# CHAPTER 2: INTERFACING BIBLE AS BOOK

Even though interface is a relatively new term in the articulation of the relationship between user and bible, the operations of interface as relationality irreducible to consumption have been present in bible since antiquity. Since book is so central to the emergence of bible in history, I will begin by exploring three examples of bible as book – a roll bible, a codex bible and a Kindle bible. All three of these examples fall in the category of bible as book interface, which has been the dominant interface type for bible throughout most of its existence.[^0] Carefully attending to these book interfaces of bible, we will look for the affordances of high surface area, collaboration, and anarchy. Seeing these affordances at work in these book interfaces of bible will prepare us for looking at bible beyond the book and how these critical affordances might carry bible into our emerging technological landscape without losing connection to the rich tradition of bible as interface throughout history.[[1]](#footnote-1)

## Bible on a Roll

Before bible became Bible, it was book. Our concept of book has become so deeply entangled with the dominant book technology of nearly the last two millennia, the codex, that we forget book has not always been codex. Based on the definition of book I began with in the introduction, “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,” we could imagine book going all the way back to stone tablets. I won’t take us all the way down that road here to avoid the detours it might provide, but in the life of bible as book, it is at least important to consider the codex’s immediate technological ancestor, the roll.[[2]](#footnote-2) We find roll books mentioned by authors in the ancient world and in the bible itself. βιβλιον is the Greek word often translated “book” in the Septuagint and the New Testament. Yet, this word for book that becomes the signifier for the cultural phenomenon of Christian scripture, and so much more, always refers to something otherwise than a codex in these ancient Greek texts, because the codex did not yet exist. Here are a few examples:[[3]](#footnote-3)

LXX Exodus 24.17 - “And taking *the book* (το βιβλιον) of the covenant, he read it into the ears of the people and they said, ‘All things, which the Lord said, we will do and we will hear.’” LXX Nehemiah 8.8 - “And they read in the *book* (βιβλίω) of the law of God, and Ezra taught and ordered [them] in knowledge of the Lord, and the people understood when he read.” 2 Timothy 4.13 - “When you come, bring the cloak, which I left in Troas with Carpus, and *the books* (τα βιβλια), especially the parchments.”

In English translation, with our deep assumption of book as codex, it is easy to read these passages and picture these ancient readers holding a giant leather bound codex. Yet, such a thing did not even exist at the time of these writings.

Rolls were regularly used in early gatherings for worship in communities that came to be known as Jewish. As an example, the book mentioned in the gospel of Luke, from which Jesus read, was a roll. In his book *The Rise and Fall of the Bible*, Timothy Beal offers a detailed look at this scene in the Gospel of Luke and the way Jesus would have used the roll as an interface for reading.[[4]](#footnote-4) In an accident of history, the most complete biblical manuscript found in the caves of Qumran happens to be a roll book containing the biblical writing of Isaiah, which is the text from which Jesus reads in Luke 4. I will use this passage from the Gospel of Luke as a entry into exploring this ancient bible interface found at Qumran, 1QIsaa, otherwise known as the Great Isaiah Scroll. I will start with a close look at the description of the user involvement in this interface provided in Luke 4 followed by an evaluation of the possibility of affording high surface area, collaboration, and anarchy in 1QIsaa.

The pertinent portions of Luke 4 for our purposes are as follows:

And he went to Nazareth, where he was reared, and he went to synagogue on the day of Sabbath according to his custom, and he stood to read. And the roll (βιβλίον) of the prophet Isaiah was given to him and having unrolled the roll (τὸ βιβλίον), he found the place where it was written…and after closing the roll (τὸ βιβλίον) and giving it to the attendant, he sat down (Luke 4:16-17,20).[[5]](#footnote-5)

## The Great Isaiah Roll

Though many translations read βιβλίον as “book” in this passage as elsewhere in the bible, I have chosen to translate βιβλίον as roll to interrupt our contemporary tendency to imagine Jesus reading from a codex. In this episode, Jesus is not handed a leather bound King James bible, but a roll that likely operated much like the Isaiah roll found in cave one at Qumran. The Great Isaiah Scroll (1QIsaa) was one of the first seven manuscripts found at Qumran and is the largest and one of the most well preserved of the entire collection. This bible interface is such a treasure that it is on display at the Shrine of the Book at the Israel Museum in Jerusalem.[[6]](#footnote-6) 1QIsaa is approximately 24.5 feet long and was made from 17 sheets of parchment like material sewn together with linen thread. Stretched out, this scroll would be just shy of the width of the singles lines on a tennis court, so you can imagine how substantial this book interface might feel in a user’s hands.[[7]](#footnote-7) On these sutured together skins, the text is written in Hebrew in fifty four columns that encompass the entire text of the biblical writing of Isaiah.

In general, as an interface, the roll offers a two handed user experience when reading that combines the analog, a continuity, and the digital, discrete bits. The typical roll book consists of several sheets of papyrus or parchment, glued or stitched together from edge to edge, written on one side in columnar fashion and rolled up for easy storage and protection. To read, a user would use one hand to unroll in the direction of reading, right to left in Hebrew, left to right in Greek, and the other hand to reroll the used portions of the text. A more contemporary, but already out of date, technology that emulates the mechanics of a roll is a cassette tape or a reel to reel film. If you can imagine rolling the two spools of a cassette tape by hand and reading for text on the tape, that is similar to how users interfaced with the roll. In fact, some rolls had handles that functioned like spools to enable the user to more easily move back and forth through the book. Imagine the inefficiency and frustration in this interface. Once you get to the end of a roll book, a user has to unroll (or is it reroll?) all the way back to the beginning to read again. I can imagine an ancient library staffing a circulation station with aspiring student scribes or scholars, where their only task was to roll back books from end to beginning after they had been used by a patron. Perhaps one of the reasons we find author attribution and colophon at the end of ancient roll manuscripts is because users often did not rewind.

The columns of writing in a roll book effectively delineated what we would call pages today as a user would roll with both hands in concert until a single column or maybe a few columns of text were visible, they would read that column, and then would roll again when ready to move on. In this sense, roll as interface offered the user both a linear analog[[8]](#footnote-8) experience of rolling through the trajectory of a book along with a kind of digital processing of the discrete bits of text encountered column by column. Unlike an automated cassette tape, but much like the page turn of the codex, rolling to expose one or a few columns of text at a time breaks up the experience of a text, even if only for a second. This horizontal roll was not the only interface available for reading and writing used in antiquity, it was simply the preferred interface for longer texts and became the dominant roll book form for Israelite scriptures. Shorter decrees, contracts, and letters could be found in a vertical arrangement with the rolling mechanism the same as the horizontal roll, but in a different orientation and the writing was continuous along the roll, rather than being written in discrete columns. With the absence of the columnar interruptions, the vertical roll provided a more continuous reading experience for the user than the horizontal roll.[[9]](#footnote-9) Yet, if a user allowed for multiple columns to be in view at once when reading from a horizontal roll, it would be possible to time rolling over a first column while reading a second column to reveal a third column, and so on.

If we turn back to the scene portrayed in Luke 4, with a roll similar to 1QIsaa in mind as the interface in which Jesus is participating when he reads this passage from Isaiah, what kind of affordances do we see at work? Though we know very little about the practice of reading in ancient synagogues,[[10]](#footnote-10) it is unlikley that Jesus had to unroll this large scroll from the beginning to reach the passage he reads from chapter 61 of Isaiah, which in 1QIsaa is in column 49 of 54 on the third to last piece of parchment. Given the common cycle of readings, the typical use of readings from the prophets, and the presence of an attendant in synagogue practice, it seems more likely that Jesus was handed the roll already positioned toward the text of interest. So, we can imagine the attendant handing Jesus the roll with a large amount of material in the right hand and just the last few sheets rolled up in the left hand.[[11]](#footnote-11) Holding the bulk in his right hand, Jesus unrolls the roll a small amount to expose the column having the passage of interest, he reads a small portion, rolls the two ends back together, and hands the roll back to the attendant.[[12]](#footnote-12)

## Surface Area: One Column at a Time

I suggested in the last chapter that the affordance of high surface area in an interface indicates many points of contact, which encourages participation through many potential points of participation and resists a user’s ability to master or control the whole interface. In a sense, the columnar organization of this roll interface, particularly when used to find and read a small bit as a part of a larger ritual gathering, provides high surface area. The demanding access technology of a roll, requiring two hands to negotiate the location of any one column of text requires a level of user participation that is unfamiliar to us, given both the nonlinear access afforded by the codex and even more so the one handed thumb swipe enabled by Kindle reader on an iPhone. Each column, when in focus, offers one point of contact with the interface and the small bit of text read by the user in this example of Luke 4 also offers simply one of many points of contact with this interface. Though the reader and the community gathered may have a sense of the whole text of Isaiah and even the whole of Hebrew scriptures, this interface event offers one small surface of contact from a large possibility set of surfaces of contact such as other passages, other columns, even other prophetic writings. In terms of the material interface of the roll, the discrete engagement of the user with one column (or even a few) at a time could actually resist the capacity to master the whole. In the episode of Luke 4, there is no attempt to contextualize the passage read aloud by reading the rest of the column or by explaining the location of this particular pericope in relation to the whole of Isaiah, it is simply offered as a bit, or even a sound byte. This offers us an important reminder about interface and the role of both platform and user in performing or producing interface. In its simple material form, requiring linear access to any piece of text by proceeding through the entire whole of the text, a roll book might seem to offer very low surface area. Yet, in use, attending to one column, even one line at a time, this interface becomes rather high surface area, demanding participation in framing the column and resisting the mastery of the whole by distancing the user from the parts of the text which are not visible or even easily accessible.

## Communal Use: Affording Collaboration

There are two ways in which this roll interface demonstrates collaborative affordances. First, the details of the episode in Luke 4 suggest that it was common to have this roll interface passed around to different people to read. So, even though 1QIsaa may have been rather large and cumbersome and may have only allowed for one user at a time, the involvement of multiple readers engaging the roll in this communal synagogue setting over the course of many customary gathering on the Sabbath suggests that the roll interface was used as a collaborative interface. The preparation of the roll by the attendant, the handing back and forth of the roll between the reader and the attendant, and the reading aloud for others to hear, all signal a collaborative endeavor facilitated in part by this bible interface.[[13]](#footnote-13) In his description of the physical appearance and wear of 1QIsaa, Trever hints at the collaborative affordance of this roll interface, saying, “Clear evidence of the long use of the Isaiah scroll in ancient times can be seen on the back of it both in these repairs and in the much darkened area at the center where the hands of many readers held it.”[[14]](#footnote-14)

In addition to this collaborative reading practice, the roll interface exemplified by 1QIsaa signals a second collaborative affordance in the shared task of editing the text. As Trever notes, many of the emendations evidenced in 1QIsaa look to be from the same hand as the scribe that wrote the body of the text.[[15]](#footnote-15) Yet, there is also evidence of other people participating in the emendation of the text by adding words or larger sections that were omitted by the initial scribe.[[16]](#footnote-16) In fact, on line twenty six of column forty nine of 1QIsaa, which contains the first verse of Isaiah 61 we hear read in the episode described in Luke 4, there is an example of this collaborative participation in the production of the text. In the spacing between lines, a different user has added a word just above the line where it seems a word was omitted. By the time 1QIsaa was in use, in the last few centuries BCE, the text of Isaiah was rather well established. So, as users participated in this roll interface, they would easily have identified a missing word or phrase as compared to the established tradition of the text of Isaiah. In this particular case of column forty nine of 1QIsaa, the initial scribe left out *sh’lächaniy*, so another user simply added this word above the line right at the spot in the text where it would have been expected. The marginal spaces and the spacing between lines in this roll interface undoubtedly afforded both ease of reading and some protection of the text from weak points in the material of the manuscript that might develop around the stitching of the sheets. Yet, as we see evidenced all throughout the roll, these spaces become a vehicle for affording collaborative participation in the ongoing construction of the interface that is 1QIsaa.[[17]](#footnote-17)

We can easily imagine the similarities between this collaborative affordance of 1QIsaa and the notes we as teachers leave in the margins of our students’ papers, either with pencil on paper or with annotation bubbles and pointers on a PDF. More advanced interfaces for collaborative construction of a text have emerged in word processing technologies and cloud based document sharing and cooperative editing platforms like google docs. These emerging interfaces allow for a new scale of collaboration by working with a material canvas that allows both erasure and addition without leaving a noticeable trace of the collaboration at work and the ongoing process of making the book.[[18]](#footnote-18) One of the beauties of the constraints of interfaces like 1QISaa is that the collaborative efforts to make the roll user friendly can not be hidden away in a differential file that only appears if a user is curious. Instead, these changes to the text in the spaces between the lines and marginal notations in the gutters are in plain view for every user of the interface to see, signaling that this book continues to morph and emerge through use.

## Hinting at Anarchy

In the previous chapter, I suggested that the third affordance of bible as interfaces is anarchy. Anarchy in interface “resists the closure or consolidation of use to any mechanistic determinism governed by original author, original version, or final form.”[[19]](#footnote-19) In one sense, the visible markings of users continuing to work on the text of 1QISaa resists closure of this interface to a pristine and fixed text. Yet, as was customary in the manuscript copying process of antiquity, many of the changes we see in this interface by the initial scribe and later users are attempts to “correct” the text to more closely resemble its exemplar or the accepted version or tradition of the text of Isaiah.[[20]](#footnote-20) Thus, in another sense, these collaborative markings exhibit archic tendencies, aligning the interface with some original source manuscript or an established proper form of the text it contains. Though 1QIsaa may not exhibit many material properties signaling the affordance of anarchy, the fact that users participated in this interface as a form of communal reading without explicit determinative guides in the interface itself to control or contain or close “the mysterious possibilities of exegesis”[[21]](#footnote-21) offered by reading a few lines from one column near the end of the book suggests the possibility of anarchy in use. The simple fact of inviting participants to read a small bit of text and allowing the listeners to make sense of that short reading as they found fit is a performance of anarchy.

The high surface area of the discrete columns, the collaboration of both communal reading and textual emendation, and the anarchy of expounding on a small excerpt read in the process of a customary ritual gathering suggest that 1QIsaa has the potential to be an interface begging for participation and resisting reduction to consumption of content. It is important to note here, that for this roll bible interface, the communal reading use plays a major role in both demanding participation and resisting mastery, closure and determinism by involving many voices. We will see this combination of small bits and many voices remain as an important indicator of bible as interface.

## Binding the Book: Codex Bible

The roll interface illustrated by 1QIsaa was the dominant bible interface until near the turn of the first century of the common era, when a different technology for book begins to emerge, the codex. Codex is the antique technical term for book as we know it today. The definition offered by Roberts and Skeat in *The Birth of the Codex*, states that a codex is “a collection of sheets of any material, folded double and fastened together at the back or spine, and usually protected by covers.”[[22]](#footnote-22) This is a helpful and precise definition, which highlights the material mashup that codex represents. The fastening of multiple writing surfaces together at one end so that the writing surfaces fold together, face to face, comes from the wooden tablets commonly used by the Romans in antiquity. This collection of wood frames filled with wax is where codex gets its name, with *codae* being Latin for wood.[[23]](#footnote-23) In order to be of practical use for longer writings such as literature, poetry, or scripture, a shift was made to the same type of writing and reading surface as the roll, typically papyrus or parchment. So, the codex becomes a mashup of two writing and reading technologies at the time, the wax tablet and the roll. The main structural difference between roll and codex arises from the way in which sheets are attached together. Rather than gluing or stitching sheets together at an edge in sequence to make a long continuous roll, a codex is made by folding sheets into bundles called quires and then fastening one or more quires at one long edge. The bare minimum material needed to constitute a codex is more than one sheet of material and some kind of binding at the spine. This new interface, though carrying forward continuities with existing technologies, afforded new user relationships.[[24]](#footnote-24)

Derived from its ancestors, the wax tablet, the leaf tablet[[25]](#footnote-25) and the notebook, the codex provided a number of potential technological advantages as compared to the roll. Numerous examples have been suggested, such as portability, capacity, and flexibility.[[26]](#footnote-26) For example, Martial’s late first century promotion of the new codex technology as a fitting format for a traveler’s collection of his poems or other literary classics confirms the accepted value of portability attributed to the codex in antiquity.[[27]](#footnote-27) Allowing for writing on both sides of the writing surface, the codex could hold more text per unit of material and thus smaller, more portable books could be produced. On the other hand, since the codex could theoretically bind an unlimited number of pages and both sides of these pages were used for writing, the codex could hold an increasing amount of text within one book. This tremendous capacity also allowed for increased collection of writings together in one volume. Yet, as we saw with the roll, the pragmatics of user interaction with interface placed some limit on the practical capacity of a single codex. The flexibility of the codex is confined mostly to the multiquire format, where the binding could be removed to facilitate rearrangement, addition, and subtraction of sections.

I agree with James O’Donnell, who suggests that the most valuable technological advantage provided by the codex is non-linear access to text.[[28]](#footnote-28) Non-linear access captures one of the fundamental technical differences between a roll and a codex book interface. The text of a roll has to be accessed in a linear fashion, from beginning to end, even if not all of the text is read. With a codex, access to a text can begin at any point without regard for what precedes or follows, and need not proceed in any sort of linear fashion. I prefer the language of non-linear access to describe this technological innovation over phrases such as “ease of reference” or “random access.” The phrase “ease of reference” does not adequately describe the fundamental transition in the user interface for text processing that accompanied the shift in technology from roll to codex and traditional reference aids did not become common, even in codices, until the fourth century C.E.[[29]](#footnote-29) Though random access was certainly possible with a codex, this seems like extreme language to describe the phenomenon. Reading and writing processes rarely involve or necessitate truly random access to a text.[[30]](#footnote-30) “Non-linear” terminology maintains the idea of user participation in interface and clearly describes one technological affordance brought about by the codex.

Thanks to the collaborative work of the British Library, Leipzig University Library, St. Catherine’s Monastery, and the National Library of Russia, we have the amazing ability to explore one particular example of bible as codex in Codex Sinaiticus.[[31]](#footnote-31) Understanding the irony in this project of using a digitized interface to discuss the parchment codex interface, I will focus here on the affordances of the ancient codex, not on the ways the website affords our interaction with it.[[32]](#footnote-32)

One of the great early bible codices, alongside Alexandrinus and Vaticanus, Codex Siniaticus is thought to be produced in the middle 300’s and contains a majority of what is today considered the Christian bible, with a few particularities and omissions.[[33]](#footnote-33) Siniaticus is a parchment codex of substantial size with 400 leaves remaining of the estimated 730 that were in the full manuscript, totaling something near 1440 pages. The pages are large, measuring 15 by 13.5 inches and the writing is in four columns per page of uncial Greek in *scripta continua*.[[34]](#footnote-34) It is interesting to note the continuation of columnar writing that is carried over from the roll interface. The material interface of codex does nothing to suggest the need to write in multiple columns on a single page, which was a waste of expensive material. Writing all the way across the page would save space, allowing a codex to store more and cost less. Yet, the presence of the roll remains in the columns of the codex as an echo of the interface that preceded it.

## Non-Linear Access and Collectability

Combining the new affordance of non-linear access with increased collective capacities, a codex like Sinaiticus introduces a new scale of surface area into book interfaces. In the roll interface, the mechanics of linear horizontal access with discrete vertical columns exposed one at a time created one kind of high surface area, such that a user might engage one column without having easy access to or awareness of another distant portion of the text. In a simplistic sense, chopping a long text into columns on a roll is akin to grinding up a coffee bean into coffee grounds, thus increasing the discrete surfaces of contact with the entity. Codex Sinaiticus, with four columns per page, thus 8 columns across when open, and an easy page turn away from any distant portion of text suggests a decreased surface area (more text in view at once, so less discrete, perhaps even less digital) as compared to 1QIsaa from the perspective of a single open “page.” Yet, the ability to move back and forth across vast portions of text in a codex with a simple page turn, without the analog-like process of having to move through each portion of text to get there, provides an entirely different kind of discreteness that increases the possible points of entry and contact for the user and at a much faster pace. Even before the prevalence of reference aids in codex interfaces, if we combine the speed and disjunction of non-linear access with the collective capacities of a codex like Sinaiticus, we can see this high surface area at work, both demanding participation and interrupting a user’s ability to grasp the whole of the interface.

If a user was reading Luke 4 in Codex Sinaiticus and came across the passage we explored earlier, which details Jesus’s reading of Isaiah 61:1-2 in synagogue, the user could flip from folio 230 to folio 66 to see more of the context of Isaiah passage. It is the affordance of non-linear access that suggests a practical possibility of collecting these two writings together in one book interface. Even if the theoretical capacity of a roll book could hold enough text to contain both Isaiah and the Gospel of Luke, the linear access of the roll makes it entirely impractical to read from two distant places in a roll in a short period of time. A more common example of the high surface area afforded by the non-linear access and collectability of the codex interface would be a user comparing passages that describe similar events in more than one Gospel text. The presence of marginal markings in Codex Sinaiticus indicating discrete related pericopes in different gospel texts demonstrates the usefulness and evolution of this high surface area capacity as reference aids emerged in the margin to support the practice.[[35]](#footnote-35) On their own, the non-linear access and collective capacities of the codex might have facilitated lower surface area by privileging the access to the whole of a text. Yet, the interruptive process of non-linear access and the multiple voices made available in such a large collection lead to many potential contact points and many modes of access, which afford a high surface area that supports bible as interface irreducible to consumption.

## *Scripta Continua* as Surface Area

Another characteristic of Codex Sinaiticus that contributes to high surface area in interface is the use of *scripta continua*. *Scripta continua* is writing that includes no spaces and no punctuation to identify word breaks or phrase endings. In Codex Sinaiticus, the *scripta continua* even continues across line breaks.[[36]](#footnote-36) The regular patterns of the Greek language allow for fairly predictable and consistent parsing of this uninterrupted string of characters, but there are inevitably places where the algorithms do not produce only one possible reading. As Gamble suggests, the absence of spaces and punctuation demands a participation from the reader that is unfamiliar even to an ancient book like 1QISaa.[[37]](#footnote-37) It might seem more appropriate to consider *scripta continua* as lower surface area since the text all runs together without spaces or punctuation to break the text into discrete bits. Yet, if we consider the use of an interface with *scripta continua*, it actually demands that the user engage each character as a discrete unit to determine where the word breaks and sense breaks need to be to read. So, the absence of spaces demands the reader to participate more actively in constructing the text as it is read. The ambiguity possible in this process of parsing word breaks, though far less frequent than a contemporary reader might imagine, resists a deterministic reading of the text. Thus, *scripta continua* enhances the high surface area of Codex Sinaiticus.

## Collaborative Annotations

As stated by the curators of the Codex Sinaiticus project, one of the most interesting aspects of this ancient manuscript is the rich annotative life it betrays. Klaus Wachtel counts 23,000 places where the manuscript has been adjusted, amounting to an average of 30 annotations per page.[[38]](#footnote-38) Like we saw on a much smaller scale in 1QIsaa, in these markings at the margins, we find a material performance of the affordance of collaboration in interface. Whether deemed as corrections, additions, theological guides, or reading indicators, these annotations demonstrate a participatory reading process that affords collaboration of users and the ongoing use and development of the interface over many centuries.[[39]](#footnote-39) With the roll interface, we found a significant collaborative affordance in the communal reading use. It has been tempting, given the close timing of Constantine’s request for “fifty copies of the divine Scriptures” in 330 and the likely production of Codex Sinaiticus in the fourth century, to imagine Codex Sinaiticus as one of the fifty bibles requested by Constantine to be used in the churches for instruction.[[40]](#footnote-40) Yet, as Gamble points out, the less than portable size of Sinaiticus, the lack of reading aids, and the multi-columnar *scripta continua* suggest that Codex Sinaiticus might not have been well suited for public reading and may have been commissioned for personal use.[[41]](#footnote-41)

Even if this magnificent manuscript was initially intended for private use, we see the affordance of collaboration of the interface at work in the unparalleled volume and diversity of annotations present in the book. Milne and Skeat as well as Jongkind provide detailed accounts of the layers of collaboration in making this interface what it has become.[[42]](#footnote-42) The Codex Sinaiticus Project website provides a nice summary of the kinds of activity present in the interface, which includes no fewer than three initial scribes, as many as nine revisors, three medieval marginal annotators, and arabic glosses.[[43]](#footnote-43) This amount of ongoing participation in the construction of Codex Sinaiticus from the forth century until the twelfth demonstrates the collaborative affordances of the interface and the ongoing emergence of the text. The layout of the pages of the manuscript afforded a great deal of space on all margins that could well be used for annotations. Yet, the vast majority of the markings of participation show up in the small spaces between letters and lines in the body of the text. As I noted in the 1QIsaa interface, here again in Codex Sinaiticus, we have a persistent reminder of the evolving and participatory nature of this interface because the editorial marks remain in place together with the earlier versions of the text. The ongoing presence of earlier and later participations in the interface mimics the palimpsestuous relationship between the roll and codex we see in the persistence of multiple columns on a single page in Codex Sinaiticus. Having access to this antique form of revision control in Codex Sinaiticus, where we see the history of suggested changes offered in the margins by users of the codex illuminates the dynamic collaborative life of the book. This revision history is an ancient precursor to functionality provided by contemporary interfaces such as the show all markup option of the Track Changes functionality in Microsoft Word. Even the spatiality of these distant analogies of revision history share commonality as words are struck through in exchange for others, characters are marked as deleted on the line, and comments float in the margins.

## Opening the Binding: Anarchy in Codex

The character of the revisions found in Codex Sinaiticus and the fact that most of the changes to the text do not fully erase earlier versions of the text also contribute to the anarchic affordance of this bible interface, resisting in a way the consolidating tendencies of the material makeup of the book. As a material construction, Codex Siniaticus is an archic container, embodying the dominance of a singular entity. This massive book is a crowning example of the exploitation of the collective and consolidating affordances of the codex technology. Bringing such a large collection of texts together in one volume, twenty nine early Christian writings and the whole of the Septuagint,[[44]](#footnote-44) was entirely impractical for everyday use, but was a strong signal of the unity and totality of the Christian scriptures. It is hard not to imagine some cultural and cognitive correlation between the growing debates about what writings ought to be included in the authorized collection of Christian scriptures and this exquisite exemplar of codex as container. Though I find Robert Kraft’s suggestions of a relationship between growing Christian canon consciousness and the emergence of codex technology entirely compelling, I appreciate the wisdom of Gamble’s caution to avoid postulating any direct causal relationship between these two phenomena.[[45]](#footnote-45) Regardless of the precise relationship between canon and codex, the ability to collect a large number of related writings in one volume, bound together at the spine, and protected by covers most definitely signals an arche of containment and consolidation into a unity as a material artifact.

Perhaps it isn’t a coincidence that once a user *opens* Codex Sinaiticus, this icon of unity that hints at comprehensiveness and homogeneity affords anarchy through the irreducible polyvocality of the collection and the revision layers. A collection of writings as large as that included in Codex Sinaiticus that come from vastly different time periods and regions inevitably resists any consolidation into a single voice. Challenging the “impoverished” tendencies encouraged by the simplistic cultural iconicity of bible as the unified and comprehensive container of all meaningful knowledge, Timothy Beal points out that “The Bible is anything but univocal about anything. It is a cacophony of voices and perspectives, often in conflict with one another.[[46]](#footnote-46) Beal, well aware of the social effects of media in general and the specific effect of print codices on the use of bible as interface, points to the disjunction between the all encompassing closure and unity suggested by the physical form of the codex and the several layers of difference enacted between the covers. A simple example of the anarchy of the collection is the inclusion of four gospel accounts that constantly offer differences to negotiate among themselves, resisting reduction to any singular account of the life, ministry, and death of Jesus.

Beyond the texts collected together in Codex Sinaiticus, the revision process also indicates an anarchy in this book interface.[[47]](#footnote-47) In his close attention to the character and quantity of textual emendations in Codex Sinaiticus, Klaus Wachtel points out that though there is a tendency to emend the text toward the Byzantine text family, a user is able to discern at least three texts at work at the same time in Sinaiticus, the work of the initial scribes, the systematic emendations of Correctora (Ca) and the even later text of Correctorb2 (Cb2), which works with both the initial text and the text of Ca.[[48]](#footnote-48) Again, because the process of revision in Codex Sinaiticus involved dots over letters or strikethroughs as deletions, rather than hard erasure or total replacement, much of the time, a user can still see the layers of evolution of the text and the direction of the changes does not always suggest a linear progression toward a stable text form.[[49]](#footnote-49) A great example of this ongoing conflict of multiple voices in the revision layers resisting the closure of the interface to a single voice is what Wachtel refers to as the “bloody sweat” episode of Luke 22:43-44. This passage is one of three additions to the text of the New Testament often indicative of the more stable form of the text developed later in medieval times and known as the Byzantine text.[[50]](#footnote-50) Looking at the last 10 rows of column 3 and the first line of column 4 on folio 244b of Codex Sinaiticus, we can see that the initial scribe included the bloody sweat passage and that an early corrector, identified as Ca, used dots above the letters of the first line and then a more efficient dot marking at the beginning and end of each line, to signal the deletion of this passage from the text. In a palimpsestuous object lesson, these erasure dots then get erased by Cb2, but not entirely, leaving a user of this codex with an explicit look at the anarchy of this interface in the ambiguity and polyvocality inscribed on its surfaces.[[51]](#footnote-51)

Before the stable consolidations of the medieval process of transliteration in the ninth century and the emergence of print in the fifteenth century, Codex Sinaiticus provides an example of codex bible that exhibits the affordances of high surface area, collaboration, and anarchy. Though the material characteristics of the bound volume afford instincts toward comprehensiveness, consolidation, and closure, the 800 years of participation in evolving the text betray bible as interface, a relationality that is irreducible to consumption.

## Bible on Screen: Kindle Bible

Of all the possible platforms I could select to explore bible as book in the digital age, I focus on Kindle because it is a familiar and ubiquitous platform that continues to try to perform as book in significant ways. Though Kindle and other ebook platforms offer a distinct change in a user’s relationship to a text, even the nomenclature of “ebook” and “Kindle book” demonstrate that these interfaces continue to imagine themselves in the category of book. Based on the definition of book I began with in the introduction, “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,” Kindle is a book interface. Further, Kindle signals its ancestral relationship with the codex book in its predominant structuring of text in columns on discrete pages that are turned. So, as we have seen with other emerging technologies, Kindle books continue to enact the structures of its predecessors, while extending new affordances in interface.

The number of bibles available on Kindle is unstable. Depending on the day, your location, your search habits, and your demographics, a web search for “Kindle bible” will return a different set of options. Already, in this kind of search, we are performing the probabilistic production of interface, because each search has the potential to produce something new based on different user variables and on the constantly emerging options for bible on the Kindle platform. From my particular location in the USA as a bible scholar who does a fair bit of web searching related to bible, one of the top search results when I pass a simple query of “Kindle bible” is a Kindle Book titled “The Bible - The Holy Bible Formatted for Your eReader.”[[52]](#footnote-52) This title alone deserves some comment. First of all, the main title of the book is simply “The Bible” without any qualifications or further limitations or identifications. The subtitle offers a small amount more to distinguish this bible interface from the others available on Kindle.[[53]](#footnote-53) This bible is a bible “Formatted for Your eReader.” Even in the title, this book is taking seriously the role of interface in the construction of this bible. In this title, there is no mention of version or author or date or language or oder of the text within. What is foregrounded is interface.

If you are willing to spend the $1.99 to purchase this bible interface and you read the “about this book” information, it becomes even more evident that this bible builds its unique identity on the expansion of non-linear access offered by the digital affordances of indexing, anchors, and search. Touch screen navigation, hyperlinked table of contents and chapter/verse markings, and a simplified search mechanism are all the ways this particular bible interface is advertised as unique. The only mention of the particularities of the content of the text inside is a simple statement that this Kindle bible “contains the complete old and new testaments…ASV Version.”[[54]](#footnote-54) Here we find the only language focused specifically on contents in the entire description and framing of this Kindle bible. Otherwise, this bible is defined by its interface affordances exclusively. The only mention of author or source of this Kindle bible is the grammatically redundant “ASV Version” fragment in the description, with American Standard listed as the author of the book. Following the author link for American Standard provided by Amazon leads to a blank profile with only this one bible in the list of related items. The American Standard Version is a public domain text of the bible published initially in 1901. There is a vast and interesting history to this English translation of the bible, but this Kindle bible pays no attention to this either in the advertising of the bible or in the bible’s introduction. We can see here a bible that is entirely focused on the use of it in interface, not on the content it contains.

Lest we imagine that the codex has been replaced entirely by this new interface, this Kindle bible uses the title page from a print codex bible as its “cover” art. Here we find a material representation of the palimpsestuous process of media translation, with an image of a print codex page representing the interface of a Kindle book designed to extend the non-linear access affordances introduced by the codex into new realms made possible by internet technologies.[[55]](#footnote-55) This Kindle bible takes seriously the possibilities of its use and does not assume user familiarity with affordances available in this digital interface, so with the most emphasized line in the description, this bible offers links to YouTube videos on how to use the bible.[[56]](#footnote-56) This may seem like a silly item to highlight in a bible, but it makes a fascinating point about the assumptions we have about users and codicies that are no longer operable in these emerging book interfaces. If content is just one part of interface, then these changes in modes of access will inevitably change the relationship between user and platform, thus will require new skills and new intuitions.

## Proliferation of Interfaces

One of the most interesting developments in the media translation of bible from codex to Kindle is the ability to use this Kindle bible on an actual Kindle device, a laptop, an iPhone, an iPad, android devices, and the list gets larger every day. In a sense, what I have purchased from Amazon in this Kindle bible is permission to participate in a plethora of interfaces, increasing the surface area of this bible by providing multiple points of contact even at the platform level. This is one of the distinct differences between newer media interfaces of bible and the manuscript interfaces we have looked at previously. To own a manuscript is to have a singular material object with which a user relates. Certainly, there were variabilities in the encounter between user and platform in roll or codex interfaces based on historical period, social location, and cultural dynamics at any given time. Yet, in roll and codex interfaces, the material affordances were constant for a given book. A user could own more than one bible, but each bible was a distinct entity and did not require any other technology of access in order to interface with it.[[57]](#footnote-57)

So, in order to participate in the interface that is this Kindle bible, I have to purchase the bible and I have to have access to Kindle Reader software, either in a web browser or as a downloaded application on my laptop or mobile device. As a user of this bible on an iPhone, I actually have at minimum three interfaces at play when I use this Kindle bible-the interface with the phone, the interface with the reader application, and the interface with the particular bible I am using. The overlapping interface possibilities available in my use of this Kindle bible on a computer or on my iPhone provides expansive points of contact with the book that can resist a user from settling into the monotony of mastering one consistent approach to the interface. Using this Kindle bible on my computer at work allows me to write this sentence on one screen with the bible open in another screen. The screen size of the computer device layer of interface allows me to see more text on one screen and in multiple columns. This larger space and more text at once can help a user see connections and contours in the text that may be harder to notice on a smaller screen interface. If I leave work and decide to use this Kindle bible from my iPhone 7 on the train ride downtown, I’m working with less text at a time on the screen and using the search and linkability of the interface more often to make connections between parts of the text, which can surface new textual relationships that might not emerge on more standard linear navigation through the text. Unlike on the computer, the Kindle application interface combined with the iPhone device interface make it simple to share a passage I select with a friend via text or instant message, which could facilitate a more collaborative use of the bible interface through dialog.

## Collaboration and the Page

The ability of a user to choose which device to use to participate in the Kindle bible interface and to use different devices as part of the bible interface is just the beginning of the expanded role of the user in shaping the material aspects of the interface. Though users certainly had an impact on the material surfaces of the roll and codex interfaces through adaptations of the text and use in communal settings, the Kindle bible affords an entirely new scale of user participation in shaping the physical space of the interface. Users of roll and codex interfaces were confined by the physical dimensions and limits of the pages, finding space in the margins and between lines or even over text to collaboratively construct the interface. In this Kindle bible interface, the flexibility of the digital screen affords the user the ability to participate in things such as page dimensions, font size, color of background, and number of columns per page. This user participation in shaping the material character of the page enacts one of the collaborative affordances of the Kindle bible interface.

Though the notion of page is not intrinsically operative in the roll interface, we can easily imagine many limits of the page in a roll, such as a each columns as a page, each sheet of material as a page, or even the user’s wingspan as the boundaries of the roll page. In a codex interface, the page is clearly defined as one unit of material, be it papyrus, parchment or paper, demarcated by the fold and binding of sheets of material together. So, in Codex Sinaiticus, one sheet of parchment, folded at the middle and written on both sides, provides four pages with four columns of writing per page. In the Kindle interface, the operation of the page is a site of significant change in terms of user participation. Though not demanded by the technologies involved in providing a digital platform for the use of books, the Kindle interface has kept the codex page as its primary navigational structure. Much like turning the page of a codex, in the Kindle bible, a user is presented with one unit of text at a time and there are navigational aids to move forward or backward in a book, which corresponds to left and right horizontal movement respectively in English language books.

Though entirely unnecessary technologically, Kindle books pay homage to the codex page by maintaining the horizontal navigation through discrete units of text, which mimics the pages of paper or papyrus bound at a spine. This carrying on of the codex page in a technological framework that does not demand it resembles the continued use of a roll’s multiple columns of text on a single codex page, even though not the most efficient use of the emerging technology of the codex. In the browser Kindle interface, a user can use arrow keys on the keyboard or click the arrows provided in the pages to move either direction.[[58]](#footnote-58) On an iPhone or other touchscreen device, this navigation is enacted by a touch on the edge of the current page in the direction you want to move and a swipe. This swipe action is the closest physical motion to the familiar page turn of the codex. Some digital reading platforms such as iBooks actually programmed the swipe to visually emulate the turning of the codex page to carry this characteristic experience into these new media environments.

Kindle pages also have a header and footer that are consistent throughout. The page header keeps the title of the book present throughout the book and the footer provides a location indicator, which functions as a media translation of page numbers in a late codex interface. When Kindle first released its platform, all Kindle books used this location numbering as the means of locating a user within the space of the book sequentially. Due to market demands to have better crossover reference capabilities with print versions of the same book, Kindle introduced page numbers into their platform in 2011.[[59]](#footnote-59) Page numbers are not provided in our particular Kindle bible, because this particular Kindle bible has no interest in staying in sync with a print interface and because bible already has such regular internal reference markings provided by chapter and verse. Keeping the location number in the footer of the page throughout the book enables the user to have a sense of where they are located within the larger structure of the book. Better yet, the Kindle layer of the interface provides a location slider and percentage along with the raw location number to provide better visualization of a user’s position within a book. This slider visualization enacts a material media translation of the experience of holding a codex and feeling or seeing the different thicknesses of pages in the right hand and the left. In 2016 Kindle expanded this media translation of locating a user within the larger book with the introduction of a feature called Page Flip.[[60]](#footnote-60) With Page Flip, the user gets a slider and thumbnails of pages nearby to afford easy visualization of the macro location in the book and easy navigation elsewhere or back to the page from which the exploration began.

The use of location instead of page numbers as the primary indicator of position within a book highlights one of the important interface changes brought by the Kindle platform. In a print or manuscript codex, page size, font size, font type, margin size, page coloring are determined by the book producer and remain unchanged by the user. In this situation, where the materiality of the book determines the page dimensions and boundaries in a fixed and stable manner, regardless of use, it makes sense for page number to be a primary navigational reference aid. A Kindle book allows the user to participate much more in the material construction of the page. In a browser, with one menu click, the Kindle platform allows the user to select from five font sizes, five margin widths, and three text and background color combinations. Mobile Kindle interfaces allow the user to select font type and instead of margin size selection, mobile users can select spacing between lines. It is well established that things like color, font size, and spacing between lines has an impact on user interface and readability.[[61]](#footnote-61) Yet, for our purposes here, the important impact of this increased user participation in defining the materiality of the interface is that user defines the page instead of the material limits of the book.

When using a Kindle bible on an iPhone, if a user turns the phone from portrait (phone held vertically) to landscape (phone held horizontally), the amount and organization of the content on the page changes. For example, if I am at the beginning of Ezra chapter 8 in the Kindle bible on my iPhone 7, in portrait mode, the current page holds the first 11 verses, but only 8 in landscape mode. If I were to change the font size or the spacing between lines, the page definition would change yet again. These options for screen orientation and font size mean that each user may have a different material encounter with this Kindle bible, unlike the stable and uniform material encounter afforded by a parchment codex. For example, having less text on a page in landscape mode on an iPhone could provide a user an encounter with a particular passage unencumbered by what comes before and after it, leading to innovative interpretations of that passage.[[62]](#footnote-62)

Though the page possibilities are not unlimited, the book is still bound in a sense, there is no doubt that users play a far greater role in constructing the material aspects of the page than previous book interfaces. This variability in the material aspects of the page is a major technological innovation and renders page numbers unnecessary, even nonsensical, in a Kindle book except for the need to have conversation about locations across interfaces. Yet, the page as a discrete unit of interface remains and has become a site of collaboration in the Kindle bible interface as users are invited to participate in constructing the dimensions of the page.

## Annotation as Collaboration

The collaborative affordances of the Kindle bible interface do not stop at the user’s ability to shape the contours of the page. Whereas only trained scribes or authorized users of a roll or codex interface of bible in antiquity would have had the ability to annotate the text, every user of *The Bible - The Holy Bible Formatted for Your eReader* has the ability to participate in marking the interface. The Kindle bible provides two primary forms of annotation for any user participating in the interface, highlighting and notes. Any portion of the text can be highlighted, thus marked as important or interesting, and user notes can be added at any location in the text, as long as attached to some portion of the text of the bible. Users can also bookmark a location in the Kindle book, which functions like a dogeared page in a codex or a marginal notation in a roll that signals the special importance of a particular location in the text.[[63]](#footnote-63) These notes, highlights and bookmarks signal a significant capacity for encouraging active participation in the reading process. In 1QIsaa and Codex Sinaiticus, this kind of annotative activity was visible for all users to see, providing material indicators of the ongoing evolution of the interface. The presence of these interruptive marks from others contributed to the collaborative affordances of the roll and codex as well as to the anarchy of these interfaces, resisting the reduction to a singular and deterministic use. The default settings in the Kindle bible interface make annotations private for the individual user, which does not demand the same curious interruptive possibilities offered by the marginal activity in our ancient interface examples.

Despite the default tendencies of the Kindle interface toward a private and isolated annotative experience for each user, the Kindle bible interface does provide two collaborative annotative capacities that can contributed to a more anarchic interface by inviting other voices into the interface. First, the Kindle bible interface offers an option to turn on a feature called “Popular Highlights.” If enabled, this popular highlights feature will show a user passages in the book that have been marked as important or interesting by other users. A highlight is deemed popular if three or more distinct users mark the same passage and the interface will show the number of highlighters but not their identities nor any notes associated with the highlights. Though perhaps less informative than the persistent markings left on an ancient manuscript, with the popular highlights feature turned on, users of the Kindle interface are reminded that they are part of a community of users that may find different parts of the book important. As with many other parts of the Kindle bible interface, this contact with other voices is optional and can be turned off at any time, which can decrease the interruption possible in the Kindle interface.

A second collaborative annotative capacity afforded only when participating in the Kindle bible using one of Amazon’s Kindle Reader devices is the possibility of public notes. If a user chooses, they can change a setting in the Kindle bible interface to make all of their notes public instead of private. With public notes enabled, any other user following this user who has enabled these public notes in the Kindle bible will then see all of their notes and annotations made in the interface. Multiple users, from different parts of the world, can participate in this bible interface together, collaborating to construct the interface by marking its pages and anarchically resisting reduction of the interface to a static space with a singular voice. Unlike in the roll and codex, this collaborative affordance in the Kindle interface is elective and selective, making it less anarchic than the annotative lives of our older manuscript interfaces. Users of Codex Sinaiticus simply had to deal with the different voices and layers present in the interface, because these markings became a part of the singular material surface of the book that would confront every user. The Kindle bible interface operates as many material copies with the annotative markings as a separate layer of data, integrated into the interface for a seamless user experience, but not materially bound to the rest of the book in the same was as ink on parchment. The data surrounding these distinct copies of the Kindle bible can be connected through popular highlights and public notes, if a user so chooses, opening the interface up to the dynamic ambiguity of different voices. Yet, this resistance to consolidating the interface into a closed and deterministic system is not demanded to the same degree in the Kindle bible as it is in 1QIsaa or Codex Sinaiticus.

On the other hand, the distinct layers of the text and user annotations in this Kindle bible offer a different kind of anarchic tendency in interface. As a user participates in the Kindle bible interface through highlights, notes, and bookmarks, these annotations are indexed in such a way that creates an entirely new and constantly emerging mechanism for navigating through the interface. Instead of being limited to the navigational structures built into the interface itself, such as book, chapter, and verse markings or location identifiers, the Kindle bible tracks the position of a user’s highlights and indexes each word in every note, which allows the user to move through the interface based on the traces of their participation. Our Kindle bible interface, *The Bible - The Holy Bible Formatted for Your eReader*, is impeccably structured to map the precise relationships between each part of the book, from the beginning of Genesis to the end of Revelation. Yet, in the Notebook view of the Kindle Reader app, the annotative participations of a user provide a way of aggregating bits of the book based on user contact points, thus breaking up the structured flow of the text and introducing new possible relationships as two highlights from different places in the book bump up against a user note asking a question about something in between them. This new and evolving structure offered in Notebook view reveals a collaborative affordance that interrupts the ability of the default Kindle book structures to determine the possible relationships available in this interface.

## Exponentially Expanding Non-Linear Access

The indexing of user notes in this annotative affordance of the Kindle bible highlights one of the most important attributes of this particular interface, the search function. Much like we saw with Codex Sinaiticus, the combination of collectability and non-linear access provided an increase in surface area in the interface by affording fast access to many points of the interface while resisting the limitation to one way of interacting with the interface. Perhaps the most significant innovation offered by the Kindle book is the exponential expansion of this non-linear access through the search functionalities. As the introduction to *The Bible: The Holy Bible Formatted for Your eReader* highlights, one of the advantages of this bible interface is the ability to search for any word or passage in the text and find all mentions of it in the entire book. Many bible interfaces provide indexes of various types to help users find passages or portions of text that address a shared theme, person, time period or geographical location. The Kindle bible builds an index of all the words in the bible and allows users to search for any term and it will present a list of all occurrences of that term in the book. Adding to the complexity of this search capacity, as I mentioned above, this indexing of words in the bible *includes* the words of a user’s notes. So, the indexing process that builds the search capacity actually incorporates the markings of the user into the interface in ways that resemble the material markings of the scribes in 1QIsaa or Codex Sinaiticus.

This giant leap in scale of non-linear access creates a radically high surface area interface where a user can engage with any single point of the book with a simple query. Using search as a navigational tool and organizing method in the Kindle bible also provides a vast number of possible arrangements of the bits of the text, resisting the ability to over determine the interface. No single user could exhaust all of the possible approaches to the interface, because the interface keeps expanding as the user participates. More significantly, search as a means of user participation in the interface demonstrates the anarchic affordances of this interface by allowing the text to be reorganized based on the search terms passed by the user, putting passages into contact in the search results display that may never have come into contact in a more traditional mode of access. These searches are creating new possibilities for encounter both between parts of the text and between user and book interface. Folding user annotations into the search results along with passages from the text of the book also challenges any dominance the “intended” book interface might have had over the user’s experience. The extraordinary advances in and integration of user participation and non-linear access provided by *The Bible - The Holy Bible Formatted for Your eReader* demonstrate an interface that is constantly evolving and emerging, though still mostly contained within the covers of a digitized codex.

## Bible as Book

Looking backward and forward at bible as book, it is clear that the affordances of high surface area, collaboration, and anarchy are present in a roll bible used for communal reading from the 2nd century BCE, a codex bible used as an exemplar for copying from the 4th century CE, and a Kindle bible designed for use by contemporary readers on mobile devices, even if not for the same reasons and to the same degree. Bible as interface is not new and not an invention of our contemporary emerging technological landscape. In light of the anxieties often present during times of emerging technologies, it is important to note that these affordances are not limited to one kind of interface and not guaranteed in any particular interface. In any bible interface, users are part of producing the possibilities for high surface area, collaboration, and anarchy in use and for shaping the design of interface in these directions. Now that we have seen these affordances at work in book interfaces, we will look toward interfaces that are pushing bible beyond the book. [^0]: This intimate relationship between bible and book is highlighted many places. In our reading of Levinas, *Ethics and Infinity*, 22-23, in the previous chapter, we heard him call bible, the book of books and book par excellence. Roberts and Skeat, *The Birth of the Codex*, explore the relationship between the rise of the codex to prominence and the emergence of bible as book in Christianity. More recently, the title to Christopher De Hamel’s beautiful book, “The Book: A History of the Bible,” signals the intimate and important historical and cultural relationship between bible and book.

1. It is worth noting here that I have no interest in suggesting that high surface area, collaboration, and anarchy as detailed in the previous chapter are only afforded in bible interfaces exclusively. Many different interfaces have these affordances, such as other literary and textual traditions, poetry (as Levinas suggested), audience interface in oral performance, communication technologies like email and SMS, etc. [↑](#footnote-ref-1)
2. As a future project, I would like to come back to this point and explore the relationship between the two tablets of exodus and the evolution of bible as cultural icon as Timothy Beal describes in *The Rise and Fall of the Bible*. I would start with William Blake’s plates depicting Moses with the tablets looking just like a codex. [↑](#footnote-ref-2)
3. Translations my own. [↑](#footnote-ref-3)
4. Beal, *Rise and Fall*, Kindle location 1245-1378. [↑](#footnote-ref-4)
5. My translation from the *Society of Biblical Literature Greek New Testament* (SBLGNT). There is an interesting textual variant in 4:17 with several important early witnesses (Alexandrinus, Vaticanus, Washingtonianus) using ἀνοίξας instead of ἀναπτύξας for “opening” the roll. The 27th edition of the Nestle Aland critical edition marks this variant as a change from the choice made in the 25th edition, meaning the committee elected to include ἀνοίξας in the constructed text in the 25th edition and switched to ἀναπτύξας in the 27th edition. This decision was unchanged in the 28th edition of NA. The difference between these variants is not significant in terms of the overall reading of the passage, since the more generic ἀνοίξας when used in reference to a roll clearly indicates an “unrolling,” which is the meaning of the more specific ἀναπτύξας. Yet, in terms of interface, the more specific ἀναπτύξας is more helpful in indicating the particularities of the interface at work in this use of bible. So, I have translated with the constructed text, taking ἀναπτύξας as “having unrolled.” This translational choice is similar to that made in the NRSV, which reads, “He unrolled the scroll….” [↑](#footnote-ref-5)
6. Thanks to the wonderful work of the Dead Sea Scrolls Digital Project, 1QIsaa is also available for viewing online in a digitized interface at http://dss.collections.imj.org.il/isaiah. This digital 1QISaa interface interestingly has been designed to emulate the rolling of the scroll from right to left as a user moves through the interface, with the size of the rolls that would be in each hand changing to approximate a user’s position in the roll. For example, as you near the end of the text of Isaiah in this digital interface of 1QIsaa, the roll that would be in a user’s right hand is much larger than the roll in the left hand. [↑](#footnote-ref-6)
7. For a detailed description of the physical characteristics of 1QIsaa, see John C. Trevor’s introduction to the Isaiah Scroll in Millar Burrows, *The Dead Sea Scrolls of St. Mark’s Monastery*, vol. 1 (New Haven: The American Schools of Oriental Research, 1950), xiii-xviii. [↑](#footnote-ref-7)
8. I would rather find other words to describe this difference other than analog/digital. The important point to make in all interface analysis is that rarely do we have a binary situation, because interfaces as relationships afford more than one type of use. [↑](#footnote-ref-8)
9. This vertical roll interface is akin to our contemporary relationship with reading on a web page and the act of moving around in these web pages is called “scrolling.” [↑](#footnote-ref-9)
10. For an excellent summary and useful bibliography regarding the public reading of scripture in first century synagogues, see Tim Hegg, “The Public Reading of Scriptures in the 1st Century Synagogue,” *TorahResource* (2007), https://www.torahresource.com/EnglishArticles/TriennialCycle.pdf, accessed on August 11, 2017. Hegg deals explicitly with this passage from Luke on pp. 3-5. [↑](#footnote-ref-10)
11. Based on some archaeological evidence from later synagogues, Lee Levine, *The Ancient Synagogue: The First Thousand Years* (New Haven: Yale University Press, 2005), 93-95, suggests that it may have been common to have a table in the center of the meeting space upon which these rolls were placed for reading. So, in our passage of interest here, after Jesus is handed the roll, he may have placed it on the reading table and then unrolled it as needed and read. [↑](#footnote-ref-11)
12. If 1QIsaa is an indicator of the type of roll depicted in this scene in Luke 4, then the additional spacing left between the end of verse 60 and the beginning of verse 61 might have helped the user locate their position in the text in the absence of chapter and verse markings, with which we have become so familiar today. [↑](#footnote-ref-12)
13. In the manuscript itself, there are some unusual markings in the margins that could have been used to help facilitate this kind of collaborative reading process described in Luke 4. For example, in the right hand margin of line five of column forty nine of 1QIsaa, which is the column from which Jesus would have read in Luke 4 if using 1QIsaa, we find a heavy horizontal line with a rounded triangle on top. This marking appears 5 other times in the manuscript. Line five contains the last bit of what we now call chapter 59 of Isaiah and the line contains blank space at the end to mark the transition in textual unit, as is customary throughout this manuscript. Even though Trever, “The Isaiah Scroll,” xvi, suggests that these markings were later additions to the text to mark passages for finding and reading, it seems equally as likely that these markings were used as guides for the writing of the text of this roll. From the user perspective in the synagogue example of roll interface, the passage transition is already marked by the space left blank at the end of the line, so it is unclear as to why an additional marking would be necessary to signal the reader. Emmanuel Tov, “Scribal Markings in the Texts from the Judean Dessert,” in *Current Research and Technological Developments on the Dead Sea Scrolls*, eds. Donald W. Parry and Stephen D. Ricks (Leiden: E.J. Brill, 1996), 46-48, identifies this marking as a *paragraphos* sign, marking the division of the text into paragraphs, yet not distinguishing between original scribes, later scribes or readers. [↑](#footnote-ref-13)
14. Trever, “The Isaiah Scroll,” xv. [↑](#footnote-ref-14)
15. Trever, “The Isaiah Scroll,” xv. [↑](#footnote-ref-15)
16. As Trever, “The Isaiah Scroll,” xv, notes, to explore more about the identification of these collaborative partners in production of the [↑](#footnote-ref-16)
17. For a discussion of and bibliography for the text of and scribal practices at work in 1QIsaa, see Emanuel Tov, “The Text of Isaiah at Qumran” in *Hebrew Bible, Greek Bible and Qumran: Collected Essays* (Tübingen: Mohr Siebeck, 2008). For a more comprehensive look at scribal practices evidenced in texts from Qumran, see Emanuel Tov, *Scribal Practices and Approaches Reflected in the Texts Found in the Judean Desert* (Leiden: Brill, 2009). For a useful summary of these practices drawing heavily on Tov’s work, see David Stern, *The Jewish Bible: A Material History* (Seattle: University of Washington Press, 2017), 11-62. [↑](#footnote-ref-17)
18. Google Docs does track all history of changes made to a document, including identifying the contributor, if known, instead of relying on handwriting differences or ink changes. Yet, in a Google Doc, this history of participation in the construction of the interface is tucked away neatly in a different screen so as not to clutter up the finished product of the document itself. [↑](#footnote-ref-18)
19. See chapter 1 for a fuller discussion of anarchy in interface. [↑](#footnote-ref-19)
20. David Stern, *The Jewish Bible: A Material History*, 26-27, calls these markings interventions, of which most are corrections, 26-27. Many later users would not have access to actual textual exemplars, so by correction, I do not mean to limit this activity to simply alignment with an earlier written manuscript. Instead, “correction” can encompass scribal adjustments to fit the tradition of Isaiah they had received from their community. [↑](#footnote-ref-20)
21. This is one of the phrases Levinas, *Ethics and Infinity*, 23 uses to describe bible as the book of books. These mysterious possibilities of exegesis are an example of Drucker’s articulation of interface as probabilistic production. [↑](#footnote-ref-21)
22. Colin H. Roberts and T. C. Skeat, The Birth of the Codex (London: Oxford University Press, 1983), 1. It is instructive to compare the Wikipedia definition of book (https://en.m.wikipedia.org/wiki/Book) and the google definition of book (search for “define book” in google) with this codex definition from Roberts and Skeat. It is clear that in contemporary parlance, book and codex mean the same thing. This is more evidence that codex has come to dominate the contemporary imagination of book. [↑](#footnote-ref-22)
23. Roberts and Skeat, *The Birth of the Codex*, 11-12. [↑](#footnote-ref-23)
24. The ancient helpdesk parody video that has circulated on YouTube provides a helpful, though hyperbolic, depiction of the assumptions we make about codex as a technology since we are so familiar with it. [↑](#footnote-ref-24)
25. See Graham Stanton, Jesus and Gospel (Cambridge, UK: Cambridge University Press, 2004), 174, for a discussion of the leaf tablets found at Vindolanda. [↑](#footnote-ref-25)
26. O’Donnell, *Avatars of the Word*, 54. [↑](#footnote-ref-26)
27. Roberts and Skeat, The Birth of the Codex, 24-25. Even with this affordance of portability offered by the codex, this may not have been an important technological advance for bible in early antiquity, since the scriptures used by early Christians were largely still interfaced in roll. [↑](#footnote-ref-27)
28. James Joseph O’Donnell, Avatars of the Word: From Papyrus to Cyberspace (Cambridge, Mass: Harvard University Press, 1998), 54, says, “The history of medieval manuscripts is the history of the exploitation of the possibilities of the codex page.” [↑](#footnote-ref-28)
29. Gamble, *Books and Readers*, 55-56, 63. [↑](#footnote-ref-29)
30. More recent machine reading techniques such as those used in Natural Language Processing tasks such as topic modeling can involve access to text that approaches randomness. [↑](#footnote-ref-30)
31. I have a particular affinity for this codex both because I have spent some time exploring the manuscript itself but also because of its name. It gets its name from the Mount Sinai monastery where the first portion of the remains were found. Though the relationship between the tablets at Mount Sinai in the biblical story of Moses bringing the commandments to the people and the codex that bears this mountain’s name is entirely accidental, I find great resonance between the cultural impact of these ancient stone tablets and the codex that is said to give us a window to the “original” text of the New Testament. [↑](#footnote-ref-31)
32. The enactment of the Codex Sinaiticus project itself raises all kinds of interesting questions regarding bible as interface by combining digitization techniques, xml encoding, and web design to provide a collection of online interfaces to offer contact with this ancient codex interface. In the next chapter, I will take a closer look at the Codex Sinaiticus Project as a bible interface beyond book. [↑](#footnote-ref-32)
33. See “Content” in the Codex Sinaiticus Project, http://www.codexsinaiticus.org/en/codex/content.aspx, accessed on August 20, 2017, for a detailed description of the contents of the codex. [↑](#footnote-ref-33)
34. For a description of the physical characteristics of Codex Sinaiticus and its relationship to other early Christian codices, along with a robust bibliography for other conversation partners regarding the materiality of Codex Sinaiticus, see Harry Gamble, “Codex Sinaiticus in Its Fourth Century Setting,” 3-5. [↑](#footnote-ref-34)
35. See Parker, *Introduction to New Testament Manuscripts*, 315-16 and Jongkind, *Scribal Habits of Codex Sinaiticus*, 109-120 for more information on the Eusebian apparatus in Codex Sinaiticus in particular. [↑](#footnote-ref-35)
36. This continuation of *scripta continua* across line breaks is one reason Gamble, “Codex Sinaiticus in Its Fourth Century Setting,” 11, suggests that Codex Sinaiticus was unlikely used as a cathedral bible for public reading in services. [↑](#footnote-ref-36)
37. Gamble, *Books and Readers*, 203. [↑](#footnote-ref-37)
38. Klaus Wachtel, “The Corrected New Testament Text of Codex Sinaiticus,” 97. Wachtel provides a detailed analysis and bibliography for exploring the corrective strands in Sinaiticus. The outer page margins are massive, which may have contributed to the rich annotative life of the manuscript. [↑](#footnote-ref-38)
39. Wachtel, “The Corrected New Testament Text,” 98, suggests three layers of corrections in the New Testament portion spanning from the forth to the twelfth centuries. [↑](#footnote-ref-39)
40. Gamble, “Codex Sinaiticus in Its Fourth Century Setting,” 7-12, summarizes the main arguments for this connection, primarily based on Skeat’s many articulations of the possibility. [↑](#footnote-ref-40)
41. Gamble, “Codex Sinaiticus,” 11. [↑](#footnote-ref-41)
42. For extensive studies of the scribal activity in Codex Sinaiticus, see the classic work by Milne and Skeat, *Scribes and Correctors*, and more recently, Jongkind, *Scribal Habits*. [↑](#footnote-ref-42)
43. For more details on this summary, see http://codexsinaiticus.org/en/project/transcription\_detailed.aspx, accessed on August 20, 2017. [↑](#footnote-ref-43)
44. Gamble, “Codex Sinaiticus,” 4. [↑](#footnote-ref-44)
45. Kraft, “The Codex and Canon Consciousness,” http://ccat.sas.upenn.edu/gopher/other/journals/kraftpub/Christianity/Canon, accessed on August 20, 2017, and Gamble, “Codex Sinaiticus,” 5, for a brief caution and reference to many works exploring the relationship in detail. [↑](#footnote-ref-45)
46. Beal, *Rise and Fall*, Kindle location 2088-2089. [↑](#footnote-ref-46)
47. Jeffrey Mahan helpfully points out that this Codex Sinaiticus bible interface demonstrates the affordance of anarchy in several different kinds of uses, such as the ongoing production of the manuscript and the use of the manuscript for religious of liturgical reasons. [↑](#footnote-ref-47)
48. Wachtel, “The Corrected,” 101. [↑](#footnote-ref-48)
49. Wachtel, “The Corrected,” 104, says, “The development towards the stable medieval mainstream text form was neither homogeneous nor consistent.” [↑](#footnote-ref-49)
50. The other two additions include the longer ending to the Gospel of Mark (Mark 16:9-20) and the story of the story of the woman taken in adultery (John 7:53-8:11). See Wachtel, “The Corrected,” 102-103 for further discussion of these variants in the early manuscript tradition. [↑](#footnote-ref-50)
51. Wachtel, “The Corrected,” 99-100, helpfully points out that multiple layers of corrections like these and the myriad others that are even less cut and dry would make it very difficult for a public reader to make decisions during the process of reading the text aloud. Instead, Wachtel suggests that Codex Sinaiticus was more likely used as an important exemplar for further copying, not as a reading bible. [↑](#footnote-ref-51)
52. http://a.co/grXmqZy, accessed on August 18, 2017. [↑](#footnote-ref-52)
53. I am at a loss for why the word “Holy” is added to the subtitle of this book. This could be a reinforcement of Timothy Beal’s suggestion in *The Rise and Fall of the Bible*, Kindle location 61, that bible has become a cultural artifact that extends far beyond any sense of content to a cultural sensibility of “authoritative, univocal, practical, accessible, comprehensive, and exclusive.” Perhaps, including “The Holy Bible” in the subtitle of this particular Kindle book differentiates it in terms of content from other bibles, such as the Python Bible or the Golf Bible. Could this mean that “Holy” has become a synonym for Christian in common parlance? “Holy” could also indicate that his particular bible interface is intended for pious use more than for academic study or other uses. Thanks to Jeffrey Mahan for this suggestion. [↑](#footnote-ref-53)
54. See https://www.amazon.com/Bible-Holy-Formatted-Your-eReader-ebook/dp/B0032UYGE6 accessed on February 17, 2017. [↑](#footnote-ref-54)
55. This use of a print codex page to signify the bible, rather than the titles of the writings in the bible, a list of characters and stories, or even some depiction of Christianity or God, shows how deeply embedded the identity of bible is in the print codex. [↑](#footnote-ref-55)
56. Rather than using the affordance of linkability offered by the Kindle platform to deliver or embed these training videos in the book itself, for some reason the producers of this bible elected to provide a link to click to be emailed links to videos. From a user perspective, this seems like a failure of leveraging the possibilities of the platform. Yet, because Kindle books continue to perform the stability and fixicity of codex, meaning they do not allow updates like other interfaces might, this approach could afford providing better videos as they develop them or adding additional videos as issues arise with the interface. A more fitting strategy may have been to provide a link to a YouTube channel that could then be a dynamic library of support videos but with a durable link and landing space that could be provided in a stable interface such as a Kindle book. [↑](#footnote-ref-56)
57. Of course, we could speak of language as a technology required to access a roll or codex, but for our purposes here, we can assume language competence in the textual language in all of these interface examples. This assumption is not transferable to the media literacies necessary for bible interface beyond book, which points again to the significance of this Kindle bible including YouTube instructional videos on how to use this bible. [↑](#footnote-ref-57)
58. Further bothering the spatiality of navigation, both the up and the left arrow go backward in the book, while down and right move forward in the book. [↑](#footnote-ref-58)
59. See https://www.wired.com/2011/02/amazon-adds-real-page-numbers-to-Kindle/ for an example of the kinds of pressures driving this demand for page numbers. [↑](#footnote-ref-59)
60. See http://www.geekwire.com/2016/amazon-new-page-flip-navigation-tool-Kindle/ for an image, description, and video demonstrating this Page Flip feature. This article demonstrates the continued influence of the codex on the design of the Kindle user interface. [↑](#footnote-ref-60)
61. https://conversionxl.com/the-effects-of-typography-on-user-experience-conversions/ is a good starting place to begin exploring the impact of typography on reading in digital interfaces. [↑](#footnote-ref-61)
62. We can take this example of interface even further given the portability of a device like an iPhone, such that a user might engage a small passage from this Kindle bible in various settings throughout their day, such as on the bus to work or at a coffee shop. Each different setting could impact the possible interpretive uses of this particular passage engaged through interface with this Kindle bible. [↑](#footnote-ref-62)
63. Sharing is another affordance offered in the Kindle interface that provides opportunities for collaborative engagement between the interface user and others in their community who may or may not have access to the interface itself. [↑](#footnote-ref-63)