

OUTSOURCING THE SACRED:
COGNITIVE OFFLOADING, DIGITAL AMNESIA, AND THE EROSION OF SCRIPTURE
INTERNALIZATION IN THE CHRISTIAN LIFE

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CONTENTS

CONTENTS.....	ii
ABSTRACT.....	iii
INTRODUCTION	1
A Physical Problem with a Spiritual Impact.....	4
COGNITIVE OFFLOADING AND THE EROSION OF MEMORY	7
The Transactive Memory Theory	7
Transactive Memory Theory Today	12
The “Google Effect”	13
Digital Amnesia	21
HIDING GOD’S WORD IN THE HEART.....	23
Scripture Internalization	24
Memorization or Immersion?	25
The Method: Deut 6:6–9.....	27
The Rationale: Ps 119:9–11	30
The Result: 2 Tim 3:16–17	33
Counter-Cultural Disciplines for Scripture Internalization	35
CONCLUSION.....	40
BIBLIOGRAPHY	42

ABSTRACT

“I just don’t wonder anymore.” Those words crystallize a concerning cultural shift: the erosion of curiosity and imagination in an age of instant answers. This thesis examines how the pervasive use of digital technology, through excessive cognitive offloading and the resulting digital amnesia, threatens Christians’ capacity to internalize Scripture. Drawing on two groundbreaking studies in cognitive science research—Daniel Wegner’s “Transactive Memory” and Betsy Sparrow’s “Google Effects on Memory”—this paper demonstrates that when information is easily accessible externally, our minds will prioritize where to find the information over the content of the information itself. Applied to our lives of faith, this means that Christians know how to search for Bible passages but fail to have them in their own minds. God commands his people to have his Word written on their hearts, not stored on their devices. To fight back against the ease of offloading God’s Word, this paper suggests methods of memorization and immersion, resulting in being equipped by God for temptation, suffering, and evangelism.

INTRODUCTION

“I just don’t wonder anymore.” The first time those words were spoken to me, they resonated. I could empathize. That short sentence gave expression to an experience that I had struggled to articulate. How does one describe the vanishing of curiosity, the stagnation of imagination, and the ever-increasing desire for information?

“I just don’t wonder anymore.” The second time those words were spoken to me, they shocked. In two separate conversations, the same exact words were used to express a disturbing sentiment. As the conversations continued, it became clear that this “lack of wondering” was no mere result of the transition from childhood to adulthood. These were adults who in their adult life had experienced a change. They lamented this perceptible change in their minds as they longed for the days when “wondering” would return.

Through these conversations, words had been given to a problem all three of us had noticed in ourselves. Naming the problem is always a big step. However, the next steps loomed even larger: How would we diagnose and treat this problem? How would we return to days of unresolved wondering, joyful curiosity, and vivid imagining?

In trying to find a cause for this problem, my mind jumped to various possible causes. After investigation, although options like sedentary lifestyles and nutritional deficiencies could play a role in this change, they did not seem to be the primary cause.

Upon further investigation, it seemed like the worlds of health and science were already diagnosing a cause of this lack of “wondering.” The diagnosed cause was this: answers.¹ The advent of the internet had brought about never-before-seen access to answers to whatever questions crossed one’s mind. People no longer wondered how to complete a task around the home, why Nero had soldiers haul snow from the mountains and mix it with fruit and honey, or what the other side of the world looked like. People could find answers to a wide variety of wonderings, so unresolved wondering and vivid imagining fell by the wayside.

What the advent of the internet started, personal devices brought to a new level of severity. Now, not only could the answers be found, but they could be found conveniently, no matter when or where. The time in limbo between a question and an answer was the time it took for your fingers to type the question into Google. Betsy Sparrow, Jenny Liu, and Daniel Wegner, a team of psychologists we will hear more from later, put it this way:

In a development that would have seemed extraordinary just over a decade ago, many of us have constant access to information. If we need to find out the score of a ball game, learn how to perform a complicated statistical test, or simply remember the name of the actress in the classic movie we are viewing, we need only turn to our laptops, tablets, or smartphones and we can find the answers immediately. It has become so commonplace to look up the answer to any question the moment it occurs that it can feel like going through withdrawal when we can’t find out something immediately.²

Waiting and wondering had gone out the window, and promises of a satisfied, knowledge-filled life took center stage.

1. Adrian F. Ward, “People Mistake the Internet’s Knowledge for Their Own,” *Proceedings of the National Academy of Sciences* 118, no. 43 (2021): 7, <https://doi.org/10.1073/pnas.2105061118>.

2. Betsy Sparrow et al., “Google Effects on Memory: Cognitive Consequences of Having Information at Our Fingertips,” *Science* 333, no. 6043 (2011): 776, <https://doi.org/10.1126/science.1207745>.

The question comes: Are we satisfied and knowledge-filled? Has technology delivered to us a better life?³ Technology has undoubtedly saved lives, increased access to education, and brought the world to our fingertips, among other successes. But from an anthropological perspective, have we counted the cost and concluded that technology has made for a better human experience?⁴ And if not, how should we respond?

I propose in this paper that the problem is not solely found in technology itself, but also in how we decide to use technology.⁵ It is not necessarily harmful to have available answers to our questions, but it can be harmful to constantly jump to the answers right away. Stated in a different way, it is not necessarily harmful to use technology to offload knowledge, but it can be harmful to offload all knowledge, or important knowledge. It is healthy to “wonder” for a while, to let our imaginations run.⁶ Those are human processes.

3. Social psychologist Jonathan Haidt poses a similar question: “Does the phone-based life generally pull us upward or downward?” Jonathan Haidt, *The Anxious Generation: How the Great Rewiring of Childhood Is Causing an Epidemic of Mental Illness* (Penguin Books, 2025), 201.

4. “Sadly, many Christians default toward a naïve embrace of technology as a neutral and merely pragmatic tool to be harnessed for mission. But as Postman—following McLuhan—rightly argued, no technology is neutral. New technologies shape our thinking: what we think about, the symbols and metaphors we think with, and the forums in which thoughts develop.” Brett McCracken, “Back to the Future: How a 1985 Book Predicted Our Present,” in *Scrolling Ourselves to Death: Reclaiming Life in a Digital Age*, ed. Brett McCracken and Ivan Mesa (Crossway, 2025), 19.

5. “Martin Luther, though living long before computers and AI technology, offers wisdom for using these powerful tools: Just look at your tools—at your needle or thimble, your beer barrel, your goods, your scales or yardstick or measure. . . . All this is continually crying out to you: ‘Friend, use me in your relations with your neighbor just as you would want your neighbor to use his property in his relations with you.’ Although computers may be able to think for us, we must guard against using these tools in ways that hurt our neighbors and society.” A. Trevor Sutton, *Redeeming Technology: A Christian Approach to Healthy Digital Habits* (Concordia, 2021), 146.

6. Ju Ae Kim et al., “How Mindful and Mindless Online Searching Affects Curiosity and Information Recall,” *Education Tech Research Dev* (2025): 23, <https://doi.org/10.1007/s11423-025-10570-2>.

A Physical Problem with a Spiritual Impact

A “lack of wondering” about the world because of a decision to take technology’s offer of instant answers can damage our life experience, stripping away from us what makes us most human. However, the ramifications of a “lack of wondering” stretch far beyond just our earthly life experience. Have we stopped “wondering” about God? Have we stopped letting our mind run with joy as it ponders the magnitude of God’s grace? Have we short-circuited our mind from taking hold of the wonders of Christ’s sacrifice in our place? If we have, then how did we get here?

This is not a problem that has only one singular cause. The complexity that comes with a noticeable change to the human experience would take up shelves of books. Therefore, I am going to focus on one contributing factor, recognizing that this cause rarely happens in isolation: cognitive offloading (or, as one of its iterations is popularly known, the “Google effect”).

Cognitive offloading will be unpacked further in the coming pages. For the purposes of setting the stage, here is how a 2025 article by Hagit Magen and Michal Tomer-Offen describes cognitive offloading: “The demands of everyday life often far exceed the capabilities of our internal memory. Consequently, individuals frequently offload information externally to aid daily tasks (e.g., writing shopping lists, setting reminders, saving information in computer files).”⁷ As you can deduce from that description, cognitive offloading is essential to our everyday lives. As humans, we make lists of groceries, birthdays, and phone numbers. We set alarms to remind us to take food out of the oven. We write paragraphs on a Word document, trust the computer to automatically save our work, and move to the next task. Cognitive offloading is

7. Hagit Magen and Michal Tomer-Offen, “Reduced Relational and Item-Specific Processing in Cognitive Offloading,” *Cognitive Research: Principles and Implications* 10, no. 1 (2025): 1, <https://doi.org/10.1186/s41235-025-00647-0>.

part of everyday life. However, cognitive offloading becomes a problem when we choose to offload the wrong information, particularly the *important* information.⁸

Cognitive offloading, then, is a direct cause of what is called “digital amnesia,” which is defined as “a condition in which the mental capacity to store information decreases as a result of changing habits of accessing, remembering, and storing information with modern digital devices, their extensive functions, and the Internet.”⁹ According to this definition for digital amnesia, the process of cognitive offloading not only keeps knowledge about information somewhere external, but it also erodes your brain’s capacity to store information. Both of those consequences can harm our worldly, human experience. More importantly, they can also harm our lives of faith.

I believe an examination of cognitive offloading in our spiritual lives will have profound implications for how we view our relationship with God and his Word. When cognitive offloading collides with our lives of faith, questions result: Is a dependence on technology hindering the Christian’s ability to remember, internalize, and proclaim the Word? Is it enough to know how to look up a Bible passage instead of knowing the Bible passage in one’s heart? And if technology, through its ease of cognitive offloading, is one of the problems, then in this technology-saturated world are countless Christians living through this same experience? As years of habitual technology use accumulate, these proposed problems will only be magnified,

8. One reason that offloading the important information is horribly detrimental is because we mistakenly think we can still recall it. We trick ourselves into thinking we have the information stored somewhere in our minds, when in reality we never encoded it in the first place. As Lisa Genova explains, “You’ll learn that attention is essential for creating a memory for anything. If you don’t pay attention to where you park your car in the mall garage, you’ll struggle to find it later, but not because you’ve forgotten where you parked. You have forgotten nothing. Without adding your attention, you never formed a memory for where you parked in the first place.” Lisa Genova, *Remember: The Science of Memory and the Art of Forgetting* (Harmony Crown, 2023), 9.

9. Yalçın Kanbay et al., “Digital Amnesia: The Erosion of Memory,” *Psikiyatride Güncel Yaklaşımlar* 17, no. 3 (2025): 545, <https://doi.org/10.18863/pgy.1539145>.

making the issues of heavy technology use, cognitive offloading, and digital amnesia important to investigate, discuss, and address.

The explosive growth of digital technology has placed the Bible, sermons, devotions, podcasts, and other Christian resources in the pockets of Christians around the world. The advancement of technology has served to advance the gospel across the globe, but, as with all technology, those blessings come with a cost. Through an analysis of literature, I will attempt to clearly describe the problem of cognitive offloading and propose solutions to aid in minimizing its effects in our lives as Christians. The three areas of literature that I will be analyzing are cognitive science research on memory and technology, theological works on Scripture memorization and remembrance, and interdisciplinary studies on faith and technology. An analysis of these three areas of literature leads me to propose the following: The pervasive use of digital technology, through cognitive offloading and the resulting digital amnesia, erodes Christians' capacity to memorize, internalize, and proclaim Scripture's life-changing truths by fostering shallow engagement and external reliance. But intentional disciplines rooted in God's commands for remembrance offer a path to mitigate these effects and to equip Christians with God's Word "hidden in their hearts" (see Ps 119:11).

COGNITIVE OFFLOADING AND THE EROSION OF MEMORY

Cognitive offloading is not new. In fact, maybe cognitive offloading has become so natural that we do not recognize its use and impact in our lives. Daniel Wegner makes this observation:

It is surprising, actually, that the psychological study of memory has dwelt so little upon the extraordinary human tendency to record items in external storage media. Our walls are filled with books, our file cabinets with papers, our notebooks with jottings, our homes with artifacts and souvenirs, our floppy disks with data records, and at times, our palms with the scribbled answers to a test. Quite simply, we seem to record as much outside our minds as within them.¹⁰

We would never question the act or necessity of cognitive offloading. In fact, it is truly a mark of human ingenuity that we have developed so many tools and systems to organize our complex lives. But, as in any healthy relationship (even with technology), the boundary lines must be drawn somewhere. So maybe we should question whether we have offloaded so much, so habitually, that we have fundamentally altered our relationship with knowledge itself.

The Transactive Memory Theory

Obvious examples of cognitive offloading without technology include writing appointments on a calendar, remembering which book contains certain information, or documenting a phone number. Much of cognitive offloading occurs on a personal level, but many examples exist where cognitive offloading occurs between individuals and within groups. Wegner analyzed this phenomenon, documenting his findings in what he calls “transactive memory.”

10. Daniel M. Wegner, “Transactive Memory: A Contemporary Analysis of the Group Mind,” in *Theories of Group Behavior*, ed. Brian Mullen and George R. Goethals, Springer Series in Social Psychology (Springer-Verlag, 1987), 187.

As Wegner notes, the ideas of “group think” or a “group mind” were a popular topic of discussion among sociologists for about two centuries, stretching back to Rousseau and Hegel. By evaluating groups according to the same principles as individuals, sociologists were able to see how a group’s many minds function as, in a sense, “one mind.” That “one mind” would govern the group’s actions, just as the preferences, opinions, and experiences of an individual guide the individual’s decision-making processes. The field of “group think” quickly became oversaturated, though, with new discoveries becoming rarer. As the infatuation with “group think” eroded the landscape, sociologists halted their studies in the mid-twentieth century. Despite the lack of modern emphasis on “group think,” Wegner saw another application for how groups function as a singular memory unit, an application that was worthy of a “group think” resurgence.¹¹

The basic premise of the transactive memory theory is this: when a person knows whom to ask about certain information, the necessity to remember that information for oneself disappears.

Wegner saw that couples and groups formed what he called a “transactive memory system,” which he defined as “a set of individual memory systems in combination with the communication that takes place between individuals.”¹² Within this system, individuals no longer store all information in their own brains (internal storage), but they also rely on others to have information stored in their brains (external storage).

This transactive memory system operates in various phases, which are fundamentally the same phases that exist for an individual’s retention of knowledge. The first phase is finding out

11. Wegner, “Transactive Memory,” 185.

12. Wegner, “Transactive Memory,” 186.

who knows what within the group. For example, among business partners, Partner A knows the financial information and Partner B knows the employees. Since they are working together, neither partner needs to be an expert in all areas of their business. They simply need to know that one of them has a depth of knowledge in each area. The second phase of the transactive memory system is knowing where to store new information.¹³ For example, when a new “Save the date!” comes in the mail and is opened by the less calendar-savvy spouse, he or she should give it to the other spouse quickly. The final phase of the transactive memory system is the primary purpose for its existence: retrieving information from the proper individual. For example, when a group of friends are planning to go to a concert, one friend might ask another, “Would you be willing to find parking again?” This crucial stage begins “when the person who holds an item internally is not the one who is asked to retrieve it.”¹⁴ Through these three stages—encoding, storage, and retrieval—transactive memory systems distribute knowledge across the group, allowing for specialization while maintaining access to a knowledge base beyond one’s own storage capacity.

A transactive memory system clearly has numerous benefits. Among the members of a single transactive memory system, there is no longer a need to redundantly encode information. If one spouse or one person in the friend group knows the information, then that is sufficient for most circumstances. Being in a transactive memory system allows for high levels of specialization among the individuals of the system. As more people join the transactive memory

13. “The transactive quality of memory in a group is evident also in the transactions that take place during encoding and retrieval. In transactive encoding, people discuss incoming information, determining where and in what form it is to be stored in the group. Transactive encoding sometimes takes the simple form of direct instruction for one group member to encode information internally (e.g., ‘Lulu, remember this phone number’), but more often involves complex negotiations regarding the common labels that should be assigned to items (e.g., ‘What was that?’), the matter of responsibilities for internal storage (e.g., ‘Isn’t this your bailiwick?’), the preferred locations of items (e.g., ‘I’ll take care of that’), and the like. In this process, the very nature of incoming information can be changed, translated into a form that the group can store.” Wegner, “Transactive Memory,” 190.

14. Wegner, “Transactive Memory,” 190.

system, fewer specific details need to be known by everyone. Instead, a group's knowledge base can be spread out among the individuals, resulting in an opportunity to pursue greater depths of knowledge in a certain area. As a result, individuals often retrieve knowledge with higher levels of accuracy. One last benefit is stated by Wegner in this way: "If we ask a question of a person who is a well-integrated part of a transactive memory network, this person often is able to answer (after consultation with other network members, of course) with information well beyond his or her own internal storage. Asking any member of a family a question about the family's summer vacation, for example, can prompt the retrieval of several members' accounts of the experience."¹⁵ While it takes time to learn who knows what in a certain transactive memory system, the benefits are worth the effort.¹⁶

A transactive memory system also comes with risks. Wegner says, "The complexity that is added to an individual's memory system by the existence of connections to other memory systems creates the potential for new sources of confusion and error."¹⁷ Also, when the group dissolves, so do those connections of shared knowledge.

Up to this point, we have been talking as if all information for a group's transactive memory system resides in the members' brains. Wegner knew that non-human extensions to transactive memory systems exist in books, files, and notes, among other places. When non-

15. Wegner, "Transactive Memory," 190.

16. "The transactive memory system in a group involves the operation of the memory systems of the individuals and the processes of communication that occur within the group. Transactive memory is therefore not traceable to any of the individuals alone, nor can it be found somewhere 'between' individuals. Rather, it is a property of a group. This unique quality of transactive memory brings with it the realization that we are speaking of a constructed system, a mode of group operation that is built up over time by its individual constituents. Once in place, then, the transactive memory system can have an impact on what the group as a whole can remember, and as a result, on what individuals in the group remember and regard as correct even outside the group. In short, transactive memory derives from individuals to form a group information-processing system that eventually may return to have a profound influence upon its individual participants." Wegner, "Transactive Memory," 191.

17. Wegner, "Transactive Memory," 197.

human extensions are introduced, the knowledge base of a transactive memory system increases exponentially. If one member of the group offloads their knowledge to, for example, a book, he or she needs to know which book the information is in and where that book is.¹⁸ The path to retrieval becomes more complex, now needing to know *whom* to ask, who then needs to know *where* to look. Nevertheless, the information is still accessible.

However, for Wegner, the complexity of the transactive memory system did not stop with books, files, and notes. He also included one more location in his list of non-human extensions of memory: the computer.¹⁹ For Wegner, the computer was another location to which members of the group could offload information, putting computers on the same level as books, files, and notes. The fact that you can save something to a computer's hard drive to be retrieved later still holds true today. However, a present-day computer user would have to say that storing a file on a hard drive is one of the *many* ways that a computer can retrieve information. When Wegner first proposed a hypothesis about transactive memory in 1985, the internet was on the horizon, but it was not yet widely accessible and easy to use. For reasons that we will explore, despite not being directly geared towards technology, Wegner's transactive memory theory is a relatively seamless fit in today's technology-dense world.

18. Offloading information to an external source requires a different method for retrieval. "Location information, on the other hand, is something we never have to specify to ourselves in searching for internally stored items. Rather than wondering 'Where did I put that?' we simply retrieve the item or not." Wegner, "Transactive Memory," 188.

Encoding, whether done internally or offloaded externally, always requires at least two pieces of information to be known internally. "As an example of this, suppose that one encodes this book in memory. To encode it internally requires learning some sort of label (e.g., the book's title), and then memorizing the rest of it from cover to cover. To encode it externally also requires learning the label, but then only calls for learning where the book can be found. In either encoding process, the minimum requirement is that two categories of information are placed in internal storage." Wegner, "Transactive Memory," 189.

19. Wegner, "Transactive Memory," 189.

Transactive Memory Theory Today

Wegner studied transactive memory systems among humans. These were groups of friends, spouses in a marriage, or others who had a close relationship. When humans interact and communicate with other humans, mistakes happen. Their logic is not always sound, their memories do not always retrieve accurate information, and opinions can get in the way of facts. But what if someone (or something) in the group could overcome these shortfalls? It appears that we have found a solution to that dilemma. As a general principle, we have added devices as members of our transactive memory systems. As a result, we have changed the dynamic of “group think,” expanding it to the limits of the search engine.

As far as broadening our knowledge base goes, adding the internet to our transactive memory systems seems like a no-brainer. The storage capacity of our knowledge base has gone beyond file cabinets and sticky notes to a seemingly infinite capacity. The length of time to retrieve information has shrunk from an extra phone call or a search through a book to typing a few words on a device. Wherever our brains wander, our curiosities can be satisfied almost instantly.

However, introducing devices into the group puts the group itself at risk. With technology in the group, there is little to no mutual accountability or relational buy-in. If the answer can be found through a search, no one in that group has to know that information. No one is counting on a certain person to be the location from which that information is retrieved. And if everyone has a device, then how necessary is the group? Would we have satisfactory transactive memory systems in a group with just two members: an individual and their device?

The foundation of my proposed problem is that we have, intentionally and unintentionally, offloaded information without regard to the value of that information. We have

welcomed the ease with which we can find answers through a quick search, slowly eroding our desire to *know* information for ourselves. For most information, it truly is enough to just know *where* to find the information. However, when it comes to information of utmost importance, is it enough to just know where to find the details, or is it important to have those details encoded in our own memory? What started for Wegner as an elegant theory for how groups worked together in the mostly pre-digital era has now become supercharged by the arrival of smartphones, search engines, and AI.

The Google Effect

“Just google it.” Speak those words and most people will unquestioningly reach into their pockets, take out their phones, and discover a satisfactory answer within seconds. Those three words are cultural shorthand for knowledge acquisition and retrieval. What is so remarkable about that phrase is how quickly it took over the world. Smartphones, search engines, and AI have rapidly and fundamentally changed the way we interact with information. The question to ponder is: Did we ever stop to think if a rapid, fundamental change to knowledge acquisition and retrieval would rapidly and fundamentally change us?

Before Betsy Sparrow’s groundbreaking study on the Google effect, scholars had already started asking questions of technology’s ease. Nicholas Carr, author of the popular 2010 book *The Shallows: What the Internet Is Doing to Our Brains*, wrote an article in 2008 entitled, “Is Google Making Us Stupid?” The premise of the article is captured in Carr’s hard-hitting words from its second paragraph:

Over the past few years I’ve had an uncomfortable sense that someone, or something, has been tinkering with my brain, remapping the neural circuitry, reprogramming the memory. My mind isn’t going—so far as I can tell—but it’s changing. I’m not thinking

the way I used to think. I can feel it most strongly when I'm reading. Immersing myself in a book or a lengthy article used to be easy. My mind would get caught up in the narrative or the turns of the argument, and I'd spend hours strolling through long stretches of prose. That's rarely the case anymore. Now my concentration often starts to drift after two or three pages. I get fidgety, lose the thread, begin looking for something else to do. I feel as if I'm always dragging my wayward brain back to the text. The deep reading that used to come naturally has become a struggle.²⁰

Apple released its first iPhone in 2007. Android released its first smartphone in 2008. If Carr was feeling this way in the earliest days of the smartphone, what would he say now? The access has only gotten easier. The buffer times have only gotten shorter. Effortful information recall has become increasingly effortless. But have our concerns about technology kept pace with its growth, or have we quietly made peace with the drift?

Sparrow's 2011 study marked a turning point for how scholars, scientists, and everyday people understood the effects of technology on human brains. Carr could speculate about technology's impact on our lives, but his only source of information was experience. Sparrow's study gave the first empirical evidence that confirmed Carr's (and others') speculations. Not only

20. Nicholas Carr, "Is Google Making Us Stupid," *The Atlantic*, July 2008.

While Carr writes from personal observation, Maryanne Wolf, a cognitive neuroscientist specializing in the reading brain, describes technology's impact as part of a broader cultural shift:

What we read, how we read, and why we read change how we think, changes that are continuing now at a faster pace. In a span of only six millennia reading became the transformative catalyst for intellectual development within individuals and within literate cultures. The quality of our reading is not only an index of the quality of our thought, it is our best-known path to developing whole new pathways in the cerebral evolution of our species. There is much at stake in the development of the reading brain and in the quickening changes that now characterize its current, evolving iterations. You need only examine yourself. Perhaps you have already noticed how the quality of your attention has changed the more you read on screens and digital devices. Perhaps you have felt a pang of something subtle that is missing when you seek to immerse yourself in a once favorite book. Like a phantom limb, you remember who you were as a reader, but cannot summon that 'attentive ghost' with the joy you once felt in being transported somewhere outside the self to that interior space. . . . In our almost complete transition to a digital culture we are changing in ways we never realized would be the unintended collateral consequences of the greatest explosion of creativity, invention, and discovery in our history.

Maryanne Wolf, *Reader, Come Home: The Reading Brain in a Digital World* (HarperCollins, 2018), 2–3.

did the evidence demonstrate the extent to which we relied on the internet, but it highlighted a startling problem: technology was indeed changing us.

Betsy Sparrow's name is often the first one associated with this study. She is a professor of psychology at Columbia University. However, two other names are also listed on this study: Jenny Liu of the University of Wisconsin–Madison and Daniel Wegner of Harvard University. This is the same Wegner who theorized about transactive memory. Wegner's inclusion on this team of psychologists shows the continuation of the research surrounding transactive partners in information retrieval. Now instead of studying interactions between people, Wegner, with Sparrow and Liu, would be using psychological expertise to analyze interactions between humans and technology.

The goal of the study is explained by the researchers in the opening paragraphs:

The present research explores whether having online access to search engines, databases, and the like, has become a primary transactive memory source in itself. We investigate whether the Internet has become an external memory system that is primed by the need to acquire information. If asked the question whether there are any countries with only one color in their flag, for example, do we think about flags or immediately think to go online to find out? Our research then tested whether, once information has been accessed, our internal encoding is increased for where the information is to be found rather than for the information itself.²¹

To accomplish this goal, they set up four experiments. In experiment 1, participants answered two blocks of either easy or hard yes-no trivia questions. After each block of questions, participants completed a modified Stroop task (“a color-naming task with words presented in either blue or red”²²) with technology-related and non-technology-related words to test their reaction times. Especially after blocks of difficult trivia questions, participants' reaction times of

21. Sparrow, Liu, and Wegner, “Google Effects on Memory,” 776.

22. Sparrow, Liu, and Wegner, “Google Effects on Memory,” 776.

naming the colors of technology-related words were slower. Additionally, search engine brands caused statistically significant amounts of interference in the participants' reaction times. This suggests that "when we are faced with a gap in our knowledge, we are primed to turn to the computer to rectify the situation."²³

Experiment 2 tested "whether people remembered information that they expected to have later access to—as they might with information they could look up online."²⁴ The participants read forty memorable trivia statements that could easily be looked up online (e.g., "An ostrich's eye is bigger than its brain."²⁵) The participants typed those statements into a computer, ensuring that they had read the statements and had given them a chance of being encoded into their memories. Half of the participants were led to believe that the typed statements would be saved by the computer. The other half believed the statements would be erased. Further, half of the participants in each of the two camps were specifically asked to try to remember the information.²⁶ After the reading and typing, all the participants were asked to write down as many of the trivia statements as they could remember. The participants who were told that the statements would be saved on the computer recalled significantly fewer statements than those who were told that the statements would be erased. This suggests that the effort of encoding new

23. Sparrow, Liu, and Wegner, "Google Effects on Memory," 776.

24. Sparrow, Liu, and Wegner, "Google Effects on Memory," 776.

25. Sparrow, Liu, and Wegner, "Google Effects on Memory," 776.

26. The results of this instruction confirmed prior research, showing that there is no statistical difference in recall even when there is an explicit instruction to remember the material. Sparrow, Liu, and Wegner, "Google Effects on Memory," 777.

information into our memories is perceived not to be worthwhile when we know the information is easily accessible elsewhere. “When we need it, we will look it up.”²⁷

Experiment 3 had the goal of comparing people’s ability to directly recall information to their knowledge of *where* to find that information. Once again, the participants read and typed memorable trivia statements (thirty for this experiment), but this time they were shown three different screens after they typed the statements. After one-third of the statements, the screen said, “Your entry has been saved.” For another one-third of the statements, the screen said, “Your entry has been saved into folder X” (X being a variable for one of six folder names, like FACTS, DATA, and INFO). For the final one-third of the statements, the screen said, “Your entry has been erased.”

Afterward, the psychologists gave the participants a recognition task. All thirty statements were shown to the participants, but half of them had been altered in some slight way. Participants had to determine whether the statement was exactly what they had typed, whether the statement had been saved, and, if the statement had been saved to a specific folder, into which folder it had been saved. The participants most accurately determined whether the statement was exactly what they had typed for the statements that they believed had been erased. The next highest rate of accuracy was for the statements they believed had been saved generically, leaving the lowest rate of accuracy for the statements they believed had been saved to a specific folder.

For the question of whether the information was saved or erased, participants more accurately remembered which items had been saved than which items had been erased. “Thus, it appears that believing that one won’t have access to the information in the future enhances

27. Sparrow, Liu, and Wegner, “Google Effects on Memory,” 777.

memory for the information itself, whereas believing the information was saved externally enhances memory for the fact that the information could be accessed, at least in general.”²⁸

For the question of “If the information was saved, which folder was it saved into?” the participants showed improved accuracy in remembering whether information had been erased, more so than when simply asked whether it was saved or erased. This suggests that even when given the specific location of saved information, what matters most to our brains is whether or not that information is saved somewhere for our retrieval, not the specific location.²⁹

Experiment 4 narrowed the focus to a specific aspect of experiment 3, seeing if the participants would remember *where* to find information rather than the information itself. After reading and typing the trivia statements, the participants were told that the statements were saved to a specific folder with a general name (similar to the previous experiment, but this time, the participants did not know how many folders there were or what the names of those folders were). Following the reading and typing, the participants completed a recall task, writing down as many of the statements as they could remember in ten minutes. The final step of this experiment was that participants were given an identifying feature of a statement that they had read and typed, and they had to tell the name of the folder in which it was saved. For example, for the statement “An ostrich’s eye is bigger than its brain,” the question would be “What folder was the statement

28. Sparrow, Liu, and Wegner, “Google Effects on Memory,” 777.

29. “This result is a reminder of the experience of remembering something you have read online that you would like to see again or share but no longer remembering where you saw it or what steps you took to find it in the first place, or even knowing that a file is saved onto your hard drive but having to use the search feature to find it. The fact that some of the statements were saved in a general folder was important to include to rule out increased memory demands in the two saved conditions but does not parallel the continuous access to information we experience with current technology, in that there is no nameless depository of leftover information we would check after searching the obvious places. In addition, recognition is not usually the task we are charged with when answering someone’s question. We need to recall the information we have gathered.” Sparrow, Liu, and Wegner, “Google Effects on Memory,” 777.

about the ostrich saved in?”³⁰ The participants would then type the folder name into the computer after not having seen the folder names since the initial typing period.

The findings of experiment 4 are fascinating. First, the participants more accurately recalled *where* the statements were saved than the statements themselves. As the team of researchers stated, “These results seem unexpected on the surface, given the memorable nature of the statements and the unmemorable nature of the folder names. Also, these recall results are notable in comparison with the dismal level of recognition of which folder the statement was saved into in Experiment 3.”³¹ Overall, *where* was prioritized in the memory process above *what*. Next, the researchers analyzed whether the participants accurately recalled both the statement and the saved folder, just the statement, just the folder, or neither. The participants were “particularly poor”³² at recalling both the statement and the folder in which it was saved. Statistically, they were more likely to recall nothing. However, when the statement was unable to be recalled, the participants were just as likely to remember the folder as they were to remember nothing. “It would seem from this pattern that people don’t remember ‘where’ when they know ‘what’ but do remember where to find the information when they don’t recall it. This is preliminary evidence that when people expect information to remain continuously available (such as we expect with Internet access), they are more likely to remember where to find it than to remember the details of the item.”³³ This is evidence that, with technology in play, our brains tend to prioritize the location of the information rather than the information itself. If the location

30. Sparrow, Liu, and Wegner, “Google Effects on Memory,” 778.

31. Sparrow, Liu, and Wegner, “Google Effects on Memory,” 778.

32. Sparrow, Liu, and Wegner, “Google Effects on Memory,” 778.

33. Sparrow, Liu, and Wegner, “Google Effects on Memory,” 778.

of that information is simply “the internet,” then we hardly need to remember anything at all—not the information, not where to find it, just that it is out there somewhere.³⁴ Hence the term “Google effect.”

When the information that is accessible on the internet is seemingly unending, it takes more effort to convince our brains to truly remember information. It has become increasingly normal to offload information to an excessive degree.³⁵ From Wegner’s initial innocent analysis of how groups share information in transactive memory, we have rapidly progressed to the point where the transactive relationship with our devices has resulted in an unhealthy dependence. Within a few years, building on the findings of Sparrow, Liu, and Wegner, a term was coined to describe the outcome of this excessive offloading: “digital amnesia.” No longer is “Just google it” an innocent phrase. It is an action that is putting human knowledge, imagination, and curiosity at risk.

34. Sparrow’s study is cited extensively in outside sources. From one of those sources, here is a helpful summary of the implications of the study on the “Google effect”: “When individuals are addicted to digital devices, they always resort to smart devices when they want to search for information as a quick solution to search for any information/data on the internet, reducing the load on human memory systems. For this reason, our working memory systems are only occupied with finding the source of information, which remains only in the short-term memory. When information is just one click away, the need to remember that specific information is not felt because it can be found online quickly and our digital devices can store it for us. Such dependence on digital devices prevents us from learning new skills. As a result, without repetition, the information deteriorates rapidly and nothing is stored in the long-term memory because there is no input for repeating the information.” Kanbay et al., “Digital Amnesia,” 545.

35. A worthwhile question that rests outside of the scope of this thesis is “What kind of intellectual labor can permissibly be offloaded (in light of the virtue/critical thinking aims) and what kind of intellectual labor cannot?” This question is proposed and unpacked in J. Adam Carter, “Autonomy, Cognitive Offloading, and Education,” *Educational Theory* 68, no. 6 (2018): 671, <https://doi.org/10.1111/edth.12338>.

Digital Amnesia

To test the concept of digital amnesia, the question that scholars have proposed (and maybe you have wondered about) is “Does technology degrade brain-based memory?”³⁶ The existence of the term “digital amnesia” implies that technology does indeed harm the brain’s ability to remember information. However, the evidence is split. For our purposes, we will examine the evidential findings that technology is degrading brain-based memory, acknowledging that, in some respect, technology is changing the way our brains process information.

Using the same definition from earlier, digital amnesia is “a condition in which the mental capacity to store information decreases as a result of changing habits of accessing, remembering, and storing information with modern digital devices, their extensive functions, and the Internet.”³⁷ Kaspersky Lab was the first to use the term “digital amnesia” in 2015. The title of their publicized findings is “The Rise and Impact of Digital Amnesia: Why We Need to Protect What We No Longer Remember.”³⁸ The first pages of the publication unveil startling statistics.

Across the United States, the study shows that an overwhelming number of consumers can easily admit their dependency on the Internet and devices as a tool for remembering. Almost all (91.2%) of those surveyed agreed that they use the Internet as an online extension of their brain. Almost half (44.0%) also admit that their smartphone serves as their memory—everything they need to recall and want to have easy access to is all on it. In addition, many consumers are happy to forget, or risk forgetting, information they can easily find—or find again—online. When faced with a question, half of U.S. consumers would turn to the Internet before trying to remember and 28.9% would forget an online fact as soon as they had used it.³⁹

36. Sam J. Gilbert, “Memory Augmentation, Cognitive Offloading, and Digital Technology,” *Psychological Inquiry* 35, no. 2 (2024): 111, <https://doi.org/10.1080/1047840X.2024.2384129>.

37. Kanbay et al., “Digital Amnesia,” 545.

38. Kaspersky Lab, *The Rise and Impact of Digital Amnesia: Why We Need to Protect What We No Longer Remember* (Kaspersky Lab, 2015).

39. Kaspersky Lab, *Rise and Impact*, 3.

Consider one more example: “Although dependence on devices appears high, when asked, most participants could phone the house they lived in at 15 (67.4%) as well as their partners (69.7%), children (34.5%), and place of work (45.4%). They could not however call their siblings (44.2%), friends (51.4%), or neighbors (70.0%) without first looking up the number.”⁴⁰ From these statistics, the article reached a concerning conclusion: Not only is technology changing the way we live and work, but it is also fundamentally changing the way we learn, behave, and *remember*.⁴¹

The antidote to this problem cannot be simplistic. Not only is memory a complex web of complex processes, but so too is technology. However, as fearfully and wonderfully made children of God, the effort to steward our bodies and minds to his glory is always worthwhile. What began with Wegner as a cultural curiosity and then became a cultural alarm bell with Sparrow now demands our careful theological attention: If human memory is being systematically outsourced, what happens to the Christian’s response to God’s command to “remember the wonders [God] has done” (Ps 105:5 NIV)?⁴²

40. Kaspersky Lab, *Rise and Impact*, 3.

41. Kaspersky Lab, *Rise and Impact*, 4.

42. Nathan Finn warns that “life in the digital age compounds the potential for losing our theological and ethical memory” as our highly digital existence “drives us to narrowly prioritize the present moment at the expense of the bigger stories and wider contexts that make sense of our lives. Such stories certainly include the narrative arc of Scripture, which has rightly been called ‘the true story of the whole world.’” Nathan A. Finn, “‘Unfit to Remember’: The Theological Crisis of Digital-Age Memory Loss,” in *Scrolling Ourselves to Death: Reclaiming Life in a Digital Age*, ed. Brett McCracken and Ivan Mesa (Crossway, 2025), 133–34.

HIDING GOD’S WORD IN THE HEART

We have journeyed through scientific theories, experiments, and findings. Now we come to the point where we must ask the question: “What’s the point?” What is the point of analyzing scientific studies about our brains? What is the point of questioning how we recall information? What is the point of questioning the cultural norm of reliance on technology? The point is that, if the evidence is to be believed, cognitive offloading is negatively impacting God’s people. The immediacy of answers is handcuffing our ability to wonder at God’s immaculate creation, to sit in awe at how God has so intricately designed our bodies, and to marvel at the undeserved love of God for our sinful world. And, furthermore, the habit of cognitive offloading, of “just googling it,” can far too easily infiltrate our relationship with God’s Word.⁴³ Instead of having God’s life-giving and life-saving words “hidden in our hearts,” we rely on a device to store those words for us. For the sake of glorifying God and respecting his Word, this topic is worth our attention.

43. McCracken expresses why the stakes are so high for Christians: “Technology’s power to shape thinking should matter to every sensible person, but it should especially matter for Christians. After all, our mission revolves around transactions of thought: the gospel message being heard, understood, internalized, and applied. Because getting people to think well about God and the Bible (theology) is central to Christian mission, we must be aware of how thinking is changing as a result of different technologies and how our habits of worship, preaching, evangelism, and apologetics might need to adjust to these shifting dynamics.” McCracken, “Back to the Future,” 19–20.

Scripture Internalization

This thesis is not the place for a fully explicated Lutheran theology of memory. But to get a glimpse of the vastness of Scripture's use of memory, here are a few statistics. Various forms of the word זָכַר (the typical Hebrew word for remembering) appear over 250 times in the OT (not including names with that root, like Zechariah). Various forms of the word μνησκόμαι (the typical Greek word for remembering) appear over fifty times (not including the forty-plus times that root is used for "tombs" or "graves"). The NIV has a form of the word "remember" (or its negation, "do not forget") 236 times in 230 different verses. There are 47 occurrences in Psalms, 16 in both Deuteronomy and Ezekiel, and 12 in both Isaiah and Jeremiah. Obviously, not all those instances directly apply to the kind of remembering we are talking about in this paper, but many of them do. "Remember how the LORD your God led you all the way in the wilderness these forty years, to humble and test you in order to know what was in your heart, whether or not you would keep his commands" (Deut 8:2). "Remember your Creator in the days of your youth, before the days of trouble come and the years approach when you will say, 'I find no pleasure in them'" (Eccl 12:1). "Remember Jesus Christ, raised from the dead, descended from David" (2 Tim 2:8). The Scriptures clearly place an emphasis on remembrance, making it unnecessary for me to convince you of its importance. Where I hope this thesis will enter the memory conversation, however, is in the realm of counter-cultural methods for fighting against the temptation to offload God's Word, with the result of counteracting the effects of digital amnesia. To that end, the Scriptures also have much to say.

The danger to our spiritual lives posed by cognitive offloading is that offloading becomes habitual and thoughtless. As more and more answers are quickly and easily discovered on our devices, we place more and more of our trust in those devices. Offloading becomes the norm for

most kinds of information. If offloading is the norm in our everyday work, school, and home lives, then what is stopping technology from taking the lead in our spiritual lives?

Habitual and thoughtless offloading can easily become the norm of our lives of faith, often unknowingly and unintentionally. If one Google search for “Bible passages about joy” brought me satisfactory results, then I know I can always type in that same prompt to find those same passages. To be fair, I would be the first to say that there is a legitimate beneficial use to having more of the Scriptures at our fingertips through technology. But when that technology has seemingly negated our need to have *any* Scripture in our hearts and minds, there is a serious problem. Life-changing truths become just another form of information to offload.

Scripture has a response to this twenty-first-century problem of excessive cognitive offloading. The relevant Bible passages in this discussion are numerous, in both the OT and NT, across genres like poetry and prose, and expressed both positively and negatively. For this reason, instead of analyzing an array of passages, I am going to propose a structure for a scriptural antidote to our modern problem of offloading the sacred. I will do this by using three key Bible passages to showcase Scripture’s *method*, *rationale*, and *result* for the practice of Scripture internalization.

Memorization or Immersion?

Before diving into Scripture, I believe it would be useful to clarify one point on the front end. In the beginning of my research, I believed that this thesis was heading towards a conclusion like this: “*Scripture memorization* is a powerful antidote to the effects of cognitive offloading.” But then I wondered if there was more to be said. My thoughts broadened and I began to wrestle with the question of which method was better for lasting Scripture internalization: memorization or

immersion? Would it be better to take out some flashcards and quiz ourselves with Bible passages or to just solidify a devotional habit of deep immersion in the Scriptures? The more I thought about this question, the more I gravitated towards a conclusion of memorization and immersion being two sides of the same coin.⁴⁴ When you work on memorizing a passage (not just cramming for a quiz, but truly memorizing),⁴⁵ you are immersed in that passage. When you are deeply immersed in a section of the Bible, you are (often unknowingly) memorizing certain phrases, verses, or flows of thought. Memorization is pedagogically powerful and immersion can allow us to meditate⁴⁶ on God's Word slowly and thoughtfully,⁴⁷ but people often prefer one or the other. My point is this: both are valid. Therefore, as we broaden the discussion on Scripture internalization, do not assume (as I did) that memorization is the only way to internalize the words of Scripture. It is one legitimate way, but there is more to be said.

44. "It's through memorization that we meditate, and it's through meditation that we memorize." Glenna Marshall, *Memorizing Scripture: The Basics, Blessings, and Benefits of Meditating on God's Word* (Moody, 2023), 24.

45. "We never study God simply to acquire knowledge, and we don't memorize Scripture simply to be able to recite it. No, the bedrock of both study and meditation is relationship. We study and meditate on God's Word in order to know and love God better. Everything in our Christian life flows from what we believe and love about God. Meditation on God's chosen means of revelation helps us get there." Marshall, *Memorizing Scripture*, 65.

"Memorizing Scripture can be reduced to technique, competition, repetition without understanding, and other departures from what God wishes for us. But it can also lead us into participation in the 'melodious concert.'" John Wilson, "Changing Forever How You Think: Recovering the Lost Art of Scripture Memorization," *Christianity Today* 55, no. 1 (2011): 42.

46. "Christian meditation is different from the world's poor version of it. You'll never achieve any clarity or solid understanding of truth by emptying your mind and closing it down. Rather, you open up your mind and make it a house for God's words to live in, where your thoughts are fed, rested, dressed, and wisely parented." Marshall, *Memorizing Scripture*, 22.

47. After asserting that the life of contemplation is "daily threatened in our culture," Wolf states, "From the perspectives of neuroscience, literature, and human development I will argue that it is this form of reading (contemplative reading) that is our best chance at giving the next generation the foundation for the unique and autonomous life of the mind they will need in a world none of us can fully imagine. The expansive, encompassing processes that underlie insight and reflection in the present reading brain represent our best complement and antidote to the cognitive and emotional changes that are the sequelae of the multiple, life-enhancing achievements of a digital age." Wolf, *Reader, Come Home*, 13.

The Method: Deut 6:6–9

“These commandments that I give you today are to be on your hearts. Impress them on your children. Talk about them when you sit at home and when you walk along the road, when you lie down and when you get up. Tie them as symbols on your hands and bind them on your foreheads.

Write them on the doorframes of your houses and on your gates.”

Before these verses, God had just communicated with man in a most remarkable way: after thundering from atop the mountain “out of the fire, the cloud and the deep darkness” (Deut 5:22), he had written his Law on two stone tablets. In this bilateral covenant, those words were precious. Yes, God loved his people for many reasons, but he also attached his promises to those words of the Law: “So be careful to do what the LORD your God has commanded you; do not turn aside to the right or to the left. Walk in obedience to all that the LORD your God has commanded you, so that you may live and prosper and prolong your days in the land that you will possess” (Deut 5:32–33). Those words of the Ten Commandments were so important that God graciously provided an additional means through which they could be remembered. No longer was the burden resting squarely on their memories. They could look to those stone tablets, read the words inscribed on them, and remember all over again the jaw-dropping experience in the shadow of the mountain.

In the words of Deut 6:6–9, God gave his people the *method* for keeping the Ten Commandments internalized. The words were to be *on their hearts*, which in Hebrew culture was the center of a person, encompassing knowledge, emotions, and will.⁴⁸ Adolph Harstad

48. Tangentially related to this point, the following quote explains well the dynamic between head knowledge and heart knowledge: “To love God with all your heart, you must also love Him with your mind.

writes in his commentary on Deuteronomy that “the metaphor of writing ‘on your heart’ pictures the process of writing again and again on a tablet in order to produce familiarity and memorize.”⁴⁹ Elsewhere in Scripture, in both the OT and NT, our hearts are talked about as being “inscribed upon.” For example, Paul says in 2 Cor 3:3, “You show that you are a letter from Christ, the result of our ministry, written not with ink but with the Spirit of the living God, not on tablets of stone but *on tablets of human hearts*.” The words of the Ten Commandments were to be “written on the hearts” of God’s people, both parents and children. Parents were to be so well-versed in those words that they could impress them on their children (Deut 6:7). How would this familiarity with the Ten Commandments be accomplished? The merisms used in God’s words show that he wants his people to talk about his commands *all the time*.⁵⁰ No activity is excluded. “Such mundane activities of life as waking and sitting at home, and learning and teaching, are made sacred by reciting the revealed words of YHWH.” We can safely assume that this process included *repetition*.⁵¹ As Bill Arnold says in his commentary on Deuteronomy, “The idea is ‘constantly recite these words to your children, repeating them all the time, whenever and wherever you are with them.’”⁵²

Knowledge of God can grow your love for Him, and Scripture memorization is a beneficial tool for bridging the gap between knowledge and affection.” Marshall, *Memorizing Scripture*, 63.

49. Adolph L. Harstad, *Deuteronomy*, ConC (Concordia, 2022), 266.

50. “All activities of life are in view, regardless of where they occur. The rhetorical technique used here, merism, is common in Semitic languages, in which the totality of something is denoted by reference to its parts, usually two extreme parts, and thus everything in between them.” Bill T. Arnold, *The Book of Deuteronomy: Chapters 1–11*, NICOT (Eerdmans, 2022), 398.

51. “The idea of internalizing the divine instruction involves constant vocal repetition and memorization, so that parents are thoroughly self-educated in the text and prepared thereby to educate their children.” Arnold, *Deuteronomy*, 395.

52. Arnold, *Deuteronomy*, 397.

God, the Creator of our incredible brains, prescribed repetition for his people. This was the method of choice for the Almighty when he wanted his ever-important, covenant-reliant Ten Commandments to be remembered by his people. The repetition God prescribed could have taken many forms: talking, writing, teaching, displaying. In all those various ways, the Ten Commandments would be reinforced on the hearts and minds of the people. Today, through talking, writing, teaching, displaying, and more, God's law and gospel are reinforced on our hearts and minds. This is the nature of God's revelation to us. He has given us his Word that we can go back to repeatedly, and he promises that it will not return to him empty (Isa 55:11).⁵³

Maybe repetition was not the shiny method that you hoped would come from this research. Indeed, repetition can feel mundane. Looked at from a different perspective, though, repetition can become more appealing. In his book *Run with the Horses: The Quest for Life at Its Best*, Eugene Peterson comments on the beauty that can be found in repetition: "The mark of a certain kind of genius is the ability and energy to keep returning to the same task relentlessly, imaginatively, curiously, for a lifetime. Never give up and go on to something else; never get distracted and be diverted to something else."⁵⁴ Seemingly mundane repetition, as a general rule, delivers a result far beyond the individual's capacity to accomplish in a single day. The rule holds true for our time in God's Word. As years of memorization or immersion accumulate, the

53. "Listening to the voice of our Good Shepherd involves regular exposure to His words. We have been given an unimaginable gift in the complete, inerrant, eternal Word of God. But more than just a book of words, the Bible is God's voice, written down for us." Marshall, *Memorizing Scripture*, 17.

54. Eugene H. Peterson, *Run with the Horses: The Quest for Life at Its Best* (InterVarsity Press, 2019), 115.

Holy Spirit transforms our mind, aligns our will with God's, and makes us believers "after his own heart."⁵⁵ This is a result that transforms the mundane into something glorious.

While Christ accomplished the law perfectly in our place, these words from Deut 6 still function as a "light on our path" through this dark world. The overarching thought still holds true that God wants his people to be talking about and meditating on his Word in all stages and activities of life. Because the Holy Spirit is active in the Word, repetition of time in the Word yields divine fruit for God's people. Building on this truth, we have the soul-comforting reality of living in the time of God's unilateral covenant. Therefore, the reception of God's blessings does not hinge on our knowledge of and obedience to God's commands. We *get to* read, know, and obey his commands out of sincere thanks for the blessings we have received through the one-sided act of salvation in Jesus Christ. Now, as Jeremiah prophesied, *God helps us remember* (Jer 31:33). He puts his teaching in our hearts so that we can know his love for us and his will for our lives. Knowing God's Word deeply, having it "hidden in our hearts," is not fueled by a threat from God; it's fueled by his unending love and his deep desire that we know our status in his eyes.

The Rationale: Ps 119:9–11

How can a young person stay on the path of purity? By living according to your word. I seek you with all my heart; do not let me stray from your commands. I have hidden your word in my heart that I might not sin against you.

55. "Our aim is not the accumulation of words stored in our long-term memory. Our goal in Scripture memorization is to know our Lord more and more, which will result in a greater and deeper love for Him." Marshall, *Memorizing Scripture*, 59.

The first sentence of Ps 119:9 sets up the theme of this stanza: “How can a young person stay on the path of purity?” In other words, “How can a man keep his life free from the ‘pollution of sin’?”⁵⁶ The answer, very literally, is, “By guarding it according to your Word.” Christopher Ash applies this sentence well when he says, “This does not simply mean trying hard to keep it in line with God’s word; it means letting God’s word become the guardian of one’s life.”⁵⁷ God’s Word has a tangible, functional effect on our lives. In this psalm, the Word has the power to keep believers from the deadly effects of sin, to keep them from falling into temptation, and to give to them the blessings that come from living according to God’s will.⁵⁸ In those times of temptation, when the Word is planted deeply in a person’s heart, that person is planted deeply in the strength of the Lord. Ash explains, “The word places in the servant, in times of decision, a seeking of God with the whole heart and a deep desire not to wander from his path.”⁵⁹ Strength in times of temptation is a blessing of having God’s Word “hidden in our hearts.”⁶⁰

Psalms 119:9–11 explains one purpose for internalizing Scripture, but having God’s Word in our hearts is a blessing in many stages and circumstances of life. Connecting both the method and the rationale for Scripture internalization, John Brug states,

The promise not to forget is repeated throughout the psalm. God’s Word should be read, studied, meditated upon, and memorized so that it is hidden in our hearts to be used whenever we need it. One way of hiding God’s Word in our hearts is to memorize key

56. Christopher Ash, *The Psalms: A Christ-Centered Commentary* (Crossway, 2024), 4:283.

57. Ash, *Psalms*, 4:283.

58. “Whatever you pour into your mind will affect your thought life and influence your response to temptation.” Marshall, *Memorizing Scripture*, 14.

59. Ash, *Psalms*, 4:283.

60. “Keeping God’s Word before us helps us obey Him. How can we obey God if we don’t know what His commands are?” Marshall, *Memorizing Scripture*, 58.

verses of the Bible that will be sources of strength in times of trial and testing. Such memorization is an important part of Christian training, but keeping God’s Word in our hearts means more than knowing what it says. It means believing and doing it.⁶¹

When sufferings come, the questions will, too. Having truths of Scripture in our hearts and minds equips us to answer those questions in the light of God’s love for us. When all our outward circumstances tell us otherwise, it is still true that “neither death nor life, neither angels nor demons, neither the present nor the future, nor any powers, neither height nor depth, nor anything else in all creation, will be able to separate us from the love of God that is in Christ Jesus our Lord” (Rom 8:38–39).⁶²

On our best days, we are forgetful people. In times of suffering, we are even more forgetful. When the world and our sinful flesh shout their lies in our pain, we constantly need to be reminded of the truth. Marshall explains,

We won’t know God or how to live as His people without regular time in His Word. And because we are habitually forgetful, we will be tempted to diminish aspects of His character when our circumstances loom large with suffering or difficulty. We’ll forget that He loves us when we are lonely or sad. We’ll begin to believe lies about both God and ourselves when temptation draws our hearts away from Him. We need regular, persistent reminders of God and His character to discern what is true.⁶³

In this way, the Holy Spirit “keeps God’s faithfulness ever before our faces.”⁶⁴

In his book *Zeal Without Burnout*, Ash shares a story from his own life, showing how Scripture internalization can sustain us even when reading the Bible feels difficult:

In faith terms, I never felt that God was distant. But it troubled me deeply that I was unable to read—even the Bible. I don’t even remember praying much at all—I just felt

61. John F. Brug, *A Commentary on Psalms 73–150* (Northwestern, 2005), 343.

62. “Unbidden, my soul remembered its truest story, the story that my present suffering was threatening to smash and scatter into the wind.” K.J. Ramsey, “Your Brain and Bible Memorization: Neuroscience Suggests That Memorizing Scripture Is Not About Head Knowledge,” *Christianity Today* 64, no. 7 (2020): 58.

63. Marshall, *Memorizing Scripture*, 64.

64. Marshall, *Memorizing Scripture*, 65.

incredibly secure, and that God was with me. This is where my evangelical heritage came to the rescue. Although I couldn't read, the Bible was not lost to me. As a young Christian, I had memorised Scripture avidly. I had always found this useful in evangelism, and the pastoral care of others—being able to quote relevant scriptures to others. But now it came home to me in a new way. The word was hidden in my heart, feeding me, and assuring me at my lowest point. By memorising God's word, I had invested in my own soul and it was now paying dividends. God took me by surprise by how alive the word is in my heart. When I resumed work, I had to force myself to read the scriptures again as part of the discipline of my faith.⁶⁵

Scripture internalization also has an other-focused purpose. When an unbeliever asks us about hope after they lose a loved one, when a believer begins to stray, or in any number of situations, having a word from God internally, not externally, allows us to be a true servant in that moment (Col 3:16). And just as temptations and sufferings strike in the least-suspecting moments, so too do these pivotal conversations. For the sake of sharing God's love with others, we want to be equipped.

In a day and age where we “hide” passwords in password managers, the temptation to “hide” Bible passages in the Bible app or a search engine is all too real. With God's help, may we be those who have God's Word “hidden in our hearts,” fortified in times of temptation, upheld by his promises in times of suffering, and confident in times of proclamation.

The Result: 2 Tim 3:16–17

All Scripture is God-breathed and is useful for teaching, rebuking, correcting and training in righteousness, so that the servant of God may be thoroughly equipped for every good work.

65. Christopher Ash, *Zeal without Burnout: Seven Keys to a Lifelong Ministry of Sustainable Sacrifice* (The Good Book Company, 2016), 31.

God prescribes *how* to internalize Scripture: through repetition and regular immersion in his Word. He explains *why* this matters: so his truth shapes our natural response in moments of temptation, suffering, and evangelism. The *result* is that believers are spiritually rooted and “equipped for every good work.”

This “being equipped for every good work” is incredibly practical, not merely intellectual. When Jesus was tempted by Satan in the wilderness, he did not say, “Let me look up a passage.” Through years of repetition, he had Scripture internalized, and it became his weapon: “It is written . . .” When Paul and Silas sat in chains in the middle of the night, they sang the Word-saturated hymns that were imprinted on their hearts. When we are faced with whatever mountains life places before us, what will we say or sing? As Professor Mark Paustian once remarked in class, “Will we have more than five minutes of things to say about Jesus?” Will we be able to draw from a storehouse filled to the brim or will we find the floors of our hearts empty? These are not hypothetical scenarios. This is the everyday reality of the living, breathing Christian.

Despite all this talk about *information*, the crux of this issue is about *formation*. Or, as Pastor Richard Lauersdorf probes, “What is programming us?”⁶⁶ God’s Word repeated, meditated on, and hidden in the heart becomes part of our spiritual reflexes. It informs our thinking, anchors our emotions, and guides our will. Rooted in God’s Word, we are thoroughly equipped.

66. Richard E. Lauersdorf, “Programmed for a Computerized World,” n.d., Wisconsin Lutheran Seminary Essay File.

Counter-Cultural Disciplines for Scripture Internalization

Scripture internalization is not about earning salvation. Jesus has already done that for us. It is not about impressing God. We already have the highest status: beloved children. It is not about finding some pharisaical pride in how much Scripture we can store in our heads. Scripture internalization is about God speaking to us. It is about experiencing and marveling at the grace of God in Jesus. It is about having our eyes fixed on the one thing needful. With this in mind, the disciplines I am going to propose are driven by love. We treasure God's Word so much that we want to memorize it and immerse ourselves in it. We are so swept away by what God has done for us that we want to know how to respond. We cannot help the desire to know ever deeper the wonders God has revealed in his Word.

Thankfully, we have the Advocate. On our own, it is beyond our capabilities to call to mind the mysteries of God when our sinful flesh wants to focus on its selfish desires. "But the Advocate, the Holy Spirit, whom the Father will send in my name, will teach you all things and will remind you of everything I have said to you" (John 14:26). The Spirit teaches and reminds. Implied in the Spirit's reminding is that we know something about which the Spirit can remind us. While we know that God can work in any way he chooses, we also know that he has promised to use the means of grace. So, maybe a good way to frame the motivation for this internalization is, "to fill our hearts and minds with Scripture for the Spirit to use for our own good and the good of those in our lives."

I will echo Marshall's thoughts: "Perhaps you're ready for me to give you a verse in Scripture that commands 'thou shalt memorize Bible verses.' You won't find it written quite that way, but the Bible is full of exhortations to treasure God's Word and think about it often."⁶⁷ The

67. Marshall, *Memorizing Scripture*, 19.

expectation is not to memorize towering stacks of flashcards filled with passages. The expectation is to do a little better than we are doing now, to fight back against excessive offloading and to minimize the effects of digital amnesia. Here, as in most areas of life, small changes can make a big impact.

The counter-cultural disciplines I will suggest may surprise you, not because they are radical, but because they are remarkably ordinary.⁶⁸ There is no secret formula here, just a return to the basics. In a world racing towards the next technological breakthrough, the most counter-cultural thing we can do is embrace the practices God's people have used for millennia.

Memorize Scripture

Memorize a few Bible verses. Start with the foundational gospel passages, like John 3:16, Rom 8:28, and Eph 2:8–9. If memorizing one or two verses at a time is as far as you get, that is wonderful. If you are willing to challenge yourself, try to memorize whole chapters of the Bible, like Psalm 23. Start by reading the words in your head. Then read them out loud. Then write them by hand. Then start testing your memory. Can you say or write the first few words without any help? Build slowly. You will likely be impressed with how quickly you can remember a whole passage. The memorization and internalization of God's Word are rewards enough for God's people, but further rewards will come in opportunities to share those life-giving and life-saving truths with those around you (or even yourself).

68. With that being said, these practices are becoming increasingly extraordinary, even bold. As Finn says, "In the forgetful age of the social internet, *remembering is resistance*." Finn, "Unfit to Remember," 141.

Immerse in Scripture

Unhurried time is rare in our culture. There always seems to be something up next on the schedule. And if the schedule is empty, time is quickly scrolled away.⁶⁹ Try putting your phone in a different room.⁷⁰ Open a Bible, set a time limit of ten minutes, and read one verse, one section, or one chapter over and over. Meditate on the words, letting your mind wander around the text.⁷¹ Continually ask, “What is God saying to me here?” Reading a small section of Scripture this way will reap more benefits than quickly skimming through five chapters.

Sing (or Listen To) Hymns

Music aids memory in powerful ways. It is incredible how the lyrics to songs we have not heard in over a decade easily fall back on our lips. When set to a melody, theologically rich lyrics set the truths of Scripture deep inside our hearts. Sing or listen intentionally, not passively. Musical artists are some of the best poets of our time. An added benefit of singing or listening to hymns is that we are forced to abide by their pace. On our devices, we control the pace, and it is often full

69. “From the rising of the sun to its going down, we scroll our way through the day. We scroll our way through life. And we are scrolling ourselves to death.” McCracken, “Back to the Future,” 12.

70. In the realm of an encouragement to “embrace inefficiency,” A. Trevor Sutton says, “Sabbath rest involves trust. By telling His people to take a day off from working, God invites us into a relationship of trust. If you are not working, then you are not being productive or efficient. Your inbox is not being tended and your to-do list is not being checked off. This is where trust comes in—taking time off for Sabbath rest means trusting that God will provide even in our resting. Shutting the computers down and spending time in worship is an act of trust in God. You are trusting that He will provide even when you are not working. You are trusting that time in worship is time well spent, even if it is not productive or efficient by the world’s standards.” Sutton, *Redeeming Technology*, 156–57.

71. Slow, immersive reading is becoming increasingly difficult. Carr captures this phenomenon vividly when he says, “Once I was a scuba diver in the sea of words. Now I zip along the surface like a guy on a Jet Ski.” Nicholas G. Carr, *The Shallows*, Second Edition. (W. W. Norton & Company, 2020), 7.

of rapid switches from app to app or from video to video. When we enter the world of a song, we are immersed for the length of the song. Enjoy letting the pace be out of your control.

Use a Physical Bible

I love Bible apps. I love the access to the Scriptures and the added bonus of devotions and videos. I do not love the distractions that using the Bible app on my phone brings.⁷² To be immersed in the Scriptures, we need to have a singular focus, not a split focus. Opening a physical Bible instead of an app is a decision to remove the competition for our attention before it starts. A physical Bible also brings with it spatial recognition (knowing where a passage is on the page for future reference), the opportunity for hand-written notes, and the joy of using the same Bible year after year.

72. “We live in a constantly connected, go-go-go time plagued by distraction. Your smartphone, Facebook, Twitter, Instagram, text alerts, e-mails, incessantly racing thoughts—all of these are attention thieves and, by extension, memory thieves. Minimizing or removing things that distract you will improve your memory.” Genova, *Remember*, 35.

“Will the quality of our attention change as we read on mediums that advantage immediacy, dart-quick task switching, and continuous monitoring of distraction, as opposed to the more deliberative focusing of our attention? What concerns me as a scientist is whether expert readers like us, after multiple hours (and years) of daily screen reading, are subtly changing the allocation of our attention to key processes when reading longer, more demanding texts. Will our quality of attention in reading—the basis of the quality of our thought—change inexorably as our culture transitions away from a print-based culture toward a digital one? What are the cognitive threats to and the promises of such a transition?” Wolf, *Reader, Come Home*, 39–40.

“When you add it all up, the average number of notifications on young people’s phones from the top social and communication apps amounts to 192 alerts per day, according to one study. The average teen, who now gets only seven hours of sleep per night, therefore gets about 11 notifications per waking hour, or one every five minutes. And that’s just for the apps that are about communication. When we add in the dozens of other apps for which they have not turned off push notifications, the number of interruptions grows far higher. And we’re still only talking about the average teen. If we zoom in on heavy users, such as older teen girls, who use texting and social media apps far more often than any other group, we are now in the ballpark of one interruption every minute.” Haidt, *The Anxious Generation*, 126.

Summary

We are free to use our reason to decide which disciplines would best help us fight against the temptation to offload the Word of God. Whichever disciplines help us, they all serve the same end goal: to deepen our engagement with the truths of our loving God. May we all prayerfully consider how we can keep God's Word "hidden in our hearts," being children of God who love to hear the voice of our Father.

CONCLUSION

Technology has made its promises to us. It has told us that our knowledge can be “unlimited,”⁷³ taking human achievement to ever greater heights. The longer I contemplate the saturation of technology in our culture, the more I wonder if all the devices, all the answers, and all the offloading have made us less *human*. God never intended for us to be “unlimited.” We are finite creatures with finite abilities who live in this world for a finite amount of time. If technology wants to turn us into something God never intended us to be, then we are right to raise questions. This is not about being anti-technology. This is about stewarding the God-given gifts of our bodies, minds, and souls.

The stakes are high. As children grow up in an increasingly anti-Christian society, excessive cognitive offloading has the ability to drive God’s Word out of the hearts of many. The truths that have the power to embolden, comfort, and satisfy will be hidden in our devices, not in our hearts. But there is hope. The Spirit is at work and will be at work until the end of time, taking the precious Word of God to the ends of the earth. God cares for his people so much that he will never let them be without the wonders of his Word.

I have hope that the wonder will return. As intentional practices replace mindless scrolling and God’s Word dwells in our hearts richly, I have hope that the wonder will return.⁷⁴

73. Ryan D Harker, “Reading the Bible in a Technopoly,” *Vision* 16, no. 2 (2015): 53.

74. “One can certainly feel some kinds of awe while using a smartphone. Indeed, you can watch endless YouTube videos about people who performed heroic deeds (moral beauty). You can find the most extraordinary photos and videos ever taken of the world’s most beautiful places. These experiences are valuable. But as we’ve seen before, our phones drown us in quantity while reducing quality. You watch a morally elevating short video, feel moved, and then scroll to the next short video, in which someone is angry about something. You see a photo of Victoria Falls, taken from a drone that gives you a better view than you could ever get in person, and yet, because

What more natural response is there when the Spirit brings us face-to-face with the marvelous acts of God done out of love *for us*? But, struck by wonder or not, our wonderful God still reigns. And in this age designed to make us forget, by his mercy may we be known as those who, against all odds and with the Spirit's help, remember.

the entire image is displayed on a screen the size of your hand, and because you did no work to get to the falls, it's just not going to trigger as much awe as you'd get from hiking up to a much smaller waterfall yourself." Haidt, *The Anxious Generation*, 214–15.

Doing a quick search for "Bible passages about hope" is like looking at the drone photo. Taking the time to memorize Isa 40:31 over the course of a week—that's the hike.

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