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Slow Lawyering: How Law Practitioners Can Slow Down in a High-Speed World and Why It Matters

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SLOW LAWYERING: HOW LAW PRACTITIONERS CAN SLOW DOWN IN A HIGH-SPEED WORLD AND WHY IT MATTERS

*Susan Greene**

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INTRODUCTION

“Information overload,”¹ “digital detox,” and “fear of missing out” are all unwelcome additions to modern jargon, defining the ambivalence with which we approach the infusion of information in our everyday lives and the speed with which we can access it. For law practitioners who find, manage, and integrate information for a living, this environment creates particular challenges. This article gives context to these challenges through the lens of human evolution, seeking to explain why individuals engage in counterproductive behaviors with respect to information and the speed that it is accessed. The article also discusses the reasons that technology, and the pace at which it bombards law practitioners with information, interferes with the effective practice of law. This article will then present four steps that may help law practitioners to think calmly, deliberately, and with focus in a world that comes at them at 670 million miles per hour.²

I. HUMANS ARE MALADAPTED TO THE CONSTANT STREAM OF INFORMATION THAT TECHNOLOGY BRINGS

Technology and the speed that comes with it have revolutionized human existence in countless ways by reducing reliance on paper; facilitating instant, constant, and cheap communication between loved ones living worldwide; and permitting accessibility of all kinds of information to any

¹ David Bawden & Lyn Robinson, *The Dark Side of Information: Overload, Anxiety and Other Paradoxes and Pathologies*, 35 J. INFO. SCI. 180, 182-83 (2009) (stating that information overload refers to “a state of affairs where an individual’s efficiency in using information in [his or her] work is hampered by the amount of relevant, and potentially useful, information available . . . [or the point at which] information received becomes a hindrance rather than a help, even though the information is potentially useful.”).

² See Atish Ranjan, *How Fast Does Data Travel Across the Internet?*, TECHTRICKSWORLD (Feb. 20, 2014), <https://www.techtricksworld.com/how-fast-does-data-travel-across-the-internet/> (explaining that data moves through the Internet at approximately the speed of light, or around 670 million miles per hour).

person, at any time, instantaneously.³ Unfortunately, brains cannot cope with such an abundance of information.⁴

The story of this deficiency began early in human history.⁵ From the birth of human existence until a few thousand years ago, humans existed as a hunter and gatherer society, foraging for wild plants and hunting wild animals.⁶ A lack of abundant, permanent food sources meant that most bands of humans constantly searched for food and moved from place to place whenever a local food supply began to dwindle.⁷ In rapid succession, humans then moved from a three thousand year agrarian period, to a three hundred year industrial revolution, to today's "Information Age."⁸

The Information Age began in the 1990s as the Internet gained "traction," and information that used to exist only in "libraries, dictionaries, or encyclopedias" became available through computers.⁹ This early function of

³ See ADAM GAZZALEY & LARRY D. ROSEN, *THE DISTRACTED MIND: ANCIENT BRAINS IN A HIGH-TECH WORLD* 143-65 (2016). The benefits of today's technology within society are without question, and its broad necessity is beyond the scope of this article. However, the debate about technology's place in society is neither modern nor novel. In the fourth century, Plato observed, regarding the invention and broad adoption of the alphabet, that "to one is it given to create the things of art, and to another to judge what measure of harm and of profit they have for those that shall employ them . . . [as the masses learn to write,] it will implant forgetfulness in their souls: they will cease to exercise memory because they rely on that which is written, calling things to remembrance no longer from within themselves, but by means of external marks. [Readers] seem to know much, while for the most part they know nothing, . . . filled, not with wisdom, but with the conceit of wisdom." NICHOLAS CARR, *THE SHALLOWS: WHAT THE INTERNET IS DOING TO OUR BRAINS* 54 (2010).

⁴ See GAZZALEY & ROSEN, *supra* note 3, at 8-10 (2016).

⁵ *Id.* at 101.

⁶ *Id.*; see also ALVIN TOFFLER, *FUTURE SHOCK* 37 (1970).

⁷ See *Hunting and Gathering Culture*, ENCYCLOPÆDIA BRITANNICA, <https://britannica.com/topic/hunting-and-gathering-culture> (last updated Dec. 28, 2017).

⁸ See GAZZALEY & ROSEN, *supra* note 3, at 101; *id.*; *Industrial Revolution*, ENCYCLOPÆDIA BRITANNICA, <https://www.britannica.com/event/Industrial-Revolution> (last updated Apr. 11, 2018).

⁹ GAZZALEY & ROSEN, *supra* note 3, at 102; Bawden & Robinson, *supra* note 1, at 184 (explaining that "[b]y the late 20th century, the English language contained five times more words than it did during Shakespeare's lifetime; in 1990, "over 1,000 books were published each day"; between 1876 and 1990, collections of United States research institutions doubled and "more information has been created in the past 30 years than in the previous 5,000 years"); Art Saffran, *Strategies to Manage Information Overload*, 72 WIS. LAW. 28 (1999) (explaining that by 1999, the "weekday edition of *The New York Times* contain[ed] more

the Internet, as a depository for information that had previously existed elsewhere, saw tremendous, rapid growth.¹⁰ For example, “the number of documents on the Internet doubled from 400 million to 800 million from 1998 to 2000;” “the number of records in publicly available online databases increased from 52 million in 1975 to 6.3 thousand million in 1994.”¹¹ Shortly thereafter, the Internet’s role expanded to become a means of creating new information altogether.¹² The “communication era” emerged with near “universal adoption” of one-to-one connectivity through e-mail; then, the “mobile era,” untethered people from their desks as they sought information through early laptops and cell phones.¹³ In the 2000s, available information took on a social dimension as “one-to-one communication via email” morphed into “one-to-many communication via social media.”¹⁴ This sub-period brought with it entirely new sources and amounts of information from “friends” and “virtual communities.”¹⁵ This current period, marked by the smartphone, “has put a cap on the Information Age” of human existence “as it now allows us complete access to any and all forms of information at any time of the day or night.”¹⁶

The ubiquity of the smartphone and its penetration of the global market is remarkable. Within the 18-24 year-old demographic, 98% own smartphones.¹⁷ Within the 18-34 year-old demographic, 39% report interacting with their smartphones more than with “significant others, parents, friends, children or co-workers.”¹⁸ This demographic is also the most likely to use a smartphone for educational content, reading the news, applying for jobs, or researching a health concern.¹⁹ Among law practitioners, at least

information than the average person was likely to come across in a *lifetime* in seventeenth-century England.”) (quoting RICHARD SAUL WURMAN, INFORMATION ANXIETY 32 (1989)).

¹⁰ Bawden & Robinson, *supra* note 1, at 181.

¹¹ *Id.* at 184.

¹² *Id.*

¹³ GAZZALEY & ROSEN, *supra* note 3, at 102-03.

¹⁴ *Id.* at 103.

¹⁵ *Id.*

¹⁶ *Id.* (adding that Gazzaley suspects that the next period of human history may involve “technologies that are adapting to our bodies and our biological functions”).

¹⁷ *Millennials Are Top Smartphone Users*, NIELSEN (Nov. 15, 2016), <http://www.nielsen.com/us/en/insights/news/2016/millennials-are-top-smartphone-users.html>.

¹⁸ Catey Hill, *Millennials Engage with Their Smartphones More than They Do Actual Humans*, MARKETWATCH (June 21, 2016, 6:01 AM), <http://www.marketwatch.com/story/millennials-engage-with-their-smartphones-more-than-they-do-actual-humans-2016-06-21>.

¹⁹ *Id.*

79% use smartphones for law-related tasks.²⁰ From this movement arises the obvious question: how have people's minds adapted from a 100,000-year history²¹ of hunting and gathering to a thirty-year history in the Information Age²² in the relative split second it took to arrive here? Minds haven't.

The hunting and gathering mindset has not left. Now that supermarkets obviate the need for quivers of arrows, settling thousands of years of uncertainty in food sources, humans have set their sights on hunting and gathering a different reward: information. Research shows that "molecular and physiological mechanisms that originally developed in our brain to support food foraging for survival have now evolved in primates to include information foraging."²³ Individuals process rewards²⁴ through their dopaminergic system, and this system plays key roles in "basic food-foraging behavior in lower vertebrates and higher-order cognitive behaviors in monkeys and humans that are often dissociated from clear survival benefits."²⁵ The same dopamine neurons process both primitive rewards, like food and water, and cognitive rewards, like information.²⁶ Ample research supports the conclusion that humans have become "information-seeking creatures by nature."²⁷

Yet the strategies developed for hunting and gathering food do not neatly apply to the gathering of information. As foragers for food, humans

²⁰ Nicole Black, *Lawyers, Cloud Computing, and Mobile Technology in 2016*, LEGAL IT PROF. (Jul. 11, 2016), <http://legalitprofessionals.com/legal-it-columns/8775-lawyers-cloud-computing-and-mobile-technology-in-2016>.

²¹ *Frequently Asked Questions About Evolution: How Long Ago Did Humans Become Human*, PBS EVOLUTION, www.pbs.org/wgbh/evolution/library/faq/cat06.html (last visited Aug. 31, 2018).

²² GAZZALEY & ROSEN, *supra* note 3, at 102.

²³ *Id.*, at 13.

²⁴ See Courtney Seiter, *The Secret Psychology of Facebook: Why We Like, Share, Comment, and Keep Coming Back*, BUFFER, <https://blog.bufferapp.com/psychology-of-facebook> (last updated Aug. 12, 2017) (finding that reward processing drives various behaviors online as well, in particular individuals' use of Facebook: "When we get positive feedback on Facebook," we experience reward sensations in our brain; "[t]he greater the intensity of our Facebook use, the greater the reward.").

²⁵ GAZZALEY & ROSEN, *supra* note 3, at 13.

²⁶ See *id.* (explaining that studies of this system show that Macaque monkeys, for example, respond to receiving information in the same way that they respond to receiving food or water).

²⁷ *Id.* at 14.

worked mightily for food security from inconsistent, limited sources.²⁸ Today, as foragers for information, humans expend very little effort to secure vast amounts of information, and technology makes that information constantly and limitlessly available. People's dopamine neurons continuously reward them for the information in a perpetual loop and encourage speed in information accumulation.²⁹

However, the minimal expenditure of energy in securing massive quantities of information belies the significant expenditure of energy required to meaningfully integrate that information. Where individuals once searched for needles in haystacks, they now merely amass the haystacks. Some of the haystacks have needles, but many of the haystacks have just hay. Ignoring the hay, i.e. the irrelevant information, "is an active process," that requires "resources to filter out what is irrelevant."³⁰ One of those resources, attention, is finite, and people "dispose of a limited budget of attention" as they allocate it to various activities.³¹ Thus, as information-seeking humans in an information-saturated environment, individuals exhaust themselves with the hay possibly before ever finding the needle.

Even after finding a needle, i.e. a useful bit of relevant information, an individual must continue to resist the urge to sift through more hay. Though focusing on the needle, individuals are also likely trying, and perhaps failing, to ignore the hay. Focusing and ignoring engage entirely different networks of the prefrontal cortex.³² Complicating matters further, people

²⁸ *Id.* at 14-17.

²⁹ *Id.* at 13.

³⁰ *Id.* at 56.

³¹ DANIEL KAHNEMAN, THINKING FAST AND SLOW 23 (2011) ("It is the mark of effortful activities that they interfere with each other, which is why it is difficult or impossible to conduct several at once. You could not compute the product of 17 x 24 while making a left turn into dense traffic, and you certainly should not try.").

³² As humans, we tend to close our eyes or cover our face as we focus on past events and work to recall a deep memory. Indeed the "tendency to look away has . . . been associated with better memory recall," likely because ignoring things around us is distracting and drains precious attention needed to focus and recall past events. One laboratory study simulated conditions requiring both focus and the ability to ignore by asking participants to focus attention on remembering the "color of a field of stationary dots for a brief time" and ignore the dots when they moved and lost their color every second. Despite an instruction to focus on stationary dots and ignore moving dots, brain activity monitors indicated a very fragile ability to "ignore [such] goal-irrelevant information," and that this inability

over process irrelevant information.³³ As such, in an information-saturated world, humans exhaust themselves seeking to ignore the distractions of irrelevant and accumulated information.³⁴

Amassing information raises the corollary issue of task switching, that is, moving on to a new information source before exhausting a previous information source (for example, skimming rather than fully reading).³⁵ Unfortunately, clear negative consequences come with task switching. For one, cognitive psychologists recognize that “switching from one task to another is effortful, especially under time pressure.”³⁶ For another, moving with speed from one task to another prevents individuals from fully engaging with the first task.³⁷ Yet, task switching continues.

Task switching also finds its roots in civilization’s hunting and gathering history, though the smartphone, as a limitless information source, adds a new and significant dimension.³⁸ Foraging for food resources required hunter-gatherers to decide when to move to a new resource supply.³⁹ They would weigh a cost (perhaps transit time to a new supply or the risk of being eaten by a bear along the way) against a benefit (remaining engaged with known resources at a current supply, for example).⁴⁰ As food resources at the initial source dwindled, the benefits of remaining at the same location decreased to a point that it became optimal to move to a new resource supply.⁴¹ Yet today, as individuals engage with information sources, they often shift their attention to new supply sources prematurely before exhausting, fully digesting, or engaging with the information at the original source.⁴² Such a method seems suboptimal, yet people engage in the same cost/benefit

interfered with the very simple task of focusing on and remembering the color of dots. *See* GAZZALEY & ROSEN, *supra* note 3, at 56-57, 66-67.

³³ *Id.* at 75-76.

³⁴ *Id.*

³⁵ *Cf.* GAZZALEY & ROSEN, *supra* note 3, at 77 (explaining that studies are clear that we are unable to “parallel process information . . . if those activities both require cognitive control[,]” and we suffer a decrease in accuracy and a time delay as we switch between activities requiring cognitive control).

³⁶ KAHNEMAN, *supra* note 31, at 37.

³⁷ *See* GAZZALEY & ROSEN, *supra* note 3, at 76-77.

³⁸ *See id.* at 160-65.

³⁹ *Id.* at 163.

⁴⁰ *Id.* at 160-62.

⁴¹ *Id.* at 160.

⁴² *Id.* at 162.

analysis as hunter-gatherers did.⁴³ The smartphone has merely changed the calculus by eliminating the “cost” of moving to a new source of information. The smartphone provides limitless, immediate, new sources of information but interferes with the “benefit” because individuals feel “bored with what [they] are doing and anxious to move on more quickly than ever before.”⁴⁴

For many law practitioners, this hard-wired drive to amass more and more information and to task switch becomes problematic years before beginning legal practice.⁴⁵ In various studies of college classrooms, researchers have found that 90% of students used “laptop computers for non-academic reasons during class” and that “91% of students reported texting during class.”⁴⁶ Students reported that task switching arose not because of “cognitive or intellectual needs,” but because students felt an “emotional reward that [kept] them doing it.”⁴⁷

The deleterious effects of seeking irrelevant information in an educational context are well-documented. According to one study, predictors of lower GPAs were: “percentage of time on-task, studying strategies, total media time during a typical day, and preference for task-switching rather than working on a task until it was completed.”⁴⁸ Another study indicated that students who received eight text messages during a thirty-minute lecture performed one full letter grade lower on a test of the lecture material than students who did not text during the same lecture.⁴⁹ Remarkably, the students *predicted* that they would perform 30% worse on the test if they texted during the lecture, but they texted during the lecture anyway.⁵⁰ Not surprisingly, the use of smartphones during lectures is strongly correlated with higher levels of anxiety in students.⁵¹ Even in the face of clear detriment, an

⁴³ GAZZALEY & ROSEN, *supra* note 3, at 163-65.

⁴⁴ *See id.* at 164-74.

⁴⁵ *Id.* at 115.

⁴⁶ *Id.*; *see also* Patrick Nelson, *We Touch Our Phones 2,617 Times a Day, Says Study*, NETWORKWORLD (Jul. 7, 2016 7:10 AM), <https://www.networkworld.com/article/3092446/smartphones/we-touch-our-phones-2617-times-a-day-says-study.html> (finding that the average smartphone user touches (clicks, taps, or swipes) his smartphone an average of 2,617 times per day, with the heaviest users touching it 5,427 times per day.).

⁴⁷ GAZZALEY & ROSEN, *supra* note 3, at 116.

⁴⁸ *Id.* at 124.

⁴⁹ *Id.* at 127.

⁵⁰ *Id.*

⁵¹ *Id.*

individual's information-seeking inclinations are strong, and the propensities that develop in early adulthood are difficult to shake in later years.⁵²

In spite of the clear negative consequences of information foraging from sources that provide an unlimited supply of information, foraging continues. And in spite of the well-known negative outcomes from task switching, task switching continues. Society's hard-wired drive to forage for information, amass more of it, and to task switch to new information sources before fully engaging with current information presents particular difficulties for law practitioners. The struggle becomes, not finding information, an action for which dopamine neurons provide rewards, but filtering, selecting, and integrating information, actions for which dopamine neurons provide no benefit.⁵³ Further, the practice of law requires analytical thinking, yet our dopamine neurons do not reward slow, methodical behavior.⁵⁴ Thus, the neurological response to an information-saturated environment is at odds with the effective practice of law. This article will examine the difficulties that this disconnect presents below.

II. THE EFFECTIVE PRACTICE OF LAW REQUIRES LAWYERS TO FILTER MUCH OF THE SPEED AND INFORMATION FROM TODAY'S TECHNOLOGY

Law practitioners must have a wide span of mental gears that they can kick into when needed. For example, during oral argument before a judge or in defense of a memo before a client, law practitioners must put their brain into high gear and must often quickly access information through technology.⁵⁵ High pressure scenarios typically demand this high gear in which lawyers seek "clear solutions to well-defined problems."⁵⁶ The ability to shift into this high gear is critical, but the gear itself is neither sustainable nor well-suited to creative thinking, and it often leads instead to tunnel vision,⁵⁷ which is a particularly detrimental thing for a lawyer.

More often, law practitioners find themselves in scenarios that demand a low gear of the brain, that is a lower-pressure moment during which

⁵² *Id.* at 84-88, 127.

⁵³ See GAZZALEY & ROSEN, *supra* note 3, at 13-14.

⁵⁴ See NICHOLAS CARR, *supra* note 3, at 35.

⁵⁵ See CARL HONORÉ, IN PRAISE OF SLOW: HOW A WORLDWIDE MOVEMENT IS CHALLENGING THE CULT OF SPEED 120 (2004).

⁵⁶ *Id.*

⁵⁷ *Id.* at 120-21.

thoughts marinate and law practitioners “think more creatively.”⁵⁸ These moments include researching an issue, writing a brief, or preparing a client for the witness stand. Allowing these moments to be slow is critical for the creativity to build.⁵⁹ Invariably, “aha moments” arrive during low gears.⁶⁰ The key, then, is not to turn on the high gear unnecessarily. As lawyers, information technology can put pressure on low gear moments and push them into high gear, hampering the ability to think creatively – to think as lawyers.

“Creativity” may not be the word that jumps to mind when viewing a Rorschach inkblot of a lawyer, but indeed creativity is a critical tool within the legal profession. For example, creativity allows lawyers to use precedent in a novel way, to develop a new line of questioning to support a position during a direct examination, or simply to outmaneuver opposing counsel. Amassing information is an easy task, made even easier, and light years faster, by today’s technology.⁶¹ Creativity requires an individual to make connections between disparate pieces of information “and to create something new and hurl it into the future so it becomes a poem, or a building, or a dance, or a novel”⁶² or, perhaps, a legal brief.

Researchers Moshe Bar and Shira Baror of Bar-Ilan University examined the effects of high “mental loads” on creativity and found that higher mental loads “consistently diminished the originality and creativity” of research subjects.⁶³ In their study, participants engaged in a free association exercise “while simultaneously taxing their mental capacity to different degrees.”⁶⁴ In one experiment, the researchers asked half of the participants to remember a string of seven digits and asked the other half to remember just two digits.⁶⁵ While keeping those digits in mind, all participants then engaged in a free association word exercise in which, upon hearing a word (e.g., “shoe”), they were to respond with the first word that came to mind

⁵⁸ *See id.*

⁵⁹ *Id.*

⁶⁰ *Id.* at 121.

⁶¹ *See* GAZZALEY & ROSEN, *supra* note 3, at 105-09.

⁶² JOSHUA FOER, *MOONWALKING WITH EINSTEIN: THE ART AND SCIENCE OF REMEMBERING EVERYTHING* 203 (2011).

⁶³ Moshe Bar, *Think Less, Think Better*, N.Y. TIMES (June 17, 2016), https://www.ny-times.com/2016/06/19/opinion/sunday/think-less-think-better.html?_r=0.

⁶⁴ *Id.*

⁶⁵ *Id.*

(e.g., “sock”).⁶⁶ Participants with the higher mental load, that is, those remembering a seven-digit string of numbers, “resorted to the most statistically common responses,” associating, for example, “white” with “black.”⁶⁷ Participants with the lower mental load, that is, those remembering just two digits, “gave less typical, more varied pairings,” for example, “white” with “cloud.”⁶⁸ Dr. Bar determined that “the mind’s natural tendency is to explore and to favor novelty, but when occupied, it looks for the most familiar and inevitably least interesting solution.”⁶⁹ So, it seems, “[w]hen you have nothing to think about, you can do your best thinking.”⁷⁰

If the essence of creativity is connections between disparate pieces of information, then a lawyer drafting a legal brief has the potential for tremendous creativity as she links the fruits of her research in new and meaningful ways to create a compelling and persuasive narrative. Yet, imagine the challenge for that lawyer to draft a brief while searching for the judge’s filing requirements, searching for lunch options near the courthouse, managing the visual and auditory stimuli of incoming texts on a smartphone, fielding emails on unrelated topics from co-workers, and opening the Westlaw tab. That lawyer must fight her genetic predisposition to amass information needlessly, resist the urge to switch tasks, and then must summon whatever creativity is left after such a battle.⁷¹

III. BETWEEN IRAC AND A HARD PLACE

Lawyers’ pre-writing processes, namely their legal research, is a particularly ripe area for law practitioners to struggle if they are accustomed to speed in the gathering of information. Many law practitioners now have the opportunity to conduct research exclusively on electronic platforms.⁷² These platforms allow a research speed which lawyers thirty years ago could only

⁶⁶ *Id.*

⁶⁷ *Id.*

⁶⁸ *Id.*

⁶⁹ Bar, *supra* note 63.

⁷⁰ Drake Baer, “Unloaded” *Minds Are the Most Creative*, THE CUT (June 20, 2016), <http://nymag.com/scienceofus/2016/06/unloaded-minds-are-the-most-creative.html>; Josh Jones, *How Information Overload Robs Us of Our Creativity*, OPEN CULTURE (Aug. 5, 2017), <http://www.openculture.com/2017/08/how-information-overload-robs-us-of-our-creativity.html>.

⁷¹ *See id.*

⁷² Edward A. Adams, *Web 2.0 Still a No Go: Lawyers Slow to Adopt Cutting Edge Technology*, ABA J. VOL. 94 NO. 9, Sept. 2008, at 52, 53.

dream of as they perched precariously atop ladders to reach a book on the top shelf at the law library. Now lawyers can Shepardize a case with the click of a button instead of wading through piles of books. Many research platforms provide a Google-type search bar with natural language searching capabilities,⁷³ that pop up thousands of cases on negligence in a tenth of a second. Yet this speed and quantity is unhelpful if the researcher has not thought critically and made a research plan ahead of time. After all, who wants to wade through thousands of cases on negligence?⁷⁴

Before the proliferation of natural language searching capabilities, law practitioners crafted a terms and connectors search, also called a Boolean search, consisting of complicated search sentences, replete with asterisks and exclamations points.⁷⁵ These sentences instructed the electronic platform to emphasize certain words or phrases, avoid others, and search for certain words or phrases in context with and by proximity to other words or phrases.⁷⁶ A well thought out terms and connectors search had the potential to yield appropriately nuanced results.⁷⁷ In today's natural language searching, an algorithm within the electronic platform usurps much of the power that the researcher once yielded, and instead offers the researcher results in an order that the algorithm deems most relevant.⁷⁸ In relying on this algorithm, researchers get "into the habit of assuming the algorithm [is] better than [they are] at crafting a search" and put "a lot of stock into an algorithm [they] can't see."⁷⁹

The greatest danger of a natural language search ordered by an invisible algorithm's determination of relevance is that researchers may skim only

⁷³ See Dorie Bertram, *Searching Bloomberg Law, Lexis Advance and Westlaw: Natural Language v. Terms & Connectors Searching*, WASH. UNI. LAW, <http://libguides.law.wustl.edu/LRMSearchingIntro/SearchTypes> (last visited Sept. 22, 2018).

⁷⁴ With apologies to my esteemed colleagues who teach torts.

⁷⁵ See Bertram, *supra* note 73.

⁷⁶ See *Boolean Searching*, UNIV. OF ALASKA FAIRBANKS, <http://library.uaf.edu/lsl01-boolean> (last visited Sept. 23, 2018).

⁷⁷ *Id.*

⁷⁸ Susan Nevelow Mart, *The Algorithm as a Human Artifact: Implications for Legal [Re]Search*, 109 LAW LIBR. J. 387, 388-89 (2017) (finding that the human creators of algorithms "made choices about how the algorithm would work that have implications for the search results returned to the researcher").

⁷⁹ *How I Got Lazy as an Attorney and How You Can Avoid It*, FASTCASE, (last visited Oct. 8, 2018), <https://www.fastcase.com/blog/how-i-got-lazy-as-an-attorney-and-how-you-can-avoid-it>.

the first five or ten results and consider the research complete. Sifting through stacks of hay to find the needle requires effort, and researchers may abandon the stacks prematurely. Crafting a search that considers jurisdiction, issues relevant to the problem, and facts of the problem takes more time but limits the results to fewer haystacks that are more likely to contain the needle. Likewise, continuing the research beyond the initial search, by reading a good source (be it a case, a statute, or a treatise) and then utilizing the tools therein (be it the tables of contents, the headnotes, or the citing references), allows more confidence in the completeness of the research. Like so many other endeavors, spending more time in the planning and executing of the research and resisting the speed that technology allows is critical.

Of course, regardless of the quality of the search, researchers find both relevant and irrelevant, helpful and unhelpful sources. Still, law practitioners, whose neurons reward them for finding a case but not for reading it,⁸⁰ need to guard against falling into the speed trap of citing cases without reading them or reading only the seemingly relevant portions of the case while missing critical swaths of that case's analysis. Indeed, various courts have expressed frustration with submissions that cite cases that do not stand for the proposition for which the lawyer cited them.⁸¹ After all, dopamine neurons reward law practitioners for finding the term "vicarious liability," even when followed by "is not at issue here."⁸²

⁸⁰ GAZZALEY V. ROSEN, *supra* note 3, at 13-14.

⁸¹ See, e.g., *Elliano v. Kucej*, No. CV96338002S, 1998 WL 99108, at *1 (Conn. Super. Ct. Feb. 25, 1998) (holding that "[t]he case of *Rayhol Co. v. Holland* . . . which defendant . . . cites in support of his motion to dismiss, does not stand for the proposition that this court lacks jurisdiction whenever a trust is involved"); *Gerrity Co. v. Pace Const. Inc.*, No. CV92299440, 1993 WL 104432, at *1 (Conn. Super. Ct. March 17, 1993) (holding that "[t]he case cited by defense counsel . . . does not stand for the proposition that a subcontractor is barred . . . from suing a general contractor hired to perform a public project"); see also *Espitia v. Fouche*, 758 N.W.2d 224, n.5 (Wis. Ct. App. 2008) ("Counsel for Espitia cites to an unpublished case assertedly upholding a stipulated damages clause due to the difficulty of ascertaining 'the exact amount of income certain vending machines would produce' . . . [the case] indeed is unpublished but it has nothing to do with liquidated damage clauses or vending machines." After tracking down the case that counsel for Espitia intended to cite, which had a "[d]ifferent name, different citation, different district[,] but was unpublished as promised, "[t]he court imposed a \$100 penalty for violating the court's rule against citing to unpublished opinions, a rule which exists in part, muses the court, because such opinions "can be time-consuming to locate.").

⁸² *Hummel v. PennDOT*, 17 Pa. D. & C. 4th 308, n.5 (C.P. Ct. of Dauphin Cty., Pa. 1992); see GAZZALEY & ROSEN, *supra* note 3, at 13-14.

Most likely, mistakes in selecting appropriate cases happen, in part, because technology allows law practitioners to find cases on electronic platforms and then use search functions to find relevant phrases without context. Reading full cases on electronic platforms poses the additional challenge of requiring readers to run the gauntlet of tantalizing links to alternate sources because “the mere presence of hyperlinks compromises reading comprehension because the decision of whether or not to click disrupts the flow of understanding.”⁸³ By contrast, when reading a full opinion in a book or on paper, the reader must digest the full text of the opinion and make rational choices about areas within it to focus on. Often, judges help readers make these choices by organizing opinions clearly and using descriptive headings. However, a commonly used search function like “control+F” allows readers to circumvent this process. As such, lawyers may fail to take advantage of a well-organized opinion. Studies have documented that individuals “reading on screens take a lot of shortcuts—they spend more time browsing, scanning and hunting for keywords compared with people reading on paper, and are more likely to read a document once, and only once.”⁸⁴ Reading full opinions slowly and completely should be a skill acquired before the practice of law, yet law school case books provide students only with the directly relevant material instead of an opinion’s full text.⁸⁵ The slow practice of reading the full texts of legal sources, to separate the helpful from the harmful or the relevant from the irrelevant, is a critical skill that law practitioners should develop and repeatedly use. Reading the full text is also a necessary practice to foster the creativity that allows lawyers to make art from precedent.

While effective legal research is critical and best done slowly, research might soon be taken over by computers.⁸⁶ Thus, post-research work,

⁸³ Daniel T. Willingham, *You Still Need Your Brain*, N.Y. TIMES (May 19, 2017), https://www.nytimes.com/2017/05/19/opinion/sunday/you-still-need-your-brain.html?_r=0.

⁸⁴ Ferris Jabr, *The Reading Brain in the Digital Age: The Science of Paper Versus Screens*, SCI. AM. (Apr. 11, 2013) <https://www.scientificamerican.com/article/reading-paper-screens/>; see NICHOLAS CARR, *supra* note 3, at 9 (finding that “[d]igital immersion” has affected our absorption of information, rather than reading a page from left to right and top to bottom, we “instead skip around, scanning for pertinent information of interest.”).

⁸⁵ See IAN AYRES & GREGORY KLASS, *STUDIES IN CONTRACT LAW* 370-73 (Foundation Press, 8th ed. 2012).

⁸⁶ See Jason Krause, *Still Searching: Computers Change the Role of Lawyers in E-Discovery*, ABA J. (Jan. 2012) http://www.abajournal.com/magazine/article/still_searching_computers_change_the_role_of_lawyers_in_e-discovery/.

namely the use of information after finding it, is most important for law practitioners to cultivate.⁸⁷ The work of legal creativity through deep thought reflects an important skill that law practitioners must develop in an economy that increasingly pits humans against computers.⁸⁸ For work that demands speed and efficiency, a computer is always at a tremendous advantage.⁸⁹ Thus, some speed-driven work in the legal field is in jeopardy as computers increasingly encroach on traditionally human-driven work like document review⁹⁰ and even legal research itself.⁹¹ Yet the slow, methodical, and deliberative work of the human mind that leads to creative problem solving places it at a considerable advantage over computers.⁹² Therefore, while computers may complete all document review without human intervention, a human mind will still have a role in integrating that information, the hot doc, into the broader case. Likewise, while a computer may one day conduct a legal research project on its own, a human mind will add its own value by delving deeply into that case, sorting through the reasoning, and considering the research's applicability to future legal conflicts. Thus, the skills for which neurons reward human minds, finding information,⁹³ may no longer be the economically beneficial skill. By focusing on slow, methodical, and creative legal analysis, law practitioners can retain a skill that a computer, no matter how fast, cannot match.

⁸⁷ See generally NICHOLAS CARR, *THE GLASS CAGE: AUTOMATION AND US* 219, 232 (2014) (stating that “[y]et the screen, for all its enticements and stimulations, is an environment of sparseness-fast moving, efficient, clean, but revealing only a shadow of the world”).

⁸⁸ See Sheelah Kolhatkar, *Welcoming Our New Robot Overlords*, *THE NEW YORKER* (Oct. 23, 2017), <https://www.newyorker.com/magazine/2017/10/23/welcoming-our-new-robot-overlords>.

⁸⁹ CARR, *supra* note 87, at 219; *id.*

⁹⁰ See Krause, *supra* note 86 (“Recent advances in search technology allow reviewers to ‘train’ their computers to find documents with relatively little human input. A legal team examines sample documents the computer returns, and then uses that material to train the computers to find similar documents.”).

⁹¹ See Julia Carrie Wong, *Welcome to the Robot-Based Workforce: Will Your Job Become Automated Too?*, *THE GUARDIAN* (Mar. 19, 2016), <https://www.theguardian.com/technology/2016/mar/19/robot-based-economy-san-francisco> (explaining that “ROSS, . . . which uses IBM’s artificially intelligent super-computer . . . can perform [legal research] work that once took hours in a matter of seconds[,] . . . doing work that humans were once paid top dollar to perform.”).

⁹² See Geoff Colvin, *The Skills of Human Interaction Will Become Most Valuable in the Future*, *THE NEW YORK TIMES* (Mar. 9, 2016); Tony McCaffrey, *There will Always Be Limits to How Creative a Computer Can Be*, *HARVARD BUSINESS REVIEW* (Apr. 24, 2017).

⁹³ GAZZALEY & ROSEN, *supra* note 3, at 13-14.

After finding information, (i.e. legal sources), sifting through it, integrating it, and using it to create something new, lawyers must communicate the findings to others through writing. Legal writing provides a formulaic, systematic approach as a tool for analyzing and communicating the law: "IRAC"—the methodology of organizing the analysis of each issue into clear components of the Issue, the Rule, the Analysis, and the Conclusion.⁹⁴ While many bemoan the tedium of IRAC and resist it in their writing, unstructured legal memos often jump to answers without building support for the conclusion through foundational presentations of relevant issues, rules, and precedents.⁹⁵ IRAC is a means for lawyers to communicate their thought processes, and a slow, methodical presentation instills in the reader confidence that the work is the product of a slow, methodical analysis.⁹⁶ This work, parsing the relevant from the irrelevant, bringing together sources in a meaningful way, and walking the reader through the comparison of a problem case to precedent cases, takes time and concentration.⁹⁷ Law practitioners must refrain from shifting into a faster gear.

Even after lawyers find their information, use it to create something new, and communicate their analysis via IRAC, lawyers must transmit their findings. Lawyers may choose to transmit their findings via email. Today's technology allows transmission of information between parties at unthinkable speeds,⁹⁸ yet resisting that speed is still important even at this late stage in a lawyer's work. Electronic communication conditions users towards the overly familiar, instantly gratifying electronic communication of the social media world.⁹⁹ Crafting a thoughtful, coherent, and professional email requires time that social media postings rarely do.

To write an email, there is a pre-writing process that should include, for example, analysis of: Who is my audience?; What tone do I want to

⁹⁴ Michael B.W. Sinclair, *What is the "R" in "IRAC"?*, 46 N.Y. SCH. L. REV. 457, 457 (2002-2003).

⁹⁵ See Donald J. Kochan, *"Thinking" in a Deweyan Perspective: The Law School Exam as a Case Study for Thinking in Lawyering*, 12 NEV. L.J. 396, n. 64 (2012).

⁹⁶ Jeffrey Metzler, *The Importance of IRAC and Legal Writing*, 80 U. DET. MERCY L. REV. 501, 502 (2003).

⁹⁷ *Id.*

⁹⁸ GAZZALEY & ROSEN, *supra* note 3, at 103.

⁹⁹ *Id.*

convey?; What is the main point that I want to convey?¹⁰⁰ After writing the email, there is a post-writing process that should include, for example, analysis of: Did I write appropriately to my audience, in the desired tone?; Is the main point of my email apparent at the beginning?; Does my email inappropriately rely on any assumptions about the reader's knowledge of the material?; Would I be embarrassed if the recipient forwarded this email to others?¹⁰¹ I also encourage three additional steps before sending an email even though the steps further slow down the process: (1) print out a complicated email and review it on paper; (2) leave the addressee line blank until the email is complete and proofread to avoid an inopportune "send";¹⁰² and (3) evaluate inward emotions. If there are strong emotions (either positive or negative), save a draft of the email for a few hours until the emotions have settled. Emotions cloud judgment. Add speed, and disaster often follows.¹⁰³ Because an email's communicative speed is its greatest asset and risk, slowing down the process may pay invaluable dividends.

IV. STEPS LAW PRACTITIONERS CAN TAKE TO BE SLOW AND DELIBERATIVE IN A RAPIDFIRE WORLD

A professor of art history at Harvard spoke once of her requirement that students, in preparation for writing a required intensive research paper on a work of art of their choice, must "spend three full hours looking at the painting, noting down his or her evolving observations as well as the questions and speculations that arise from those observations."¹⁰⁴ The professor explained that the "time span [was] explicitly designed to seem

¹⁰⁰ *Effective Email Communication*, THE WRITING CTR.: U. OF NORTH CAROLINA AT CHAPEL HILL (last visited Oct. 4, 2018), <https://writingcenter.unc.edu/tips-and-tools/effective-e-mail-communication/>.

¹⁰¹ *Id.*

¹⁰² Timing of emails can be an important consideration. I have experienced the indignity of students in class sending me emails *during* my lecture, and I regularly wake up to clusters of emails from students between 12:00 am and 3:00 a.m. These early morning email clusters often contain multiple emails from the same student with later emails offering points of clarification relating to earlier emails. Beyond just my students, even our president is not immune to these early morning technological blunders, previously tweeting the ambiguous "covfefe" at 12:06 a.m., though failing to offer the later clarification that my students generally do.

¹⁰³ I receive some of the least professional emails of the year in the hour after the registrar releases the semester's grades.

¹⁰⁴ Jennifer L. Roberts, *The Power of Patience: Teaching Students the Value of Deceleration and Immersive Attention*, HARV. MAG., Nov.-Dec. 2013, at 40.

excessive.”¹⁰⁵ For lay observers, even observing art for minutes, rather than the average “15 to 30 seconds [a museum visitor spends before] a work of art,” increases the likelihood of connecting with the art.¹⁰⁶ This decelerative, immersive attention¹⁰⁷ allows viewers to mentally integrate a work of art in much the same way that law practitioners hope to deeply understand and integrate a legal source into their legal knowledge base.

Of course, deceleration is not the only speed at which law practitioners work.¹⁰⁸ The practice of law has a tempo: moments that demand quick answers and rapid recall, and moments that demand quiet reflection and deep, penetrative thoughts.¹⁰⁹ Law practitioners must be prepared to move at the different paces that lawyering requires. Technology has already conditioned lawyers for speed.¹¹⁰ But slowness, for reasons both technological and evolutionary, is a pace at which law practitioners are not as comfortable.¹¹¹ Therefore, this is the pace towards which lawyers must focus their efforts. The more law practitioners can avoid diverting precious energy to unnecessary but alluring endeavors, like amassing information or unnecessarily switching tasks, the more likely they are to devote it to the slow work of meaningfully engaging in practicing law. Below are four techniques that may help law practitioners slow down.

A. *Law Practitioners Should Reduce the Number of Times They Reach for Their Smartphones.*

Smartphones are among the most distracting devices ever created.¹¹² Therefore, if a lawyer’s objective is to slow down and allow herself to be immersed in the work of lawyering, she must resist the ubiquity of the

¹⁰⁵ *Id.*

¹⁰⁶ Stephanie Rosenbloom, *The Art of Slowing Down in a Museum*, N.Y. TIMES (Oct. 9, 2014), <https://www.nytimes.com/2014/10/12/travel/the-art-of-slowing-down-in-a-museum.html?mcubz=3>.

¹⁰⁷ Roberts, *supra* note 104, at 40.

¹⁰⁸ See Allan Kanner & Tibor L. Nagy, *Legal Strategy, Storytelling and Complex Litigation*, 30 AM. J. TRIAL ADVOC. 1, n. 16 (2006).

¹⁰⁹ *Id.*

¹¹⁰ See Christopher Muther, *Instant Gratification is Making Us Perpetually Impatient*, BOSTON GLOBE (Feb. 2, 2013).

¹¹¹ See GAZZALEY & ROSEN, *supra* note 3, at 13-14; *id.*

¹¹² Mike Elgan, *Smartphones Make People Distracted and Unproductive*, COMPUTERWORLD (Aug. 12, 2017), <https://www.computerworld.com/article/3215276/smartphones/smartphones-make-people-distracted-and-unproductive.html>.

smartphone in her moment-to-moment existence. In my personal experience, the less accessible my smartphone is, the more I can focus on other things. The less I rely on my smartphone, the less visible it is and the less it distracts me. A few simple steps are helpful. First, I wear a watch every day. In so doing, I have dramatically reduced the number of times I reach for my smartphone to check the time. Each time that I do not check my smartphone's clock, I have taken away the allure of seeking further information from the limitless store that this "smart clock" contains. I also carry a physical calendar along with a pen, in part for its elegance, in part for the satisfaction of checking off engagements as I complete them, but primarily because it reduces the number of times I must use my "smart calendar." I have also adjusted my smartphone to mute all incoming alerts with the exception of phone calls. Usually, I do not have to know about a text message the second that it is received, and the freedom from the cacophony of alerts is an auditory pleasure. More importantly, each silenced alert represents the avoidance of a diversion into an information-saturated device. Finally, I carry a book wherever I go. The smartphone is without rival in its options to keep me busy during down time. Yet, even if I wisely choose a downloaded copy of *Anna Karenina* instead of fifteen minutes of *Candy Crush*,¹¹³ the limitless information on my cell phone is still too easily accessible.

B. *Read from Paper.*

In addition to the benefit of reducing the number of times law practitioners reach for their smartphones, reading from physical sources has additional benefits. Books weigh a lot, so much so that they once challenged my general disinclination towards screens and technology, and I briefly used an e-reader. Yet, I quickly realized that my absorption of material through the e-reader was not simply a mental endeavor, but a physical one as well. I found it disorienting to read passages without the weight of the pages I already read under one thumb and the pages to come under the other. Studies indicate that the "rhythm" of turning pages, the "visible record of how far one has traveled," the ability to "focus on a single page, without losing sight of the whole text . . . and where one page is in relation to those borders" are "features [that] not only make text in a paper book easily navigable, they also make it easier to form a coherent mental map of the text."¹¹⁴ As a legal

¹¹³ Gaming application that requires a person to destroy small candies that are in a certain formation.

¹¹⁴ Jabr, *supra* note 84.

writing professor, perhaps I can best describe e-reader pages as having a small-scale organization (i.e. organization of individual issues), but lacking a large-scale organization (i.e. organization of the document as a whole and logical links between all of the issues therein).

For law practitioners who must absorb information from written material, the benefits of paper reading are practically beyond measure. Reading from paper is a slower process but a better one due to the potential problems of electronic reading. First, reviewing legal documents on electronic platforms allows readers to find legal phrases quickly by simply pressing ctrl+F", circumventing the large-scale organization of the document as a means to glean the contextual significance of those legal phrases. Second, electronic reading encourages a hunting and scanning type of reading, instead of a word-by-word, line-by-line reading. Third, reviewing a legal document on an electronic platform demands that the readers curb their genetic predisposition to find further information through the many hyperlinks, ads, and chatting applications.¹¹⁵ Reading printed material can cut off the genetic need to amass information at its source. Thus, the practice reaps tremendous benefits for the reader.

C. Finite Willpower + the Exhaustion of Decision Making = Success with Rituals.

Willpower is a finite resource, and individuals deplete it as they use it.¹¹⁶ Decision making is exhausting, and the more individuals tire from the decisions they make, the more frequently they make poor decisions.¹¹⁷ One easy way to avoid exhausting stores of willpower is by avoiding making

¹¹⁵ GAZZALEY & ROSEN, *supra* note 3, at 13-14.

¹¹⁶ CAL NEWPORT, *DEEP WORK: RULES FOR FOCUSED SUCCESS IN A DISTRACTED WORLD* 100 (2016).

¹¹⁷ John Tierney, *Do You Suffer From Decision Fatigue?*, THE NEW YORK TIMES MAGAZINE (Aug. 17, 2011), <http://www.nytimes.com/2011/08/21/magazine/do-you-suffer-from-decision-fatigue.html>, ("[Various] experiments demonstrated . . . that there is a finite store of mental energy for exerting self-control. When people fended off the temptation to scarf down M&M's or freshly baked chocolate-chip cookies, they were then less able to resist other temptations. When they forced themselves to remain stoic during a tearjerker movie, afterward they gave up more quickly on lab tasks requiring self-discipline, like working on a geometry puzzle or squeezing a hand-grip exerciser. Willpower turned out to be more than a folk concept or a metaphor. It really was a form of mental energy that could be exhausted.").

decisions altogether.¹¹⁸ For example, Reese's peanut butter cups, my personal kryptonite, present a true dilemma for me. If I have to decide whether to eat a peanut butter cup (or an entire bag) each time that I open my pantry, I will not make the best decision every time. Rather, if I decide not to buy the bag each Sunday as I grocery shop, I have reduced this difficult decision making to once a week instead of every few hours.

However, if the objective is to limit access to the trove of fast, unlimited information in order to embark on a slower pace, an outright ban on technology is not as effective as an outright ban on candy because, unlike candy, technology does play a beneficial role at various points in the day. As such, I encourage rituals¹¹⁹ to limit technology from being omnipresent throughout the day. The ritual any law practitioner chooses should be specific to the individual and reflective of the realities of professional and personal needs. For example, a practitioner can check email once each hour and log onto social media once each morning. Or, perhaps each day can be divided into periods of information retrieval and information integration, with each period being carried out at set times and in different physical locations. Whatever the ritual, the idea is the same: to set times that allow for the slow, deliberative work of lawyering and separate them from technology use in recognition that its promise of rapidly available information is at odds with the goals of effective lawyering. The more practitioners can use their rituals to remove the exhausting decision of whether to check Facebook or respond to an email while writing a brief, the greater success they will have in controlling their work pace throughout the day.

D. *When Stuck, Move.*

Finally, I recognize that slow, deliberative lawyering is hard, and at various points, law practitioners may get stuck. Be it writer's block or sheer exhaustion, even the best may need a break. The temptation, at such times, may be to stay at the same desk used to carry out slow work to now delve into the information-saturated world of social media. Yet, spending a "break" from slow work in this way will not prepare lawyers to return to

¹¹⁸ *Id.*

¹¹⁹ See, e.g., NEWPORT, *supra* note 116, at 95-126 (2016) (providing a comprehensive discussion of various schedules to create rituals for the use of technology).

slow work.¹²⁰ Instead, maintaining a slow pace, even during a break, will better relax the mind, allowing it to return to the task at hand refreshed and ready. A break engaged in physical activity, any physical activity, unburdens the mind while maintaining the slower pace that the law practitioner has set.¹²¹

My physical activity of choice is running, and I am blessed to run each day in New York City's Central Park.¹²² Frequently, during the time that I spend running, I happen upon solutions to problems upon which I had been ruminating and to nascent problems that I did not even recognize swirled in my head. Current research finds that "precisely the sort of situation [I encounter on my runs] – high in familiarity, low in demands – [is] where [I am] likely to have [my] most far-flung ideas."¹²³ Indeed, at the end of many runs, though breathless, thirsty, and in need of a good stretch, I first rush to write down the ideas that came to me on the run. In fact, as a legal writing professor, each assignment that I have written began while running instead of while seated at my desk.

Ample evidence suggests that physical activity improves our capacity for mentally taxing work.¹²⁴ In various studies of physical activity, including 20-minute aerobic exercises, after-school sports programs in schools, and even ten minutes of simultaneously bouncing two balls,

¹²⁰ Compare Jason Zook, *Do a Social Media Detox*, WANDERING AIMFULLY (last visited Oct. 8, 2018), <https://wanderingaimfully.com/social-media-detox-recap/>.

¹²¹ Physical activity also stimulates learning. Recent studies have demonstrated striking improvements in learning among students who engage in physical activities during periods of instruction. Students who rode exercise bikes during instructional periods of learning a new language performed better on vocabulary and reading comprehension quizzes both immediately after the instruction and one month later than did students who did not ride bicycles. See Gretchen Reynolds, *How Exercise Could Help You Learn a New Language*, N.Y. TIMES (Aug. 16, 2017), https://www.nytimes.com/2017/08/16/well/move/how-exercise-could-help-you-learn-a-new-language.html?mcubz=3&_r=0.

¹²² I have adopted my own "ritual" in this physical activity as well which takes away the decision making I would otherwise face early each morning during the cold, dark North-eastern winters.

¹²³ Baer, *supra* note, 70.

¹²⁴ Ashish Sharma et al., *Exercise for Mental Health*, 8 THE PRIMARY CARE COMPANION TO THE J. OF CLINICAL PSYCHIATRY 106, 106 (2006), <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1470658>.

participants showed immediate improvements in attention and concentration.¹²⁵ Most interesting, participants “became more adept at ignoring distractions, multitasking, and holding and manipulating information in their minds.”¹²⁶ In other words, in an information-saturated world, physical activity may be the best antidote for evolutionary disadvantages. Thus, as lawyers engage with the slow work of lawyering, breaks involving physical activity benefit them more than breaks in front of an information-saturated device.

In sum, as law practitioners develop their practice in a world where speed presses on relentlessly, I hope that they gain a different perspective on the true necessity and relative value of unlimited, ever-accessible information and the speed with which they can access it.

¹²⁵ Ben Martynoga, *How Physical Exercise Makes Your Brain Work Better*, THE GUARDIAN (June 18, 2016), <https://www.theguardian.com/education/2016/jun/18/how-physical-exercise-makes-your-brain-work-better>.

¹²⁶ *Id.*

