in the Google Doodle continued, and Burning Man is now largely considered a destination for the elite.

There is no prompt for an advanced search option on Google's homepage, and the user's attention is clearly to be directed at the search box. The tendency towards an extremely simple design belies the many human interventions made in delivering information so quickly and with such precision. Google search, Vaidhyanathan observes, not only filters our information needs and focuses them through technology such as autocomplete, but it does so efficiently and in such a clean and navigable list that it provides the comforting illusion of both comprehensiveness and accuracy, with the ultimate result being that "its process of collecting, ranking, linking, and displaying knowledge determines what we consider to be good, true, valuable, and relevant."[47] Google imposing its own approach to rendering the world of digital information findable is far messier than the simple interface would make it seem, to say nothing of its other plans for international conquest. These projects range from entering the automobile industry through the manufacturing of smart cars to "Project Loon," which would allow people in developing countries to connect to the internet through a series of connected balloons floating in the stratosphere. These projects conducted under the guise of humanitarianism serve to extend Google's dominance into industries and locations entirely new to internet-oriented companies.

U.S. law generally distinguishes that search companies are not liable for the content they provide that is held on a third-party server, but in most other countries, in the same cases a search engine has some degree of responsibility for the sites that they deliver to users. Google is compelled to remove links that offend the state in countries like Thailand, India, and Egypt, and must block anti-semitic websites in Germany and France.[48] The content that Google provides access to varies according to local context, far from a universally-accessible web. Google does not host content in most cases, meaning that they hold minimal accountability for such content and are freely able to maximize profits through the commodification of attention without dealing

with the attendant fallout. If Google links to illegal or controversial material in search results, they may remove the link, as is often the case in situations of copyright infringement. Of course, Google does host some web content, and has varying levels of responsibility for its different services depending on whether they create or host the content. This becomes problematic when Google regularly insists on minimal regulation regardless of actual responsibility, and as Vaidhyanathan notes, "specifying a one-size-fits-all prescription to regulate its complex interactions with real human beings and their diverse needs."[49] Google's standard response, from offensive material linked to on third-party servers to invasions of privacy on Google Maps's Street View, is that they will take down the questionable content if someone asks them to. In this way Google puts the onus on users to do the policing of its own business. Even for material that would not exist if Google did not create it itself, the company seeks minimal responsibility.

To be clear, Google is not the only entity that creates or makes accessible online information; the internet is a complex and chaotic system determined by myriad factors, including users' creation of content and engagement with tools and interfaces designed by anyone from individuals to massive corporations. As Safiya Noble describes, "the Internet is both reproducing social relations and creating new forms of relations based on our engagement with it," while "search technologies both reflect and re-instantiate the current social climate and prevailing social and cultural values."[50] While all information intermediaries must have some form of biases that allow them to determine which content, sources, and opinions are relevant or not, Google does have its particular set of biases. Hicks notes that Google search has the tendency to reward "large, popular sites that have either been established for longer, or can afford to employ search engine optimization experts," which along with personalized search features that define relevant information in terms of the searcher's geographic location and

previous search history, makes it challenging to locate culturally-authentic websites and materials that represent non-majority viewpoints since being written in a language other than English.[51] A lack of search engine optimization expertise places these sources at a further disadvantage in terms of Google's priorities and expectations. Online searching, including Google, also represents problems with access to cultural materials. "The representation of different voices or cultures on the web is often muted," Hicks notes, and "accessing culturally situated knowledge in information systems that tend to support traditional, global flows of information or established interests is a challenge"[52] Regarding Google's established bias towards English, one need look no further than Google Translate, the world's most popular language translation tool. Google Translate has been widely criticized for being able to translate English into other languages but less adept at translating other languages between one another. The company has boasted that the translation process is entirely based on code, meaning that cultural significance is ignored. The translation tool has also been critiqued for its tendency to overuse male pronouns and verbs and convert gender-neutral words into the male form, a problem that is in part the result of relying on certain source texts and databases (a choice which in itself likely reflects the bias of the tool's engineers). More generally, Google regularly demotes competitors from search results when it has a service it wishes to place at the top of the page, such as Google Flights or Google Hotels. This bias baked into their algorithms means that Google does not rank their own services based on click-through rates as it does other websites, and gives its own services a free pass. This not only bumps up their ad sales revenue, but also keeps users under Google's direct gaze by continuing to use their products instead of competitors'. A recent instance of use of market dominance to further monopolize the web was documented with Google promoting its Google+ service over other review websites, such as

Yelp and TripAdvisor. Other biases in Google include a strong preference for Wikipedia over other websites for certain topics, which is compounded by the issue of Page Rank, Google's system of favoring websites that are frequently linked to which featured heavily in the initial development of their search algorithm.

Siva Vaidhyanathan observed that around 2006, Wikipedia pages began to appear frequently and rank highly in Google's search results. He attributes this development to one of two possibilities, both equally likely: either Wikipedia's reputation for usefulness and burgeoning use was bolstering its rankings in the search engine, or, alternatively, "Google's engineers decided around that time that for searches on controversial or emotionally charged topics, it was wise to hand off the responsibility of expressing and describing such a concept to a community that had already worked out norms and processes for mediating differences of opinion."[53] Though impossible to know, it is clear that Wikipedia and Google has a symbiotic relationship in that Wikipedia becomes Google's choice for thorny topics that can be defined in a number of ways, while Google prominently places Wikipedia and the increased traffic results in more Wikipedia users and contributors. Google now has a team employed as "quality raters" who evaluate search results and report these findings back to engineers who can make small adjustments to the algorithm. Starting in 2009, users who created a Google account were given the ability to delete sites from their search results when logged in.[54] Though promoted as a means of increasing the personal relevance of results, the employees at Google responsible for "search quality" had very detailed input on which pages certain users did not like. This process creates a two-tiered system of search engine users: those who create an account with Google, delete certain results from their searches, and ultimately influence what search results others see, and those who are unregistered and have no say in their search results, whether on their list of

results or in the calculations of engineers. Tiered or not, all users are compelled to participate in the commodification of attention through contributing their own data via thousands upon thousands of small data points collected through any one of Google's many products. A Google super-user may very well be providing as much monetizable data for Google as someone who takes caution in their online activities, since for Google any pair of eyeballs is as good as the next and massive volume is the name of the game.

The very nature of Google's page rankings, which rely on a page's popularity as measured by a variety of factors but specifically the number of links on other pages leading to it—an idea inspired by the system of citation in academic journal articles wherein a citation counts as a "vote"—creates a system wherein the governing voices stay that way. The problem, simply stated by Diaz, is that "a well-linked page appears prominently on search engines like Google; this page therefore enjoys greater traffic; and, as users become even more aware of the site, they link to it on their own pages, increasing the document's Page Rank and visibility even further."[55] This cyclical nature not only marginalizes individual voices by virtue of their infrequent appearance in search results for general topics, but also makes them less trusted. The higher a page is ranked, the more it is trusted to be a valid, relevant, and reliable source, given that one of the central myths of digital democracy is that what is most popular rises to the top of the page.[56] The fact is that websites with the most financial resources and search optimization engineering are the ones that can be seen at the top of the page, while relevance and perceived value play a much smaller part in the equation.

Personalization is another factor Google relies upon heavily that has serious implications for how people view and use online information. Google began use of personalization algorithms starting in 2009 with the intent of tailoring users' search experiences and results while also

gathering valuable data about their activities. Information logged about individuals include where a person logs in from, the browser they are using, and the amount of time it takes for them to select a link after typing in search terms.[57] Rather than a service for users, personalization also acts as a tool for categorizing people—users are matched to a certain profile or group based on their data and this information is in turn used to match consumers with advertisers. Moreover, the opacity of the customization process makes it difficult to know how the results we see are affected by what Google thinks we want to know. This then distorts our conception of the web as a place for conversation amongst varying views. The creation of the filter bubble is significant in that it not only uses private information without an individual's awareness of that fact, but also because it has the effect of limiting the diversity of views that a person may come into contact with by supplying only information one is likely to agree with. This is problematic because of its implications for learning, which is necessarily born from an understanding wherein one comes into contact with an idea or thing that they were not previously aware of, had not understood or had never considered. As Vaidhyanathan points out, Google's personalization filter "shields the searcher from such radical encounters with the other by 'personalizing' the results to reflect who the searcher is, his or her past interests, and how the information fits with what the searcher has already been shown to know," characteristics diametrically opposed to the process of learning but dramatically in line with the process of monetization.[58] The effect is potentially one of undermined public knowledge and political dialogue. Several studies have been conducted on the different ways that Google search undermines such efficacy and dialogue, one of which examines keywords related to African American identity.

There are ways to uncover the biased processes of Google search and its algorithms, as Safiya Noble's work on the representation of African American girls in Google makes clear.

Through conducting keyword and image searches for "black girls," she discovered a commercial co-optation of black female identity. Many websites on the first page of search results were pornographic, while Google Images revealed other highly sexualized images. The impact on young girls looking online for information about their identities is obvious. "Google results on the words 'black girls' discursively reflect hegemonic social power and racist and sexist bias," Noble states, while Google chooses to "the interests of its commercial partners and advertisers, rather than rendering the social, political and economic interests of Black women and girls visible.[59] Regarding Black women and female children, sexism and pornography were the most "popular" values on Google at the time. Far from being a neutral tool for information discovery, Google had created an environment wherein "Black women coded as girls' online identities have been put back on the auction block for sale to the highest bidders or the most technically savvy at web optimization."[60] Pornography, after all, is a giant industry whose fortunes are greatly aligned with the tech industry's, as porn accounts for more than 60% of online traffic. The silencing of African American voices is not limited to Google search. Google Ads presents additional problems in terms of racial and gender discrimination.

A study by Latanya Sweeney investigates the question of whether black-sounding names are associated with online ads that suggest an arrest record than white-sounding names when searched for on Google and Reuters.com. The consequences are high, for it may be that someone is searching an individual's name because they are considering hiring them for a job or other opportunity, and further complicating matters, these same ads suggesting arrest records may not be present for others competing for the same job. One of Google's methods of generating the advertising revenue it relies on so heavily is operating real-time auctions across bids for the same search criteria. "There is no cost for displaying an ad," Sweeney explains, "but if the user

actually clicks on the ad, the advertiser pays the auction price," which is split between Google and the host.[61] By developing a list of names suggestive of race and searching Google and Reuters from a variety of computers and locations, Sweeney tested which ads appeared when these names were searched. Her findings unambiguously determined that there is racial discrimination in the delivery of these ads. Though it is difficult to determine who exactly is at fault, the responsibility ultimately lies with Google and their methods for the generation of ad revenue.[62] Google is functioning as an agent in a capitalist system that values money above all else, and these issues of discrimination are a result of the economic imperative. Even if we are to accept the claim that Google *wishes* to do good, the company cannot make this naïve supposition because it is inextricably intertwined with the continuing expansion of capital and the demands of a market that expects astronomical growth every quarter, and serves to accelerate this expansion through the extensive commodification of attention as well as its forays into controlling major avenues of life on earth.

Also investigating bias in the targeting of ads, researchers developed a tool called AdFisher in order to examine advertisements provided by Google on third-party websites. The tool created numerous accounts, each of which were identical with the exception of their listed gender and had no previous search history. These accounts visited employment websites, and later on, a third-party news website with Google Ads. The researchers found that the accounts Google believed to be male job seekers were much more likely than the female job seekers to be shown advertisements for high-paying executive jobs. In sum, Google showed the ads 1,852 times to the male group compared to 318 times to the female group.[63] These results indicate that either advertisers are requesting that Google only display high-paying job ads to men and Google is complying with this request, or that the algorithm for Google's ad-personalization system is

exhibiting a bias that was inadvertently programmed into it. It is challenging to determine which of these scenarios is accurate because of the complexity of Google's proprietary ad-personalization system and the fact that algorithms can act in unanticipated ways even without inappropriate bids being placed by advertisers. It is known, however, that Google targets ads based on users' assumed identity and personal information, and ad buyers are able to decide on particular demographics to target. There are many forces at work, but the responsibility comes down to Google's prioritization of collecting user data above all else while ignoring the social aspects of the search apparatus's outcomes. In this instance user data collection has the effect of targeting some for advertisements and not others, thus perpetuating gender discrimination.

Another facet of Google's search technologies, Autocomplete, shows how the search engine both reflects and substantiates discrimination in society at large. Autocomplete, the mandatory function in Google's search bar that offers search suggestions that change depending on the text typed, is, like Google search results, algorithmically-generated but with problematic results for Google that lead to being censored in some ways. In their brief Autocomplete FAQ webpage, Google explains that they "exclude a narrow class of search queries related to pornography, violence, hate speech, and copyright infringement," yet at the same time the page claims that Autocomplete suggestions are "generated by an algorithm without any human involvement" and "based on a number of objective factors," assumed to reduce Google's culpability in the case of offensive search suggestions. In their research into damaging stereotypes in Google's Autocomplete function Baker and Potts draw attention to Hall's positions of the spectator, noting that this "notion of dominant, oppositional and negotiated resistant readings indicates that audiences potentially have complex and varying reactions to a particular 'text.'"[64] By entering "different combinations of question words and identity terms

such as 'why are blacks...'" the authors elicited Autocomplete suggestions about stereotypes regarding various social groups. The Autocomplete search terms appear as suggestions because they have been typed into Google before with a significant degree of frequency and regularity, though as with search results that appear at the top of the page, Autocomplete suggestions become likely to be clicked on, which in turn enhances their popularity within the algorithm. Ultimately, Baker and Potts found that Google's Autocomplete reproduces stereotypes through its production of suggested terms that are racist, sexist, and homophobic.[65] As with other manifestations of Google's inadvertent oppressive and discriminatory practices through its algorithms and business operations, these examples are symptomatic of the greater issue of the monetization of information. Attempts to personalize and improve users' search experiences through predictive processes that try to discern what users will want to search for have the unintended consequences of perpetuating negative stereotypes about a wide range of vulnerable social groups, particularly considering that the suggestions give the impression, correctly or not, that certain beliefs are widely held and thus legitimate preconceived notions. Significantly, Google search fails to offer an easy method for "resistant readers" to flag autocomplete suggestions as offensive, a function offered by many other websites. To do so would disrupt the illusion of Google's interface as a value-free tool, when in actuality, Google finds it worth intervening in search results only when commercial interests are infringed upon.

Given these numerous issues with Google search and the complete dominance of the company over the existing information landscape, the question of how one might begin to resist the information provider's hegemonic narratives shrouded in technological neutrality becomes imperative. To begin, one must understand how Google works and be able to situate this knowledge within their own experiences of information as it is encountered. Amber Davisson

suggests, "We need to develop a critical perspective that emphasizes human motive in the engineering process," one which provides an awareness of both the technical and the human.[66] Educational initiatives in digital literacy are one way that this might be accomplished, as internet users could learn how to think critically about how the information they access is produced and made available. Davisson suggests dialogue surrounding the use of search engines, including critically comparing search engine experiences in order to reflect upon how and why search engines work in order to incorporate this understanding into everyday internet experiences. Based upon such critical reflection embedded in personal contexts, an understanding of the commanding and destructive way that commerce mediates our access to online information may be one of the main contributions of a resistant reading. These personal and structural understandings are key, for the questions and manifestations of trust, control, and power addressed in this section are enacted on a massive scale. The core practices of Google, Vaidhyanathan states, which are "the massive accumulation of data on consumer and citizen preferences, the ability to accurately and precisely target small advertisements for small services for a small fee billions of times per day, and the appearance of offering access to information for no monetary cost" are likely to become adopted by other businesses emulating Google's model.[67] Instead of whether Google controls and manipulates us, it is important to ask whether we (and Google) can do better. Is Google's system of organizing and making accessible the world's information actually ideal for all parts of the world, or does it serve to benefit only some segments of society? Does the system give us choices, or are our choices already determined? With these considerations in mind the following section presents a theory that provides an alternative to hegemonic constructions of information, allowing the information seeker that appears trapped in existing systems to resist domination.

Chapter 3: Resistant Spectatorship in the Information Age

The "information age," characterized by a shift from economies propelled by traditional industry to ones driven by digital information, holds a number of ramifications for participants in this knowledge-based landscape. The names "information age" or "information society" problematically suggest that we have progressed into an era more equitable and separate from the one prior, and that there has been a break from the past with the advent of immaterial labor. These terms suggest that information is bountiful and accessible by all, a misleading proposition considering the inequalities in the United States and globally. As opposed to an era in which the market has been superseded by a proliferation of information, capital's reach has instead been extended into new realms with the rise of digital information. Cathy Eisenhower and Dolsy Smith observe that considering information's position as the pre-eminent commodity of contemporary capitalism, "the finessing of information occupies more and more of the labor in virtually every field [and] labor itself is turned into an informational potential...Marx talked about labor-power in terms of time, but capital seeks subtler mechanisms to measure and absorb that power, sending its tendrils deep into the reservoirs of intelligence and personality."[68] Bernard Stiegler argues that our contemporary period could usefully be considered the "hyperindustrial epoch," an era in which industrialization has not ended but instead has expanded to technology to encompass all human experience and prevent people from participating in the production of knowledge and arts. Hyperindustrial societies represent the industrialization of all things, wherein individuals are primarily consumers and one's time away from work is also spent working, whether for one's employer checking email "off the clock" or by creating and curating content and thus value for social media companies.[69] Stiegler notes that this seizure of aesthetic experiences in society by industrial technologies results in a "symbolic misery" wherein the

entirety of people's conscious and unconscious experiences are captured by capitalistic marketing forces and result in a type of impoverishment of the soul, a living that is reduced to subsistence instead of creation and participation.

The emergence of what Jonathan Beller calls the attention economy is the result of the internet's advent as well as a type of online interpellation, producing the subject through constantly requiring the bending to its commercial will as accomplished through small and continuous acts of persuasion, assurance, and repetition.[70] The consumer in the attention economy produces value for capital through attention, primarily through serving as a commodity that is attracted by and sold by advertisers such as Google or any other company that relies on pageviews, clicks, or other forms of online attention that rely on accumulation. Attention may be sold in many ways other than advertising, Beller warns, and there are companies working on discerning what exact form the capturing of attention's value can take. We can expect that these advances into the commodification of any and all personal activities conducted online will continue until there remain no more activities to be captured or mined for monetary value.

Using these related concepts of the hyperindustrial and the attention economy as a basis, in our era the vast majority of cultural information is produced by and made discoverable through corporate-mediated platforms. This shift of information's ownership to profit-driven entities means that the nuanced understanding of information's political and social dimensions becomes not an advantage for operating in the world, but a necessity. The theory of resistant spectatorship, derived in the field of media studies, offers a unique lens through which to view the problems of information literacy and how to critically engage with information content, sources, platforms, and providers. Resistant spectatorship provides a more fully illustrated picture of how people receive information and media, beginning with the premise that when one

interacts with a message presented to them through a film, website, or other constructed media object, they do not passively accept the message and instead may choose to reinterpret, substitute, or entirely reject it based on their experiences and understandings. Resistant spectatorship has particular ramifications for libraries and library instruction. The theory not only pertains to how information is received by users, but it promotes the conception that information is not experienced on a one-size-fits-all basis. Resistant spectatorship encourages us to acknowledge that the information seeking and evaluation process is inherently situated within raced, gendered, and classed environments, and one's engagement with information is influenced by the myriad ways in which one identifies. Different critiques of dominant information providers need to be explored to activate each of these positions. For instance, a critique of Google's business practices is more likely to activate the class position, while focusing on the ways in which Google's search results reflect white supremacist and patriarchal values may activate resistant positions of race and gender. Before a discussion of the ramifications that resistant spectatorship represents for information literacy and library instruction, a description of the theory's development and primary contentions will serve as an introduction.

Resistant spectatorship has been referred to by a number of similar phrases, all of which allude to the concept's central notion of resistance against dominant ideologies as expressed through media: counter-reading, the resisting spectator, reading against the grain, the oppositional gaze, or radical viewing. Regardless of terminology, resistant spectatorship theorizes real viewers who make decisions regarding whether to accept, negotiate, or reject a media object's message. The theory has been extremely impactful in film studies, where the concept of a monolithic, unengaged spectator has been challenged through studies of how working class audiences, black women, lesbians, queers, and teenagers interact with film and

television as viewers. Far from passively accepting a given message from the media, various audiences and individuals interpret and recast the intended message to suit their own needs and interests. It is the recognition of this dynamic interaction in the meaning-making process between people and media that positions the viewer as one with agency, no longer completely powerless under the operation of the cinematic apparatus. Given the internet's tendency to individualize web users while simultaneously providing a number of ways for users to communicate and achieve a degree of communality, an overall critique of dominant information systems may be required to mobilize significant resistance realized beyond the personal level.

Resistant spectatorship is largely derived from cultural theorist Stuart Hall's immensely influential theory of "encoding/decoding model of communication," first developed in 1973. In his essay describing the model, Hall notes that in order for a message to have an effect, satisfy a need, or be put to a use, "it must first be appropriated as meaningful discourse and be meaningfully coded."[71] Instead of a passive viewer who absorbs the intended message of all media they are presented with, Hall's theory of decoding recognizes that media and information "use" cannot be understood in behavioral terms, which overly simplifies the complicated process of negotiating information. These processes are "produced by social and economic relations, which shape their 'realization' at the reception end."[72] Towards this end, Hall proposes three stages of reading media texts: *dominant*, *negotiated*, and *oppositional* (also known as *resistant*).

When a viewer decodes the meaning of a film, newscast, or other media text in the way that the producer of that message intends, that individual is operating within the sphere of *dominant* ideology. In terms of the *negotiated* position, Hall argues that this reading "contains a mixture of adaptive and oppositional elements" and "acknowledges the legitimacy of the hegemonic definitions" while simultaneously questioning some of the ground rules.[73] The

overarching assumptions of a particular text, then, are accepted, but components are rejected, discarded, or otherwise reconfigured by the viewer. Finally, one may fully understand the intended meaning of a text, and choose to interpret the text within an alternative framework. This is an *oppositional*, or resistant, reading. "One of the most significant political moments," Hall states, "is the point when events which are normally signified and decoded in a negotiated way begin to be given an oppositional reading," for this is where the struggle in discourse is joined.[74] The oppositional position, then, is most significant in terms of a viewer's agency as it entails the active interruption of a hegemonic narrative on a small scale. The intended meanings of a text, Hall explains, "are hegemonic precisely because they represent definitions of situations and events which are 'in dominance,'" and, importantly, "carries with [them] the stamp of legitimacy" to appear as natural, inevitable, or otherwise ordinary.[75] Consider, for example, the ways in which Google imbues its homepage and search results with a sense of legitimacy through its single search box and a clean page of 10 search results after conducting a search, thus taking all complexity out of the search process so that individuals are presented with one interpretation of the web that is considered to be entirely ordinary and natural. A dominant position accepts the Google interface as it appears, and as a relatively objective resource. A negotiated position might question why the interface fails to include additional search options, such as advanced search, or consider how Autocomplete affects the ways in which people conduct their searches. A resistant position turns a critical eye to not only these features of Google's homepage and search results, but recognizes and resists the ideologies that underpin the search engine's function and guide user's choices toward those which benefit hegemonic forces.

These three positions, then, constitute the primary ways of interpreting a given text. As summarized by Judith Mayne, "the dominant reading is one fully of a piece with the ideology of

the text, while the negotiated reading is more ambivalent...the oppositional reading, then, is one totally opposed to the ideology in question."[76] Hall's theory of oppositional reading was later adopted by Manthia Diawara and bell hooks, each of whom apply the concept to African American spectatorship in relation to American films representing dominant ideologies. Both authors consider the potential for resistance within African American spectatorship, with Diawara primarily interested in resistant spectatorship as an act of anti-identification with racist representations, and hooks considering the topic from the position of African American female film-lovers that incorporates feminist thought into theories of resistant spectatorship.

Though the general ideas were outlined by Hall, the term "resistant spectatorship" was formulated and explored by Manthia Diawara in 1988 in a discussion of differences between African American and white American spectatorship and identification. Diawara argues that spectators are "socially and historically as well as psychically constituted."[77] Viewers bring their own personal and cultural histories with them when they engage with film. Diawara's analysis is based in the resistant spectatorship of African American audiences, and looks at the refutation of stereotypical portrayals and symbolic violence towards African Americans in popular Hollywood films such as *The Color Purple* (1985) and *Forty-Eight Hours* (1982). Diawara sees independent African American cinema as offering an alternative to dominant modes of filmmaking and destructive representation, as "resisting spectators are transforming the problem of passive identification into active criticism which both informs and interrelates with contemporary oppositional filmmaking."[78]

bell hooks explores the "oppositional gaze" in relation to African American women spectators in her collection of essays titled *Black Looks: Race and Representation*, stating that this defiant action both draws the individual's attention to the oppressive social field and offers

the possibility of agency. Through the application of a black feminist perspective to Diawara's formulation of resistant spectatorship, hooks argues that African American female spectators do more than resist, and "create alternate texts that are not solely reactions...as critical spectators, Black women participate in a broad range of looking relations, contest, resist, revise, interrogate, and invent on multiple levels."[79] hooks thus contributes a necessary revision of Diawara's resistant spectatorship, one that recognizes a viewer does not act either fully in compliance with or in opposition to a text and instead has "the ability to manipulate one's gaze in the face of structures of domination that would contain it"[80] In talking with African American women who have a strong love for film, even mainstream movies representing dominant ideologies, hooks finds that these women consciously resisted identifying with films. One filmmaker distanced herself from the films she watched by operating "from that critical politicized standpoint that did not want to be seduced by narratives reproducing her negation," and viewed these mainstream films many times over to deconstruct their messages.[81] An awareness of the politics of race and racism enables individuals to be oppositional, or resistant, readers of dominant messages.

As a small but meaningful revision to the notion of resistant spectatorship, Mayne usefully reconsiders Hall's decoding positions as decoding *strategies*, thus placing emphasis on active engagement in the reading and sense-making of decoding cultural texts. Mayne adds nuance to Hall's three stages of decoding by suggesting that dominant and oppositional readings are better considered as "horizons of possibility" as opposed to rigid categories based on a stable and passive text.[82] Moreover, many studies of resistant audiences tend to concentrate on the 'marginal' or 'subcultural' audience, a trend in accordance with the subversive nature of resisting dominant ideologies.[83] From its introduction in the 1970s until the present, oppositional/resistant spectatorship has undergone a great deal of discussion and critique within the field of film

studies. Yet this theory has a great deal to offer in terms of considering how individuals approach other forms of media in our information saturated society, including, and perhaps especially, information online.

Resistant spectatorship is a useful frame for analyzing not just how film is received, but media structures and related phenomena. Applied to the realm of libraries and information literacy, it reveals that profession's traditional decontextualized and skills-based approach to information literacy negates the inherently political and social nature of information. Such an approach to information literacy results in a lack of engagement with the complexities and complications intrinsic to contemporary information landscapes. The theory of resistant spectatorship, then, can serve to remind the library profession that hegemonic information structures can and should be read along resistant lines and according to one's personal, and cultural and class identities. The following section will examine information literacy more closely, and propose an alternate formulation of information literacy conducive towards encouraging resistant readings of information.

Chapter 4: Critical Information Literacy and Resistant Readings of Information

Information literacy (IL) is a concept that has been adopted by and is of importance to the library profession since the 1980s. Akin to other types of literacy developed in response to changing modes of communication, such as digital, media, and visual literacies, information literacy has been largely conceived of and identified as the set of abilities required to effectively locate, evaluate, and use information for a particular need. However, such widely accepted definitions of information literacy fail to account for the fact that IL is a contested and circumstantial term. In their examination of three theoretical understandings on the concept of information literacy, Limberg, Sundin and Taljia describe IL as "purposeful information

practices in a society characterized by an almost limitless access to information and where information practices in digital environments shape and constitute important elements in most people's lives in our part of the world."[84] The term "information" signifies both the content and the physical object that carries this content, while "literacy" is inclusive of not just reading and writing, but a number of other actions that relate to understanding and evaluating texts. Importantly, information literacy is a challenged term that can be interpreted in numerous ways, which itself depends greatly upon the theoretical perspective from which it is viewed as well as the particular institutions, organizations, and discourses within which these practices are performed. For example, Christine Pawley demonstrates the inherent tension between these two terms, noting that "'information literacy' is indeed an activity greater—or at least different than—the sum of its parts" in that "information" signifies control while "literacy" connotes democratic empowerment.[85] This tension can be a productive one, Pawley argues, as it provides an opportunity for librarians to "be explicit about the moral and political commitment to flattening rather than reinforcing current information and literacy hierarchies."[86]

Instead of embodying a productive tension, information literacy solidified into a set of national and international standards to be adopted largely for the purposes of accreditation and assessment. The discourse of information literacy is one largely concerning the acquisition of skills—in particular a set of competencies practiced in a library or online setting—which has the effect of neutralizing dialogue regarding the concept by "professionalizing" it and rendering it in technical terms. As it has developed through professional organizations and its practice by librarians, information literacy operates within information structures sans critique of such arrangements. Attempts at a broader understanding of information resources and the roles that they play have been largely ignored for more discrete and compartmentalized skills such as

knowing how to retrieve peer-reviewed journal articles from a library database. Information literacy posits different means of accessing information as neutral—the library, search engines, subscription databases—and that one only needs to know where to look to meet their information needs and apply a checklist to their source before they can be on their way. Moreover, information literacy has the tendency to posit some information as objective and value-free when in fact all information is constructed among various political, economic, and social contexts that impact its reliability. A brief consideration of information literacy's development will illustrate how the concept came to be realized as an apolitical and decontextualized practice instead of a resistant one as proposed by Cees Hamelink around the time the term was first presented.

Information literacy has undergone a significant amount of analysis since being introduced in the 1970s. The first appearance of the term information literacy did not originate from the educational domain, but instead from the industrial sector. Paul Zurkowski's 1974 report describes the need for the U.S. governmental organizations to develop business and workplace information competencies in its citizens, as well as the skills these employees require to operate in the rapidly expanding information services industry.[87] Zurkowski's original notion of information literacy is one rooted in a commercial environment where the private sector takes primary responsibility to produce both information and the skills of information literacy within the populace, thus privatizing the concept from its very introduction. Since Zurkowski's coining of the term it has come to be adopted most widely with educational institutions and is of central importance to academic librarians, and this original inception of the term has played a significant part in defining information literacy as it exists today.

A lesser-known paper written soon after Zurkowski's takes a very different approach to information literacy. This conception of information literacy posits IL as a mindset to be

developed by individuals to counter the effects of information provided by hegemonic forces, as opposed to a characteristic to be cultivated in large populations so that they may more effectively function within society to maintain the status quo.[88] The political nature of information literacy is made explicit from the outset of Cees Hamelink's 1974 paper, in which he states: "A new 'information literacy' is necessary for liberation from the oppressive effects of the institutionalized public media."[89] For Hamelink, the inchoate and fragmentary ways that content is presented and delivered results in information functioning as an oppressive tool, as "it keeps people from shaping their own world."[90] The "pre-digested" nature of dominant information sources and the fact that they are selected and filtered by these same interests "preclude[s] the insight of the world as something problematic and changeable." The highly commercialized and orchestrated environment of online search has the paradoxical effect of appearing ever more neutral while the content being delivered is often the result of billions of dollars invested in search engine optimization for websites competing to sell their products or have their voices heard (when the content that appears is not outright manipulated in Google's algorithm to favour their own services). This pre-digestion of information has continued to intensify, evidenced by the development of corporate news bureaus responsible for bypassing the traditional media and creating "news" content using their own platforms and social media to create expertly polished advertisements appearing under the guise of being news, also known as "native advertising." In addition to the "paid media" and "earned media" (advertising that is bought and done by word-of-mouth or press coverage) that have been a staple of corporate PR, the growing presence of "owned media" means that news and information can be moulded to fit a company's desired narrative.[91] When we are not receiving carefully constructed corporate messages on the first page of Google search results, we are receiving "viral" media—most often through a corporate-owned

channel such as YouTube—that is simply a message from the same moneyed source with a different and more insidious marketing angle—that of corporate public relations masquerading as and delivering their message directly to consumers, sans intermediaries such as news outlets. One example of this is in the science fiction podcast The Message. Produced by General Electric's marketing department to capitalize on the podcast boom, this series has been downloaded more than one million times and currently rates as the number one most popular podcast on iTunes. The podcast does little to indicate its status as a corporate production and likely appears to a majority of listeners to be an independent source.

Hamelink's notion of information literacy combined with information's increasing commodification and dissemination through corporate channels makes an alternative to the ways in which information literacy is conceived as a necessity if students are to learn how to navigate such a complex information landscape. As a theory that places individuals' capacity to resist and reformulate the messages of dominant media at its center, resistant spectatorship offers a lens with which to consider what users' interactions with information more closely resemble. It helps us oppose the common notion of a monolithic group that accepts information, whether located using the library or online search engines, and consider a substitute to such easy interpretations of users' experiences with information. One approach to information literacy in line with resistant spectatorship is that of critical information literacy, a theoretically informed approach to information literacy that acknowledges the political nature of information and the situatedness of one's engagement with information.

Critical information literacy takes issue with the assumptions of information literacy and the educational activities that take place in libraries, and engages such topics as the impossibility of pedagogical neutrality and the incompatibility of skills-based instruction with student

engagement in the learning process. As a practice, critical information literacy considers how librarians can encourage students to engage with and act upon the power structures underpinning information's production and dissemination. Critical IL uses critical theory and critical pedagogy frameworks to critique information literacy's norms and conventions, from its lack of involvement with the sociopolitical dynamics that shape scholarly information to the notion that IL is an educational obstacle that can be conquered. Among the first calls for critical information literacy is Allen Luke and Cushla Kapitzke's 1999 poststructuralist analysis of IL standards and frameworks, arguing that current definitions of information literacy impose a generic and hierarchical approach to the subject when in fact the ambiguity, diversity, and multiplicity of information should be stressed.[92] For James Elmborg, whose seminal 2006 article helped popularize critical information literacy in the profession, uncertainties regarding information literacy's meaning have resulted in a lack of clarity about its importance as well as the library's purpose in the academy. Towards this end he proposes a critical information literacy that "provides a way for libraries to change [their] trajectory and more honestly align themselves with the democratic values that they invoke."[93] This recognition of the ways in which educational institutions, and by extension, libraries, act as cultural agents and enact dominant ideologies, would have a wide range of implications for librarians and students alike. Librarians have taken to this task in a number of small but meaningful ways. Librarians may teach the economics of scholarly communication by asking students to jot down whenever they encounter a paywalled article and reflect on the barriers that these costs create to accessing quality information by people not affiliated with higher education institutions. The white, patriarchal, heteronormative assumptions of library classification systems provide a concrete example of how information organization and access is rife with systemic discrimination when subject headings are examined.

Librarians are in a position to inform students of the political economy of the Google corporation and its profit imperative. Beyond the content taught in classes, librarians may also employ feminist or critical teaching methods that decenter the teacher and promote collaborative classroom environments that position students' lived experiences valid ways of knowing.

Beyond recognition of and reflection upon such issues involving libraries and information, critical information literacy calls for action to be taken. It comprises a commitment to social justice inclusive of working to empower learners through their abilities to interrogate dominant values. It is through this "process of questioning, and challenging the reliability and biases inherent in texts and other information sources," Lauren Smith states, that people become aware of and able to act upon social justice issues.[94] Critical information literacy encourages librarians to develop an information literacy theory and practice that recognizes students' personal agency and attempts to create positive personal and social change. Critical IL promotes information literacy's potential to develop young people's abilities to become politically informed and engaged, considering IL is an area in library and information science already aligned with and demonstrative of values of information access and democracy.[95] Such a critical approach to information literacy education would entail a greater awareness of "each person's agency and ability to make meaning within the library setting"[96] as opposed to the efficient transfer of knowledge from teacher to student, an idea closely linked to that of the resistant spectator who makes meaning within texts according to their own historical, cultural, and personal identities. The awareness of agency and meaning-making may be most easily accomplished in the academic library setting through formal and information teaching opportunities, whether in classroom instruction, at the reference desk, or other public services activities that provide the opportunity to work with learners in individual contexts. Incorporating

"alternative" or counterculture resources into existing library practices, such as zines, can be one effective way of not only making marginalized viewpoints more widely heard, but of showing students through the presence of these self-published materials that contributing their knowledge and experiences through print or another medium may be more possible than they had thought.

Information literacy as it is generally conceived in national standards and research focuses upon commonalities among information practices and cultivating efficient information retrieval practices, making it difficult to develop an alternate formation of IL based upon more critical understandings of information. Alison Hicks notes, "a critical approach to IL, however, moves beyond the narrow focus on dominant cultural information practices" by questioning the characteristics of global flows of information while developing "the learner's understanding of who she is (identity) and what she can do (agency)."[97] The goals of critical information literacy, then, can be seen as twofold: critical IL "engages learners with the broader social and cultural contexts of information questioning" while also fostering "a personal approach to learning, drawing from the learner's past experiences to develop their ability to critically construct, shape and negotiate knowledge, practices, and identities."[98] This can take the form of a classroom session that not only discusses bias in search algorithms and the underlying causes of such biases, for example, but also adopts collaborative teaching methods that make group discussion and the use of students' existing knowledge the means of generating ideas and understandings. The application of a critical information literacy perspective to Google search will further illuminate what such an approach to IL entails.

The fundamentally democratic goals of libraries, as expressed in documents such as the American Library Association's *Core Values of Librarianship* statement and the *Alexandria Proclamation on Information Literacy and Lifelong Learning* point to libraries and information

literacy's engagement with key issues surrounding the corporate dissemination of information, including privacy, intellectual freedom, and social responsibility. Being members of a profession that must be able to deeply understand how knowledge and claims to truth are organized and evaluated, academic librarians occupy a unique space in the academy that arguably makes them best equipped to encourage students to interrogate the myriad forces that underpin information's access and use. In an exploration of Google search as a site for critical examination and the development of students' transcultural competence, Hicks argues for the designing of classes that encourage learners to understand the culturally specific dimensions of both information and their own practices. This means that students must understand not only their search results, but also their search processes to see past the perceived universality of dominant information sources such as Google. Google's position as a dominant information provider makes it imperative that students comprehend that the positioning of Google and its results as "objective" is the result of a great deal of political and social processes, not least of which is Google's own insistence on the impartiality of the search engine's algorithm. Being the starting point for a vast majority of personal and academic research, search engines, and in particular Google search, are media objects ripe for classroom critique. Since search engines shape both the way we access viewpoints and how our own perspectives are shaped, it is imperative to recognize that "the parameters that humans set for indexing or algorithmic ranking mean explicit editorial choices are made...at the same time, Google defends these ranking and indexing choices as an objective reflection of reality."[99] The teaching of discrete search skills in library and subscription resources sidelines larger issues of the web's commercialization, which has a much greater impact on the ways that information is received. Bettina Fabos argues that educators and librarians must address "the complex and economically-charged structure of the web that affects all search

results regardless of how well one crafts an individual search," including "the increasing difficulties of locating content that is not commercial...and the constant efforts among for-profit enterprise to bend the internet toward their ends."[100] A critical approach to information literacy, in particular one informed by the theory of resistant spectatorship, can help reveal these issues.

During one library instruction session, in many ways similar to others that I have taught, I worked with students individually as they developed research paper topics and looked for resources regarding how their neighborhoods had changed historically in terms of demographics. One student, searching the Historical New York Times database for articles from the newspaper of record's back issues, realized that when she searched for the neighborhood in Brooklyn she grew up in and currently lives, the database attached subject descriptors such as "African-Americans," "poverty," and "handgun crime," to articles referencing it. Not only did the database classify the neighborhood in demeaning ways, but the first article in the list of search results made numerous references to the community's appearance in a piece that had nothing to do with that topic but everything to do with the author's and source's classist assumptions, including the presence of trash and lack of general maintenance. The student was upset but not surprised at these characterizations of her home, and mentioned the media's tendency to focus on the negatives in her community but that they would never print a story about the positive things happening there. Based on these sources she made the decision to revise her topic. Her research paper was now going to address negative representations of her neighborhood and how communities that are considered impoverished or crime-ridden are likely to be made of up strong bonds among families and community members. This student was reading complex information from a resistant position: critiquing the assumptions behind the dominant information sources of proprietary database and major news agency, reinterpreting the messages of negativity and

dismissal that they were conveying, and supplying her own narrative of community and hope based on her personal experiences.

Conclusion

Resistant spectatorship, as applied to information and information literacy, encourages a reconceptualization of library instruction and argues for the necessity of acknowledging the variety of contexts that learners operate within on a personal level. Instead of conceiving of learners' engagement with information, whether in library settings or otherwise, it is necessary to adopt a more nuanced understanding that takes into account personal conceptions of information. As Elmborg notes, library researchers "tend to separate students from economic and social contexts, thereby detaching them from school, teacher, and society" while in actuality we need to develop a greater understanding of "how individual students in specific contexts and communities encounter information generally and the library specifically."[101] Information, whether in the context of libraries or outside of them, is never encountered on generalizable and depoliticized terms. If we accept that information is not neutral, we can also accept that one's encounter with information is similarly charged with social and cultural dimensions. Resistant spectatorship asks us to consider these terms, and how individuals resist and reassemble prevailing information sources according to their worldviews. Additionally, resistant spectatorship contributes to the further development of, as Henry Blanke called for, "a critical discourse of librarianship...[that] would provide us with a language and analytical framework with which to critique the promotion, both within and without the library profession, of information as a commodity."[102] One's interaction with commercial search engines can be resisted in many ways. Technological techniques of obfuscation include a browser add-on that sends out additional search queries unrelated to one's interests to create additional "noise"

(TrackMeNot), software and a network of computers that protect one's IP address and privacy through creating a system of relays (TOR), and a browser extension that works in conjunction with advertisement blocking software to automatically click all ads with no action being taken on the user's part, thus rendering user profiling and surveillance less useful (AdNauseum), while individuals might opt to provide disinformation to companies wishing to track them by creating multiple accounts or supplying information that does not represent their actual identity.

In 1996 Schiller observed that public organizations, and in particular libraries—"long-standing custodian[s] of the idea and practice of information as a social good"—are being redefined and stripped of their social character due to the extensive commodification of information by private interests.[103] Academic libraries spend a major portion of their budgets on the skyrocketing costs of database subscriptions: according to one 2012 report, a total of 1.2 billion is spent by U.S. academic libraries on subscriptions to serials. While the subscription costs far outpace both inflation and libraries' budgets that tend to range from very slight increases to dramatic decreases depending on the year, these same companies supplying paywalled information benefit from a scholarly communication system that expects scholars to submit their research to these companies at no cost, which means extensive profit for these international publishers with ownership over key journals in various fields. Attempting to meet expectations in the increasingly neoliberal environment of higher education and American society as a whole, libraries are spending budgets on privatized information resources and time on efforts that are supposed to prove to administration that library activities are being effectively assessed or that the value of the library (in strictly financial, return-on-investment terms) is being effectively communicated. Being a part of larger institutions that are adopting the language, accounting measures, and mindset of the business world means that libraries have more reporting

to do and fewer resources to do it with, which may lead to the redefinition of the library as a non-commercial space for intellectual pursuit to one as a place to serve students as if they are customers seeking a return on their educational investment.

While the library contends with trends relatively new to higher education that are at odds with the profession's long-held values of intellectual freedom and sharing, the information landscape at large continues down a commoditized path. As dominant search engines function increasingly as highly profitable tools that translate information needs into consumption, one possibility for resistance is based in personal conceptions of information that are informed by resistant spectatorship and put into practice at libraries using a critical information literacy approach. Understanding and being able to promote resistant readings of information will be key to creating individuals who are not merely able to know how to find the right information for an assignment or to complete a task, but to effectively interrogate and resist the information that they encounter as needed. Furthermore, a critical approach to information literacy and the work that libraries do will enable them to better function as organizations committed to the public good instead of to privatized commerce.

The obstacles to such a realization are many, and range from a lack of knowledge among librarians regarding how to incorporate critical information literacy into the constellation of their practices to structural and organizational barriers to ideas such as the increasing corporatization of higher education. The primary challenge to critical information literacy and developing a fully realized critical perspective, Troy Swanson argues, lies not in convincing librarians, faculty members, administrators, or professional organizations of its importance, but instead in "convincing our students by shifting the focus of critical pedagogy toward student belief about knowledge and worldview."[104] This perspective, one which I share, holds that interactions with

information are highly personal, value-laden, and intertwined with belief. Swanson notes the interconnectedness between information, personal belief, and communities and societies, and encourages librarians developing a critical approach to information literacy to "form avenues of instruction that get students to recognize the beliefs they hold and how those beliefs impact their view of information sources."[105] Such instruction, then, would ask questions central to how students know what they know, as well as how certain voices are privileged over others and how search engines and other information providers participate in this system of dominance and oppression. The next step, key to the realization of resistant reading practices but difficult to actualize within the limited space of the library or even academy, is to take action upon these oppressive formations.

Information literacy, like spectatorship, "is in constant flux and embedded in cultural situations, each situation nuanced and different from others."[106] And critical information literacy, like resistant spectatorship, involves the ability to critically interpret a text or even entire system that one is engaging with. Both approaches, whether to information literacy or media, demand the recognition of individuals' agency and power and emphasize the capacity we hold to create change, even in the face of seemingly insurmountable corporate and institutional powers. Both approaches make the consideration of power relations, corporate domination, and stratification that we contend with in society central to understanding the ways that information is created, received, and used. The challenge is to create learning environments that empower students to define their education and create change on their own terms—a considerable task requiring a great deal of effort and understanding, but not impossible using concepts such as resistant spectatorship and critical information literacy to guide our everyday work, and most importantly, when this work is done with the help of one another.

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104. Troy Swanson, "Information is Personal: Critical Information Literacy and Personal Epistemology," in *Critical Library Instruction: Theories and Methods*, ed. Maria T. Emily Drabinski, and Alana Kumbier (Duluth, MN: Library Juice Press, 2010), 266.
105. Ibid, 271.
106. Elmborg, "Critical Information Literacy," 195.