# INTRODUCTION: TRANSLATING BOOK

In early summer of 2013, on the heels of a week long seminar experimenting with new modes and media beyond print for training manuals with a group of bible[[1]](#footnote-1) translators from all over the world with the Nida Institute, I had the privilege of visiting Ravenna, Italy. The coincidence of reading Lev Manovich’s *The Langauge of New Media*, talking about the constitutive role of translation in the life of bible, and encountering the proliferation of books in the mosaics of Ravenna planted the seed for this project.[[2]](#footnote-2) Several years before this, I had already become interested in the role of transforming book technologies on the cultural imagination of bible in antiquity. Yet, Ravenna put this curiosity into pictures in ways I had yet to imagine.

As many have experienced, Ravenna is full of fantastic and vivid early depictions of Christian scenes in mosaic form from the 5th and 6th centuries of the common era. What surprised me as I began my reluctant tour through the ancient tourist sites was the prevalence of books in these early art forms. In fact, there were books everywhere, from the rolls in the hands of the saints around the baptismal font to the famous gospel cabinet in the funerary room. In the context of this discussion about bible as interface and the emergence of codex as a new book technology, there is one particular depiction of a gospel writer in the cathedral of San Vitale that highlights the co-presence of roll and codex in the interface repertoire of ancient bible users.[[3]](#footnote-3) This particular set of mosaics is dated to the 6th century and the wall depicts all four gospel writers with their typical animal signs. The mosaic of Matthew depicts him sitting near a writing desk with a codex in his lap and a basket of rolls near the foot of the desk. Even as late as the 6th century, when codex has become the dominant reading and writing interface for most users of the world, high Christian iconography is entirely comfortable depicting the use of both roll and codex in the composition of their sacred writings. Bible may be inextricably bound to book, but these images expanded my conception of both bible and book.

## Bible As Interface

Much like the situation depicted in the mosaics of Ravenna, the book is again undergoing a major technological transition as print wanes in its dominance and the internet and mobile devices transform our reading and writing technologies. With the entangled histories of bible and book, our emerging technological age and its transformation of the materiality of bible forces us to engage bible as something irreducible to a book.[[4]](#footnote-4) The connections between the major technological transition from roll to codex in antiquity and the contemporary move toward the internet and mobile technologies as reading platforms encourage us to consider *bible as an interface that affords high surface area, collaboration, and anarchy*. Building on a growing attention to materiality in the study of religion and iconic books like the bible, I suggest bible as interface here to signal that bible is more than a container of content. Rather, bible as interface is a relationship between a material platform and a user that can not be reduced to simple consumption of content. Rooted in the material religion approaches of Brent Plate and James Watts and animated by the interface theory of Johanna Drucker extended through a Levinasian optics of proximity, I will explore the many contact points of high surface area, the interruptive processes of collaboration, and the irreducibility to a single original text or single proper use in anarchy through a close look at the materiality of bible from ancient roll to digital API.

## Locating Within the Conversation

Robert Kraft was an early pioneer in these questions about the relationship between our present technological transition from print to internet and the shift from scroll to codex in antiquity. Focused particularly on the notion of canon, Kraft articulated the possible impacts at work in these somewhat analagous transitions, worlds apart in terms of history and culture, saying “For many years now, I have wondered whether the technological change from the scroll format to the large-scale codex influenced, at least in some situations, perceptions about ‘the bible,’ and especially the extent to which the classical Christian concept of a closed or exclusive ‘canon’ of scripture depended on that development.”[[5]](#footnote-5) As early Christian writers worked to translate their literary craft from roll books to codex form, Kraft used his own experimentation with a barely emerging writing/reading technology, the internet, to explore how technological changes might have impacted a reader or writer’s relationship to books and text. In the piece quoted above, we can see the attempts to translate print structures such as footnotes into the internet “page.”[[6]](#footnote-6)

Using simple notation such as “—” to separate between a paragraph and the related notes, “===” to separate between notes and the next paragraph, and “\#/” to designate a note, Kraft attempted to translate familiar print structures into the continuous scrolled “page” of the internet. Without discrete page divisions with footers at the bottom of each page, as we would find in a typical book (codex), Kraft invented a similar structure to keep the familiar construct of notes in his text. Though this notation was no longer demanded by the web writing platform chosen by Kraft, much like multiple vertical columns were unnecessary on a codex page, Kraft worked hard to translate structures familiar to print readers into this new environment of the web page. His performance of the difficulties and possibilities of this new medium provided an object lesson for the theoretical questions he posed about the relationship between book technologies and users of books.[[7]](#footnote-7) It is the both/and of Kraft’s approach that is most instructive for me both practically and theoretically.

All new media contain their predecessors, even if not reduced to simple imitation or remediation, so it is no surprise that print features such as pages and footnotes remain even in this web environment used by Kraft.[[8]](#footnote-8) Kraft also explored new terrain in the process of academic publication by producing his writing in a new form without having to eradicate or cease to participate in more traditional print forms of scholarly production. I continue in the line of questioning pioneered by Kraft, still wondering how the evolving material interfaces of bible, the technologies of bible as book, might “[affect our] perceptions about ‘texts,’ ‘books,’ ‘reading,’ and the like….”[[9]](#footnote-9)

## Digital Materiality

Following in the footsteps of Kraft, I was hoping to both describe and perform the thesis that throughout its rich media history, bible has been an interface that provokes probabilistic production through the affordances of high surface area, anarchy, and collaboration. Yet, due to the confines of the dissertation genre, I will limit my explorations to the telling of this thesis and the description of interfaces rather than the construction of interfaces that experimentally embody these material affordances in emerging media environments.[[10]](#footnote-10) Beyond simply articulating a sustained argument in support of the thesis of bible as interface and handling several artifacts to demonstrate the operation of these affordances in the life of bible from antiquity to the present, this project will do some additional work through three specific aims.[[11]](#footnote-11)

First, a sustained attention to the details of several bible artifacts, physical and digital, will highlight the materiality of bible and the participation of users in this materiality. I have introduced a few terms here that deserve further reflection, “materiality,” and “digital.” By materiality or material, I am signaling a focus on the moving parts and structures that make up the spaces of interaction among bibles and users, such as the size of a viewing area for a given bible manuscript or a bible on screen. I do not intend the term “material” to limit our discourse to the raw materials that make up a given interface, such as papyrus, parchment, silicon, and electricity, though these items do play a role. Instead, a focus on the materiality of bible here intends to highlight the characteristics and attributes of bible that are not reducible to the texts of and about bible or the predominant textual analysis typical of most biblical scholarship.[[12]](#footnote-12) The texts of bible and their possibilities of meaning are not irrelevant to this study, but they are not center stage.

The materiality at work in this project fits best the first aspect of Brent Plate’s expansive definition of material religion, “bodies meet objects,” with a distinct focus on the properties and structures of bible as object that shapes the possibilities for user participation in interface with these objects.[[13]](#footnote-13) Groups such as the Society for Comparative Research on Iconic and Performative Texts (SCRIPT) and the Institute for Signifying Scriptures paved the way in considering new methodologies in the materiality of the books that many religions call sacred, but little was done in those conversations to push this material analysis into the emerging materialities of computing and the internet.[[14]](#footnote-14) This study extends the discourse on the materiality of religious books, particularly the bible, into the emerging material landscapes of the digital.

With this approach to materiality, dethroning text as the primary focus of analysis and foregrounding the objects that constitute bible, it is easy then to see how we might develop a more thoughtful exploration of the materiality of the digital as Johanna Drucker has called for in her work on interface theory for the humanities.[[15]](#footnote-15) The term digital has come to represent a massive discourse that begins with the basic distinction between continuous (analog) and discrete (binary) phenomenon, particularly in reference to the binary machine language that is the basis for most forms of computing today. Yet, regardless of any meaningful distinction between continuous and discrete, digital has come to represent all things related to computing, the internet, and in a sense, anything that has a screen as its primary interface.[[16]](#footnote-16) With this broad concept of the digital in mind, when I speak of the materiality of the digital, I mean the attributes and structures of platforms, devices, programs, and other objects that shape the spaces of user activity in the world of computing. Careful attention to these digital materialities are as important for a critical study of bible as are the material structures of an ancient roll or a codex manuscript.

## Grounding Emerging Anxieties

A second aim of this study is to offer an alternative to the pervasive anxieties surrounding emerging technologies such as internet reading and bibles on screens. Jeffrey Siker’s recent book *Liquid Scriptures* brings to bible in particular a growing anxiety about books on screens and a nostalgia for well ingrained modes of reading and knowing fostered by the likes of Nicholas Carr and Sherry Turkle.[[17]](#footnote-17) Emerging technologies have often engendered anxiety around the possible negative impacts on users of new possibilities in technological interface. Sherry Turkle has become a prominent public voice in discussions of technology and its social effect, as evidenced in the impressive attention captured by her recent book, *Reclaiming Conversation: The Power of Talk in a Digital Age*.[[18]](#footnote-18) I first encountered Turkle’s work while engaging a Richard Cohen article, “Ethics and Cybernetics: Levinasian Reflections,” in my struggle with face to face language in online education.[[19]](#footnote-19) Using her work from 1995, *Life on the Screen*,[[20]](#footnote-20) Cohen offers Turkle as an example of media scholars who champion the advantages of cybernetics and internet communication technologies for redefining subjectivities in the direction of post-modern notions of multiplicity and instability.[[21]](#footnote-21)

Turkle’s more recent work has shifted focus from this earlier celebration of the fragmented self to a serious anxiety about the effects of robotics and mobile devices on our social capacities as humans.[[22]](#footnote-22) Two minutes into a 2015 NPR interview titled “Making the Case For Face to Face in an Era of Digital Conversation,”[[23]](#footnote-23) Turkle suggests that “face to face conversation is the most human and humanizing thing that we do, it’s where we learn to put ourselves in the place of the other.” For many, this phrase, “face to face,” as Turkle uses it has come to represent “real” human interaction as opposed to a what many see as a weak simulation or even cheap imitation that happens through internet media.[[24]](#footnote-24) Stated another way, Turkle warns of the detrimental effects on personal relationship and intimacy brought about by the ever expanding access to information and connection provided by mobile devices and internet technologies. Turkle prioritizes a physical closeness in space between two humans (her notion of “face to face”) as the most meaningful possible interaction. Interfaces involving machines or technologies are reduced to simply distractions.

Turning more specifically to book interfaces and users, Nicholas Carr has been a consistent voice of concern over the increasing nearness of internet reading interfaces. In his more current work, *The Glass Cage* and *Utopia is Creepy*, Carr continues to provide a useful voice challenging assumptions that the growing ubiquity of internet and computer technologies have a necessarily positive impact on human lives.[[25]](#footnote-25) Here, Carr speaks directly to the tempting technological exuberance Drucker warns us of. The book that put Carr on the map, though, was a book specifically about reading and the internet titled *The Shallows: What the Internet is Doing to Our Brains*.[[26]](#footnote-26) In this book, Carr’s argument is basically that the distractive hyperlinking affordances of internet reading interfaces is rewiring the human brain to think more shallowly. Carr’s attention to the neuroplasticity of the human brain even in adults and the impact of interface use on the shaping of brain pathways provides an excellent example of the material entanglement that operates in interface. Human brains designed internet reading platforms and these interfaces are now participating in the design of the human brain. Yet, rather than simply pointing to the differences emerging in neural pathways that seem connected to reading on the internet, Carr laments the waning of the codex interface and identifies these new dispositions and brain wirings as “shallow.”[[27]](#footnote-27)

Carr actually begins his entire analysis with a look back to Marshall McLuhan’s most famous book, *Understanding Media*, and his most well know aphorism, “the medium is the message.”[[28]](#footnote-28) Although he clearly respects the prescience and value of McLuhan’s work, even using McLuhan’s own language as the subtitle for his prologue, Carr immediately betrays an underlying fear of change and nostalgic anxiety as he emphasizes McLuhan’s polemic against the neutralists without any attention given to McLuhan’s celebration of art and social reorganization in the retribalization made possible by the collapse of time and space brought on by electric technology.[[29]](#footnote-29) While Carr gives no attention to this part of McLuhan’s discussion of electric technology, I can’t help but hear echoes of McLuhan’s global village when I read Clay Shirky’s assessment of the internet age in *Cognitive Surplus*, which offers a stark and compelling counterpoint to Carr’s pessimism.[[30]](#footnote-30) Carr leverages McLuhan’s clever and incisive claims about the power of technology in shaping human culture, but all the while operates with a sense that the dangers of digital technology are inevitably fatal. Though McLuhan is exceedingly clear on the risks of technological change and advancement, the tone of *Understanding Media* strikes me as loaded with potential and possibility, whereas even Carr’s title spells doom. For Carr, the growing ubiquity of internet reading fosters multiple foci, shorter durations, and a lack of depth that have a decidedly negative impact on human learning and knowledge.[[31]](#footnote-31)

While Turkle and Carr are unequivocally negative, cautious, and pessimistic about the possibilities for meaningful relationship, knowledge, and learning in the emerging technological landscape, Jeffrey Siker’s recent book, *Liquid Scripture: The Bible in a Digital World*, suggests “a mixed blessing” when he asks similar questions about the impact of the rise of the digital on the use of the bible.[[32]](#footnote-32) Siker looks at the role of digital bibles (i.e. bibles accessed on screens) in both religious practice and the academic study of the bible. Though Siker points out the possible advantages for access to research tools and some long form engagement in interpretive tasks through blogs and YouTube, the majority of his analysis of digital bibles seems to take on a tone of caution and loss. Using language similar to Carr’s “shallows,” Siker characterizes bibles on screens as better fit for surface reading and skimming than for “deep” reading and he laments the loss of covers as a threat to the bible’s authority as well as the loss of shape, the loss of tangibility, and the the loss of stability of the biblical text.[[33]](#footnote-33)

An additional signal of the governing anxiety and caution of Siker’s book can be found in the title itself, *Liquid Scripture*. For Siker, the liquidity of scripture in a digital age is decisively negative. Digital technologies both “water down” the boundaries of the biblical text and make this text less stable through the proliferation of translations.[[34]](#footnote-34) This same capacity for proliferation, yet in a different register, I will argue as a strength for bible as it emerges beyond the lost covers Siker laments. Siker’s anxiety around the loss of stability and authority of the bible in a “liquid” digital environment continues to propagate the more generalized fears undergirding both Turkle and Carr’s work. With Siker, I am exploring the significant changes in use of bible as it moves into a different technological era. Yet, my approach aligns much closer to that of Timothy Beal, who highlighted these changes in the mediation of bible nearly a decade earlier in his book *The Rise and Fall of the Bible*. Beal writes, “The icon of the Bible, The Book of books, is in the process of deconstruction. And that, I believe, is a good thing. It’s the end of the Word as we know it, and *I feel fine*.”[[35]](#footnote-35) Like Siker, Beal points toward the impacts of the “twilight of print” on the cultural uses and imaginations of bible.[[36]](#footnote-36) Unlike Siker, Beal finds a resurgence of the antique liquidity at work in bible through polyvocality[[37]](#footnote-37) and proliferation.[[38]](#footnote-38) With Beal, as the bible emerges into a digital world, I feel just fine.

Most certainly, we need to attend to the social effects of any emerging technology, both positive and negative, and I applaud Siker, Carr and Turkle for challenging our culture’s tendency to uncritically embrace emerging technologies. Yet, rather than simply lamenting the loss of a particular way of relating to books and bible, looking for enduring affordances that connect older familiar technologies to emerging platforms can help build capacities in users to participate in new interfaces in meaningful ways even as they may helpfully challenge the value of more traditional uses. I will use three related approaches to help offer an alternative perspective to the common resistance to so called “new” technologies.

### Emergence

First, whenever possible, I will refer to *emerging* technologies instead of *new* technologies or *new* media.[[39]](#footnote-39) The language of new and old sets up a potentially dichotomous relationship between technologies that can lend itself to overly simplistic hierarchical evaluations. Focusing on the ongoing *emergence*[[40]](#footnote-40) of technologies signals both that each iteration of a technology is somehow connected to what came before it and that this process of technological evolution is never finished.

### Material Media Translation

Second, to support this focus on emergence, I propose a palimpsestuous notion of “material media translation” to describe the relationship between technologies as they emerge over time. In *Understanding Media: The Extensions of Man*, Marshall McLuhan points us toward the cracks in the reign of print, that illustrious descendant of the codex, in the face of an emerging electronic age. McLuhan reminds us that technologies (media) are extensions of ourselves and that the message of every medium is its effect on our social relations.[[41]](#footnote-41) Instead of focusing on the content delivered and consumed by any new technology, McLuhan emphasizes the impact of technologies on human relationship with the world and one another through a “change of scale.” He writes,

What we are considering here, however, are the psychic and social consequences of the designs or patterns as they amplify or accelerate existing processes. For the “message” of any medium or technology is the change of scale or pace or pattern that it introduces into human affairs[[42]](#footnote-42)

Here, McLuhan challenges our binary tendencies between new and old and suggests that emerging technologies build upon existing technologies and bring a change in speed, size, or pattern, etc., which connects existing technologies with those that are emerging. For example, it is precisely this change in existing processes we find in the amplification of non-linear access from the emergence of the codex to the ubiquity of internet search. Just as the codex performed the multiple columns per page of a scroll, so internet search performs and amplifies the print index. I refer to this phenomenon of media building upon and containing its predecessors as *material media translation*. The language of translation is helpful here because it signals that all media transformations involve a negotiation between new and old with inevitable loss and gain. I use the phrase “material media” to qualify this translation to differentiate this process from the common process of “media” translation of texts into other forms of media such as sound and film. In material media translation, it is the materiality of the technological interface that is translated, not simply its “content,” whatever that might entail.[[43]](#footnote-43)

### Affordances

Third, to highlight the palimpsestuous nature of material media translation of bible from various book technologies to platforms that push beyond book, I will focus on a particular technology’s affordances. Affordances as a concept were first introduced in 1977 by James J. Gibson, a perceptual psychologist, to describe the possible interactions with an agent made possible by a particular environment.[[44]](#footnote-44) An important aspect of Gibson’s invention of affordances is their relational nature. An affordance is a possible relationship between the physical properties of a “surface” and an organism encountering that surface.[[45]](#footnote-45) Take for example, a reader using a codex as a surface or environment, as Gibson calls it. The physical properties of a codex include flexible pages bound together on one long side with a cover on the front and back. These pages have writing on them. On one level, this codex *affords* reading for the reader. More specifically, the codex affords non-linear access to text for a reader because of the physical properties of binding on one side and flexible pages instead of being rolled up in one long sheet from one end to the other as in a roll.

Donald Norman brought Gibson’s notion of affordances into the world of human-computer interface design and focused the concept on those actions “perceived” as possible or likely by a user of an interface by combining the operations of affordances, signifiers, and constraints.[[46]](#footnote-46) Rather than exploring any action made possible by the relationship between the physical properties of an environment and the capacities of a user, Norman focused more on the possible uses that would make sense to a user when encountering an interface.[[47]](#footnote-47) Norman is focused on intuitive and useful interface design, with primarily the designer in mind and wanting to facilitate affordances that are readily apparent to a user. One of the reasons I will stay closer to the more generic notion of affordances offered by Gibson as we discuss bible as interface is to distance our discussion from the singular intent of the “appropriate” or “proper” use of a technology as determined by the designer.[[48]](#footnote-48) The concept of affordances will allow us to discuss the possible relationships between bible and user across several different technological environments.[[49]](#footnote-49)

## Suggesting New Capacities

A third aim operative in this exploration of bible as interface is to demonstrate new capacities and new literacies demanded of biblical scholars to critically study bible as our technological landscape shifts. Here I am inspired by the work of John Miles Foley’s Pathways Project,[[50]](#footnote-50) the Academic Book of the Future Project,[[51]](#footnote-51) and the ongoing work of the Experimental Humanities @ Iliff working group.[[52]](#footnote-52) As bible interfaces proliferate in a technological landscape that prioritizes the production of more interfaces though APIs and other programming frameworks, my close handling of emerging bible interfaces beyond the book points toward new languages, new tools, and new mechanisms of close reading that will need to become a part of training biblical scholars of tomorrow. Learning basic skills in emerging technologies such as Python, XML, JavaScript, and APIs will give scholars powerful tools to further analyze and ask new questions of the antique data set with which they have worked for centuries. Without these literacies, the careful critical edge of biblical scholarship will decline as bible exceeds the boundaries of book as we know it. In this study, I only begin to signal the kinds of capacities we will need to continue to explore the rich life of bible and its use. More than articulating a specific set of tools necessary for an emerging generation of biblical scholars, I hope to practice a process of inquiry that can be expanded and adapted as quickly as the technologies with which we work.

## Defining Bible

One last definition is in order before I provide a basic roadmap for where we are headed in the rest of the project and that definition is of bible. At its basic etymological and translational roots, bible means book. When referring to sacred writings, the neuter plural of βιβλιον was most often used, τα βιβλια, which slowly transitioned to a feminine singular in Latin, which is where we get the singular “bible” referring to the collection of Christian sacred writings.[[53]](#footnote-53) From its roots, bible is a material artifact even at the linguistic level, being related to the papyrus material from which roll books were made in antiquity. Before we ever get bible as collection of sacred writings or as generic authoritative work, we have bible as book technology.

Though etymology does not determine the meaning of words, this historical entanglement of form and content in the construction of the word “bible” already anticipates the work we are doing here regarding bible as more than the content it might contain.[[54]](#footnote-54) With a nod to this technological etymology, when I use the term bible in this project, I am referring to the technologies that afford the use of Judeo-Christian sacred writings. I refer to “use” of sacred writings to signal that there are many uses of bible beyond simply reading, but my analysis here will be primarily focused on readerly type uses, even if some of the emerging bible interfaces we consider might challenge our conceptions and boundaries of reading. Though the important distinctions between conceptions and use of bible in the different Judaisms and Christianities that emerge from antiquity are absolutely worth considering, I will save that work for future explorations and will make no claims about the content boundaries of these sacred collections.

## Making a Path

Though some terms remain to be more fully explicated in the coming portions of the study, such as interface, we have enough of a background now to articulate the plan for what follows. I will begin with a look at interface as a way of interrupting the reduction of bible to the content it contains and direct our attention to interface as a relationship of user and platform that can not be reduced to consumption through the affordances of high surface area, collaboration, and anarchy. Having a working notion of bible as interface, I will trace the entangled affordances of high surface area, collaboration, and anarchy through three examples of bible as book interface, namely, roll bible, codex bible, and Kindle bible. Then, through a close look at these affordances in a web interface built around the digitization of one famous codex bible, Codex Sinaiticus, I will examine the beginnings of imagining bible beyond book. Finally, I will demonstrate the affordances of high surface area, collaboration, and anarchy in two bible interfaces that have moved decidedly beyond the covers and even the pages of bible as book. All along the way, we will see the material media translation at work in these emerging interfaces, which will foreground the materiality of each of the interfaces and the capacities necessary to critically engage them.

1. I prefer to use the anarthrous lower case “bible” instead of “the Bible” to signal the vast cultural phenomena of bible beyond a single book and to honor the proliferation that has been a part of bible as interface for its long history. [↑](#footnote-ref-1)
2. Lev Manovich, *The Language of New Media* (Cambridge, Mass.: MIT Press, 2002). [↑](#footnote-ref-2)
3. For our purposes here, the larger category of book denotes a technology that involves the fastening together of discrete pieces of material to gather and set boundaries for a writing or collection of writings, which is primarily governed by the structure of the page. This broad definition of book encompasses roll books, palm leaf books, codicies, and Kindle books. A codex is one particular book technology that uniformly folds pieces of material, usually papyrus, parchment, or paper of some sort, and fastens these folded bundles together at one edge to form a spine. See Roberts and Skeat, *The Birth of the Codex*, 1, for a discussion of this definition, where they add “usually protected by covers.” Because of the codex’s predominance as a book technology since as early as the fifth century C.E., in today’s parlance, book and codex are used interchangably. [↑](#footnote-ref-3)
4. Here again, given the broader definition of book I put forth above, bible beyond book suggests something more than simply bible beyond codex, even though codex has come to dominate our cultural imagination of book. [↑](#footnote-ref-4)
5. Robert Kraft, “The Codex and Canon Consciousness,” http://ccat.sas.upenn.edu/gopher/other/journals/kraftpub/Christianity/Canon, accessed on April 24, 2017. [↑](#footnote-ref-5)
6. Even the fact that we call web objects pages suggests the durable presence of the codex and print on our media sensibilities. Yet, as Walter Ong noted in his *Orality and Literacy: The Technologizing of the Word* (London: Methuen, 1982), 133, there is a secondary orality at work in the “scrolling” we use to navigate these “pages” of the internet. The language we use to talk about emerging technologies provides a strong reminder of the palimpsestuous nature of media translation. [↑](#footnote-ref-6)
7. This draft electronic writing eventually gets published in print as chapter 14 in Lee Martin McDonald and James A. Sanders, eds., *The Canon Debate* (Hendrickson Publishers, 2002). [↑](#footnote-ref-7)
8. For an exemplary discussion of the complicated and layered relationship between new and old media, see Lev Manovich, “Alan Kay’s Universal Media Machine,” http://manovich.net/index.php/projects/alan-kay-s-universal-media-machine, accessed on September 23, 2017. Here, Manovich, p. 6-7, challenges the simplistic notion of new media as imitating or remediating it predecessors and focuses on the addition of new affordances. [↑](#footnote-ref-8)
9. Robert Kraft, “The Codex and Canon Consciousness,” http://ccat.sas.upenn.edu/gopher/other/journals/kraftpub/Christianity/Canon, accessed on April 24, 2017. [↑](#footnote-ref-9)
10. Early experiments in the construction of interfaces as a part of this project can be found at http://textpotential.github.io/aproximatebible. Though largely hidden to the reader, I am still taking Kraft’s lead in small ways by composing my dissertation in a syntax developed for web writing called markdown (https://daringfireball.net/projects/markdown/syntax, accessed on June 10, 2017) and then converting markdown to Word document formatting using a command line document converter called pandoc (http://pandoc.org/, accessed on June 10, 2017). [↑](#footnote-ref-10)
11. Thanks to Benjamin Peters for demonstrating this helpful structure of combining a single thesis with multiple aims. [↑](#footnote-ref-11)
12. My approach to materiality as a challenge to the dominant textualism of both biblical scholarship and the study of religion has been formed by S. Brent Plate’s development of methodologies in material religion in works such as “The Skin of Religion : Aesthetic Mediations of the Sacred,” *Cross Currents* 62, no. 2 (June 2012): 162–80 and *A History of Religion in 5 1/2 Objects: Bringing the Spiritual to Its Senses* (Boston: Beacon Press, 2014) as well as Manuel Vasquez’s explorations of the limits of textualism in *More Than Belief: A Materialist Theory of Religion* (Oxford: Oxford University Press, 2011). [↑](#footnote-ref-12)
13. Plate, *Key Terms in Material Religion*, iv. [↑](#footnote-ref-13)
14. See http://script-site.net/ and http://iconicbooks.blogspot.com/, accessed on June 11, 2017 for more information on SCRIPT. The Institute for Signifying Scriptures can be found at http://www.signifyingscriptures.org/, accessed on June 11, 2017. [↑](#footnote-ref-14)
15. Johanna Drucker, “Performative Materiality and Theoretical Approaches to Interface,” Digital Humanities Quarterly 7, no. 1 (2013). [↑](#footnote-ref-15)
16. See Gregory Grieve, “Digital” in , *Key Terms in Material Religion*, ed. S. Brent Plate (Bloomsbury Publishing, 2015), 58-60, for an example of the digital being more about computing than any sense of discreteness that would be perceivable by users. [↑](#footnote-ref-16)
17. Jeffrey S. Siker, *Liquid Scripture: The Bible in a Digital World* (Fortress Press, 2017). Nicholas Carr, *The Shallows: What the Internet Is Doing to Our Brains* (New York: W. W. Norton & Co. Inc., 2010). Sherry Turkle, *Reclaiming Conversation: The Power of Talk in a Digital Age* (New York, New York: Penguin Books, 2015). [↑](#footnote-ref-17)
18. Sherry Turkle, *Reclaiming Conversation: The Power of Talk in a Digital Age* (New York: Penguin Books, 2015). For some samples of the attention this book has garnered, see https://storify.com/textpotential/turkle-face-to-face. [↑](#footnote-ref-18)
19. Richard A Cohen, “Ethics and Cybernetics: Levinasian Reflections,” *Ethics and Information Technology* 2, no. 1 (June 1, 2000): 27–35. [↑](#footnote-ref-19)
20. Sherry Turkle, *Life on the Screen: Identity in the Age of the Internet* (New York: Simon & Schuster Paperbacks, 2014). [↑](#footnote-ref-20)
21. Cohen, “Ethics and Cybernetics,” 27 n. 2. The notions of multiplicity and instability in the subject in this early work of Turkle has some resonance with the high surface area and anarchy I offer as affordances of bible. [↑](#footnote-ref-21)
22. Sherry Turkle, *Alone Together: Why We Expect More from Technology and Less from Each Other* (Cambridge, Mass.: Perseus Books, 2013) and *Reclaiming Conversation*. [↑](#footnote-ref-22)
23. http://www.npr.org/2015/09/26/443480452/making-the-case-for-face-to-face-in-an-era-of-digital-conversation [↑](#footnote-ref-23)
24. In a few of her writings about the concern for the face to face, Turkle explicitly uses Emmanuel Levinas’s philosophy to add weight to the issue at hand. Yet, Turkle reduces the “face to face” to a physical and spatial nearness in her work that does not resonate well with the face being precisely that which is unseen in Levinas. See Levinas, *Ethics and Infinity*, 85-86. [↑](#footnote-ref-24)
25. Nicholas Carr, *The Glass Cage - Automation and Us* (New York: WW NORTON & CO, 2015) and *Utopia is Creepy: And Other Provocations* (New York: W W NORTON & CO, 2017). [↑](#footnote-ref-25)
26. Nicholas Carr, *The Shallows: What the Internet Is Doing to Our Brains* (New York: W. W. Norton & Co. Inc., 2010). [↑](#footnote-ref-26)
27. Carr, *The Shallows*, Kindle Locations 1984-1986, writes, “when we go online, we enter an environment that promotes cursory reading, hurried and distracted thinking, and superficial learning. It’s possible to think deeply while surfing the Net, just as it’s possible to think shallowly while reading a book, but that’s not the type of thinking the technology encourages and rewards.” I had the privilege of working with a poet colleague at Case Western Reserve University, Sarah Gridly, who consistently and generatively pushed our digital humanities efforts to find ways to encourage a disposition toward attention to ambuiguity. Gridly is calling us to participate in interfaces that are irreducible to consumption through high surface area, collaboration, and anarchy, all of which feed the ambiguity of which she speaks. [↑](#footnote-ref-27)
28. Marshall McLuhan, Understanding Media: The Extensions of Man, (New York: McGraw-Hill, 1964), 7. [↑](#footnote-ref-28)
29. McLuhan’s idea of the “global village,” made popular in his earlier book, *The Gutenberg Galaxy* (Toronto: University of Toronto Press, 1962) encapsulates the retribalization process I mention here. [↑](#footnote-ref-29)
30. Clay Shirky, *Cognitive Surplus*: Creativity and Generosity in a Connected Age\* (New York: Penguin Press, 2010). [↑](#footnote-ref-30)
31. Carr, *The Shallows*, Kindle locations 2812-2814, writes, “What that ancient Roman craftsman wove together when he created the first codex is unstitched. The quiet that was ‘part of the meaning’ of the codex is sacrificed as well. Surrounding every page or snippet of text on Google Book Search is a welter of links, tools, tabs, and ads, each eagerly angling for a share of the reader’s fragmented attention.” [↑](#footnote-ref-31)
32. Siker, *Liquid Scripture*, 36, writes, “I will also be arguing that this transition in technology is a mixed blessing when it comes to how we read and understand the Bible.” [↑](#footnote-ref-32)
33. Siker, *Liquid Scripture*, 37-51. Siker’s summary of his arguments in his introduction do not reflect much mixed or much of a blessing in the many expressions of bible in an increasingly digital landscape. With his clear commitments to the stability and authority of the biblical text, I wonder if a more apt subtitle for Siker’s book might be, “The digital in a biblical world,” instead of “The Bible in a Digital World?” [↑](#footnote-ref-33)
34. Siker, *Liquid Scripture*, 38. [↑](#footnote-ref-34)
35. Timothy Beal, *The Rise and Fall of the Bible : The Unexpected History of an Accidental Book* (Boston: Houghton Mifflin Harcourt, 2011), Kindle location 296. [↑](#footnote-ref-35)
36. twilight [↑](#footnote-ref-36)
37. Beal, *The Rise and Fall of the Bible*, Kindle location 2334. [↑](#footnote-ref-37)
38. Beal, *The Rise and Fall of the Bible*, Kindle location 1756. [↑](#footnote-ref-38)
39. Media and new media are vastly expansive terms that can encompass things such as technologies, art, books, and even bodies. Understanding that it is a drastic reduction, I will use media and technology interchangably in this study. For excellent examples of considering the connection of emerging technologies to the technologies that gave rise to them, see Lev Manovich, *The Language of New Media* (Cambridge, Mass.: MIT Press, 2002) and Marshall McLuhan, *Understanding Media: The Extensions of Man* (New York: McGraw-Hill, 1964). [↑](#footnote-ref-39)
40. The shift from talking about “new” technologies or media to “emerging” already signals my value on anarchic methodologies or sensibilities. Articulating a “new” technology suggests a kind of origin at that moment, backgrounding the embeddedness of this new thing in what preceded it. Emerging technologies have no stark origin, but are built from and always entangled with preceding technologies. [↑](#footnote-ref-40)
41. McLuhan, *Understanding Media*, 7-8, writes, “In a culture like ours, long accustomed to splitting and dividing all things as a means of control, it is sometimes a bit of a shock to be reminded that, in operational and practical fact, the medium is the message. This is merely to say that the personal and social consequences of any medium-that is, of any extension of ourselves-result from the new scale that is introduced into our affairs by each extension of ourselves, or by any new technology.” Mcluhan has many critics and I am aware of the possibility for a technological or media determinism in ideas such as “the medium is the message.” For a semiotic critique of McLuhan’s notion of medium, see “Cogito Interruptus” in Umberto Eco, *Travels in Hyper Reality: Essays*, trans. William Weaver (San Diego: Harcourt Brace Jovanovich, 1986). For an explicit critique of the tendency toward technological determinism in McLuhan, see “The Technology and the Society” in Raymond Williams, *Television: Technology and Cultural Form* (New York: Routledge, 2003), 1-25. [↑](#footnote-ref-41)
42. McLuhan, *Understanding Media*, 8. [↑](#footnote-ref-42)
43. In our book technology tradition itself, we have a material metaphor for this process of material media translation, the palimpsest. A palimpsest is a manuscript that has been written on, erased, and then written on again. In normal use, a palimpsest may seem like a new manuscript, showing few or no hints of its previous life and use. Yet, upon closer examination, the erasure of the previous writing is never complete and continues to shape the space of the manuscript, even if unnoticed by the typical user. *Codex Ephraemi Rescriptus*, a fifth century manuscript of biblical texts in Greek, washed and written over in the 12th century with Greek translations of the fourth century Syriac writings of Ephrem the Syrian is one famous example of a material biblical palimpsest. To see a digital image of a page of this manuscript, visit BnF Gallica, “Codex Ephraemi Syri rescriptus 1v view 15,” http://gallica.bnf.fr/ark:/12148/btv1b8470433r/f15.item, accessed September 25, 2017. This material enactment of palimpsest, two column miniscule Greek translations of Syriac over single column uncial Greek biblical texts, illustrates the process of emerging technology building upon existing structures to make something new without completely erasing what preceded it. The instructive part of palimpsest for material media translation is that no technology begins on a blank page and even if a new technology may seem to stand on its own, the echoes of its predecessors always lurk. In our analysis of emerging technologies related to bible, each “new” technology writes over an existing technology (or many technologies) with only partial erasure. Thus, material media translation enacts a kind of palimpsest. For example, though the codex erases the linear scrolling access of the roll, it retains the multiple vertical columnar structure even though not demanded by the structure of the codex page. [↑](#footnote-ref-43)
44. James J. Gibson, “The Theory of Affordances,” in *Perceiving, Acting and Knowing: Toward an Ecological Psychology*, ed. Robert Shaw and John D Bransford (Hillsdale, N.J.: Lawrence Erlbaum ass., 1977) and later expanded in James J. Gibson, *The Ecological Approach to Visual Perception* (New York, N.Y.: Psychology Press, 2015). [↑](#footnote-ref-44)
45. Gibson, *The Ecological Approach to Visual Perception*, 125, writes, “The affordances of the environment are what it offers the animal, what it provides or furnishes, either for good or ill. The verb to afford is found in the dictionary, but the noun affordance is not. I have made it up. I mean by it something that refers to both the environment and the animal in a way that no existing term does. It implies the complementarity of the animal and the environment.” A critical piece of Gibson’s theory is the relational nature of affordances and the way affordances problematize any binary between subject and object. An affordance is not simply a property of an object or of a subject, it is a possible relationship of encounter between participants in the encounter. We will see that this notion of affordance has affinity with the operations of interface. [↑](#footnote-ref-45)
46. Norman 2013, 145. [↑](#footnote-ref-46)
47. In the first chapter of the revised and expanded edition of *The Design of Everyday Things*, 12, Norman tells the story of his relationship with Gibson and their fundamental disagreements about the interpretive role of the brain in the relationship between agents and objects. Norman is clear about his indebtedness to Gibson and the important contribution Gibson made to helping designers pay more attention to the information offered by the physical world. [↑](#footnote-ref-47)
48. In Norman’s definiton of signifer, *The Design of Everyday Things*, 14, we can see this emphasis on the proper at work. He says, “For me, the term *signifier* refers to any mark or sound, any perceivable indicator that communicates appropriate behavior to a user.” This signifer as indicator of “appropriate behavior” is different than an affordance, which is a possible relationship between a surface and an agent, a platform and a user. Norman does allow for accidental or unintentional signifiers, yet, his emphasis on understandability as connected to the communication of “appropriate behavior” could lead toward design governed by determining mechanistic consumption rather than provoking probabilistic production. [↑](#footnote-ref-48)
49. My approach of tracing the affordance of proximity across many bible interfaces throughout history is informed by N. Katherine Hayles’s “Media Specific Analysis” methodology demonstrated in “Print Is Flat, Code Is Deep: The Importance of Media-Specific Analysis,” Poetics Today 25, no. 1 (March 20, 2004): 67–90. [↑](#footnote-ref-49)
50. http://www.pathwaysproject.org/, accessed on June 12, 2017 and John Miles Foley, *Oral Tradition and the Internet: Pathways of the Mind* (Urbana: University of Illinois Press, 2012). [↑](#footnote-ref-50)
51. https://academicbookfuture.org/, accessed on June 12, 2017 and Rebecca E. Lyons and Samantha J. Rayner, eds., *The Academic Book of the Future* (London: Palgrave Macmillan, 2016). [↑](#footnote-ref-51)
52. http://library.iliff.edu/humanities/, accessed on June 12, 2017. [↑](#footnote-ref-52)
53. LSJ, s.v. “βιβλιον” and Michael D. Coogan, *The Oxford Encyclopedia of the Books of the Bible* (Oxford: Oxford University Press, 2011), 75. [↑](#footnote-ref-53)
54. See Colin H. Roberts and T. C. Skeat, *The Birth of the Codex* (London: Oxford University Press, 1983) for more details on the role of bible in the rise of the codex, Harry Y. Gamble, *Books and Readers in the Early Church: A History of Early Christian Texts* (New Haven: Yale University Press, 1997) for the role of the codex in the emergence of Christian reading practices, and Timothy Beal, *The Rise and Fall of the Bible : The Unexpected History of an Accidental Book* (Boston: Houghton Mifflin Harcourt, 2011) for the role of emerging media transitions in our cultural imagination of bible. [Finished in 0.2s] [↑](#footnote-ref-54)