The Removable Type: Mapping Digital Literacy at Alderman Library and the University

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A thesis presented to the Graduate Faculty
of the University of Virginia in Candidacy for the Degree of
Master of Arts

Department of English

University of Virginia
May 2016

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INTRODUCTION: THE NEW DIGITAL LITERACY

In September 2014, the University of Virginia announced its latest plans to refurbish the largest of its libraries, Alderman. It has predominantly housed documents for the arts and social sciences since the 1930's, and remains the most popular on the campus: hundreds of thousands of people allegedly visit its floors each year.[1] Despite its celebrity, it has not fundamentally changed in its organizational structure in several decades, even with the development of new edifices on campus and the digital transferal of some of its former materials. This spurred calls for a gradual-yet-massive upheaval by several of its frequent occupants, employees and students. The University, pending more funding, finally answered them last year, laying out a plan to critically refurbish and reorganize the well-known building.[2]

What do these changes entail? They mainly concern updates to the facility's physical capacities and features, tailored to enrich its users' experiences. Retired University Librarian Karin Wittenborg said that, apart from the full-time workers at Alderman, the purposes of researchers vary greatly when going to one of the school's many book repositories. Working, meeting with people, and even purchasing food or beverage are normal conveniences expected from the prevailing population of its users.[3] These upgrades from the library's current offerings have not threatened Alderman's job as a place to store research materials. Yet the library no longer merely circulates media. It

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[1] Dickerson, Jenna. "Library System Plans Alderman Renovation." *The Cavalier Daily*. The Cavalier Daily, 10 Sept. 2014. Web.
[2] The plan can be found as an attachment at http://aldermanrenewal.library.virginia.edu/about/.
[3] Ibid.

has instead assumed myriad roles of usage that stress the maximization of its spaces, which students and employees believe are still sorely lacking.

The University's proposal also calls for an increase in the digitization of printed media, in order to gradually replace its archives of documents. Its textual archives would, in turn, be stored off-site. There are already several signs of this gaining in steam. UVA's recent investments in the acquisition of electronic materials more than doubles that in those of print. But they reach beyond the library system, additionally bolstering the organization of massive open online courses (MOOCs) that are dependent on such texts.[4] Coupled with the development of multipurpose spaces in Alderman for Web-based coursework, this expenditure would be realized through the conversion of older documents into computer-accessible files. And the floors that hold Alderman's books are prime candidates for this expansion of physical and digital space. Both trends reflect the increased relevance and utilization of digital media by students, as opposed to current print offerings.

As print has succumbed to the introduction of newer communicative modes, they have acquired a reliquary status for those raised in an electronic era. The popularity of digital texts at libraries attests to this. For University of Virginia students nowadays, checking out a book has become one of the many things to do before one graduates — a chore to be marked off a massive list.[5] More items on "The 111 Things to Do Before You Graduate", in fact, require mere traveling to different libraries around the campus. Why

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[4] Braganza, Vanessa. "UVa Plans Major Digitization Project for Alderman Library." *The Cavalier Daily.* The Cavalier Daily, 26 Aug. 2015. Web.
[5] "111 Things to Do Before You Graduate." Web. http://giving.virginia.edu/hoosonline/wp-content/uploads/sites/6/2013/06/111_Things_To_Do_Before_You_Graduate.pdf.

check out physical copies of literature when they can conveniently be found on one's laptop? However, Wittenborg claims that books will remain vital to the "aura of gravitas" in these places.[6] Though they may remain unused by the majority of patrons, literature still has sentimental and cultural value within the transforming library. But what they may contain in historical mileage and importance has been subsumed in the electric scholarship of today's researcher, who might desire more than what Alderman's stacks currently hold (see Figure 1).

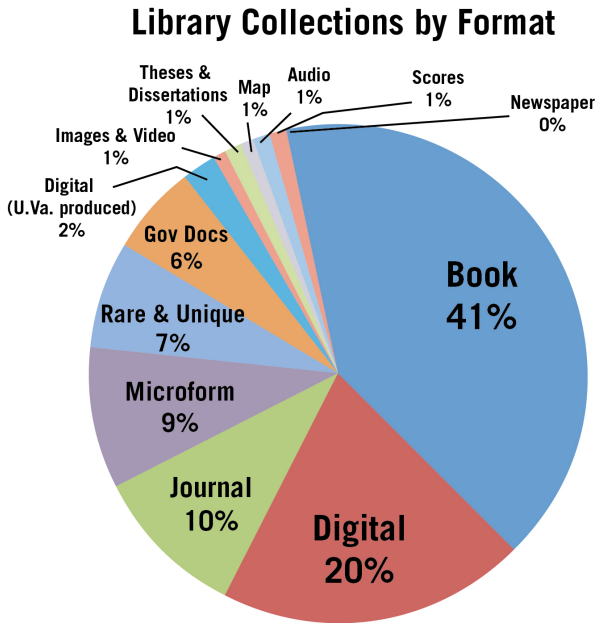

Figure 1. This chart, as of September 2015, measures the current collections of the University of Virginia's library system. Source: "Alderman Renewal_HAS_Appendix_Sep 11." Digital image. *University of Virginia Library: Alderman Renewal*. The University of Virginia, 3 Sept. 2015. Web. <http://aldermanrenewal.library.virginia.edu/about/>.

This shift, gradual as it seems, concerns many groups of library users at UVa and elsewhere. They are leery of the unchecked consequences with these new media forms, and want further comparison with books to examine differences in their forms and

[6] Dickerson, "Library System Plans Alderman Renovation." Web.

content. Some professors, such as David Vander Meulen, have been left wary by the abruptness of this proposed transition. There are positives surrounding these new mediums, he acknowledges, that have been proven through their adoption and potential for advancing research. Yet the negative attributes are still being discovered, and will be difficult to discern if digital scholarship stands alone in Alderman.[7] Information stores and flows, between printed and digital platforms, should and must be further compared and analyzed.

Yet proponents of electronic media and their multifunctional spaces continue to dwell in technological possibilities. Alderman advocates are no different. Several points summarized by The Education Advisory Board, a private consulting firm, were cited in a December 2015 document reaffirming support for the facility's renewal. It primarily focused upon the "pace of technological change", and running alongside it with the digital texts and online learning modes bankrolled by UVA. The report also touts the "intuitive interfaces for navigating libraries' huge stores of data" and the emphasis upon "the expectations of users accustomed consuming mobile-friendly websites, apps, and e-books".[8] Adaptation towards such goals, they argue, would help facilitate scholarly work focused on creation and cooperation, which would additionally democratize new repositories of knowledge. So-called "makerspaces" for hands-on, imaginative learning and software systems to digitize and accommodate library holdings are highlights of the vision outlined by the Board. And many parties, ranging from UVa students to

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[7] Braganza, "UVa Plans Major Digitization Project for Alderman Library." Web.
[8] "18 Tech Trends Transforming Academic Libraries." *The Education Advisory Board.* The Advisory Board Company, 26 Aug. 2015. Web.

Alderman's staff, would like to take advantage of these ingenious means of conducting and producing research for the University.

But there's a challenge to this utopia. While the report remains optimistic about these changes, they curb their enthusiasm. In their eyes, "digital literacy" has yet to be clearly defined, and one can see why. On one hand, it could consist of the know-how in maximizing the mediums and places of makerspaces and databases. Yet, on the other, it could mean filtering and processing the information that they might produce. From a broader viewpoint, do formats of these technologies dictate this kind of digitized learning, or do their contents? No specific solution has agreeably clarified what the term will mean in myriad library environments. To be able to use these tools does not automatically make for a technologically literate individual. Nor do the results that they can produce.

However, the role of digital media does blur the line between social situations and the locations where they take place. In this case, the library, which was a book repository during the dominating age of print, is metamorphosing into something completely different. The novel research technologies and their types of expression are reinventing it as a place to build, collect, and transmit new and improved knowledge. New materials are confronting the temporal and spatial functions of older ones. And as a result, patterns of management — on personal, academic, and other levels — are fluctuating drastically in ones like Alderman. The values of different disciplines are being altered by how they are conceptualized by these new types of scholarship. So what does this mean as these changes spiral outwards?

It might signify that, from Alderman onward, new bases of reading and writing are continuing to evolve and change the contemporary worth of knowledge. And both print and digital texts will be drastically changed. The book remains a small part of a greater change in information exchange across the globe, and will not be burned out of existence. Yet the challenges posed by a vague "digital literacy" show that moveable type and mass-produced print are fast becoming a footnote. New media formats and their productions of information, which are constantly being updated at a breakneck speed, have created new, jumbled systems of knowledge. And universities, like Virginia, have responded and adapted to this sea change by trying to keep up with the flow. This warrants a deeper reading into how these technologies devalued their predecessors, their relations to other medias in distant times and spaces, and whether this new literacy will become a public boon or privatized proprietorship.

This exploratory paper first confronts the production and discrepancies between the nebulous terms of "data", "information", and "knowledge", in order to find how and why they have been separated from one another. Sociologist Daniel Bell's proposals of a post-industrial, information-based society are the catalysts for this section. Yet I argue that the paradoxical glut of raw data and information today cannot be isolated, even with novel technologies or disciplines. They have become too specialized and inclusive to reach a definition of what "digital literacy" has become, along with the mechanisms of today constantly piling on more of the same.

From examining content, I proceed towards media studies, and chiefly confront the Toronto school of thought on communicative theory. Their findings recalibrate the form of media as products of space and time, using older examples of "information

overload" as a point of comparative analysis. And delving further, I try to examine various semiotic perspectives on communication (Umberto Eco, Roland Barthes) to complete the dichotomy. Between both parties, I attempt to reach a middle ground that reconsiders both form and content in producing categories like Bell's. This acknowledges the theory of "mediology" proposed by French thinker Régis Debray.

To conclude the essay, I combine the previous two sections and their effects on not just libraries, but other facets a technologically dictated *weltanschauung*. Ray Bradbury's information dystopia, *Fahrenheit 451*, provides a cautious example for such a scenario gone utterly wrong. The banning of books makes the novel's world a deathly-amused one, caught underneath an informational stream of unconsciousness and too oblivious to realize it. And all throughout this paper, I weave the narratives that led to Alderman's current predicament, starting from the firing of Teresa Sullivan in 2012 and moving onward. Clearing out its stacks may not immediately bring on the dystopian vision of one like Bradbury. Yet it would burn the battering rams one could have against the dazzling doors of perception that digital texts have determinably built.

How can one define the digitally literate individual? Does it base in the forms of electronic communications, or what they produce? And can one be conscious of new media's effects on what, how and why there are dizzying transmissions of data, information, and knowledge to these worlds? This paper aspires, in its totality, to raise that level of consciousness, and answer the haunting anaphora posed by T.S. Eliot in "The Rock":

Where is the Life we have lost in living?

Where is the wisdom we have lost in knowledge?

Where is the knowledge we have lost in information?[9]

The Sullivan Stratagem and the Inflation of Digitization

After they forced the sudden resignation of Teresa Sullivan in 2012, the University of Virginia's Board of Visitors was vilified, and pressured to reveal their rationale. They had, after all, fired a president who had only served for one year until that point. Eventually, under the Freedom of Information Act, access to a series of emails that lead to the decision was granted. They revealed a philosophical gridlock over the future of UVA. Members of the Board, led by Rector Helen Dragas, had expressed concerns about the stagnation in research and teaching rankings, and whether or not transitions towards different modes of instruction would boost them.[10] These chiefly concerned the institution of massive open online courses (MOOCs) and the elimination of "'non-strategic'" disciplines, such as German and Classics, to devote more effort towards critical fields like computer science and engineering.[11] Sullivan, in the Board's view, would not impose these changes. But this information, coupled with the outpouring of outrage by the University community, aided in her reinstatement, and may have saved those departments from removal.

The gap of communication, between the Board of Visitors and the greater University community, fanned the flames of the controversy. It took a request by The

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[9] Eliot, T. S. "Choruses from 'The Rock'" *Collected Poems, 1909-1935*. London: Faber & Faber, 1936. 155-81, 157. Print.
[10] "U-Va E-mails: Helen Dragas, Teresa Sullivan and the Board of Visitors." *The Washington Post*. The Washington Post, 12 Sept. 2012. 1-27. Web.
[11] McCartney, Robert. "Virginia Senate Leaders' Message to Helen Dragas: Don't Mess Up Again." *The Washington Post*. The Washington Post, 16 Jan. 2013. Web.

Washington Post, under the Freedom of Information Act, for the public to access such materials. And once the public gained knowledge of the details surrounding Sullivan's ouster, their indignation only grew. Protests and objections by students, teachers, alumni, and outsiders eventually led to the decision's reversal on June 26th, after disastrous efforts by the Board to mediate the situation. The amount of backlash had, in Dragas's words, "overwhelmed" the University's public relations office, and efforts to "upgrade their crisis management communication apparatus" were made by reaching out to other groups, including student leaders and professors.[12] But they also came at staggering financial costs. Dragas and another Board member, the Post reported, spent over $250,000 in such endeavors alone, only for the crisis to spin further out of control until Sullivan's re-hiring.[13]

The main question that arose was what the public ought to have known all along. Answering this was challenging, not only because of the seismic change wrought by the Board's resolution, but also because of the mass of data and information behind it. There were countless statistics and articles sourced from UVA and other publications that formed the backbone behind Sullivan's firing.[14] In the Board's eyes, they indicated the need for a fundamental strategy to properly direct Virginia into the 21st century of education, which they felt Sullivan did not possess. But Dragas and her supporters failed to communicate this rationale to the rest of the University. Their one-sided view largely drove their actions forward. And their unique, handpicked data and information silenced

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[12] "U-Va E-mails: Helen Dragas, Teresa Sullivan and the Board of Visitors." 11, 14.
[13] St. George, Donna, and Jenna Johnson. "E-mails Show Dragas Saw Little Warning of Crisis in U-Va. President's Ouster." *The Washington Post*. The Washington Post, 12 Sept. 2012. Web.
[14] "U-Va E-mails: Helen Dragas, Teresa Sullivan and the Board of Visitors." 3-4. 6-7.

the explanation behind Sullivan's firing until it was too late. The chaos that ensued was a result of this breakdown.

This entire fiasco has become a demonstration of the gray areas lying between the forms of communication and their uses at the university. Words like data, information, and knowledge are largely undefined because they are gathered using different forms of personalized media. Using the Board's examples, online articles, statistical reports, and exchanges of e-mails skew these even more due to their exponential growth, and how inherent they have become in today's globalized world. And that worldview looms large over the model of the university. How did this happen? Can we try to pinpoint data, information, and knowledge to examine their effects on situations at 2012's UVA and Alderman? Sociologist Daniel Bell, who proposed that data and information were the centripetal forces in the new era, made one such attempt to clarify the leak of technological productivity into communicative spheres.

Bell was one of the first to formulate categories of communicative value in the late 20th century. He defined information as "data processing in the broadest sense", with the material likened to the raw energy sources that had propelled industrial societies.[15] A central base of knowledge would form once that information was organized and accepted as truth, based on how they were communicated. But, as data production grows, information is recycled and centralized knowledge alters.[16] And the worth of each classification affects the meaning of knowledge. Bell called this the "knowledge theory

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[15] Bell, Daniel. "The Social Framework of the Information Society." *The Computer Age: A Twenty-Year View*. Ed. Michael L. Dertouzos and Joel Moses. Cambridge, MA: MIT, 1979. 163-211, 168. Print.

[16] Bell, Daniel. *The Coming of Post-Industrial Society: A Venture in Social Forecasting* (New York: Basic, 1973), 175.

of value", which he placed at the core of the post-industrial, information-fueled society.[17] Managing the flows of data and info, as they changed in worth, became the chief goal for emerging, tech-based companies in the 20th century. The advances in telecommunications and organizational databases for these categories helped to produce new interactive networks of "knowing" even better.

But since Bell's time, reservoirs of data and their subsequent info have aggressively grown in form and quantity. Their hierarchies and patterns of dissemination have resultantly evolved, and are constantly being upgraded with the advent of new devices and systems. Some media scholars argue that while models like Bell's "continue to be influential," they shortsightedly maintain that data "is situated as the objective source of information it can never actually be".[18] They operate, rather, subjective to the devices that people use and the purposes for which they use them. While data can be, in Bell's theory of value, "'scrubbed'" to fit a variety of purposes and disciplines, this in turn causes interdisciplinary "friction consisting of…contests that assert or affirm what should count as data, or which data are good and which less reliable, or how big data sets need to be" (7). Objectivity in Bell's theory cannot be achieved with these sorts of questions within different fields, much less across them. And in turn, bodies of data, information and knowledge operate independently behind centrifugal forces, too concentrated to provide unanimity.

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[17] Bell, Daniel. "Welcome to the Post-Industrial Society." *Physics Today* 29.2 (Feb. 1976): 46-9, 46.
[18] Gitelman, Lisa, and Virginia Jackson. "Introduction." *"Raw Data" Is an Oxymoron*. Ed. Lisa Gitelman. Cambridge, MA: MIT, 2013. 1-14, 7. Print.

Thus, it appears difficult to expect answers from particular curriculums. But despite the friction that they produce, it has not stopped them from intersecting more and more in places like Alderman Library, which emphasizes the availability of both printed and digital materials across many subjects. And the amount of conveniently available texts — physical or online — has skyrocketed as a result. Evidently, masses of data and information have, in Geoffrey Nunberg's terms, greatly gathered in "little atoms of content" within these locations.[19] From a distant standpoint, these pieces may look uniform and tidy. But up close, they are restricted to their own specialized fields and for their own purposes — "each independently detachable, manipulable, and tabulable" on their own (117). And with technologies like online courses and digital texts, the ability to detach, manipulate, and tabulate will be expanded beyond but fishing books from Alderman's stacks. They would be structured anew for novel research outputs and media methodologies.

Particular curriculums will, as a result, not matter as much when these stacks of potential knowledge are made to expand the technological possibilities of pupils and scholars. Though aggregations of data and information may seem diverse, based on how and why they are employed, both terms distort "the boundaries between several genetically distinct categories of experience" amongst these parties and between these terms (114). But Alderman wishes to blend as many of those experiences as possible amongst myriad parties by making novel library technologies even more available, despite the differences between their forms. And therein lies one of the risks that come

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[19] Nunberg, Geoffrey. "Farewell to the Information Age." *The Future of the Book*. Ed. Geoffrey Nunberg. Berkeley, CA: University of California Press, 1996. 103-38, 117. Print.

with removing its books — the elimination of a point of comparison, in the eyes of those like Vander Meulen. These innovations, supposedly, would benefit the University of Virginia financially and prestigiously in their products. New nodes of scholarship could be mined and made for profit, while eliminating those unfit for the "strategic" vision outlined by Dragas and the Board of Visitors.

But the so-called age of information — in which one cannot really distinguish what info truly is — should not limit this crisis. Nor do the libraries of today, which are physically and socially under duress. Transparency may lie in looking at similar outbreaks of data and information, and the communicative innovations that spawned their divergences. As will become evident, the overwhelming amounts of production by technologies cannot be a groundbreaking concept. I now look towards past movements and transformations of media to see what they offer, and how they might be compared with the current scenario. There, one might come across relatable nimieties.

From Songs to Screens: Tracing the Origin of the Removable Word

Analyzing the content of electronic media has posed its challenges. Scrubbing every rapid-fire movement of data, information, and knowledge remains difficult in a world constantly upgrading its telecommunicative powers. Bell's classifications have come a long way because they have developed and schematized on their own — they are simple from a distance and complex up close. Yet even looking at different types of scholarship, whose workers define and employ these transmissions differently, does not help one promote a defined "digital literacy". Data and information still remain stagnant, used to "flatten and obscure the subjective social topographies of content" covered in

places like Alderman (107) in literate and digitized formats. What of these mediums that transmit them? Can they producers provide a greater look into why these categories are both homogeneous and difficult to discern?

Away from trying to sort these terms, and a closer look at what lies beyond the contents of Alderman, binding its books and lighting its screens. Increased flexibility and accessibility to databases and non-literary sources have made its spaces stress the usage of multimedia across versatile spaces. It, in turn, changes all the forms of knowledge a library and other erudite extensions of a university. Pupils are granted pliable, utilitarian types of knowledge, through the convenient means of accessing the exponential bases of info and data. And universities like Virginia are trying to move towards the forefront of attracting scholars who are able to take advantage. These parties, with such resources, can create their own definitions of knowledge with what library systems have to offer. And with this growth, bases of scholarship become creative and independent in their potential (107).

If such excess of technological material means to support Alderman's and the Board's organizational strategies for research and academia, then how will the old forms — books and journals — be affected by the new ones, before their possible erasures in Alderman's stacks? Are there transitive points between media forms that can clarify the masses of differentiated knowledge? One can look towards other modern bodies of communication theory for some points of critical comparison. I start with the ones described by Harold Innis and Eric Havelock of the Toronto School of Communication, who exclusively focus on the importance of media formats in historical contexts. From

their analysis, one discovers that the challenge of "scrubbing" the products of communicative inventions might not be unlimited to today's hybrid medias.

One of Innis's major contributions to media theory in the 20th century was his attempt to locate different media within dimensions of space and time. His book *Empire and Communications* historicizes the different spatiotemporal functions of written mediums. Using examples from Egypt, Rome, and other Western empires, he measures predominant formats of writing based on how their societies functioned. If they stressed the archival of long-lasting communication, they will likely use durable materials, and impermanent, compactable ones if they prefer the rapid transmission of messages.[20] Varied types of media promoted specific organizations of governments that better suited each empire, and their abilities to uniquely and efficiently administer their domains. As such, forms of writing and speaking co-existed alongside each other, but ultimately functioned in different settings.

While these modes were diverse, the social standing of their users also limited them. Classes of writers and communicators formed in response to the technologies employed by these societies, skewing Innis's material medias towards the biases of particular parties. Mindful of this unexplained phenomenon, he addressed it a year later in *The Bias of Communication*, diving into a dichotomy between written and oral forms that explicated this class division. Oral communication accentuated intensive memorization amongst its users for traditional reinforcement. It would bolster customs and practices set down by cultures, rendered inflexible as they were continually passed

[20] Innis, Harold. *Empire and Communications* (Toronto: University of Toronto Press, 1972), 7. Print.

down.[21] Citing ancient Greek culture as an example, Innis demonstrates "the advantage of a strong oral tradition and concentration on a single language" that resisted takeover by other civilizations (11). The common languages and dialects that emerged thusly developed depth in dramatic and poetic forms such as the Homeric epic.[22]

Havelock, in the same vein of thought, believes this to be the evolution of a cultural mimesis. Through the power of oral performance, Greek peoples developed strong foundations in mythology and cultural education for themselves and their descendants.[23] The extent of "scrubbing" these messages came based on dialect and transmission. Poetry, music and drama rose to particular importance for their civilization, thanks to this formation of a flexible language in each city. It allowed for the minstrel and the artist to interactively play the part of the "tribal encyclopedist" who kept records of epic idioms via spoken, public recitations and presentations (83). Such forms of Greek art would give the common artist a mimetic authority — the "power to make his audience identify…with the content of what he is saying" in speech or in song (45). And audiences would cyclically renew their communal beliefs and artistic traditions.

Yet Havelock elaborates the different oral types that evolved underneath the Greek city-state system in three aspects: political, historical, and artistic (120-1). Each type played a various role in construing the *polis*, as classes and professions formed accordingly based on the oral modes that were used in different tribal contexts. Orators and communicators operated within each cultural sphere. This, however, did not stay unique to orality, which eventually gave way to prosaic forms of communication that co-

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[21] Innis, Harold. *The Bias of Communication* (Toronto: University of Toronto Press, 1951), 9-10. Print.
[22] Innis, Harold. *Empire and Communications*, 58-9.
[23] Havelock, Eric. *Preface to Plato* (Cambridge, MA: Belknap Press, 1963), 42.

existed and adapted alongside these different dialects. Its transmission was impeded by the availability of scriptural materials before.[24] However, as Greece expanded over the 6th and 5th centuries, the amount of writing present increased correspondingly with the uptick in the import of these tools.

Over time, however, the spread of documentation disintegrated miscellaneous types of Greek patois. They gave way to the dominance of a singular accent and alphabet. The tribalism present in every distinct *polis* was not only reimagined, but the power of the *logos* — the visualized word — was realized in culture, science, and politics. Whereas oral recitation had dominated public discourse before, it began to be recorded in script for greater efficiency in communication and education. Governmental documents, written histories, poetry and philosophy began to emerge as spoken records of words and speeches, subsuming their predecessors. Writing materials and mediums increased from papyrus to wood and stone, dependent on what was being recorded and the role it played in public (67-8). The oral tradition did not wither away immediately, but adopted an advisory role to prose and poetry as writing grew.

These "types of literature," remarks Innis, "reflected the efficiency of the oral tradition in expressing the needs of social change" that occurred (63). They superseded older writings because of increased Greek commerce and expanding cultural influence throughout the Mediterranean. Such forms, which were relied upon to recycle the tribal encyclopedia, were exchanged for "the explanation of nature in terms of natural causes" based on the accumulation of philosophical and scientific writings throughout Greece (63). Knowledge, in short, became focused on practical, empirical nature. The didactic

[24] Innis. *Empire and Communications*, 63.

epic began to lose its social stance as the only explanation for Greek origin. Subsequently, the rise of script thus "set in motion by the prosaic quest for a non-poetic language and a non-Homeric definition of truth".[25] Oral transmission could no longer serve the purposes of the growing Greek domain and the political, historical, and artistic domains that followed the advent of script.

The wider dissemination of knowledge, coupled with the increased presence of Greek colonies and influences, ultimately subsumed the polis. And scriptural communication was the culprit. "Writing," wrote Innis, eventually was doomed "to destroy the bond of Greek life" that had existed between all the city-states.[26] It replaced them with the ideal notion of a "cosmopolis", which swept diverse peoples, cultures, and territories underneath one centralized empire and Greek authority (90). Writing systems were effective administrative cultural tools, and swift and durable innovations. Yet it additionally helped to divide each city-state to a severe degree. Each *polis* developed different habitudes and divisions in the sciences that emerged from a wide-reaching writing system, sowing discontent and vulnerability amongst them (83). But even with the eventual Macedonian conquest, one sees that the sword and pen worked together to enlarge and sustain the Greek state and its culture.

The movement from orality to the written word in Greek civilization shows how a shift in the employment of media can have profound effects on how a society consolidates its products of communication. Writing, in this instance, acted as a centripetal force, revolutionizing political and aesthetic functions while preserving the oral traditions and didacticisms that formulated Greek art, history, and politics. Yet it also

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[25] Havelock, 91.
[26] Innis. *Empire and Communications*, 80-1.

separated the system of the *polis*, and fragmented how knowledge was spread and developed by eliminating oral discourses in those administrative spheres. "The feudal hierarchy of Greece," concludes Innis, became so concerned with the material benefits of writing that "mastering the technique of writing left little possibility for considering [its] implications".[27] Building the "cosmopolis", and extending the influence of their political, historical, and artistic prowess at the expense of the city-state left the Greeks shortsighted enough to not see how fundamentally their society had been changed.

So too has Alderman Library transitioned towards becoming a cosmopolitan center of scholarship. Printed materials, while still the majority shareholders in UVA's archives, no longer dominate as its primary research sources. Electronic medias are gradually replacing them. But, like oral traditions in Greece, print still advise the digital texts part of the future vision of academia. Books, journals, and other documents can be scanned and found on the library's online database. But this lens narrows with the brightness of technology, and the dazzling potential it carries for some. The possibility of a strategic, cosmopolitan brand of education, steeped in digitization, attracts those wanting to completely reshuffle Alderman's capacities, and those wanting more prosperity for the University. And books, like oral traditions, may eventually fade in form from the library, like the individual *polis*.

Much like writing for Greece, electronic media provide immediate upgrades over older media forms. They exceed books' durability and rapidity in the transmission of messages over a wider sphere. But the comparison ends there. Even though both mediums had and have drastic effects on the production of communication in their

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[27] Innis. *The Bias of Communication*, 9.

respective cultures, their forms are, of course, vastly different. Cosmopolitan Greece functioned very differently in its scriptural uses than today's globalized society. And though today's researchers have access to such insights thanks to writing (and, further, the printing press), it cannot reach too far to try and relativize different media formats to the same level. Communicative forms cannot provide any clarity for finding a "digital literacy" in the place of content, though the effects may be similar.

This does not suggest that Innis and Havelock have no uses. Rather, their work on the spatiotemporal materiality of the media begs for further query into the deeper communication codes underlying the messages they transmit between sender and receiver. If the mediums of different eras cannot be framed together, then perhaps the contemporary field of semiotics and some of its theorists will provide some further clarity.

RE-CALIBRATING THE *LOGOS*: TOWARDS THE MEDIATIONS IN MEDIA

A glance at the media theories of Havelock and Innis has outlined a body of work that emphasizes the role of the medium in cultural communications and change. Materials used to transfer messages are indicators of how cultures functioned based on the durability and speed of transmission. And though the juxtaposition between formal media shifts may not elucidate the current scenario with "digital literacy", the "cosmopolis" that their work outlined can be used to study its effects. From the Toronto School, Marshall McLuhan was the one who advanced this famously. He considered the medium to be not only the mechanism of transmission, but its communicative material, as well — visualizing both form and content in a vast galaxy of media. They together constitute

what McLuhan called the "global village", recapitulating and advancing Innis's "cosmopolis" with the addition of modern, digital telecommunications and technologies.[28] They connected the world with the means of sending of fast, durable messages consisting of globalized data and information. Knowledge became thusly synonymous with the power of communication.

Not all validated McLuhan's platitudes, however. They saw the Toronto School's attempt at the "reconstruction of technology-influenced mentalities" as too quixotic to provide answers to the questions of contemporary literacy "by the terms of the system of discourse in which it is practiced".[29] The definitions they used were ambitious, but one-dimensional, thought those like Umberto Eco, and needed to be distinguished more concisely. Eco queried the homogenous value of each communicative transaction that McLuhan had assigned, instead positing that it could be designated in different ways by the recipient. "The mass communication universe," he wrote," is full of these discordant interpretations…the variability of interpretation" thusly remains absolute.[30] The receiver can possess greater authority to control and understand the message of media than McLuhan grants them.

Eco clarified these processions of media transmission by formulating his own model: a "chain" of communication. He extended the "links" within it to further delineate what lay between the message's source and its eventual recipient. Each link indicated the

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[28] McLuhan, *The Gutenberg Galaxy: The Making of Typographic Man* (Toronto: University of Toronto Press, 1964), 21.
[29] O'Donnell, James J. "The Pragmatics of the New: Trithemus, McLuhan, Cassiodorus." *The Future of the Book*. Ed. Geoffrey Nunberg. Berkeley, CA: University of California Press, 1996. 37-62, 48. Print.
[30] See Eco, "Towards a Semiological Guerilla Warfare", *Travels in Hyper Reality.* Trans. William Weaver (San Diego: Harvest, 1990), 141.

chance of a potential variance in its conveyance, so that "the meaning of the message changes according to the code" with which it can be interpreted (139). The code would decide whether or not a message could clearly deliver its original meaning or be understood differently. It was up to the addressee to assign different meanings to the communicated material, based on what codes they used from the chain (139). Eco believed that this would stress the variety in multimedia forms, while underlining the role of the audience, rather than the medium, in absorbing the messages.

The semiotician's compilation of codes echoed a similar theory held by fellow theoretician Roland Barthes. In "The Rhetoric of the Image", the semiology behind the communication chain goes further. He wished to elucidate the "vague conception of the image as an area of resistance to meaning", while a semiotic framework would provide a codified understanding of its message.[31] And Barthes also wanted to prove the complexity behind and beyond a kind of transmitted media, much like Eco. However, he maintained that, despite the rise of screen-based medias, "it is not very accurate to talk of a civilization of the image — we are still, and more than ever, a civilization of writing" nonetheless (38). Electronic texts and images, despite their novelties, still borrowed heavily from the print technologies that preceded them. Yet both their written and nonlinguistic messages, playing off each other, helped to constitute the symbolisms behind Barthes's rhetorical image.

These types of messages, wrote the theorist, could contain multiple units of signification that would relay their hidden meanings. Beneath them, "underlying their signifiers, a 'floating chain of signifieds'" rendered "the reader able to choose some and

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[31] Roland Barthes, "Rhetoric of the Image", *Image, Music, Text*. Trans. Stephen Heath (New York: Hill and Wang, 1977), 32.

ignore others" (39). Here, like with Eco, the receiver of the message also receives greater control over its delivery. The links on the communication chain are subject to "various techniques…intended to fix the floating chain of signifieds…as to counter to the terror of uncertain signs" (39). The addressee becomes responsible for the stability of potential meanings, and for separating them accordingly. In Barthes's example of an image interacting with textual material, the text serves as a signification of the picture — "an *anchorage* of all the possible (denoted) meanings" it can contain "by recourse to a nomenclature" (39).

The semiotic approach to media broadens the communicative spectrum beyond a sender-receiver dichotomy. It instead allows for greater maneuverability via the links between the two parties — and, subsequently, greater susceptibility for the transference of material to be understood differently. What travels between the supplier of a technological transaction and its beneficiary, instead, gains traction — the links and chains of potential signifieds. But Eco, for one, notes the instability of such a pattern, because there has been no clear way for media users to exert utter and complete control over their messages.[32] If one aspect of the code goes awry, in other words, then the user will not be able to comprehend the original transmission. The challenge, then, lies in the increased comprehension of the chains and links. These, from the semioticians' perspective, truly control communication.

Régis Debray's "mediology" becomes another useful tool to bridge together these gaps. Furthering the chains and links as representatives of *mediation* (mediation + *logos* = mediology), he depreciates McLuhan's broad categories further, but not by pinpointing

[32] Eco, 141.

individual codes in communicative patterns. Instead, they are defined as "the dynamic combination of intermediary procedures and bodies…between a producing of signs and a producing of events".[33] They hybridize further the chains and links of signifiers because of the various signs and events negotiated by forms of media. Yet the social role of mediology consists of "the symbolic activities of a human group", such as Greek poetry, within the combinations of codes proposed by Eco and Barthes (11).

Debray faced the challenge that specialized fields had posed to a broadening of mediology. "[Its] study," he claimed, "has been up to the present day partitioned into air-tight disciplines" that viewed the transmission of signs differently (17). Such disciplines focused particularly upon how information systems or telecommunications impacted themselves. They cordoned their fields off from one another instead of gravitating toward "intersections between intellectual, material and social life", while mediations looked to make "these too silent hinges grate audibly" in response (19). The doors Debray wanted to open would try to examine the role of the mediations in their active processes, rather than observing them statically.

Debray used this perspective to redraw the role of the medium beyond the mere message. He redefined it as "the system of apparatus-support-procedure" that reacted to changes in the users' environments (13). If the codes within a transmission were altered, they would recalibrate the entirety of the communication chain. Media, subsequently, took on different attributes and forms unique to those who used and controlled them. Yet these would not remain stagnant. Debray proposed a series of questions based in technology, semantics, and politics in order to cross-examine "what takes place between"

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[33] Debray, Régis. *Media Manifestos: On the Technological Transmission of Cultural Forms*. Trans. Eric Hauth (London: Verso, 1996), 17.

the users and receivers of medium-based messages (18). It was impossible to understand the role of media by viewing it in one dimension, or through one perspective. Instead, mediology would literally mediate between historical approaches, such as those of the Toronto school with those of semantics (Barthes, Eco) and sociology (18).

The interdisciplinary approach employed by Debray becomes valuable for a variety of reasons — chiefly because of its pliability between different fields of study. While this also considers the materialism that the Toronto School stresses, it does not acknowledge the medium as completely vital to the communicative process. It underlines the particulars in patterns of transmission. A detail-oriented approach analyzed the "know-how" of sign and event production, not merely the "know-what", which proved more divisive than integrative for Debray. Specialized fields of knowledge were too limited because they viewed only the *logos* of their media, and not the combinatorial mediations that occurred.

In taking further notice of Alderman Library, the mediological approach gains value because of its intersectional position. It harbors the reposition and study of multidisciplinary research materials, having served as a space where scholars and students interact and mingle with one another. Though the "know-what" of these parties becomes specialized and divergent, the "know-how" has drawn them together into places like Alderman to work purposefully. The interactions between their users change, however, as the accessible apparatus-support-procedure of research libraries does. As the role of text lessens, and that of digital materials becomes accentuated, the process of mediation recalibrates the roles and queries surrounding technology, semantics, and

politics. The "milieu" of the library, as Debray terms it, repaves its roads for a different "transmission and carrying…of messages and people" (26).

Yet what of the resources themselves? What, exactly, do they signify beyond their representations as mediums and semiotic chains of communications? Having explored the technological and semiological questions put forth by Debray's field of mediology, I move towards some sociological musings on the post-industrial age, and the instruments that drum its beat. How do new communication technologies impact the fields of politics and everyday life? Do they affect the modes of discourse with other "wired" individuals, or with the indirect worlds created by mediums like the Internet and the television? With the theoretical backbone hitherto supplied, I now attempt to catch the speeding vehicles of electronics upon the highway of a new, information-driven literacy.

THE E-CADEMY: RIDING THE HIGHWAY OF THE KNOWLEDGE ECONOMY

In a statement addressed to the University of Virginia, Helen Dragas strengthened the position the Board of Visitors had taken, even after renewing Teresa Sullivan's tenure. Several of her key arguments hinged on the presence and supplication of new research and communication technologies. In her words, such innovations not only would provide "value to the reach and quality of the educational experience of our students", but they would also fulfill the need for greater transparency amongst various branches of the University.[34] Dragas and her supporters were convinced that increased investment in digital materials and tools were necessary for the 21st century academy. The amount of

[34] "Statement of Helen E. Dragas, Rector, University of Virginia." The University of Virginia, 21 June 2012. Web. <http://www.virginia.edu/presidentialtransition/120621dragas.html>.

modernization would augment scholarly output, which, in turn, would increase the amount of prestige and support funneled towards further University activities and initiatives. If unrealized, Dragas claimed, then the school would “continue to drift in yesterday”, apart from a class of technologically capable and competitive institutions.[35]

The rector’s call for "faster, multiplatform communications” to systematize different branches of the University implicates her failed management of knowledge during the Sullivan fiasco. The ensuing public relations crisis during the fiasco implied the lack of an “apparatus-support-procedure” with which to mediate the situation. Thus, in writing the statement, Dragas hoped to remedy the lack of communication by publicizing her stance, despite her and the Board’s misstep in privatizing the motivations behind the scenes. The “multiplatform communications” did not break down the chain between them and the public — rather, the sender did not relay the message, and the link was broken. What does this say about their deterministic belief of technology ably globalizing the Academical Village, if its users cannot even be transparent about what they transmit until the storm settles?

It means that in the minds of those like the Board of Visitors, re-linking the chains of communications and knowledge it can produce will restore the research reputation of the University. And it thusly becomes imperative to upgrade the supply and production of data and information, in order for it to remain economically and socially valuable as an institution. This would, in the ideal occurrence, permit students and scholars to produce disciplinary foundations of knowledge with technologies that will steer Virginia’s scholarship back on a contemporary course, while casting off the dead weight of non-

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[35] Ibid.

strategic subjects and studies. The privatization of access to such sources would publicize the institution's supply of productive knowledge. This notion, argues Christopher Newfield, saw the marriage of business and education, born from the economic downturn in the early '90s, mustered an "awareness of the university's dependence" on exterior sources of funding and technology, which business predominantly provided.[36] And today, electronically-mediated communications — from texts to MOOCs — are the results of this betrothal, birthing what resembles the new digital literacy.

Worth focalizing upon here are the augmented spatiotemporal flexibilities afforded by novel educational medias, and the knowledge bases they subsequently deem worthy. These speedy, omnipresent mediums were employed as the education economy developed further thanks to the help of extraneous institutions in business, as Newfield claims. They manufactured for the American university to focus upon their strategies for "its best growth opportunities" in the educational market that was seeing more and more competition for the best and brightest scholars, inside and outside the college campus (5). To cast a wider net, various innovations — from MOOCs and educational technologies to digital library databases and virtual information repositories — emerged as solutions and opportunities for the problems created by scholarly consultancies and companies. They were the waves compiling the "tsunami" of online learning that Dragas and her fellows saw coming.[37]

Distance learning and open courseware compiled one of these tides. They had skyrocketed in popularity with the invention of online platforms like Coursera, edX, and Udacity by various university professors who wished to disseminate and democratize

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[36] Newfield. *Ivy and Industry* (Durham, NC: Duke University Press, 2003), 5-6.
[37] "Statement of Helen E. Dragas, Rector, University of Virginia." Web.

higher education for the greater public.[38] Instructors from Stanford, MIT, and Harvard — the tsunami-stirring institutions mentioned in Dragas's letter — did so as they made various classes, free of charge, accessible to students from any place and at any pace.[39] They allowed for schools to expand their presences into locations beyond the boundaries of physical locations. But it didn't stop there. Entire degree programs were placed on these platforms, and were opened up to non-traditional students who could not afford to attend university otherwise. Instead, they could now customize their choices based on their schedules and interests without paying a penny. This type of study offered greater spatiotemporal versatility, and appealed to students around the world, in developed and undeveloped countries. [40] They could take classes whenever they pleased, while being able to interact with the same instructors at respectable universities.

These courses were additionally attractive because they concentrated upon subjects and skillsets that were profitable in a hyper-informed society. The booming tech economy created a need for myriad professional fields to hire those who wished to work in these new industries by handling new fountains of data and information. Open course milieus responded, and attracted those who wanted to gain an edge in these job markets. Some scholars and online teaching platforms began to collaborate with companies to offer their students marketable, specially designed skills. MOOC-based knowledge, thusly, was made even more arcane and professional for its customers who wanted to

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[38] See Zemsky, Robert. "With a MOOC MOOC Here and a MOOC MOOC There, Here a MOOC, There a MOOC, Everywhere a MOOC MOOC." *The Journal of General Education* 63:4 (2014), 237-43

[39] Newfield, 6.

[40] See Bornstein, David. "Open Education for a Global Economy." *The New York Times*. The New York Times Company, 11 July 2012. Web.

convert learning into personal capital. It created the allure of a practical, professional education for those unable to attend traditional universities. Udacity, created by former Stanford scholars Sebastian Thrun and Peter Norvig, proudly proclaims on its front page that it can help clients "Get a new job or advance your career with courses built by industry leaders like Google, Amazon, and Facebook".[41]

Alongside their advances in open online learning, these new information industries have also impacted the formation of digital texts and libraries. Some have taken initiatives to scan and catalog physical texts, and to make them readily available to Internet users. Google has taken the widest steps towards this vision. Created in 1998 with the mission "to organize the world's information and make it universally accessible and useful", the company has expanded from a search engine website to a global technology conglomerate.[42] Its power, though, does not stop at slinging collectable web data that its users customize. As Siva Vaidhyanathan explains, it has acquired and managed forms of multimedia — purchasing YouTube, Blogger, and other software — while expanding its utility elsewhere into other, external domains like telecommunications and artificial intelligence.[43] One of these developments was Google Books, begun in 2004.

The project's objective was to digitize "millions and millions of volumes" in order to render them "available online at no cost" to the user (17). The ambition to do so was enormous, but feasible thanks to the help of several institutions. Google began by

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[41] Thrun and Norvig, went on, respectively, to become the VP and Director of Research for Google. See *Udacity*. Udacity, Inc. Web. <https://www.udacity.com/>.
[42] "Company Overview." *Google – Company*. Google, Inc. Web. <http://www.google.com/about/company>.
[43] Vaidhyanathan, *The Googlization of Everything (And Why We Should Worry)* (Berkeley: University of California Press, 2011), 16.

scanning old and new material from a number of university library systems (152). It bypassed the necessity of membership in the academy, and democratized the materials it held. This would prove valuable for granting greater access to literatures — especially to unique collections of inaccessible books and deteriorating texts. It would thus become a massive digital library, and would further the company's ambition to "set up a bold new system for book research and distribution" for the general public (152).

However, these actions resulted in controversy. Vaidhyanathan writes of legal issues arose from the work of Google Books, as several lawsuits were filed because of the "increased monopolization" and copyright infringement committed by the company (152). Book publishers, who were wary of Google's aspirations, sued the corporation to expose the various legal and commercial problems involved with this digitization process. It violated the rights publishing companies held over the texts Google was recklessly scanning. They believed that it was a blatant attempt to privately control material both in and out of public circulation through the copyright laws of the Internet rather than print (152). Such a maneuver would render the ownership of printing and publication rights obsolete.

Additionally, Google Books made the company's ethics code hypocritical. Though Google's philosophical aims underlined the "democracy of the web" and a necessity to accommodate the utility of information, its executions were the opposite.[44] Instead of democratizing the knowledge these books held, had "designed a system that would give it important competitive advantages", effectively monopolizing the

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[44] "What We Believe." *Google – Company*. Google, Inc. Web. <http://www.google.com/about/company/philosophy/>.

publishing industry through the advantage of their position (153). Though a settlement between Google and a coalition of publishers and writers was reached in 2008, the debate still rages today on the merits of the project.[45] Publishing houses kept a measure of control over contemporary materials, but Google Books was permitted to scan and digitize research that was no longer printed from universities. Despite the stalemate, publishers, scholars and critics still vehemently objected the economic control of centuries of knowledge by a single company. It was the antithesis of what digital media could be capable of: making knowledge dispossessed and free to a greater audience.

One of these dissenters was Robert Darnton, who was the head librarian at one of Google Books's first partners: Harvard University. While a supporter of digital platforms and their democratization of knowledge, he criticizes yet the approach of those like Google in its realization. In *The Case for Books*, he maintains that the digital initiative could advance the potential of research for all types of readers, offering "a whole gamut of possibilities from straightforward word searches to complex text mining".[46] Organizations, ranging from libraries to colleges, only have to subscribe to Google's database to profit. Thus, bookworms of all types, especially those with smaller and limited libraries, gain admission to an unlimited amount of literature. Scholars, too, can re-analyze works with new electronic tools and mechanisms. One can see the effects of this at Darnton's Harvard and elsewhere with the rise of digital humanities — which has

[45] For an excellent history on lawsuits against the Google Books project, see "Google Library Project Settlement." *Library Copyright Alliance*. Library Copyright Alliance, 16 Oct. 2015. Web.
[46] Darnton, *The Case for Books: Past, Present, and Future* (New York: PublicAffairs, 2009), 15.

responded to the digitized literacy trumpeted by tech economies by using technologies to further liberal arts scholarship.

However, the librarian finds some similar troubles with Google's approach, like Vaidhyanathan. Though freeing up books in and out of print with the new medium seemed idealistic and positive, it still distorted the democratization of knowledge. The private interests of Google, "to organize the world's information" for mass use and connection, overshadowed any public benefits the company could provide. Darnton appropriately laments the absence of an open-ended approach to create "a National Digital Library" that could provide better benefits for a greater radius of readers and writers (16). There would be an equal amount of access in the hands of a governmental coalition, rather than in the actions of one corporation. Because Google stands alone without competition from other technology companies, it can digitize at will while flexing its legal muscle at publishing houses.

The biggest impact of this, Darnton believes, will be felt at actual libraries, both local and national. Up until the digital movement, these repositories were vital to storing and distributing printed knowledge for the betterment of its users. But this changed with new media forms. Google partners with institutions and universities to render its offerings onto its web-based platform. Both outdated and contemporary books and texts are, at the very least, catalogued on Google Books. Because of the advantages offered by these new medias, users in local and national libraries — who may not have access to them, otherwise — might depend on these facilities to provide them more than their printed counterparts. And in order to pay Google's fees, hypothesizes the librarian, "the libraries probably will cut back on other services, including the acquisition of books" for

their physical collections (19). Libraries then emphasize the accessibility and maintenance of digital texts and information databases to succeed their ancestral forms. The media they use and transmit with alter local, national, and global knowledge.

How, then, should one specifically rethink the role of Alderman Library? In the wake of these media-based changes — with open courses, digitized materials, and novel research approaches — where does its place end up in the 21st century academy? Do books become antiquities, boxes to be checked out by students to complete their university experiences? Or do they still possess redemptive, vital properties and parts to play in contemporary scholarship? In the conclusion, I will make a foray into the novel college that seems to be changing with each scanned book and online class. The literary and digital library continues to hold water despite the torrent of diverse, privatized knowledge that tries to drown it. But will this hybridity remain afloat?

CONCLUSION: SCALING THE STACKS IN THE GLOBALIZED ACADEMICAL VILLAGE

"It was a pleasure to burn," thunders Ray Bradbury in *Fahrenheit 451*.[47] In a society that has banned and burns books, Guy Montag, the protagonist who helps incinerates literature for a living, eventually questions his role in the burnings. His supervisor, Captain Beatty, chillingly responds that literature became too slow for a society speeding up with new devices:

> 'Once, books appealed to a few people, here, there, everywhere. They could afford to be different. The world was roomy. But then the world got full of eyes

[47] Bradbury, *Fahrenheit 451* (New York: Simon and Schuster, 1967), 19.

> and elbows and mouths. Double, triple, quadruple population. Films and radios, magazines, books leveled down to a sort of paste pudding norm, do you follow me?' (61)

In a world too impatient to read, the fire chief's words ring like flashes of lightning. The people in *Fahrenheit 451*'s world have become so ingrained with their technologies that they rely on them, and not their own minds, for rationalization and knowledge. "'Life is immediate,' muses Beatty, so "'Why learn anything save pressing buttons, pulling switches, fitting nuts and bolts?'" (62)

Stopping his cog in the machine, Montag eventually does learn of his true occupation in a culture stupefied by its new instruments. In this post-knowledge world, the contents of literature were repackaged and simplified by their electronic counterparts. Life was filled with irrelevant facts, driven by the electronics that thought for its users, and not by individual analyses. Books were thusly rendered obsolete and illegal for a society too impatient and too distracted to be exposed to "'the torrent of melancholy and drear philosophy'" (67). What could be made "immediate" became desirable. Montag gradually learns this as he forcibly burns his own house, thus estranged from his old life. He then joins a group of renegades who memorize books to preserve their content. Though the form of literature succumbs to the flames of an ignorant society, the knowledge and thought within perseveres through those who cherish it.

Fahrenheit 451 represents a warning. It represents a post-industrial, information dystopia, where knowledge and wisdom are ripped from their literary origins without thought of consequence. Bradbury, seeing the signs of such changes in his own time,

used the hyper-realistic dystopia to predict the worst-case scenario with their increased usage. It all became the "paste pudding norm", indistinguishable and inscrutable bits of rapid-fire material emitting from Montag's three wall-sized televisions, or the earphones penetrating his wife's ears. The overwhelming amounts of amusement and useless information that constitute knowledge neutralize the potential of diverging from the "paste pudding norm". Because of the destruction of literary knowledge, there are almost no possibilities for this hyper-amused, info-stuffed society to compare the communication technologies, and formulate the differences between them. As a result of this ignorance, it ultimately destroys any possibility of a future, having incinerated the philosophies of the past.

Though books are not broiling, the screen-based technologies commonly employed today seem to burn brighter every year. They grow in capacity, presence, and production of new mediations in communication. Bradbury's fears of a world overwhelmed by trite data and information should not go unacknowledged, believes Thomas Hylland Eriksen. Electronic media, part of a wider history of acceleration, contributes to this formless overload further through "vertical stacking".[48] The "pudding paste norm" of information piles onto itself as content increases and accelerates. And because "there is no vacant time to spread [this] information in," he writes, "it is compressed and stacked in time spans that become shorter and shorter." (110) There are no systems with which to organize these electronic stacks of indistinguishable info because of their rapidity and their formlessness. As a result, "consequences for the ways

[48] Eriksen, Thomas Hylland. *Tyranny of the Moment: Fast and Slow Time in the Information Age* (London: Pluto Press, 2001), 109. Print.

we relate to knowledge, work and lifestyle" are difficult to realize at dizzying speeds and without time to think about them (113).

But Alderman's renovation proposal may change all of that. The new, digitally literate individual desires "information" that looks and feels relevant and profitable in a post-industrial economy. And universities can provide this. MOOCs, digital texts, and the rise of specialized disciplines enable individuals to learn how to scale Eriksen's vertical stacks. Not far outside of the academy, initiatives like Udacity and Google Books assist in this endeavor, offering convenient and inexpensive means to the same ends. Their businesses and brands enrich students economically and allow for a more connected, globalized world with the MOOCs and online texts they promote. Education thus becomes more customizable than ever — consumable at any time, in any space, with a variety of choices at the user's disposal.

This should not, however, implicate new technologies as the sole causes of this shift. In fact, there exists great potential when it comes to the digital applications in print-based fields — as evident in the emergence of the digital humanities. Rather, I wish to merely point out that the challenges of democratizing education through the adoption of electronic tools do not appear as simple as they are made to be. Granted, screen-based medias allow for a cosmopolitan mode of education, in response to the growth of data and information from new economies. But, to borrow Geoffrey Nunberg's question, how can these new digital texts and online courses replace their older forms in reformulating

public availabilities of knowledge? Why are some so determined to proclaim new forms of media as the only ways in which to do so?[49]

The ultimate dilemma comes down to just what "publics" the renovation of Alderman would benefit in the long term. Be they local community members and scholars, or cosmopolitan UVA students and administrators, two different groups emerge in response to the electrification of standalone data and information stacks. And, as Nunberg maintains, such medias re-think how the new forms knowledge truly democratize these different users:

> ...properties of electronic documents raise several problems for establishing them as public loci…the source files of electronic documents don't impose the same kind of uniformity on particular instances that print editions do…precisely because of its power and versatility, this form of publication will have difficulty in filling the role…as a guarantor of uniform experience. (28-9)

Ironically, the notion of "publication" becomes fragmented and private because of how much it grants its users. Digital texts and MOOCs enable the processing of data and information stacks on an individual basis, but they disintegrate any sense of community based on how personalized their employments become. "Know-how" proceeds no further than the self, confronting a nimiety of possible knowledge, which only remains skeptical because of how omnipresent it is produced by new communications technologies.

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[49] Nunberg, Geoffrey. "The Places of Books in the Age of Electronic Reproduction." *Representations* 42 (April 1993), 13-37, 26.

In realizing this, Nunberg hypothesized that the new library emergent from this would "behave as a single database in which the lines between individual collections and catalogs are blurred" (30). And how right he was. Accessing the wealth of what Alderman's collection has to offer can be done without interacting with the physical facility itself. And while that has democratized its archives, responding to Dragas's calls of "faster, multiplatform communications", it has also limited this democratic brand of knowledge to the individual rather than the community. The chains and links of communication are made unconscious by eliminating physical literature for what the virtual library temptingly offers. Like Bradbury's depictions, it leaves no room for understanding the mediations of the communicative act. Categories of space and time are rendered inefficient since its transmissions are made available quickly and exist durably.

Conclusively, it remains necessary for discourse to be sustained on the potential of such a shift. This should not involve arguments for or against scriptural documents, for or against electronic texts. Rather, as has already been exhibited in places like the digital humanities, discursive action should focalize on how each form affects the other, and what can be done to hybridize the availability and involvement of both print and digital texts. As opposed to extending the distance between library users, they should be brought together by reconsidering how bases of knowledge, based on these medias, are ultimately formulated. Looking at the issue through, for instance, Debray's "apparatus-support-procedure" might help realize the deeper meanings behind how books and screens transfer data and information. But myriad perspectives, which would otherwise be glued to books or screens offered by the library (physically or virtually), should be incorporated into an amplified conversation at UVA.

Furthermore, the motives behind such a move should be brought into further question. As I've covered, the 2012 dismissal of Teresa Sullivan was stimulated by the desire for a rapid, immediate modernization of the University's economic and reputational goals. Helen Dragas and the Board of Visitors, the main strategists behind the plan, have interpreted the use of digital technologies through lenses that would superficially profit the University, rather than understanding their effects on the formulations of scholarship. Before subscribing to the recent Alderman proposal, it remains worthwhile to link the two strategies together, and see how they might affect one another. While the rector's vision and that of the digitizers may differ in some ways, they ultimately employ the same tools to realize their respective outlooks. If UVA is to eventually increase the digital presences in its library system, it must do so with the right purposes for the communities it holds.

And this, perhaps, remains the greatest dilemma. Does this university wish to provide materials for individuals to boost its national and global brand, with thanks to private initiatives like MOOCs and Google Books? Or should it rely further upon its own publics — students, scholars, and even residents of Charlottesville, Virginia — to reconsider the role of Alderman and the greater library system in their systems of "know-how"? What are the roles that books will play, going into a future of even more data, information, and divergent knowledge? And where are these hybrid literacies — physical and digital — going to end up? Though there are immense questions, the answers might be widely found, looking up from our books and screens, through the discursive engagement by the diverse population at the University of Virginia. And what better place to do so than a location like Alderman?

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