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Christianity and the Future of the Book

Alan Jacobs

The effects of technology on religious belief, and of religious belief on technology, are great but insufficiently explored. Often religious communities have been the inventors, the popularizers, or the preservers of technologies. One important example, which Lewis Mumford called to our attention long ago in his *Technics and Civilization* (1934), is the intimate relationship between medieval monastic life and the invention of reliable clocks. It was the need to be faithful in keeping the *horæ canonicæ*, the canonical hours of prayer, that stimulated the creation of accurate timepieces. But of course, this invention spread to the rest of society, and over the centuries has come to shape our experience of time in ways that affect our religious lives as much as anything else.

It is scarcely possible to overstress the importance of this development; and yet perhaps even more important are the connections between religious life and technologies of knowledge, especially those pertaining to reading and writing. This point could be illustrated in any number of ways, but with particular force in tracing the long entanglement of Christianity and the distinctive form of the book called the *codex*. In this history one can discern many ways in which forms of religious life shape, and in turn are shaped by, their key technologies. And as technologies change, those forms of life change too, whether their participants wish to or not. These changes can have massive social consequences, some of which we will wish to consider at the end of this brief history. Christians are, as the Koran says, "People of the Book"; in which case we might want to ask what will become of Christianity if "the book" is radically transformed or abandoned altogether.

Scroll and Sequence

In the eleventh chapter of the Gospel of Luke, Jesus is engaged in his public ministry: preaching to the crowds, casting out demons. At this

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moment, oddly enough, a Pharisee asks him to come to dinner, and Jesus immediately accepts; but then, we are told, "the Pharisee was astonished to see that he did not first wash before dinner." This astonishment prompts Jesus to begin a series of "woes"—"Woe to you Pharisees!…Woe to you lawyers also!"—which in turn may prompt us to remember a comment the novelist Frederick Buechner once made: "No one ever invited a prophet home for dinner more than once."

But to continue:

> Woe to you! For you build the tombs of the prophets whom your fathers killed. So you are witnesses and you consent to the deeds of your fathers, for they killed them, and you build their tombs. Therefore also the Wisdom of God said, "I will send them prophets and apostles, some of whom they will kill and persecute, " so that the blood of all the prophets, shed from the foundation of the world, may be charged against this generation, from the blood of Abel to the blood of Zechariah, who perished between the altar and the sanctuary. Yes, I tell you, it will be required of this generation.

Please note especially this phrase: "from the blood of Abel to the blood of Zechariah." It is an interesting phrase in any number of ways, not least in that it designates Abel, the first murder victim, as a prophet. But the question I want to ask is: Why Zechariah?

Jesus is referring to the second book of Chronicles, which tells this story from the reign of the infidel King Joash of Judah:

> Then the Spirit of God clothed Zechariah the son of Jehoiada the priest, and he stood above the people, and said to them, "Thus says God, 'Why do you break the commandments of the Lord, so that you cannot prosper? Because you have forsaken the Lord, he has forsaken you.'" But they conspired against him, and by command of the king they stoned him with stones in the court of the house of the Lord. Thus Joash the king did not remember the kindness that Jehoiada, Zechariah's father, had shown him, but killed his son. And when he was dying, he said, "May the Lord see and avenge!"

In referring to this story, Jesus is clearly indicating that Zechariah—not, to be clear, the one who wrote the book of Zechariah—is the last of the Bible's prophet-martyrs, just as Abel was the first. Yet this is clearly not so: half a dozen later prophets were martyred, at least according to unanimous tradition. But there is no mistake here, neither by Jesus nor by Luke. By invoking an arc that stretches from Abel to Zechariah, Jesus is indeed

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imagining a strict sequence, but not that of the history of Israel: rather, he has in mind the sequence of the Bible as he knew it.

The Hebrew Bible in the time of Jesus, as now, was divided into three parts, in this order: first *Torah*, the Law; then *Nevi'im*, the prophets; then the rather miscellaneous category called *Ketuvim*, the Writings. The book we call 2 Chronicles is the last of the *Ketuvim* and therefore the last of the whole Bible. So when Jesus refers to the martyrdom of prophets "from Abel to Zechariah" he does not mean "from the Creation to the most recent moment of Israelite history," but rather "from the first pages of the Word of God to the last."

This is rather extraordinary, and for a number of reasons. For one thing, if we look at the history of the Hebrew Bible after the time of Jesus—which is the only reliable history we have—the order of the *Ketuvim* is not settled. While the rabbis of the Babylonian Talmud and the Masoretic text agree in placing Chronicles at the end, other very old texts—the Aleppo and Leningrad codices, for instance—place it at the beginning.

But that's not the oddity to which I wish to call attention. Rather, I would like to think about the *technologies of the book* in the time of Jesus, and in preceding centuries of Judaic culture. Consider, for instance, the variety of writing technologies discernible just in the Old Testament: the "brick" on which Ezekiel is commanded to inscribe an image of Jerusalem (4:1), the "tablet" used by Isaiah (30:8) and Habakkuk (2:2), the stone on which the Decalogue is inscribed (Ex. 24:12, Joshua 8:32). The styli used by Isaiah (8:1) and Jeremiah (17:1) may have been used to write on metal. Clay tablets were kept in jars (Jeremiah 32:14) or boxes (Exodus 25:16, 1 Kings 8:9). But the Scriptures themselves, it is clear, were typically written on papyrus scrolls and kept in cabinets. As C. H. Roberts has noted in the *Cambridge History of the Bible*, for the scribal culture in the centuries preceding Jesus,

> The strictest rules governed the handling, the reading and the copying of the Law. Multiplication of copies by dictation was not allowed; each scroll had to be copied directly from another scroll; official copies, until A.D. 70 derived ultimately from a master copy in the Temple, were kept at first in a cupboard in each synagogue, later in a room adjoining it. The cupboard faced towards Jerusalem, and the rolls within it were the most holy objects in the synagogue.

I emphasize these technologies for one simple reason: none of them promotes the idea of *sequence* in texts: while they do not forbid, they

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certainly do not encourage the temporally linear way that Jesus thought about the text of Scripture. Thus when the Talmudic sages debate the order in which the Biblical books should be recorded, they consider various principles of organization. A key passage from the relevant tractate, *Bava Batra*, says:

> Our Rabbis taught: The order of the Prophets is, Joshua, Judges, Samuel, Kings, Jeremiah, Ezekiel, Isaiah, and the Twelve Minor Prophets. Let us examine this.... Isaiah was prior to Jeremiah and Ezekiel. Then why should not Isaiah be placed first?—Because the Book of Kings ends with a record of destruction and Jeremiah speaks throughout of destruction and Ezekiel commences with destruction and ends with consolation and Isaiah is full of consolation; therefore we put destruction next to destruction and consolation next to consolation.

"Destruction next to destruction and consolation next to consolation"—historical order is explicitly rejected in favor of what we might call a theologically thematic order. Or rather, history in the relatively short term gives way to the great arc of history as a whole.

As one looks at a cabinet of scrolls, little about that technology suggests sequence. It is true that the scrolls *could* be organized in "reading order"—in the case of Hebrew, right to left and top to bottom—but they would not *have* to be so ordered. And it would be very easy in any case for scrolls to be removed from one pigeonhole and then replaced in another. Surely that was a commonplace occurrence. And this might help to explain why the rabbis were debating this matter at such a (relatively) late date in the history of the Hebrew scriptures. The canon itself had been effectively set for centuries—though there are still debates in the Talmud about whether the Song of Songs and Esther belong—yet, as we just saw, even the basic principles of organization, beyond the threefold division of *Torah*, *Nevi'im*, and *Ketuvim*, are still up for grabs.

I want to suggest here that the primary reason for this debate occurring when it does, and in the way it does, is technological. That is, the question of the order or sequence of Biblical books is forced upon the rabbis by the arrival of the technology that would ultimately displace the scroll cabinet: the codex. And Jesus' invocation of the Biblical sequence, from "Abel to Zechariah," can be seen as both an anticipation of the rise of the codex and a commendation of that technology—or at least, a commendation of the patterns of thought the codex supports. There is an intimate connection between the Christian message, the Christian scriptures, and the codex. This may mark one central way in which Christians are "People of the Book."

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The Character of the Codex

This interweaving of technology and theology is extremely complex, and the arrows of causation run in both directions.* Christians adopted the codex before other groups—Jewish and pagan alike—for serious theological reasons, which we will soon explore, but for other reasons as well. The codex has various virtues to recommend it, and eventually everyone adopted it, with curiously wide-ranging results. For instance, though Jewish communities probably did not have theological reasons for shifting from the scroll to the codex, as F. F. Bruce points out in his useful 1988 book *The Canon of Scripture*, rabbinical debate about the order of the Biblical books lessened significantly after that shift, simply because every Biblical codex, by its very physical nature, embodies decisions about such order. Similarly, the sequence the Christian Church has adopted for Paul's letters is simply descending order by length—nothing here remotely like placing "destruction next to destruction and consolation next to consolation"—and yet the presence of the letter to the Romans at the head of the Pauline *corpus* has surely had enormous theological consequences. So technology, practicality, and theology shape one another in ways that are very difficult to parse with any great degree of confidence.

But the codex recommended itself to early Christians for four primary reasons: *economy*, *portability*, *integrity*, and *sequentiality*.

Economy is easy enough to understand: the early Christians were by and large not rich, and since codices, whether made of papyrus, parchment, or (later) paper, are inscribed on *both* sides of their leaves, whereas scrolls typically use one side only, the appeal is obvious. However, as Larry Hurtado has pointed out, the presence of generous margins in many Christian codexes suggests that space-saving was not always a high priority.

Portability likewise: the earliest codices seem to have been notebooks, made from folded pieces of parchment and bound together, for Romans to carry around with them. (Presumably the Roman government functionaries flashed their new notebooks at each other the way their counterparts today whip out their BlackBerrys and iPhones.) It was then discovered that this technology was useful for books made up of short units of

* I should pause here to note that some of the best historians—Larry W. Hurtado in *The Earliest Christian Artifacts: Manuscripts and Christian Origins* (Eerdmans, 2006) and Harry Y. Gamble in *Books and Readers in the Early Church: A History of Early Christian Texts* (Yale, 1997)—are more reticent than I am about attributing theological motives to early Christian book users.

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text—epigrams, for instance. We know that the great satirist Martial had his epigrams bound in codices because in one of those epigrams the codex itself speaks: "Assign your book-boxes to the great, this copy of me one hand can grasp." A book-box, or *capsa*—from which we get our word "capsule"—was the Roman equivalent of the scroll cabinet or cupboard. A picture of one that has survived in Pompeian wall-art suggests that it looked more like a jar than a box. But note Martial's point: that while you might use such a *capsa*, and an elegantly made one too, to hold your volumes of Virgil, his own brief offerings were better suited to the humble notebook, the codex that "one hand can grasp." The portability is obviously the first thing that Martial thinks of, and one can easily imagine the attractiveness of this physical form to the early Christians—especially those who could not worship openly. A small codex containing some of Paul's letters, or a Gospel, could easily be tucked under a robe, and could be transmitted with confidence from one person to another. And they would be easy to send along those justly famed Roman roads from one part of the Empire to another.

We should pause to note, though, that portability is relative. A codex holding any given text or set of texts will always be smaller than its counterpart set of scrolls, not just because it is inscribed on both sides of its leaves, but also because it requires less of an apparatus: no need for the cylindrical stick, the *umbilicus*, to which sheets of parchment were attached and on which they were rolled up. But while parchment could be thinner than its predecessor papyrus, a parchment sheet is much, much thicker than a piece of modern paper. Anyone who has seen the Codex Sinaiticus at the British Library, or any of the other early Biblical codices, understands this. These are very large books; they are anything but portable. The effort and expense required to make them ensured their rarity: almost no one in the Patristic era—not even great figures like Augustine or Basil or even Jerome—would have had access to a "whole Bible" in our sense of the term, but instead would have had their Scriptures in collections of codices.

So, given that the production of huge tomes like the Codex Sinaiticus so grossly violates the principles of economy and portability, why were they made? Clearly in order to indicate the *integrity* of the Scriptures, the wholeness and oneness of the Word of God. Here again the technology is making a theological point. The very existence of the Codex Sinaiticus is a repudiation of those who would pick and choose among the Biblical texts. Though the heresiarch Marcion—who repudiated the Hebrew scriptures altogether and attempted to purge the New Testament of Judaic elements—lived a long time before the Codex Sinaiticus was

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produced, Marcionite tendencies persisted in the church; so we may well think of these great whole Bibles as embodied refutations of Marcion and other destructive redactors of the Biblical witness. These enormous books say with absolute clarity that the Word of God is one word, *and* that it includes as a necessary part of itself the Hebrew Bible. The Church does not possess a series of little books—*ta biblia*—but something singular and utterly unified: The Book, God's Book. The God of Abraham, Isaac, and Jacob is also the God of Jesus Christ. Such books say all that just by *being*. So there were people in the early Church who thought this point so important that making it was worth the sacrifice of economy and portability. Everyone who owns a Bible today is an heir of their decision.

(It is interesting in this light to remember that the emperor Constantine, soon after the inauguration of his new capital at Byzantium in 330, required Eusebius of Caesarea to prepare and send to him fifty complete Bibles, Old and New Testaments, in Greek. Had any of these survived, we would know a great deal more about the state of the Bible at that time.)

From this emphasis on the Bible's integrity it is but a short step to the fourth reason for the early Christians' employment of the codex: what it teaches about *sequentiality*. And here we must recall the importance of this principle to Jesus, in his comment on the passage from Abel to Zechariah—and recall also the "theological thematics" practiced by the rabbis who decided that the book of Kings should be followed by Jeremiah, and Jeremiah by Ezekiel, and Ezekiel by Isaiah, so that the work of God in the nation can be traced: stability to destruction, destruction to consolation. For these rabbis the linear *chronology* of Israel, seen from any one point in the story—and we all see from some one point in an incomplete story—may not yield this particular narrative arc. But the arc faithfully describes the Lord's covenantal purposes for his chosen people. So the rabbis are organizing the Scriptures in a way that expresses their faith in the faithfulness of the Lord. This for them is important enough to justify a disregard of strict chronology.

In his "Abel to Zechariah" statement, Jesus is thinking as a rabbi. Theological sequence trumps historical sequence. But while also practicing theological thematics, Jesus does not discern the *same* narrative arc that the rabbis do. Instead, he identifies a pattern, visible from the first book in his Bible to the last, of Israel's persecution of the prophets the Lord has assigned to call the nation back to its God—a pattern that is about to be repeated, and indeed more than repeated, in the death of Jesus himself. All this is not to say that Jesus would reject the rabbis' claim that

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the whole story of Israel is one in which consolation arises from destruction, and in which the Lord is ever faithful. By no means. But if one looks, not at the sequence of the major prophets only, but at the bookends of the Hebrew Bible, this different and more disturbing narrative arc comes into view. It does not trump the rabbis' point, but it complicates it immensely by focusing on the other party to the covenant. We know that the Lord will always be faithful to His promises: but what about Israel? And what happens to those who call Israel to renewed faithfulness?

In one of his most beautiful poems, W. H. Auden writes,

> It is natural to hope and pious, of course, to believe
> That all in the end shall be well,
> But first of all, remember,
> So the Sacred Books foretell,
> The rotten fruit shall be shaken.

Jesus might well argue that in the rabbis' emphasis on consolation they are overleaping that inevitable day of judgment in which "the rotten fruit shall be shaken." Their commendable focus on the faithfulness of God is not, at that moment anyway, accompanied by a strong sense of the contrasting behavior of Israel.

But what separates Jesus from the Talmudic rabbis is not just a disagreement about what narrative arc the order of the Biblical books describes. Jesus is offering—largely implicitly, but those implications will become explicit in St. Paul's readings of Scripture—a wholly different model of Biblical interpretation, and of sacred history, than the rabbis do. For at the heart of Jesus' statement about the martyred prophets is, as already suggested, a prophecy of His own imminent martyrdom, and a claim that His death will stand in relation to all those others, "from Abel to Zechariah," as a kind of *completion* and *fulfillment*. His death will be, in multiple senses, the *end* of the martyrdom of the prophets: the *telos* as well as the conclusion. Jesus is reading the books of the Hebrew Bible sequentially, yes, but according to that very distinctive kind of sequence that we call *typological*. Again, Jesus is doing implicitly what Paul does explicitly when, in Romans 5, he says that Adam (like Abel, like Zechariah) "was a type of the one who was to come."

Thus it is that, as noted earlier, Jesus' invocation of the Biblical sequence from Abel to Zechariah can be seen as both an anticipation of the rise of the codex and a commendation of that technology, or of the patterns of thought that it supports. For the codex is *the* technology of typology—just as it is *the* technology of Biblical integrity. Here it is

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important to note the distinction between *sequentiality* and *linearity*. When we talk about linearity we tend to think in terms of movement that cannot be arrested or reversed, of constant unidirectional impetus. But typological thinking, while it embodies the idea of invariable sequence—Adam and Abel and Zechariah will always come before Jesus—requires also the ability to look back, and then look forward again. For this purpose the codex is an unrivaled technology, especially once the manufacture of paper makes it feasible for the ordinary Christian to use a book that contains the whole of the Bible. When we add to that the miracle of dexterous fingers, so that with one hand, as Martial suggested, we can not only hold a book but give ourselves immediate access to different stages in the sequence—this is when typological thinking comes into its own.

And not just typological thinking. Consider the moment in the *Confessions* when, after hearing and obeying the voice telling him to "take it and read," Augustine sees the words in what he calls "the book of the apostle" that changed his life. Note first that he can open the book to a random place, something that would have been difficult with a scroll; then, after reading the momentous passage, he closes the book, with his finger inserted to mark the place. He goes, "with a face now at peace," to tell his friend Alypius what has happened, bringing the book with him, and when Alypius asks to see the passage, Augustine simply opens the book to the place marked by his finger and shows it to his friend. To us such a set of movements is absolutely natural—and yet not so many generations before Augustine the incident could not have played out in anything remotely resembling this famous scene. Nor, to anticipate a later stage in this exposition, would it have played out in the same way had Augustine been using a Kindle.

Shaping the Broader Culture

Let us recall a point made at the outset of this essay, in reference to monastic life and reliable timekeeping: the interaction of particular technologies with religious life has effects far beyond the scope of religious experience. In that light some signal points emerge from this brief and condensed history.

First: each of the four properties of the codex that I have described is—to varying degrees at varying times—immensely influential in the later history of the book in Western culture. To put the point another way, the authors of *Ulysses* or *Gravity's Rainbow* or *Infinite Jest*, and those books' readers, are the direct heirs of the decisions that the early Christian

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Church made about the technology appropriate for bearing the Word of God.

Second: the next truly decisive moment in the history of book technology comes not with the invention of the printing press itself, but with something that succeeded it: the establishment of the legal and economic protocols that give us the assurance that the books we read are really what they say they are. (This is the burden of Adrian Johns's magisterial 1998 study *The Nature of the Book*.)

Third: after the creation of these protocols for assuring the authenticity of our books, the next major development involved strategies for managing the information overload that accompanied print culture: these involve preliminary discriminations about the kind and value of books—what Francis Bacon had in mind when he said "Some books are to be tasted, others to be swallowed and some few to be chewed and digested; that is, some books are to be read only in parts; others to be read, but not curiously; and some few to be read wholly, and with diligence and attention." But these strategies also include ever-increasingly-sophisticated strategies of note-taking. (Ann Blair has described these strategies in her recent book *Too Much to Know*.)

All of these developments are intertwined with, and dependent upon, the technology of the codex. Likewise, the forms Christianity has taken in modernity have been deeply reliant on these technologies. (This is especially true of Protestantism, but Catholicism and Orthodoxy have hardly gone untouched.) But it took centuries for scholars to get a firm handle on those intertwinings: only in the last half-century has a sound understanding begun to emerge of the relations between emergent Protestantism and print culture, and many of the details are still highly contested. So it may be far too early to grasp how a shift away from the codex might affect culture as a whole, or even the part of it that Christianity represents.

In Europe five hundred years ago, Christians' decisions about technology were nearly definitive for the culture as a whole. That is scarcely true in Europe today, but in America the Christian subculture still wields significant influence. And it is worth remembering that the decision Christians made to adopt the codex in the first centuries of the faith ended up being a harbinger of what the whole late-Roman world would do. Christian attitudes towards technologies of reading still matter for the larger culture; and over the coming decades, as the European population shrinks and as the center of Christianity's gravity shifts more and more fully to the global South, what Christians make of the book may have an increasing rather than a decreasing significance. It is therefore worth our time to look more fully into the current scene and perhaps hazard some predictions.

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No Single Screen

We might begin this survey of our own moment by taking a broadly cultural view of one technology: the electronic reading device. Here are the comments of James Higgs, an accomplished British web designer and "creative technologist" for the firm MadeByMany:

> When I buy a book, I'm buying a physical, real world object that has properties that can be appreciated beyond the words it contains. It can be beautifully bound, use attractive design elements, have respect for typography, and use the physical properties of the medium as part of the content.
>
> For this last, I direct you to the novels of B. S. Johnson, in particular *The Unfortunates*, which contains a tied sheaf of booklets that can be read in any order, and *Alberto Angelo*, which contains holes cut into the paper to reveal hints of the contents on later pages. Neither of these techniques can be replicated on an eReader. The binding and physical form of the book is an intrinsic part of its content, rather like the frame in a Howard Hodgkin painting. (Another example: James Joyce once made a fuss over the size of a full-stop in *Ulysses*.) You very much *should* judge a book by its cover.
>
> Saying that a book can be reduced to a screen is the same thing as saying that a JPEG [a format of digital screen image] of *Les Demoiselles d'Avignon* is as good as the original. Thank heavens when we won't be made to traipse around a physical space, but can have master works beamed into our houses, eh?

It is true that certain techniques of experimental fiction that employ the familiar technology of the paper codex cannot be replicated on an electronic reading device; on the other hand, other forms of experimental fiction, especially those that employ hypertext links, cannot be replicated on paper codices. That great precursor to hypertext fiction, Julio Cortázar's 1963 novel *Hopscotch*—with its prefatory instructions for various orders of reading and its list of "expendable" chapters—was clearly inhibited by the limitations of the paper codex and would have been a better fit for hypertext.

But when Higgs says that "the physical form of the book is an intrinsic part of its content," he is on much shakier ground. I possess five copies of George Eliot's *Middlemarch*: two hardcover, one paperback, one digital version on my computer, and one Kindle version. Which of them, in Higgs's view, is the true one? If two people are conversing about *Middlemarch*, one

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of whom had read a paper version and one of whom had read it on an e-reader, would Higgs be able to distinguish them by the character of their comments? "Saying that a book can be reduced to a screen is the same thing as saying that a JPEG of *Les Demoiselles d'Avignon* is as good as the original." Well, I know where the original of *Les Demoiselles d'Avignon* is—in the Museum of Modern Art in New York City—but where is the "original" of, say, Dickens's *A Christmas Carol*? Perhaps Dickens's heavily annotated and corrected manuscript of the story, at the Pierpont Morgan Library, also in New York? If I have not read that, have I read *A Christmas Carol*? I would recommend to Mr. Higgs careful scrutiny of Walter Benjamin's famous essay on "The Work of Art in the Age of its Technological Reproducibility."

Perhaps we come close to the heart of the matter when we note this phrase: "Saying that a book can be reduced to a screen..." Pay particular attention to the word "screen." Christine Rosen, writing in the pages of this journal, uses the word also: early in her 2008 essay "People of the Screen" she asks, "Shouldn't we simply acknowledge that we are becoming people of the screen, not people of the book?" Curiously, this phrasing is also used by the most extravagant celebrants of new technologies: Kevin Kelly, for instance, who argues that we are entering a new phase of cultural history that he calls "the Technium," claims in a *New York Times* essay that "we are headed toward screen ubiquity....We are becoming people of the screen."

The problem with this kind of language is that there is simply no such thing as "the screen." It is nearly fifty years now since Marshall McLuhan made his crucial distinction between "hot" and "cool" media—the first providing a great deal of experiential energy to viewers while demanding relatively little from them, the second demanding more cognitive activity so that its effects can be realized—and convincingly assigning the movie screen to the first category and the television screen to the second. (These differences are considerably more pronounced now that so many people use their televisions to record, play back, pause and resume, and so on. This doesn't happen at the movies, though Lord knows I have often enough longed for a fast-forward button when there.) The screens on our computers, we might add, possess traits alien to movies and television alike, especially their interactive features: in *Understanding Media*, McLuhan did not imagine screens that you could click or tap on. Presumably this makes computer screens still "cooler" than televisions.

But in any event, the distinction between "hot" and "cool" provides only one axis. Another way that McLuhan distinguished between movies

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and television was by noting that light is projected *onto* a movie screen, while light shines *through* a television screen. The television screen, like the computer screen, is backlit. McLuhan and his son Eric conducted an experiment in 1968 at Fordham University (it has often been repeated since) that indicated that the cognitive experience of the two kinds of screen is considerably different. If one adjusts for typical differences in how we experience movies and television—the far greater size of the movie screen, the carefully controlled space in which movies are seen, and so on—it turns out that television, the "light-through" medium, absorbs viewers' attention far more completely—it is a more *immersive* experience. This may help to account for the addictive qualities of both television and computers.

How do electronic reading devices fit into these categories? Rather oddly. It is interactive, like the computer screen, though not as effortlessly so. No light comes through it: it is not backlit (a fact that often surprises people new to e-readers, who expect fancy new gadgets to be very like computers or cellphones). However, the image on it is not projected—in fact, it's not really an "image" at all. Rather, it is a kind of "electronic ink"—the same technology is used by all current e-readers—described by its makers in this way:

> The principal components of electronic ink are millions of tiny microcapsules, about the diameter of a human hair. In one incarnation, each microcapsule contains positively charged white particles and negatively charged black particles suspended in a clear fluid. When a negative electric field is applied, the white particles move to the top of the microcapsule where they become visible to the user. This makes the surface appear white at that spot. At the same time, an opposite electric field pulls the black particles to the bottom of the microcapsules where they are hidden. By reversing this process, the black particles appear at the top of the capsule, which now makes the surface appear dark at that spot. To form an E Ink electronic display, the ink is printed onto a sheet of plastic film that is laminated to a layer of circuitry. The circuitry forms a pattern of pixels that can then be controlled by a display driver.

This technology, it seems to me, evades most of the categories we have formulated so far, but the technology that it most resembles is clearly that of the paper codex. It is a flat surface on which ink appears. It is true that the e-ink comes from below the surface rather than being impressed on it, but it really is a kind of ink, and must be read under the same lighting conditions that we read paper codices.

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Are there other respects in which the e-reader resembles the codex? Let's approach that question by backing up a bit, returning to the Bible, and asking what happens when we try to read the Bible online, on a different screen: that of a personal computer. Let's take, for example, the website that Crossway Books has set up for their admirable English Standard Version. (In the matters I am about to mention it is nearly identical to other sites devoted to other translations.) Arriving at the site, we immediately see a prominent search box. The site expects that we will want to search for something—a book or a verse or a keyword—and encourages that behavior. Clicking on a link that says "read online" we get another prominent search box, along with a series of options for embedding passages in websites, getting RSS feeds, subscribing to daily e-mailings of verses, and so on. But then there is a link that says "Browse," which takes us to a page with a list of hyperlinked names of the books of the Bible. Though an order is clearly discernible—Genesis at the top left, Revelation at the bottom right—the page resembles nothing so much as a virtual scroll cabinet. It's as easy to link to any one book as any other: there's an equality of presentation here that minimizes the appearance of sequentiality.

By contrast, when I downloaded the ESV onto a Kindle, and opened it for the first time, I found myself at Genesis 1. I can, with a little effort, find a table of contents that, like the ones online, is clickable, but this requires a bit of navigation. By contrast, on each side of the device are large buttons labeled "Next." If what Bible websites want and expect me to do is search, what the Kindle wants and expects me to do is to read sequentially. It requires less effort to turn the digital page than to do anything else on the Kindle.

Let's revisit, then, those four reasons why the early Christians adopted the codex in preference to the scroll: economy, portability, integrity, sequentiality. Are e-readers economical? On the face of it, No: they are quite expensive devices. On the other hand, right now electronic versions of books tend to cost less than their paper counterparts, and it is possible to download many, many free versions of books, so the potential for being economical is there. In portability they represent a clear advance over paper codices: a thousand books are no bigger than one.

The question of integrity is more complex. As I discussed the concept earlier, it has a clear theological import: Scripture is One. The freestanding paper codex, whether a modern pocket Bible or one of the massive elaborate tomes Eusebius prepared for Constantine, presents this message unmistakably. Consider this: two women on a commuter train, both

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reading Paul's letter to the Romans. But one is reading in a traditional leather-bound Bible—its appearance readily distinguishable from any other kind of book—while the other is reading on her Kindle, and is the only one who knows what she is reading, unless someone peers quite deliberately over her shoulder. For the Kindle reader, the integrity may well be *personally* present, to some degree—on the device's home page, she can see the Bible clearly distinguished from all the other books, though it remains one book among many on one device—but certainly it is not *socially* present. There will likely be some disagreement about how important this difference is.

But most important of all: the Kindle—and this is equally true of other e-readers that I know of—is designed to promote sequentiality. It is true that the Kindle contains a rudimentary Web browser (though buried in layers of menus and almost impossible to use), that it encourages you to shop for books on its built-in Kindle Store, and that it makes it too easy to give up on the book you're reading and try another one. Nevertheless, the easiest thing to do on a Kindle is *always* to turn the page.

Crossway Books also makes the ESV available on an app for the iPhone and iPad, and this reading environment requires its own evaluation. In some ways it resembles an e-reader, in others a computer. Tapping to go to the next page is easy; but so too is tapping to check Twitter or e-mail. Reading on a tablet computer is considerably less like codex-reading than reading on a Kindle is; but it's not the same as reading on a personal computer. For some kinds of reading—for scholarly research and inquiry, perhaps—it could be better than either a Kindle or a codex, though the constant presentation of alternative possibilities is likely to impede sustained and single-minded attention. Or so it seems now, in the very early days of such devices. Time will tell us a good deal more.

The Word, Writ Large and Small

These shiny new technologies tend to draw the bulk of our attention, but that can be unfortunate. For there is yet another kind of screen that has had, and will almost surely continue to have, a greater influence on Christian encounters with the Bible: the enormous white screen that hangs somewhere near the pulpit of many thousands of churches, onto which the lyrics of praise songs, sermon bullet-points in PowerPoint, brief inspirational films, and, yes, the text of the day's Bible readings are all projected. These screens predate the advent of the personal computer—once upon a time they were primarily used with laminated sheets on overhead

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projectors—but the PC has made them nearly ubiquitous among evangelicals and quite common within every other tradition as well.

Thus the *primary* way many millions of Christians today encounter Scripture: seated a hundred feet or more from a screen on which they see displayed fifty or so foot-high letters. (Yes, these Christians know that they're supposed to have their own personal Bibles and study them diligently when at home alone, during their "quiet time." But how many do so?) When you consider how thoroughly such a presentation decontextualizes whatever part of the Bible it is interested in—how completely it severs its chosen verse or two from its textual surroundings—how radically it occludes any sense of sequence within the whole of the Bible—it becomes, I think, difficult to worry about the pernicious effects of iPads and Kindles. And impossible to see all screens as having the same effects.

Big-screen projection of Scripture and song has spread far beyond evangelical churches in the United States. Indeed, it may not even have become widespread here first: Korean megachurches (of which there are many) have been relying heavily on this technology for quite some time. And the use of projectors, sometimes without screens, has become increasingly common among the tens of millions of African Christians, which makes a distinct kind of sense: in situations where books are rare and comparatively expensive, such devices allow large numbers of people access to the Biblical text.

But there's a catch: projectors need a reliable source of electricity—often lacking in the very places where books are also rare. More reliable in such situations are cell phones. Indeed, the Bangladeshi economist Muhammad Yuunus created Grameenphone fifteen years ago to provide cellphones to impoverished rural areas of Bangladesh precisely because such phones require less infrastructure than alternative forms of communication. No telephone or electrical lines have to be laid; phones can be charged by solar power or by hand-cranked chargers; cell towers, or even in some cases satellite transmissions, allow access to the Internet even in areas totally lacking electricity.

On many of the same grounds, as Evgeny Morozov explains in a recent essay-review in *The New Republic*, Google has been working hard in recent years to maximize its presence in Africa, sensing an already-enormous and rapidly-growing market for Internet access. Google thinks of African cell phones primarily as business devices, but, especially in eastern and southern Africa, the people likely to have cell phones and to seek Internet access are disproportionately likely to be Christians as well. And of those, many will use their phones to get access to the text of Scripture.

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Curiously, what these tiny screens do to the Bible is almost identical to what the big screens do: reduce it to chunks of one or two verses. It is true that the cell phone reader looks down, and looks down upon his own screen, as opposed to the upward-turning congregant sharing one big screen with many others, but the same decontextualizing effect is at work. Biblical scholars have long complained about the imposition of chapter and verse divisions upon texts that originally contained neither—the verse divisions weren't generally settled on until the sixteenth century—but surely today's largest and smallest screens have achieved the ironic apotheosis of this textual partitioning. And given the aforementioned shift of Christianity's demographic center southward, in the cell phone and the projector we may be seeing the future of Christianity's encounter with the book. As Christians from the global South and East become increasingly interested in re-evangelizing the West, these are the technologies likeliest to accompany and assist their endeavors. And they will bring a theology shaped by the screens on which they have encountered the Word of God—and in some cases by the controllers of those screens: those who determine what is seen, and what remains invisible.

In Defense of the Book, Rightly Understood

In light of these developments—both the current ones and those that may come—for those who love the book and especially the Book, the Bible, the rise of electronic reading devices should be the least of our concerns. Electronic reading devices like the Kindle, and even tablets like the iPad, preserve many of the essential features of the codex; and in this, they are quite distinct from other "screens" on which we might read. To decry the move from the book to the screen is simply to employ categories too crude for the phenomena that are being described. We who call ourselves book lovers and we who call ourselves Christians need, perhaps even more than others, to keep this in mind. We are prone to forget that there were books before the invention of the paper codex, which means that we need to distinguish between books and codices, and ask ourselves what the truest and best object of our love is. When people talk about the need to preserve "the book," it is not always clear exactly what they mean, but in general it's fair to say that people who speak in this way would not think it especially tragic if *eBay for Dummies* or *Chicken Soup for the Golfer's Soul* were no longer bound in paper codices but assumed a purely digital existence. There are particular kinds of book, especially those that rely on what I have called *integrity* and *sequentiality*, that are closely bound

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up—pun very much intended—with the historical development of the paper codex, but are not precisely and inextricably linked with it. The book and the paper codex are not Siamese twins conjoined so completely that to sever them is to kill at least one. It is possible for the book, in the historically rich sense of the word used here, to survive and even thrive in forms other than the paper codex.

This does not mean that the decline of the paper codex, if indeed it is coming, is insignificant. A digitized book will certainly lose *some* of the features that make the paper codex intellectually powerful, and the aesthetic experience of reading e-texts—which is important—is far inferior to that of reading many codices. (Even when the aesthetics are improved, as they surely will be, that development may not proceed in directions bibliophiles find very appealing.) So there is every reason for those of us who love paper codices to defend them; but we will do this more effectively if we understand what truly is distinctive to them, more specifically the contrast between "books" and "screens."

But however important defense of the paper codex may be, the obligation to defend the book remains far greater. It is the book, largely as it emerged from the early Christian Church's understanding of its own Scriptures, that has enabled much of the best that has been thought and said in the past fifteen hundred years. And its key virtues can be preserved, and perhaps even extended, in forms other than the paper codex. By contrast, screens that allow only minuscule chunks of text to be displayed at any one time—and that effectively remove from perceptual awareness context, sequence, and narrative—do violence to the book *qua* book. If Christians forget, or forget more completely than they already have, the integrity and necessary sequentiality of their holy Book, and of the story it tells, that would be a catastrophe for Christianity. But even those who do not care for Christianity should remember that Christians tend to be a proselytizing people, and the message that they bring will always be entangled with technologies of reading. Over the long haul, as fields of cultural force shift their patterns, that may come to matter to people who now look on Christianity with indifference or hostility. When the evangelists come to our doors, may they come bearing iPads and Kindles.

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