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## ON ENGAGEMENT: LEARNING TO PAY ATTENTION

*R. Lisle Baker and Daniel P. Brown\**

### ABSTRACT:

In an age of electronic and mental distraction, the ability to pay attention is a fundamental legal skill increasingly important for law students and the lawyers and judges they will become, not only for professional effectiveness, but also to avoid error resulting from distraction. Far from being immutable, engaged attention can be learned. More specifically, with an understanding of how the attention system of the brain works, carefully designed mental practice can over time enhance an individual's capacity for focused attention, not only psychologically, but also apparently gradually altering the physical structure within the brain itself. The result can be an improved ability for law students to focus attention—to stay calmly on what is intended, without being distracted by irrelevant thought or sense experience—avoiding wasting scarce time and energy otherwise lost to internal or external distraction. Ironically, learning this attentional skill requires tempo-

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rarily quieting the active process of elaborated thought that law students, lawyers, and judges pride themselves on having developed as part of their legal education. In honing this skill, however, a collateral benefit of this practice is also an enhanced ability to be self-aware, hopefully providing law students, lawyers, and judges an increased capacity to respond, rather than just react, to legal problems and the human thoughts and emotions that arise with them.

“[A]ttention must be paid.”<sup>1</sup>

### I. INTRODUCTION: PAYING ATTENTION MATTERS

The ability to pay attention, especially to other people, is vital to success for law students and for the lawyers and judges they will become.<sup>2</sup> Jeanne Nakamura and Mihaly Csikszentmihalyi wrote the following about the importance of attention:

Information appears in consciousness through the selective investment of attention. People’s *subjective experience*, the content of consciousness from moment to moment, is thus determined by their decisions about the allocation of limited attention. . . . Attention may be divided or undivided; indifferent or caring. The quality of the attention paid to the world affects the nature of people’s interactions and the quality of their subjective experience.<sup>3</sup>

Consider the following example of one such interaction:

[Malcolm] Smith, a Democrat, was the New York State Senate Majority Leader who famously fiddled with his BlackBerry, checking e-mails, while billionaire Thomas Golisano, a major independent political player in New York, was trying to talk to him. Golisano, who had made a spe-

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1. ARTHUR MILLER, *DEATH OF A SALESMAN*, act 1.

2. See M.H. Sam Jacobson, *Paying Attention or Fatally Distracted? Concentration, Memory, and Multi-Tasking in a Multi-Media World*, 16 J. LEGAL WRITING INST. 419, 420 (2010).

3. Jeanne Nakamura and Mihaly Csikszentmihalyi, *The Construction of Meaning Through Vital Engagement in Flourishing: Positive Psychology and the Life Well-Lived* 83, 85 (Corey L.M. Keyes & Jonathan Haidt, eds., 2003) (citations omitted). “Attention is like energy in that without it no work can be done, and in doing work is dissipated. We create ourselves by how we invest this energy. Memories, thoughts, and feelings are all shaped by how we use it. And it is an energy under our control, to do as we please, hence, attention is our most important tool in the task of improving the quality of experience.” MIHALY CSIKSZENTMIHALYI, *FLOW: THE PSYCHOLOGY OF OPTIMAL EXPERIENCE* 33 (1991). “[E]ach of us literally *chooses*, by his ways of attending to things, what sort of a universe he shall appear to himself to inhabit.” WILLIAM JAMES, *THE PRINCIPLES OF PSYCHOLOGY* 275 (1952).

cial trip to Albany to meet with Smith, was furious. “When I travel 250 miles to make a case on how to save the state a lot of money and the guy comes into his office and starts playing with his Blackberry, I was miffed,” he told reporters.<sup>4</sup>

As a response, Mr. Golisano “went to the Republicans and told them he’d be happy to unseat Smith, perhaps in the hopes of having him replaced with someone who could pay attention for a few minutes.”<sup>5</sup> Golisano was successful, and Smith was unseated.<sup>6</sup>

Few law students or lawyers imagine themselves acting like Smith, but in fact, law students often find themselves distracted by less important matters, and readers may recall their own examples.<sup>7</sup> It can be a serious problem:

Few things affect our lives more than our faculty of attention. If we can’t focus our attention—due to either agitation or dullness—we can’t do anything well. We can’t study, listen, converse with others, work, play, or even sleep well when our attention is impaired. And for many of us, our

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4. PAUL HAMMERNES, & MARGARET MOORE WITH JOHN HANC, ORGANIZE YOUR MIND ORGANIZE YOUR LIFE, TRAIN YOUR BRAIN TO GET MORE DONE IN LESS TIME xv–xvi (2012).

5. *Id.* at xvi.

6. *Id.* at xvi–xvii. Hammerness and Moore explain:

The problem isn’t limited to the United States, either. One of the biggest scandals in the British tabloids in 2010 . . . involved a union official who, during emergency meeting negotiations with British Airway officials hoping to avoid a strike, sent Twitter messages—some at the rate of three or four an hour. When airline officials found out he was tweeting while they were supposed to be talking, they were furious; the negotiations broke down and the strike was on, disrupting travel plans for thousands of people on one of the world’s biggest airlines. “Twitter Blamed for Wrecking British Airway Peace Talks,” screamed London’s *Daily Telegraph* on its front page. Again, the wrong culprit: Twitter is not to blame. Rather, it’s a brain unable to stay focused even in a critical meeting that demonstrates an inability to put down a handheld device and look another human in the eye.

*Id.* The issues are not just lost opportunity, but increased risk: “a neurosurgeon making personal calls during an operation, a nurse checking airfares during surgery and a poll showing that half of technicians running bypass machines had admitted texting during a procedure.” Matt Richtel, *As Doctors Use More Devices, Potential for Distraction Grows*, N.Y. TIMES, Dec. 14, 2011.

7. It is important to distinguish between a state in which we are distracted and one where we are idle. Tim Kreider explains:

Idleness is not just a vacation, an indulgence or a vice; it is as indispensable to the brain as vitamin D is to the body, and deprived of it we suffer a mental affliction as disfiguring as rickets. The space and quiet that idleness provides is a necessary condition for standing back from life and seeing it whole, for making unexpected connections and waiting for the wild summer lightning strikes of inspiration—it is, paradoxically, necessary to getting any work done.

Tim Kreider, *The “Busy” Trap*, N.Y. TIMES, (June 30, 2012, 3:15 AM) <http://opinionator.blogs.nytimes.com/2012/06/30/the-busy-trap/>.

attention is impaired much of the time. . . . Our very perception of reality is tied closely to where we focus our attention. Only what we pay attention to seems real to us, whereas whatever we ignore—no matter how important it may be—seems to fade into insignificance. The American philosopher and pioneer of modern psychology, William James, summed up this point more than a century ago: “For the moment, what we attend to is reality.” Obviously, he wasn’t suggesting that things become nonexistent when we ignore them; many things of which we are unaware exert powerful influences on our lives and the world as a whole. But by ignoring them, we are not including them in *our* reality. We do not really register them as existing at all. Each of us chooses, by our ways of attending to things, the universe we inhabit and the people we encounter. But for most of us, this “choice” is unconscious, so it’s not really a choice at all.<sup>8</sup>

According to Steve Bradt, “[p]eople spend 46.9 percent of their waking hours thinking about something other than what they’re doing,” and this he attributes to a wandering mind.<sup>9</sup> But if law students are like those individuals whom Bradt surveyed, they are using almost half their time thinking about something other than what they are doing. If, instead, they could focus on more of what they intended, it would help them save not only scarce time for work, but also use that time more effectively, as well as perhaps even avoid error, which can be more serious when they graduate and begin representing clients and the problem were to become severe.<sup>10</sup>

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8. B. ALLAN WALLACE, *THE ATTENTION REVOLUTION: UNLOCKING THE POWER OF THE FOCUSED MIND* 1–2 (2006). As Hammerness, et al., explain:

Sometimes, if we are not fully allocating and using our attentional capacities . . . then the information might as well not be there at all. Perhaps you’ve had the experience of a colleague saying, “I sent you that memo the other day; don’t you remember?” or your spouse insisting that “I showed you where the spare key was; you must have forgotten.” You’re dumbfounded because you honestly *don’t* remember ever seeing the memo or the key. It’s as if these things never happened. What *did* happen is that we *didn’t* pay attention; we weren’t processing that information when we were told or when the memo or key was shown to us. The act of paying attention is not always an automatic process. Without our concerted efforts to do so, events, information and experiences can pass us by. It’s intriguing to think that “I can’t remember” may really mean “I wasn’t paying attention in the first place.”

HAMMERNES ET AL., *supra* note 4, at 80–81.

9. Steve Bradt, *Wandering Mind Not a Happy Mind*, HARV. GAZETTE (Nov. 11, 2010), available at <http://news.harvard.edu/gazette/story/2010/11/wandering-mind-not-a-happy-mind/>. The data is compiled from a study that used iPhones’ Web app to gather 250,000 data points on subjects’ thoughts, feelings, and actions as they went about their lives. *See id.*

10. While other issues were often involved, a number of Bar discipline cases involving lack of diligence or related ethical issues also involved a claim of mitigation because of problems of attention deficit or lack of concentration. *See, e.g.*, Mass. Bd. of Bar Overseers, Admonition No. 04-40, 1, 3 (2004), available at <http://www.mass.gov/obcbbo/admon2004.htm>; Mass. Bd. of Bar Overseers, Admonition No. 05-02, 1, 1 (2005), available at <http://www.mass.gov/obcbbo/admon2005.htm>; *In re Joseph E. Nealon*, 1, 2 (May 10, 2010) (The record

Indeed, if we think of lawyering skills, two overarching “meta-skills” involve careful preparation and paying attention to what matters. Preparation is something that law schools attempt to teach throughout the curriculum, but what about paying attention? Can law schools do better?

This article offers some ways to do so, principally by practicing concentration under controlled conditions. But before discussing ways to enhance attending, this article lays a foundation to understand the challenges of paying attention, since it is a subject relatively untouched explicitly in legal education. This article will then focus on a contemplative tradition devoted to concentration, now informed by modern research, so as to provide guidance on how its use can aid the problem of an individual’s distracted attention. The result can be an improved ability for law students to stay focused calmly on what is intended, without being distracted by irrelevant thought or sense experience, thereby saving time and energy as well as gaining enhanced self-awareness so as to better respond, rather than just react, to legal problems and the human thoughts and emotions that arise with them.

## II. PAYING ATTENTION AS PART OF DOING “GOOD WORK” IN LAW SCHOOL AND LAW PRACTICE

While his research does not focus specifically on the legal profession, Professor Howard Gardner of the Harvard School of Education has written generally about what he called “GoodWork” and its three aspects: excellence, ethics, and engagement.<sup>11</sup> First, to constitute good work, it needs to be *excellent* in the sense of technical competence, something that takes time to learn and develop.<sup>12</sup> Second, good work needs to be *ethical*, by way of serving others; principally, the community in which the person is involved, but also the larger society of which the individual is a part.<sup>13</sup> Third, in order to be good, work must be *engaging*.<sup>14</sup> As Nakamura and Csikszentmihaly state, “vital engagement [is defined] as a relationship to the world that is characterized by both experiences of flow (enjoyed absorption) and by meaning (subjective significance).”<sup>15</sup>

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stated that the respondent suffered from adult attention deficit disorder, “which caused disorganization in the management of his law practice.”). That is not to minimize the legitimate accommodations that aspiring lawyers with severe attention deficit disorder or related learning disabilities may require in order to join the profession. *See* Weintraub v. Bd. of Bar Examiners, No. OE-0087 (Mass. 1992) (applicant entitled to separate room and extra time to take Bar examination).

11. Howard Gardner, *Introduction*, in *GOODWORK: THEORY AND PRACTICE* 1, 5 (Howard Gardner ed., 2010).

12. *Id.*

13. *Id.*

14. *Id.*

15. Nakamura & Csikszentmihalyi, *supra* note 3, at 87.

How can law schools help to vitally engage their students and lay the groundwork for similar vital engagement in their studies and ultimately their law practice? That is not to say that law schools do not attempt to do at least two of the things of which Professor Gardner speaks: providing for the study of professional excellence and ethics. Law schools try to develop professional competence in law students—that is, the knowledge of the law sufficient to understand the dimensions of a client’s problem—and then the analytic skill to use that knowledge to help solve it appropriately. They also instruct students on ethics, the code of professional conduct applicable to lawyers, and urge students to serve others above self, such as through participation in pro bono programs. But what can law schools do to teach vital engagement, including the ability to pay attention? This challenge is significant, because paying attention often is presumed to be an innate ability, and therefore not worthy of learning in its own right, or otherwise inherent and incapable of further development once a student reaches post-graduate education.

Psychologist William James first noted the mind’s propensity for distraction, which results in what he referred to as “a wandering attention.”<sup>16</sup> James elaborated:

[T]he faculty of voluntarily bringing back a wandering attention, over and over again, is the very root of judgment, character, and will . . . . An education which should improve this faculty would be the education par excellence. But it is easier to define this ideal than to give practical directions for bringing it about.<sup>17</sup>

This article attempts to provide some of those “practical directions,” which can help bring about that “education par excellence.” This objective is consistent with one of the positive aspirations of psychology, which is “to nurture genius, to identify our most precious resource—talented young people—and find the conditions under which they will flourish.”<sup>18</sup> This objective is also consistent with viewing the genius of attention as available to everyone and not to just the gifted few, as Alan Wallace writes about focus and creativity:

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16. See Gene Crumley & Howard Schutz, *Short-Duration Mindfulness Training with Adult Learners*, 22 ADULT LEARNING 37, 40 (2011) (citing WILLIAM JAMES, PSYCHOLOGY: THE BRIEFER COURSE 42 (1892)).

17. Leonard L. Riskin, *Annual Saltman Lecture: Further Beyond Reason: Emotions, The Core Concerns, and Mindfulness in Negotiation*, 10 NEV. L. J. 289, 323 (2010) (quoting WILLIAM JAMES, THE PRINCIPLES OF PSYCHOLOGY, VOL. 1 424 (1890)) [hereinafter Riskin, *Further Beyond Reason*].

18. Martin E.P. Seligman, *Foreword: The Past, and Future of Positive Psychology*, in FLOURISHING, *supra* note 3, at xv.

Just think of the greatest musicians, mathematicians, scientists, and philosophers throughout history—all of them, it seems, have had an extraordinary capacity to focus their attention with a high degree of clarity for long periods of time. A mind settled in such a state of alert equipoise is a fertile ground for the emergence of all kinds of original associations and insights. Might ‘genius’ be a potential we all share—each of us with our own unique capacity for creativity, requiring only the power of sustained attention to unlock it? A focused mind can help bring the creative spark to the surface of consciousness. The mind constantly caught up in one distraction after another, on the other hand, may be forever removed from its creative potential. Clearly, if we were to enhance our faculty of attention, our lives would improve dramatically.<sup>19</sup>

The distraction problem is significant. Some studies have indicated that students in certain aspects of higher education may experience lapses in attention as early as the first thirty seconds of a lecture with additional lapses occurring in ever-shortening cycles throughout the lecture segment.<sup>20</sup> Yet student success in law school requires intense and sustained attention.<sup>21</sup> Law students “[engage] in every level of knowledge, from the simplest, memori-

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19. WALLACE, *supra* note 8, at 3. Robert Altobello references the following quotation from Swami Vivekananda (1951):

How has all knowledge in the world been gained but by the concentration of the powers of the mind? The world is ready to give up its secrets if we only know how to knock, how to give it the necessary blow. The strength and force of the blow come through concentration. There is no limit to the human mind. The more concentrated it is, the more power is brought to bear on one point; that point is the secret.

Robert Altobello, *Concentration and Contemplation: A Lesson in Learning to Learn*, 5 J. TRANSFORMATIVE EDUC. 354, 368 (2007).

20. See Diane M. Bunce et al., *How Long Can Students Pay Attention in Class? A Study of Student Attention Decline Using Clickers*, 87 J. CHEMICAL EDUC. 1438, 1442 (2010).

21. See Jacobson, *supra* note 2, at 419. The issue precedes law school:

Sensitiveness to immediately exciting sensorial stimuli characterizes the attention of childhood and youth. In mature age we have generally selected those stimuli which are connected with one or more so-called permanent interests, and our attention has grown irresponsive to the rest. But childhood is characterized by great active energy, and has few organized interests by which to meet new impressions and decide whether they are worthy of notice or not, and the consequence is that extreme mobility of the attention with which we are all familiar in children, and which makes their first lessons such rough affairs. Any strong sensation whatever produces accommodation of the organs which perceive it, and absolute oblivion, for the time being, of the task at hand. This reflex and passive character of the attention which, as a French writer says, makes the child seem to belong less to himself than to every object which happens to catch his notice, is the first thing which the teacher must overcome. It never is overcome in some people, whose work, to the end of life, gets done in the interstices of their mind-wandering.

JAMES, *supra* note 3, at 270 (internal citations omitted).



zation, to the most complex, reasoning.”<sup>22</sup> Attention is needed to process and commit this knowledge to memory.<sup>23</sup>

As a consequence, a few law professors have started to pay attention to attention. As M. H. Sam Jacobson explains, “[a]ttentional control . . . is an essential skill for a person to successfully engage in the higher-order cognitive tasks required of legal analysis and reasoning. A person must be able to shut out distractions, including other cognitive work, when attending to cognitively complex tasks.”<sup>24</sup> Professor Leonard Riskin, a pioneer in the use of insights from psychology in legal education, wrote, “[f]or instance, if, while we are interviewing a client, we become aware that our mind has wandered off to thoughts about next week’s football game, we can swiftly bring our attention back to the client.”<sup>25</sup> Finally, Professor Darshan Brach of the University of California, Hastings College of Law, has written in the context of negotiation:

Maintaining attention for any length of time is a difficult feat. Often, in both life and negotiation, our body is in one place but our attention is elsewhere, and while we appear to participate in a conversation on one topic, we are often thinking about something quite different (our next meal, for example).

This lack of mental discipline can have an extremely deleterious impact on the success of our negotiations for several reasons. As discussed previously, a first casualty of inattention can be losing sight of our real goals.<sup>26</sup> Additionally, when our thoughts are elsewhere, we miss infor-

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22. Jacobson, *supra* note 2, at 420.

23. *See id.* at 425.

24. *Id.* at 430.

25. *See* Leonard L. Riskin, *Awareness in Lawyering: A Primer on Paying Attention*, in *THE AFFECTIVE ASSISTANCE OF COUNSEL: PRACTICING LAW AS A HEALING PROFESSION* 447, 454 (Marjorie Silver ed., 2007).

26. As Michael Wheeler observes:

[T]he notion of being in the zone in sports may be related to presence of mind in negotiation, particularly in terms of achieving the right kind of concentration. When people’s “heads aren’t in the game” in either context, it means their attention is somehow elsewhere. Perhaps their attention has been distracted by an external event but just as likely, they may have diverted themselves with an internal conversation . . . .

Michael Wheeler, Background Note, *Presence of Mind*, 903-009 HARV. BUS. SCH., Sep. 10, 2002, at 3. On the topic of goals, Mihaly Csikszentmihalyi adds:

Learning to manage one’s goals is an important step in achieving excellence in everyday life. To do so, however, does not involve either the extreme of spontaneity on the one hand, or compulsive control on the other. The best solution might be to understand the roots of one’s motivation, and while recognizing the biases involved in one’s desires, in all humbleness to choose goals that will provide order in one’s consciousness without causing too much disorder in the social or material environment. To try for less than this is to forfeit the chance of

mation and cues, both verbal and nonverbal. Further, with a mind easily distracted, we lose mental acuity and are less able to take quick and appropriate action as needed when the tides of a negotiation shift.<sup>27</sup>

It seems that in addition to preparation, an important component of success as a law student or as a lawyer is simple: pay attention. Also, it is important to remember the relationship between limiting one's attention to the task at hand and achieving maximum performance.<sup>28</sup> Thus, it should come as no surprise that "the ability to control attention against competing demands is a major predictor of how well a person will perform on complex working memory tasks" or, in other words, those tasks requiring our persistent, undivided attention.<sup>29</sup>

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developing your potential, and to try for much more is to set yourself up for defeat.

Mihaly Csikszentmihalyi, *FINDING FLOW: THE PSYCHOLOGY OF ENGAGEMENT WITH EVERYDAY LIFE*, 25 (1997) [hereinafter *FINDING FLOW*].

27. Darshan Brach, *A Logic for the Magic of Mindful Negotiation*, 24 *NEGOTIATION J.*, 25, 28–29 (2008); see also Riskin, *Further Beyond Reason*, *supra* note 17, at 307 (emphasizing negative effects of distractions).

28. As Altobello explains:

According to [Hindu] legend, Drona was the greatest archery teacher in the ancient world. Arjuna desired to master archery and went to study under Drona . . . . Drona announced that there would be a competition to see which student was the best archer . . . . Drona set up a clay bird at the far end of the range.

"See that clay bird perched on the tree ahead of us? Aim at its eye" [Drona] said. Then he called the first student. The student plucked an arrow from the quiver, placed it on the bow, and pulled the sting. "What do you see ahead of you?" Drona asked. "I see the sun, the clouds, the trees," the student replied as he released the string. The arrow shot forward and landed yards away from the tree.

[A second student focused on the tree and the arrow landed near its roots. He was followed by a third, who saw the bird, and his arrow grazed it.]

Finally it was Arjuna's turn. . . . "What do you see ahead of you?" Drona asked. "I see the eye of the bird," Arjuna replied. "What else do you see, Arjuna?" Drona asked. "Nothing. I only see the round black eye of the bird," Arjuna replied as he released the string. The arrow shot forward with a swoosh. It pierced the center of the eye of the clay bird.

The lesson is, of course, obvious. Arjuna's ability to limit attention to only that which was necessary for the task at hand resulted in his perfect execution of that task. Although all the students were well trained in the "nuts and bolts" of shooting arrows, the legend wants us to see the all-important function of pure concentration. What distinguished Arjuna was his ability to concentrate. We can teach our students all we know about the "nuts and bolts" of any subject; however, unless they can effectively focus on the content and contemplate its meaning and implications (however broadly construed), most of them will have great difficulty hitting the target . . . .

Altobello, *supra* note 19, at 365–66.

29. See Jacobson, *supra* note 2, at 429 (citing Lisa Feldman Barrett et al., *Individual Differences in Working Memory Capacity and Dual-Process Theories of the Mind*, 130 *PSYCHOL. BULL.* 553, 553 (2004); Randall W. Engle, *Working Memory Capacity as Executive*

So how may law students learn to better attend toward what they want? Defining the problem is helpful, as well as the advice to try to minimize distractions and be present more consciously.<sup>30</sup> But while offering useful ideas, even these helpful sources offer limited guidance on how to learn how to pay attention more successfully. Jacobson advises that students attempt to eliminate distractions, or when that proves impossible, to limit the effects of unavoidable distractions by processing information in a way that is easier to recall after an interruption.<sup>31</sup> Hammerness et al., advise, “[l]earning how to meditate is all about learning to pay attention to the present moment and may be one of the best investments you can make.”<sup>32</sup> Hammerness et al., do not, however, elaborate further on how such meditation would help remedy this attention deficit.

Therefore, to learn more specifically how to enhance the capacity for focused attention, we must explore: (1) what is attention and how is it achieved; and (2) can our capacity to pay attention be enhanced, and if so, how?

### III. UNDERSTANDING ATTENTION AS MENTAL ACTIVITY

#### A. Orientation, Then Engagement

From a brain science perspective, the actual process of paying attention is a “remarkably involved task, requiring work from many distinct brain areas.”<sup>33</sup> In a broad sense, attention is “the ability to attend to desired or necessary stimuli and to exclude unwanted or unnecessary stimuli.”<sup>34</sup> This abil-

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*Attention*, 11 CURRENT DIRECTIONS IN PSYCHOL. SCI. 19–23 (2002); Michael J. Kane et al., *A Controlled-Attention View of Working-Memory Capacity*, 130 J. EXPERIMENTAL PSYCHOL. 169, 170–71, 178–81 (2001)).

30. See HAMMERNES ET AL., *supra* note 4, at 90–94. See also Jacobson, *supra* note 2, at 428–30.

31. See Jacobson, *supra* note 2, at 448–54. Jacobson recommends dividing information that must be retained into smaller “goals,” each of which builds upon the other to help the student remember information and complete the ultimate task at hand. *Id.* at 454. Thus, when an unavoidable interruption occurs, a student can recall the cognitive “goals” he or she has already achieved and move along with the task at hand, reducing the time needed to resume working where he or she left off. *Id.* at 454–55. For example, a student trying to ascertain the holding in a case could set smaller goals of identifying the test used by the judge, the elements of that test, and defining legal terms of art; upon interruption, the student could recall the goals he or she already achieved and resume working much more quickly. *Id.* at 455.

32. HAMMERNES ET AL., *supra* note 4, at 94.

33. *Id.* at 73.

34. Jacobson, *supra* note 2, at 421 (citing CHRISTOPHER D. WICKENS & JASON S. MCCARLEY, APPLIED ATTENTION THEORY 2 (2008)). Mihaly Csikszentmihalyi notes:

Concentration requires more effort when it goes against the grain of emotions and motivations. A student who hates math will have a hard time focusing attention on a calculus textbook long enough to absorb the information it contains,

ity to attend to and/or exclude stimuli requires the brain to complete a two-step process, which is commonly referred to as the “attentional process.”<sup>35</sup>

The first step in this process is “to orient to the stimulus, whether it’s the commercial on television, the teacher at the head of the classroom, or the red light flashing in the distance.”<sup>36</sup> During the orientation process, the brain “locks” on to the stimulus and, in a split-second, it identifies the stimulus and all of its characteristics.<sup>37</sup> Below is an illustrative example of the orientation step:

[L]et’s imagine that the light flashing in the distance is the signal from a fire engine, racing down the street. You turn and look in the direction of that sound, as your brain locks in on it. . . . [I]n the blink of an eye, we have identified what the vehicle is, what direction it’s coming from, and its probable purpose.<sup>38</sup>

This example highlights the orientation step, whereby sensory modalities—auditory (hearing), visual (seeing), olfactory (smelling), tactile (touching), and gustatory (tasting)—enable the observer to quickly identify a stimulus.<sup>39</sup> This period of orientation also provides other critical information regarding the stimulus, such as where the stimulus is, why or how it came to be, and if it is pleasurable or dangerous.<sup>40</sup>

The “[n]ext step in the attention process is our engagement with that information.”<sup>41</sup> Using the fire engine example, the observer’s brain first orients to the noise and sight of the truck, and during the engagement step it focuses on the details.

You [might] notice it festooned with ladders and tanks, an impressive complement of modern firefighting equipment. You see the firefighters in their gear; you catch a fleeting glimpse of determined faces under their helmets. You read the lettering on the side of the truck and see which firehouse the engine has been dispatched from and recall that you’ve passed that building. Perhaps you even recall . . . a scene from the day your child’s class visited the local firehouse or something you read in the local paper about the fire department requesting funds for new equip-

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and it will take strong incentives (such as wanting to pass the course) for him to do so. Usually the more difficult a mental task, the harder it is to concentrate on it. But when a person likes what he does and is motivated to do it, focusing the mind becomes effortless even when the objective difficulties are great.

FINDING FLOW, *supra* note 26, at 27.

35. HAMMERNES ET AL., *supra* note 4, at 74.

36. *Id.*

37. *See id.*

38. *See id.*

39. *See id.*

40. *See id.*

41. HAMMERNES ET AL., *supra* note 4, at 74. *See also* Jacobson, *supra* note 2, at 421.

ment. You are now attending to this “stimulus” fully, pulling in and synthesizing bits of information from various parts of the brain. You are homing in on the sound and bringing to it the full and awesome powers of sustained, focused attention.<sup>42</sup> And yet it’s all happening in a matter of seconds.<sup>43</sup>

During this engagement step, you are attending to the fire engine with the “richness and breadth of [many] cognitive resources.”<sup>44</sup> Not only is the brain taking in the particularities of the fire engine currently in front of you, but it is recalling all past information that may relate in any way to fire engines, such as emergencies, loud noises, and bright lights. This process permits your brain to make the decision whether to exert sustained attention to the fire engine or to dismiss it and turn your attention elsewhere.

#### B. The Two Types of Attention: Goal-Directed and Stimulus-Driven

In addition to understanding how attention works, it is also helpful to understand the two different types of attention. These types are goal-directed attention (also known as controlled attention or top-down processing) and stimulus-driven attention (or bottom-up processing).<sup>45</sup> Goal-directed atten-

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42. As Hammerness et al. explain:

In the process of sustaining attention, your brain scans the environment, directing your attention on a certain stimulus, while it continues to process other auditory and visual information. So while your attention rests on one thing (the speaker at the head of the conference table, for example, talking about an important new development at your company), your brain continues to evaluate new information (the rustle of papers to your left, the whispered comment to your right). This extraneous information (or “noise”) is competing for your attention, but the organized brain is able to instantly evaluate and screen out what is not worthy of your attention—to identify the signal through the noise. The sound of the papers and the side conversations are deemed unworthy of greater cognitive effort, but the person who rushes into the meeting saying, “Our CEO has just been led out of the building in handcuffs!” would go right to the top of the “Pay Attention!” list.

The ability to properly handle all the noise from the environment—and to evaluate and prioritize it while not being pulled off the main task at hand—is another basic and important sign of the organized brain.

HAMMERNES ET AL., *supra* note 4, at 16.

43. *Id.* at 74–75.

44. *Id.* at 75.

45. *See id.* at 81. *See also* Jacobson, *supra* note 2, at 429; Timothy J. Buschman & Earl K. Miller, *Top-Down Versus Bottom-Up Control of Attention in the Prefrontal and Posterior Parietal Cortices*, SCIENCE, Mar. 30, 2007, at 1860–62. The 2007 electrophysiological study conducted by Earl K. Miller, professor of neuroscience at the MIT Picower Institute for Learning and Memory, and his postdoctoral fellow, Timothy J. Buschman, helped to establish that we use one part of our brain to remain focused on our goals and another to alert the brain of new or sudden changes in our environment.

tion “involves conscious awareness and requires significant cognitive effort to maintain focus without interruption or interference.”<sup>46</sup> This type of attention is “driven from within, voluntarily by our goals and aspirations . . . [and] is consistent with our own unique life, our specific interests or aims of the moment.”<sup>47</sup> Through goal-oriented attention, we are able to exert cognitive control.<sup>48</sup> This ability allows a person to remain focused on a specific task while faced with competing demands for attention.<sup>49</sup> An example of goal-directed attention is when a student uses mental effort to remain focused on classroom discussion while e-mails and instant messages are popping up on a neighboring student’s computer screen.

On the other hand, stimulus-driven attention is instinctual and automatic.<sup>50</sup> Another part of our brain constantly polls our environment for disturbances and causes our brain to fixate on certain ones.<sup>51</sup> This region of the brain has evolved to notice rapid visual and auditory changes in our environment that may indicate danger or pleasure.<sup>52</sup> For this reason, our attention is grabbed by novel or sudden changes in our surroundings.<sup>53</sup> Our stimulus-driven attention “can be captured by someone yelling fire, a pop-up screen on your computer, a flash of lightning on the horizon or the sound of a power chord on a guitar.”<sup>54</sup> While at times this “information can be life-saving; often, it is innocuous and arbitrary,” serving only as a distraction to the person from the goal at hand.<sup>55</sup> Under optimal conditions, our brains can strike the right balance between attending to our internal goals and the external environment.<sup>56</sup>

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46. Jacobson, *supra* note 2, at 429.

47. HAMMERNES ET AL., *supra* note 4, at 81.

48. *See id.*

49. *See* Jacobson, *supra* note 2, at 429.

When we choose to invest attention in a given task, we say that we have formed an intention, or set a goal for ourselves. How long and how intensely we stick by our goals is a function of motivation. Therefore intentions, goals, and motivations are also manifestation of psychic negentropy. They focus psychic energy, establish priorities, and thus create order in consciousness. Without them mental processes become random, and feelings tend to deteriorate rapidly.

FINDING FLOW, *supra* note 26, at 22.

50. *See* HAMMERNES ET AL., *supra* note 4, at 80.

51. *See* Buschman & Miller, *supra* note 45, at 1860–62.

52. *See* Jacobson, *supra* note 2, at 431–34.

53. *Id.* at 430–31.

54. *See* HAMMERNES ET AL., *supra* note 4, at 81.

55. *See id.*

56. As Hammerness et al. explain:

[T]he brain is remarkable in its ability to manage different and competing modes of attention—some of it goal-directed information, which is consistent with our objectives, and some of it stimulus driven, which may run counter to or even change our goals. The optimal balance may be to maintain and develop atten-

To this end, our goals are key factors in helping us determine what is worthy of our attention and what, in the end, will prove unproductive to attend to. Hammerness et al., explain:

What research is now telling us is that what “hooks” our attention is usually something consistent with our goals. That’s more important than how “loud” or salient the stimulus is. We can process a lot of information about that fire engine, attend to it briefly and then get back on task. But if your cell phone vibrates and you see that it’s your spouse, your boss or your physician, well, you’re cognitively adept enough to block out the sirens and flashing lights and hook your attention to the phone call, the stimulus that really matters to you.<sup>57</sup>

In other words, while part of our brain allows us to remain concentrated on a particular activity, another part continually determines which sensory information in our environment deserves our attention.<sup>58</sup> Consequently, parts of the brain are in constant competition for the same resource: our attention. This is problematic because a person’s cognitive capacity to pay attention is a limited resource.<sup>59</sup> As Hammerness et al., observe, “[d]espite all of the brain’s impressive attention hardware, there is indeed a limit to what it can deal with and for what duration.”<sup>60</sup>

Unfortunately, the “basic unit of attention is very brief,” especially for those with attention deficit disorder.<sup>61</sup> Psychologist William James said that the ordinary mind can stay focused on one thing for only a few seconds.<sup>62</sup> In

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tional goals and to allow oneself to be “captured” by only those stimuli that align with our goal at hand.

*Id.* at 82.

57. *Id.* at 86. Hammerness et al. further elaborate, “[t]he implication here for someone struggling to stay focused is that we need to foster as much goal-directed attention as we can. We need to be more discriminating and not just go chasing every fire engine—no matter how shiny—that comes racing down our street.” *Id.* at 86–87.

58. See Buschman & Miller, *supra* note 45, at 1862.

59. See Jacobson, *supra* note 2, at 435. See also Jan Brogan, *Constant Distractions Can Take a Toll*, THE BOSTON GLOBE, Feb. 27, 2012. Brogan observes that “[t]he brain, like the rest of your body, runs on fuel. Every time you focus your attention, you use glucose and other metabolic resources, draining the supply.” *Id.* “Our brain is like our muscles: when we use it too much, it gets tired and needs a rest. After intense periods of focused attention, no more than ninety minutes, take a brain break—take a few deep breaths or get out of your chair and change scenery. If you’ve been in front of the computer, some gentle stretching or a short walk will do wonders for your body, not to mention your brain.” HAMMERNES ET AL., *supra* note 4, at 91.

60. HAMMERNES ET AL., *supra* note 4, at 79.

61. See *id.*

62. See JAMES, *supra* note 3, at 272. James said, “There is no such thing as voluntary attention sustained for more than a few seconds at a time.” *Id.*

recent years, advanced brain scanning technology has confirmed that “[a] person’s attention is a limited resource.”<sup>63</sup>

So how do we add to the capacity for goal-oriented attention, or what might be called, “intentional attention?”<sup>64</sup> How then can we help law students best direct their attention toward what they want to attend?

#### IV. TRAINING CONCENTRATION AS A RESPONSE TO STIMULUS DIRECTED ATTENTION

In order to be able to respond to the demands of stimulus driven attention, it is important to understand what is involved in concentration as a mental activity. As Ralph Waldo Emerson wrote, “[c]oncentration is the secret of strength in politics, in war, in trade, in short in all management of human affairs.”<sup>65</sup> Within modern cognitive psychology, a consensus has long been established that a number of discrete attention systems exist, each of which performs a distinct function, yet is integrated with the other attention systems.<sup>66</sup> For example, Posner and Petersen defined three primary attention systems—the *orienting* system, the *alerting* system, and the *selective attention* system.<sup>67</sup> Nelson, Haan, and Thomas distinguish between “basic [attention] processes” and “executive functions.”<sup>68</sup> Likewise, Corbetta and Shulman distinguish between goal-directed (“top-down”) or executive attention, discussed above.<sup>69</sup>

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63. Brogan, *supra* note 59.

64. In short, can we train our minds as we might seek to train a wild animal—be it a horse or an elephant, to put the full power of our intellect to work for us as our ancestors domesticated these creatures? Consider the difference between the wild horse and one that responds in order to carry its rider far and fast because it has been properly trained, rather than wander off the intended trail to graze on the nearest patch of grass. William James put it this way: “It is the taking possession by the mind, in clear and vivid form, of one out of what seem several simultaneously possible objects or trains of thought. Focalization, concentration, of consciousness are of its essence. It implies withdrawal from some things in order to deal effectively with others . . .” JAMES, *supra* note 3, at 261.

65. Karen Erger, *Mono-Mania: The Case Against “Multitasking”*, 94 ILL. B.J. 206, 206 (2006) (quoting RALPH WALDO EMERSON, *Power, in THE CONDUCT OF LIFE* (1860). “The mark of a person who is in control of consciousness is the ability to focus attention at will, to be oblivious to distractions, to concentrate for as long as it takes to achieve a goal, and not longer.” CSIKSZENTMIHALYI, *supra* note 3, at 31.

66. See Michael I. Posner & Steven E. Petersen, *The Attention System of the Human Brain*, 13 ANN. REV. NEUROSCIENCE 25, 25–42 (1990) [hereinafter *Attention System*].

67. See *id.* at 27–38.

68. CHARLES A. NELSON, MICHELLE DE HAAN & KATHLEEN M. THOMAS, *NEUROSCIENCE OF COGNITIVE DEVELOPMENT: THE ROLE OF EXPERIENCE AND THE DEVELOPING BRAIN* 154 (2006).

69. See generally Maurizio Corbetta & Gordon L. Shulman, *Control of Goal-Directed and Stimulus-Driven Attention in the Brain*, 3 NATURE REV. NEUROSCIENCE 201, 201–15 (2002).



So as not to confuse these higher cognitive operations with basic attention mental processes, it is helpful to focus first on basic or stimulus-driven attention processes: Posner's triad of alerting or vigilance, orienting or arousal, and sustained attention constitute basic attention processes that are not to be confused with executive control systems.<sup>70</sup>

While the *orienting system* directs attention in the direction of a given stimulus, (e.g. a visual or auditory stimulus), the *alerting system* is the "ability to prepare and sustain alertness to process high priority signals."<sup>71</sup> Being in an alert state is related to sustained arousal. The third basic attention system is the *attentional selection system*. This system is activated when there are competing attention demands and effortful attention is required to select a given target among a number of distracting stimuli.<sup>72</sup> It is this third part—the selective attention system—that is key to concentration as a way of enhancing our capacity to pay attention to what we intend to.

It is possible to illustrate the functioning of the selective attention system with an exercise known as the "Stroop Test." Here, an individual subject is presented with stimulus cards that have a text message, (e.g. a printed text of the word), "red." However, the actual color of the text "red" is green. The test subject, therefore, is faced with a competing attention task and must decide to respond either to the text or the color. Furthermore, the subject must exert additional mental effort to selectively attend to the target text and to resist being distracted by the extraneous color.<sup>73</sup>

Neuroimaging studies have consistently shown that the brain's anterior cingulate cortex ("ACC") is activated whenever effortful, selective attention

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70. Neuroimaging has shown that a fronto-parietal neurocircuitry in the brain is activated whenever an individual disengages from the immediate focus of attention and re-orient attention toward the target stimulus. See Anna Christina Nobre, *Probing the Flexibility of Attentional Orienting in the Human Brain*, in COGNITIVE NEUROSCIENCE OF ATTENTION 158–59 (Michael I. Posner ed., 2004). Moreover, patients showing brain damage in the parietal area are unable to orient toward the intended stimulus. See Michael I. Posner et al., *Effects of Parietal Injury on Covert Orienting of Attention*, 4 J. NEUROSCIENCE 1863, 1863 (1984).

71. See *Attention System*, *supra* note 66, at 35. The traditional way to study sustained alertness in psychology is with vigilance tasks. A vigilance task requires the individual to sustain a state of alert vigilance to a given target without making errors in identifying the target. Neuroimaging studies have shown that alertness is associated with the right cerebral cortex of the brain. *Id.* at 37.

72. John H. Reynolds, *Attention and Contrast Gain Control*, in COGNITIVE NEUROSCIENCE OF ATTENTION, *supra* note 70, at 127, 129.

73. See Eric H. Chudler, *Colors, Colors*, NEUROSCIENCE FOR KIDS, <http://faculty.washington.edu/chudler/words.html> (last visited Nov. 7, 2012). Chudler provides detailed instructions on how to complete an exercise illustrating the Stroop Test, as well as an interactive online version. *Id.*; see also Marty Schwartz, *Day 139: Psychophysics, Qu'est-ce que c'est?*, 1000 WORDS, 1000 DAYS (May 18, 2012), <http://1000words1000days.com/2012/05/day-139-psychophysics-quest-ce-que-cest/>. Illustrations of the Stroop exercise instructions, derived from the work of Chudler and Schwartz on their respective webpages, are provided at the end of this article. See *infra* Appendix 2.

is required.<sup>74</sup> Ample evidence supports the critical role of the ACC selective attention system. The ACC is effectively deactivated in child and adult attention deficit disorder.<sup>75</sup> Ritalin and other stimulants selectively activate the ACC and put it back online, serving as an effective treatment for attention deficit disorder.<sup>76</sup> Hypnosis and concentration meditation (discussed below) selectively activate the ACC, and also serve to improve ACC functioning.<sup>77</sup>

In a way, the ACC is the pivot point of the attention system. It is the place that mediates the attentional choices, acting as the gatekeeper between stimulus driven attention and the higher executive functions, with aspects of both. Thus, part of the purpose of concentration training is enhancing the ACC's capacity to do its job.

At the same time, it is important to be aware of the additional distinction that has been made between selective attention—the basic tool of concentration—and the subsidiary but allied capacity for *facilitation* or *enhancement*.<sup>78</sup> In the context of competing attention demands, *selective attention* entails effortful focus on the target while resisting all distracting stimuli, and *facilitation* entails “improved processing of a single stimulus appear-

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74. See George Bush, Phan Luu, & Michael I. Posner, *Cognitive and Emotional Influences in Anterior Cingulate Cortex*, 4 TRENDS IN COGNITIVE SCIS. 215, 215–16 (2000); Colin M. MacLeod & Penny A. MacDonald, *Interdimensional Interference in the Stroop Effect: Uncovering the Cognitive and Neural Anatomy of Attention*, 4 TRENDS IN COGNITIVE SCIS. 383, 387–88 (2000); Jin Fan et al., *Cognitive and Brain Consequences of Conflict*, 18 NEUROIMAGE 42, 47 (2002); see also Judith M. Shedden, *Performance Monitoring, Self-Regulating, and the Anterior Cingulate Cortex, or Oops . . . I Did it Again*, CONTEMPORARY PROBLEMS PSY720, <http://brain.mcmaster.ca/cp720/> (last visited Nov. 7, 2012) (providing an illustration of the brain, including the ACC). A copy of this visual is included at the end of this article. See *infra* Appendix 3.

75. George Bush et al., *Anterior Cingulate Cortex Dysfunction in Attention-Deficit/Hyperactivity Disorder Revealed by fMRI and the Counting Stroop*, 45 BIOLOGICAL PSYCHIATRY 1542, 1546–50 (1999). See also Nikos Makris et al., *Toward Conceptualizing a Neural Systems-Based Anatomy of Attention-Deficit/Hyperactivity Disorder*, 31 DEV. NEUROSCIENCE 36, 38–41 (2009) (discussing role of ACC in ADHD). See generally Sarah Durston et al., *Magnetic Resonance Imaging of Boys With Attention-Deficit/Hyperactivity Disorder and Their Unaffected Siblings*, 43 J. AM. ACAD. CHILD & ADOLESCENT PSYCHIATRY 332, 332–40 (2004) (discussing effects of ADHD on brain).

76. See Chandan J. Vaidya et al., *Selective Effects of Methylphenidate in Attention Deficit Hyperactivity Disorder: A Functional Magnetic Resonance Study*, 95 PROCEEDINGS NAT'L ACAD. SCI. USA 14494, 14494 (1998). While stimulant medication has been shown to be effective in the treatment of children with attention deficit/hyperactivity disorder, regular maintenance of children on stimulant medication is not without controversy. *Id.*

77. See Amir Raz, *Atypical Attention: Hypnosis and Conflict Reduction*, in COGNITIVE NEUROSCIENCE OF ATTENTION, *supra* note 70, at 420–26.

78. See Reynolds, *supra* note 72, at 128. See also Michael I. Posner, Charles R. R. Snyder & Brian J. Davidson, *Attention and the Detection of Signals*, 109 J. EXPERIMENTAL PSYCHOL. 160, 160–74 (1980).

ing alone at an attended location.”<sup>79</sup> Thus, to distinguish the two mental processes, facilitation is an additional enhanced type of concentration involving additional effort to engage and process the single target of focus once the extraneous, distracting stimuli have been eliminated and selective attention has been successfully focused on the target stimulus or object of concentration. In other words, successful concentration involves both choosing and attending to the object of attention and then becoming more engaged with it, using first the selective attention and then the facilitation function of our brains. How to help this mental process develop is explored in more detail below.

Another important, but distinct, attention system pertains to the ability to sustain awareness continuously to whatever the moment-by-moment experience may be. This continuous awareness is sometimes referred to as “mindfulness.”<sup>80</sup>

The opposite of *continuous awareness*, or mindfulness, is task-switching, which implies discontinuous awareness.<sup>81</sup> This condition is often

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79. Reynolds, *supra* note 72, at 128 (citations omitted). Neuroimaging studies have implicated the brain’s lateral geniculate nucleus (LGN) and extrastriate cortex in the facilitation or enhancement of the target stimulus. *Id.* at 129.

80. For this purpose, “mindfulness” refers to continuous nonreactive awareness meditation, though the term has been used to describe contemplative practice, which can include some concentration meditation. *See infra* Part V (discussing “Burmese Mindfulness”). *See generally* JON KABAT-ZINN, *FULL CATASTROPHE LIVING: USING THE WISDOM OF YOUR BODY AND MIND TO FACE STRESS, PAIN, AND ILLNESS* (1990) (providing a description of mindfulness meditation). With respect to the neurocircuitry of mindfulness, it entails sustaining awareness continuously, and also being aware of moment-to-moment shifts in the stimulus-field. Both of these functions implicate the right inferior parietal lobe as playing a central role in mindfulness. *See* Victoria Singh-Curry & Masud Husain, *The Functional Role of the Inferior Parietal Lobe in the Dorsal and Ventral Stream Dichotomy*, 47 *NEUROPSYCHOLOGIA* 1434, 1437–38 (2009); Linda Rueckert & Jordan Grafman, *Sustained Attention Deficit in Patients with Right Frontal Lesions*, 34 *NEUROPSYCHOLOGIA* 953, 960 (1996).

81. Neuroimaging has shown that the dorsolateralprefrontal cortex (DLPFC) and the posterior parietal cortex, among other areas, are implicated in task switching. *See* Steven W. Keele & Robert Rafal, *Deficits in Task Set in Patients with Left Prefrontal Cortex Lesions*, in *CONTROL OF COGNITIVE PROCESSES: ATTENTION AND PERFORMANCE XVIII* (Stephen Monell & Jon Driver eds., 2000); Myeong-Ho Sohn et al., *The Role of Prefrontal Cortex and Posterior Parietal Cortex in Task Switching*, 97 *PROCEEDINGS NAT’L ACAD. SCI. USA* 13448, 13448 (2000); Anja Dove et al., *Prefrontal Cortex Activation in Task Switching: An Event-Related fMRI Study*, 9 *COGNITIVE BRAIN RES.* 103, 108 (2000); *see also* Daniel Y. Kimberg et al., *Modulation of Task-Related Neural Activity in Task-Switching: An fMRI Study*, 10 *COGNITIVE BRAIN RES.* 189, 192–93 (2000). Additionally, lesions in the DLPFC impair the ability to switch tasks. *See* NELSON ET AL., *supra* note 68, at 156. Conversely, the ability to switch to whatever is occurring in the current moment, moment-by-moment, is hypothesized to be associated with DLPFC and posterior parietal activation. The inferior parietal lobe (IPL) has been implicated in the emergence of awareness of moment-by-moment experience. *See* J.G. Taylor, *The Central Role of the Parietal Lobes in Consciousness*, 10 *CONSCIOUSNESS & COGNITION* 379, 401–02 (2001).

tested by asking an individual subject to listen to two different streams of spoken words—one in one ear and a second in the other ear. The result is that an individual listening to the messages has a difficult time dividing his or her attention.<sup>82</sup> In contemporary culture, we pride ourselves on the ability to multi-task, but, in fact, these and other studies indicate that multi-tasking produces an illusion of productivity, whereas the interference effect, like listening to dual different streams of music, makes us less mentally efficient, not more.<sup>83</sup>

There are additional important attention systems to be aware of. *Span of apprehension* pertains to the amount of information processed at a given point in time.<sup>84</sup> A narrow span of apprehension entails just listening to the voice of the instructor during a lecture. A broad span of apprehension entails listening to the instructor's voice, being aware of the other students in the room, and being aware of the broad context of the location and wider universe within which the lecture is occurring. Also, the *ability to switch perspectives*, from one perspective to another, as in the case of empathy, or to switch from more localized to global awareness, or vice-versa, is another important attention skill.<sup>85</sup>

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82. See Neville Moray, *Attention in Dichotic Listening: Affective Cues and the Influence of Instructions*, 11 Q. J. EXPERIMENTAL PSYCHOL. 56, 60 (1959); E. Colin Cherry, *Some Experiments on the Recognition of Speech, with One and with Two Ears*, 25 J. ACOUSTICAL SOC'Y AM. 975, 977–78 (1953).

83. "People think of multi-tasking as equally dividing up their attention across tasks with equal potency. Rather it is scattering attention and weakening it." Brogan, *supra* note 59, at 2. Research has mainly shown that multi-tasking leads to significant deficits in performance. See René Marois & Jason Ivanoff, *Capacity Limits of Information Processing in the Brain*, 9 TRENDS COGNITIVE SCI. 296, 296 (2005); Harold Pashler, *Dual-Task Interferences in Simple Tasks: Data and Theory*, 116 PSYCHOL. BULL. 220, 220 (1994). Extensive attentional training, however, can improve performance in multi-tasking. See generally Paul E. Dux et al., *Training Improves Multitasking Performance by Increasing the Speed of Information Processing in Human Prefrontal Cortex*, 63 NEURON 127 (2009); Eric H. Schumacher et al., *Virtually Perfect Time Sharing in Dual-Task Performance: Uncorking the Central Cognitive Bottleneck*, 12 PSYCHOL. SCI. 101 (2001).

84. See George Sperling, *The Information Available in Brief Visual Presentations*, 74 PSYCHOL. MONOGRAPHS 1, 5 (1960).

85. Neuroimaging studies have consistently implicated certain areas within the parietal systems of the brain to be associated with span of apprehension and perspective switching. For a review, see Perrine Ruby & Jean Decety, *What You Believe Versus What You Think They Believe: A Neuroimaging Study of Conceptual Perspective-Taking*, 17 EUR. J. NEUROSCIENCE 2475, 2476–79 (2003); Kai Vogeley & Gereon R. Fink, *Neural Correlates of the First-Person-Perspective*, 7 TRENDS COGNITIVE SCI. 38, 40 (2003); J.T. Coull & C.D. Frith, *Differential Activation of Right Superior Parietal Cortex and Intraparietal Sulcus by Spatial and Non-spatial Attention*, 8 NEUROIMAGE, 176, 184–85 (1998). For a discussion of the central role of the parietal system defining the span of awareness, see Taylor, *supra* note 81.

All these aspects of attention are important to develop. But because the neural roads among them all appear to pass through the ACC, enhancing its capacity through concentration training is the first task for enhancing the ability of law students (or others involved in complex tasks like lawyers and judges) to pay attention successfully to what they want to attend.

#### V. UNDERSTANDING THE DISTINCTION BETWEEN TRAINING CONCENTRATION AND TRAINING AWARENESS

As indicated above, in responding to the problem of distraction, Hammerness et al., advise, “[l]earning how to meditate is all about learning to pay attention to the present moment and may be one of the best investments you can make.”<sup>86</sup> Here, it is important to understand that, as a way of enhancing the capacity to pay attention, not all meditations are alike.

Our sense is that most of the focus has been on meditation in general as worthwhile without an understanding of the brain science behind it, as well as an understanding of the full richness of practices drawn largely from the eastern contemplative traditions. These traditions have developed a series of helpful meditative practices over centuries that are now beginning to be understood and valued by western psychology. Here, it is also important to understand the distinction between using meditation to train concentration and the practice of using it to train moment-to-moment awareness. Both are important, but because concentration is important as a foundational mental skill, it is worth clarifying how concentration compares to the skill of continuous awareness, as well as how it differs from meditation to induce the “relaxation response.”

The “relaxation response” is an important contribution by Dr. Herbert Benson and his colleagues at what is now the Benson-Henry Institute for Mind-Body Medicine at the Massachusetts General Hospital. Dr. Benson, a cardiologist, knew of the pioneering work done at the Harvard Medical School on the “fight or flight response,” where the body responds to perceived threats to organize its systems for survival. He and his colleagues began to inquire if it was possible to reverse those effects, especially in modern society where threats are less life-threatening but still stressful—from verbal arguments to road rage—which cause the body to stay in a continuous state of arousal to the point of mental and physical distress. By studying experienced meditators, Dr. Benson found that simply sitting quietly and meditating on the breath—bringing attention back when the mind wanders—could elicit a “relaxation response,” and reverse some of the harmful effects of stress by activity of the mind alone. The purpose, however, was not to train the mind to be more attentive, but to aid its recovery from illness

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86. HAMMERNES ET AL., *supra* note 4, at 94.

or even everyday stressful situations, and help people to relax.<sup>87</sup> This was and is an important achievement, and deserves recognition for its value and contribution to personal health and well-being.<sup>88</sup>

A related but distinct kind of meditation, also drawing on eastern contemplative traditions, known as “mindfulness meditation,” has become increasingly popular. Like concentration meditation, discussed below, mindfulness meditation can produce some of the therapeutic effects of the relaxation response as a byproduct.<sup>89</sup> A related and widely studied variant of the relaxation response and basic mindfulness is Mindfulness Based Stress Reduction (MBSR).<sup>90</sup> While there are other purposes, its primary objective is

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87. Mission and History, Benson Henry Institute for Mind Body Medicine, MASSACHUSETTS GENERAL HOSPITAL, <http://www.bensonhenryinstitute.org/about/mission-and-history> (last visited July 25, 2014):

In the very room at Harvard Medical School where Walter B. Cannon had discovered the body’s “fight or flight” response 50 years earlier, Dr. Benson and Robert Keith Wallace discovered its opposite.

Specifically, they found that meditation reduced metabolism, rate of breathing, heart rate, and brain activity. Dr. Benson labeled these changes the “relaxation response.” The relaxation response is the foundation of Mind Body Medicine as practiced at the BHI.

*Id.*

88. Indeed, co-author Baker was first introduced to this subject through one of Dr. Benson’s colleagues, Dr. Ann Webster, who taught him the technique incident to recovering from an illness. At invitation, she has come to Suffolk University Law School to help explain stress management to students sometimes feeling overwhelmed by the law school experience. In this regard, while stress management is not the explicit purpose of the concentration practices described below, attention training may help those cognitive aspects of the mind, such as the inability to sustain interest and engagement with the environment that can lead to depression. *See generally* Jonathan S. A. Carriere et al., *Everyday Attention Lapses and Memory Failures: The Affective Consequences of Mindlessness*, 17 CONSCIOUSNESS & COGNITION 835, 843–44 (2008). Carriere et al. state that “our findings suggest attention training might eliminate a major source of affective dysfunction in general, and thereby lead to a reduction in other depressive symptoms that are dependent on everyday cognitive failures.” *Id.* at 844.

89. Benson Henry Institute, *supra* note 87.

Through further study, Dr. Benson found that the necessary two basic steps to elicit the relaxation response are: the repetition of a sound, word, phrase prayer, or movement, and the passive setting aside of intruding thoughts and returning to the repetition. This can be done using any number of meditative techniques, such as diaphragmatic breathing, repetitive prayer, qi gong, tai chi, yoga, progressive muscle relaxation, jogging, even knitting.

*Id.*

90. This is the term applied to a course of contemplative study and associated practices, originated by Jon Kabat-Zinn, and taught at the University of Massachusetts Medical School. *See* KABAT-ZINN, *supra* note 80. *See also* Center for Mindfulness, UNIVERSITY OF MASSACHUSETTS MEDICAL SCHOOL, <http://www.umassmed.edu/cfm/stress/index.aspx> (last visited Feb. 2, 2013), which will be the subject of a study entitled “Developing and Testing a Mindfulness-Based Intervention To Ease Stress, Improve Performance, and Forestall Negative Mental Health Changes In First Year Law Students,” to be conducted at the University of

to help an individual's continuous non-reactive awareness, moment-to-moment.<sup>91</sup> Some western psychologists refer to this continuous awareness training as *open monitoring meditation*, defined as "attentive moment-by-moment to anything that occurs in experience without focusing on any explicit object."<sup>92</sup> To reach this state, the practitioner "gradually reduces the focus on an explicit object . . . and the monitoring faculty is correspondingly emphasized. . . . [T]here is also increasing emphasis on cultivating a 'reflexive' awareness . . . [and] monitoring awareness continues until no explicit focus is maintained . . . ."<sup>93</sup> In this type of pure mindfulness practice there is no concept of distraction. Whatever occurs next is the next object of mindfulness. Emphasis is given to developing continuous awareness free of lapses.<sup>94</sup> Lutz et al., predict that since pure awareness meditation "involves no explicit attentional focus, it does not rely on brain regions involved in sustaining or engaging attention onto a specific object, but on brain regions

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91. See KABAT-ZINN, *supra* note 80, at XXIX. Examples of pure awareness meditations include Krishnamurti's choiceless awareness, just sitting style of Zen, and Burmese mindfulness. *Id.* See also generally HENEPOLA GUNARATANA MAHATHERA, *MINDFULNESS IN PLAIN ENGLISH* 38–42 (1990).

92. Antoine Lutz et al., *Attention Regulation and Monitoring in Meditation*, 12 *TRENDS COGNITIVE SCI.* 163, 164 (2008).

93. *Id.*

94. Several cognitive studies have shown differences in the capacity of mindfulness meditators to discriminate mental events occurring in a temporal sequence. For normal non-meditating subjects, if two stimulus events are presented successively but with a very short inter-stimulus interval, say fifty milliseconds, the subject typically "sees" only one stimulus event. This is known as the perceptual summation effect in that both discrete events are collapsed together at short inter-stimulus intervals. Co-author Brown showed that practitioners of Burmese-style mindfulness meditation showed a significant improvement in the capacity to detect successive blips of light presented at threshold when pre and post measures were taken over a three-month meditation retreat. See Daniel Brown, *Mastery of the Mind East and West: Excellence in Being and Doing and Everyday Happiness*, 1172 *ANNALS N.Y. ACAD. SCI.* 231, 243–49 (2009). Similarly, Slagter et al. found three months of intensive mindfulness resulted in a significantly reduced "attentional blink" when two targets were presented very rapidly. See Heleen A. Slagter et al., *Mental Training Affects Distribution of Limited Brain Resources*, 5 *PLOS BIOLOGY* 1228, 1228–30 (2007). Moreover, van Leewen, Muller, and Melloni also conducted an attentional blink study on a group of mixed meditators, most of whom practiced intensive concentration meditation (either in the Tibetan or Japanese Zen tradition). In the study, the performance of older meditators was compared to age-matched non-meditators and younger meditators. The older meditators showed a significant reduction in attention blink compared to both age-matched non-meditators and younger meditators. All these studies consistently show the capacity to discriminate events accurately at very short inter-stimulus intervals. See generally Sara van Leeuwen et al., *Age Effects on Attentional Blink Performance in Meditation*, 18 *CONSCIOUSNESS & COGNITION* 593 (2009).

implicated in monitoring, vigilance, and disengaging attention from stimuli . . . .<sup>95</sup>

There is a third kind of practice, the purpose of which is the explicit enhancement of the ability to pay attention by developing the capacity to concentrate. This practice is better known as *concentration meditation*. Like both the relaxation response and mindfulness meditation, *concentration meditation* practice also draws on insights from the eastern contemplative traditions because that is where the practices on which it is based were developed.

*Concentration meditation* entails selective and sustained focus on a single concentration object, and resistance to becoming distracted by any other experience than the concentration object.<sup>96</sup> Attention is selectively directed and either sustained on the target concentration object or it yields to some sort of distraction—either thought, emotion, or sensory experience. The goal of concentration meditation is to stay continuously and completely

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95. See Lutz et al., *supra* note 92, at 165. Farb et al. conducted a functional MRI neuroimaging study on Burmese style mindfulness meditators compared to a control group wherein subjects were encouraged to repeatedly think and make conceptual distinctions between words pertaining to various personality traits. Neuroimaging results demonstrated that control subjects activated the default neurocircuitry associated with mental wandering (left fronto-parietal circuit) during the narrative task, whereas mindfulness meditators activated the dorsolateral prefrontal area, normally associated with monitoring, the inferior parietal system, normally associated with maintaining awareness on whatever comes next, and the insular and secondary somato-sensory cortex, normally associated with dominant processing somato-sensory in contrast to narrative experience. Norman A.S. Farb et al., *Attending to the Present: Mindfulness Meditation Reveals Distinct Neural Modes of Self-Reference*, 2 SOC. COGNITIVE & AFFECTIVE NEUROSCIENCE 313, 317–20 (2007).

There is a growing body of evidence indicating that the main region of neurocircuitry involved in pure awareness meditations is the posterior cingulate cortex (PCC). See Judson A. Brewer & Kathleen A. Garrison, *The Posterior Cingulate Cortex as a Plausible Mechanistic Target of Meditation: Findings From Neuroimaging*, 1307 ANNALS N.Y. ACAD. SCI. 19 (2014); Judson A. Brewer et al., *Meditation Experience is Associated With Differences in Default Mode Network Activity and Connectivity*, 108 PROCEEDINGS NAT'L ACAD. SCI. USA 20254 (2011); Kathleen A. Garrison et al., *Effortless Awareness: Using Real Time Neurofeedback to Investigate Correlates of Posterior Cingulate Cortex Activity in Meditators' Self Report*, 7 FRONTIERS HUM. NEUROSCIENCE 1 (2013); Giuseppe Pagnoni, *Dynamical Properties of BOLD Activity From the Ventral Posteromedial Cortex Associated with Meditation and Attentional Skills*, 32 J. NEUROSCIENCE 5242 (2012). Traditionally, the PCC is activated in tasks that require error monitoring or discriminating between events of different categories, like discriminating between a memory and fantasy, or between inner speech and external perception. See Brewer & Garrison, *supra*, at 21. Thus, PCC deactivation would be expected to result in a condition of non-discrimination between unfolding experiences (i.e. genuinely “choiceless” awareness). See *id.*

96. One aspect that makes this practice much more difficult for many law teachers and students is that we often pride ourselves on how busy we are. Then, when we find the rare opportunity to be alone with our thoughts, we tend to get fascinated by them rather than staying focused on the concentration object, in turn requiring special effort.



on the concentration object without yielding to distraction.<sup>97</sup> It also minimizes the distraction of background noise, mostly thought, helping produce what has been called the “calm” of “calm abiding.”<sup>98</sup>

Some Western cognitive psychologists have preserved the traditional distinction between concentration and awareness meditation. Lutz, et al., define “focused attention meditation” (what we call concentration) as “the ability to focus and sustain attention.”<sup>99</sup> It entails four components: (1) Focusing “*selective attention* moment by moment on a chosen object;” (2) *Sustaining* that focus by “constantly monitor[ing] the quality of attention;” (3) *Detecting* and “recogniz[ing] the wandering and then restor[ing] attention to the chosen object;” and (4) *Disengagement* or “‘releas[ing]’ this distraction, and return[ing] to the intended object.”<sup>100</sup> Lutz, et al., show that specific neural systems are associated with each of concentration and awareness meditation.<sup>101</sup>

This distinction is important because no concept of distraction in awareness meditation currently exists. The goal of awareness meditation is to train continuous awareness; whatever occurs next in consciousness is the next object of continuous awareness. On the other hand, the goal of training attention through concentration is to stay focused continuously and completely on the selected object of concentration while resisting any distraction.<sup>102</sup> Continuity of awareness and concentration, therefore, represent separate but related skills in contemplative practice using meditation.

As with this modern psychological classification, in the classic tradition of one of the longest standing eastern contemplative traditions, Indo-

97. DANIEL P. BROWN, POINTING OUT THE GREAT WAY: THE STAGES OF MEDITATION IN THE MAHAMUDRA TRADITION 186 (2006). *See also generally* GEDUN GEDÜN LODRÖ, CALM ABIDING AND SPECIAL INSIGHT: ACHIEVING SPIRITUAL TRANSFORMATION THROUGH MEDITATION (Jeffrey Hopkins ed., 1998). Examples of pure concentration meditation include: Asanga’s *Nine Stages of the Mind Staying, discussed in* LODRÖ, *supra*; and Patanjali’s *Yogasutras* as found in RAMAMURTI S. MISHRA, YOGA SUTRAS: THE TEXTBOOK OF YOGA PSYCHOLOGY (1973). *See also* Brown, *supra* note 94.

98. *See generally* LODRÖ, *supra* note 97.

99. Lutz et al., *supra* note 92, at 163–64.

100. *Id.* at 164. Lutz et al. predict that the practice of concentration meditation should be associated with the activation of three brain areas: the cingulate cortex, namely the area of the brain activated during attention that entails competing attention demands and activated in the monitoring of errors; the dorsolateral prefrontal cortex (DLPFC), namely the area of the brain activated during detection and monitoring of distraction; and the fronto-parietal system, activated in sustaining attention. *Id.* at 165.

101. *See id.* at 163–64. Other Western researchers have also appreciated that Burmese mindfulness entails a number of components and subcomponents that make it difficult to separate out distinct attention systems. *See* Britta K. Hölzel et al., *How Does Mindfulness Meditation Work? Proposing Mechanisms of Action From a Conceptual and Neural Perspective*, 6 PERSP. ON PSYCHOL. SCI. 537, 539–41 (2011).

102. *See* DANIEL GOLEMAN, THE VARIETIES OF THE MEDITATIVE EXPERIENCE, 7–20 (1977).

Tibetan Mahayana Buddhism, concentration and awareness training are kept distinct. Also, unlike other forms of meditation, this tradition emphasizes progressive levels of concentration skill. For example, one of these traditional practices, Asanpha's *Nine Stages of Staying*—commonly referred to as “the elephant path” and discussed in more detail below—is the generally accepted system for training concentration.<sup>103</sup> The reference to the elephant acknowledges that the mind has untrained strength and intelligence, and the path is the set of practices that progressively “tame” the elephant and put it to work for the practitioner. On the other hand, Shantideva's *mindfulness* is the generally accepted system for training continuous awareness or mindfulness.<sup>104</sup> A practitioner typically trains in both concentration and mindfulness. While each skill reinforces the other, both concentration and mindfulness are viewed as very distinct skills.

Lutz et al. add that brain activity is likely to be different in beginner and expert concentration meditators because the ability to sustain concentration on the target concentration object gets easier and easier with practice and distraction becomes less and less of a problem.<sup>105</sup> One reason for this disparity is that the brain itself appears responsive to the training by growing

103. The Tibetan translation is “*sems gnad dgu*.”

104. The Tibetan translation is “*dren pa*.” See MARION L. MATICS, *ENTERING THE PATH OF ENLIGHTENMENT: THE BODHICARYĀVATĀRA OF THE BUDDHIST POET ŚĀNTIDEVA* (1970).

105. See Lutz et al., *supra* note 92, at 165–67. See generally MATICS, *supra* note 104. Because pure concentration meditation has not been as popular in the West compared with mindfulness meditation, there are few cognitive neuroimaging studies of pure concentration. MacLean et al. investigated practitioners of Asanpha's Indo-Tibetan concentration meditation (approximately 5 hours/day concentration for 3 months) who performed a sustained vigilance task requiring the meditator to pick out a target, which randomly appeared on a screen. This vigilance task lasted 30 minutes. Whereas the control subjects typically show a progressive decrement in sustained vigilance task, the concentration meditators did the opposite. They showed a significant increase in the ability to sustain vigilant attention and discriminate the target relative to the control subject. There has been only one functional neuroimaging study on Indo-Tibetan concentration. See Katherine A. MacLean et al., *Intensive Meditation Training Improves Perceptual Discrimination and Sustained Attention*, 21 *PSYCHOL. SCI.* 829 (2010).

Additionally, Brefczynski-Lewis et al. conducted a functional MRI neuroimaging study on age-matched novice western and expert Tibetan practitioners of pure concentration following the Asanpha tradition. The results showed that novice, as compared to expert, concentrators significantly activated the left medial frontal ACC, and right insula areas. These findings are consistent with the tasks of effortful selective attention to the concentration target in the face of competing attention demands (ACC activation), monitoring and disengaging distraction (frontal activation), and increased awareness of bodily felt experience while concentrating (right insula activation). Expert as compared to novice concentrators activated a wide range of brain areas. Notably, dorsolateralprefrontal cortical (DLPFC) was activated, which suggests that deep concentration has become a type of executive skill for advanced concentration. J.A. Brefczynski-Lewis et al., *Neural Correlates of Attentional Expertise in Long-term Meditation Practitioners*, 104 *PROCEEDINGS NAT'L ACAD. SCI. USA* 11483 (2007).

additional physical capacity.<sup>106</sup> This physical response to mental activity exemplifies the current thinking within neurobiology about neuroplasticity. The human brain is no longer seen as a static organ. Different brain regions grow and shrink in size, and new matter develops, depending on usage.<sup>107</sup> For example, Tang et al., investigated the effects of a traditional form of Chinese concentration meditation as compared to a relaxation control group.<sup>108</sup> As predicted, concentration meditation was associated with significant activation of the ACC.<sup>109</sup> Furthermore, eleven hours of concentration training resulted in significantly increased white matter in the corona radiata, a white matter tract that connects the ACC to a variety of other brain regions.<sup>110</sup> In one study, an eight week training in mindfulness meditation appeared to result in increased gray matter in the area of the brain responsible for memory retrieval, though other practices, besides meditation, were also involved, such as yoga and body scan, which may have contributed to the outcome.<sup>111</sup> Another study, however, examined a group of focused attention meditators whose practice cycled from mind-wandering, to an awareness of the wandering, and then a resulting shift back to focus on the intended concentration object.<sup>112</sup> The authors concluded the following: “[t]he present results add to growing evidence that the amount of time an individual spends practicing meditation is associated with activity and connectivity changes in the brain, particularly in attentional regions.”<sup>113</sup> These structural brain changes are consistent with the idea that expertise in concentration means that concentration gets easier.

While both concentration and awareness meditative practices involve training some aspects of attention, the traditional distinction between pure concentration and pure awareness meditation has been blurred by the spread of a combined approach, originating in Burma, best known as mindfulness meditation, initially discussed above.<sup>114</sup> Burmese mindfulness is a hybrid

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106. See Yi-Yuan Tang et al., *Short-Term Meditation Induces White Matter Changes in the Anterior Cingulate*, 107 PROCEEDINGS NAT'L ACAD. SCI. USA 15649 (2010); Britta K. Hölzel et al., *Mindfulness Practice Leads to Increases in Regional Brain Gray Matter Density*, 191 PSYCHIATRY RES. 36 (2011).

107. Psychologist Rick Hanson has noted that because “[w]hat flows through your mind sculpts your brain. Thus you can use your mind to change your brain for the better . . . .” RICK HANSON & RICHARD MENDIUS, *BUDDHA'S BRAIN: THE PRACTICAL NEUROSCIENCE OF HAPPINESS, LOVE & WISDOM* 6 (2009).

108. See Tang et al., *supra* note 106, at 15649.

109. See *id.* at 15650–51.

110. *Id.*

111. See Hölzel et al., *supra* note 106.

112. *Id.*

113. Wendy Hasenkamp & Lawrence W. Barsalou, *Effects of Meditation Experience on Functional Connectivity of Distributed Brain Networks*, 6 FRONTIERS HUM. NEUROSCIENCE, art. 38, 9 (2012).

114. See *supra* notes 89–95 and accompanying text.

system that combines concentration and awareness practices. Mahasi Sayadaw, with whom co-author Brown studied extensively, founded Burmese mindfulness around a century ago. Sayadaw assumed that instructing practitioners to be aware of everything continuously moment-by-moment was too difficult. Therefore, he developed a system that trained practitioners to first develop some degree of concentration by focusing on the rising and falling of the breath to stabilize concentration and to reduce thought activity, before training continuous awareness or “mindfulness.”<sup>115</sup>

Second, Mahasi Sayadaw adopted the use of labels to assist practitioners to become mindful of what they are experiencing. After stabilizing concentration, the practitioner is instructed to use the label “thinking” whenever a thought occurs but not to reflect on the content of the thought, to use the label “sensing” whenever a body sensation occurs but not to reflect on the specific content of the body sensation, to use the label “feeling” whenever an emotion occurs but not to reflect on the content of the emotion, to use the label “seeing” whenever an act of visual perception occurs but not to reflect on the specific thing seen, and to use the label “hearing” whenever a sound occurs but not to reflect on the specific type of sound.<sup>116</sup> In this manner, the practitioner uses the labels to approximate relatively continuous awareness of whatever occurs, moment-by-moment. It is important to understand, however, that Burmese mindfulness, now extremely popular in the West, is a hybrid system that mixes two distinct skills—concentration and continuous awareness. The more Burmese mindfulness gains popularity in the West, the more an appreciation that training concentration and awareness as separate skills becomes obscured. Because Burmese mindfulness is a hybrid system that entails both concentration and awareness training, it is not surprising that neuroimaging shows brain activation in areas expected of both selective attention/concentration and open monitoring.<sup>117</sup>

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115. MAHASI SAYADAW, PRACTICAL VIPASSANA EXERCISES, 5–6.

116. *Id.* at 6–8.

117. According to Hölzel et al., there are “distinct components” and “subcomponents” of mindfulness, each with a unique pattern of brain activity, making it difficult to separate out distinct attention systems with functional MRI investigation. See Britta K. Hölzel et al., *How Does Mindfulness Meditation Work? Proposing Mechanisms of Action From a Conceptual and Neural Perspective*, 6 PERSP. ON PSYCHOL. SCI. 537, 539–52 (2011). Some studies have attempted to show differences in the performance of cognitive tasks in concentration and mindfulness meditators. Valentine and Sweet tested the relative performance of both types of meditators on a counting task. Both groups of meditators, along with a non-meditating control group, were required to sustain attention to count the number of randomly presented auditory beeps over a given time period. Both groups performed significantly better than control subjects but there were no significant differences in accuracy between concentration and mindfulness meditators. Mindfulness meditators performed better when the stimulus was unexpected. Long-term meditators in both groups showed superior performance compared to less experienced meditators. See Elizabeth R. Valentine & Philip L. G. Sweet, *Meditation and Attention: A Comparison of the Effects of Concentrative and Mindfulness Meditation on*

Understanding the distinction does not detract from the importance of mindfulness practice to lawyers in general and legal education in particular. Some law professors, such as Professor Leonard Riskin, have done some pioneering work in helping students (and co-author Baker) learn about mindfulness.<sup>118</sup> This work culminated in a recent symposium on mindfulness in a 2012 edition of the *Journal of Legal Education* with a number of articles on contemplative practices and their value for legal education, including a conference on the subject.<sup>119</sup> The American Bar Association has begun to pay attention to attention as well, most recently offering an online Continuing Legal Education mini-course, “The Mindful Mediator: Moving Mountains With the Breath.”<sup>120</sup>

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*Sustained Attention*, 2 MENTAL HEALTH, RELIGION & CULTURE 59 (1999). In one of the first evaluations of the relationship between mindfulness training and attentional subsystems, Jha, Krompinger, and Baime tested two groups of meditators, practitioners of mindfulness and practitioners of Indo-Tibetan concentration, compared to non-meditating controls. The cognitive task required subjects to sustain attention on a central fixation point while simultaneously determining whether the center arrow pointed left or right, while the central target was flanked by four arrows in different directions. This complex task entails alerting, orienting, and selective attention in the face of competing attentional demands. Mindfulness meditators showed significant increases in orienting while concentration meditators showed significant increases in alerting. Concentrators as compared to mindfulness meditators showed initial significant differences in selective attention and monitoring of distraction, but these effects were not apparent over the course of the meditation retreats (presumably because Burmese-style mindfulness also entails concentration training). Jha et al., however, caution that their findings are only preliminary. See Amishi P. Jha, Jason Krompinger & Michael J. Baime, *Mindfulness Training Modifies Subsystems of Attention*, 7 COGNITIVE, AFFECTIVE & BEHAV. NEUROSCIENCE 109, 115–17 (2007). Van den Hurk et al. replicated the finding of improved attentional orienting in advanced mindfulness meditators as compared to demographically matched controls. See Paul A. M. van den Hurk et al., *Greater Efficiency in Attentional Processing Related to Mindfulness Meditation*, 63 Q. J. EXPERIMENTAL PSYCHOL. 1168 (2010).

118. Co-author Baker was privileged to take a course on the subject with Professor Leonard Riskin and Rachel Wohl in June of 2011 at the Straus Institute for Dispute Resolution at Pepperdine Law School, Malibu, CA.

119. Leonard L. Riskin, *Awareness and the Legal Profession: An Introduction to the Mindful Lawyer Symposium*, 61 J. LEGAL EDUC. 634 (2012) (introducing articles reporting on some of the learning from a 2010 Mindful Lawyer Conference, which include Charles Halpern, *The Mindful Lawyer: Why Contemporary Lawyers are Practicing Meditation*, 61 J. LEGAL EDUC. 641; Angela P. Harris, *Toward Lawyering as Peacemakers: A Seminar on Mindfulness, Morality, and Professional Identity*, 61 J. LEGAL EDUC. 647 (2012); David M. Zlotnick, *Integrating Mindfulness Theory and Practice into Trial Advocacy*, 61 J. LEGAL EDUC. 654 (2012); Katherine Larkin-Wong, *A Newbie’s Impression: One Student’s Mindfulness Lessons*, 61 J. LEGAL EDUC. 665 (2012); and Richard C. Reuben, *Bringing Mindfulness Into the Classroom: A Personal Journey*, 61 J. LEGAL EDUC. 674 (2012)). A workshop on Mindfulness in Legal Education occurred in June, 2013, hosted by the Berkeley Initiative for Mindfulness in Law. See Workshop on Mindfulness in Legal Education, Berkeley Initiative for Mindfulness in Law, UC BERKELEY SCHOOL OF LAW, <http://www.law.berkeley.edu/14864.htm> (last visited on July 23, 2014).

120. The email announcing the teleconference said as follows:

While it is important to honor this path-finding work, these contemplative practices often include a concentration component, as indicated earlier, but do not focus specifically on the foundational skill of concentration *per se*. It is important, therefore, to add to that significant body of teaching and scholarship some additional background and methods for enhancing concentration itself as a way to help law students learn how to pay attention more successfully.

#### VI. THE PRACTICE OF PURE CONCENTRATION MEDITATION

Our own approach favors emphasis on pure concentration training as the foundation for attention skill development. This training draws on the Indo-Tibetan Buddhist tradition because it has developed as a lineage tradition with literally thousands of written texts examining all aspects of practice for well over 1500 years. At the outset it is important to note that while this tradition is derived from Buddhism, the practices here described and informed by scientific studies, can be understood as helpful, independent of their origin, just as Dr. Herbert Benson has said that repetitive prayer has benefits for the relaxation response independent of its religious origins.<sup>121</sup>

Before examining pure concentration meditation in detail, it is important to clarify that the practice is designed specifically to enhance the capacity for having the mind stay calmly on what is intended. This sounds extraordinarily simple, but in fact it is a mental challenge worthy of study

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The Mindful Mediator: Moving Mountains with the Breath. May 8, 2012: "In mediation, parties can become stuck on principles and positions. When this occurs two things tend to follow. First, it becomes more difficult to guide them toward resolution. And second, it becomes more likely that each party will engage in communication and conduct that furthers their intractable stance. In short order, the parties can find the other seemingly immovable. They rise up like mountains, steadfast and impenetrable. As this happens, reaching resolution can seem as daunting as attempting a steep mountain climb. "Moving Mountains with the Breath" is a metaphor for the ways in which mindfulness practices can enhance one's skills at mediation and other forms of dispute resolution—areas where you may find yourself bumping up against seemingly immovable objects. In this presentation, participants will be given an introductory overview of mindfulness along with the underlying neuroscience that supports much of its application, both in terms of personal insight and professional development. Moderator: Joan Stearns Johnsen, Visiting Assistant Clinical Professor, Albany Law School, Albany, NY; Speaker: Scott L. Rogers, Founder/Director, Mindfulness in Law Program, University of Miami School of Law, Miami, FL.

E-mail from ABA Section of Dispute Resolution to co-author Baker (May 7, 2012, 4:30 EST) (on file with author).

121. See Benson Henry Institute, *supra* note 87. At the same time, this Indo-Tibetan tradition also has a strong ethical component. Some of these insights may also make other aspects of it helpful for law students and lawyers, but that is the subject for another article for another day.

and practice, just as degrees of skill in a martial art, sport, or music, where understanding, diligence, and durable enthusiasm are required. Like physical exercise, however, even early stage work can provide rewards well worth the effort.

In the Indo-Tibetan tradition, as indicated above, the most detailed and most widely practiced system for concentration meditation is Asanga's *Nine Stages of Staying*.<sup>122</sup> The main goal of this concentration practice is to stay continuously and completely focused on the concentration object.<sup>123</sup> As the title implies, the emphasis of concentration meditation is, over time, *staying* continuously and completely at any given moment in time on the concentration object.<sup>124</sup> It makes little difference whether the concentration object is an external visual object, e.g. a stone or a candle flame, an external sound like the sound of a river, or an internally generated sound like a mantra or the breath.<sup>125</sup> The essential point is to stay on the concentration object continuously and completely, whatever the concentration object may be.

As discussed below, concentration practice relies explicitly on several aspects of the mind that other contemplative practices may or may not use, and most often without the same emphasis, which makes it important to clarify how it differs and how it works. The three keys are as follows: (1) consciously directing attention; (2) using one's metacognitive intelligence to assess and reassess how the practice is going, and making mid-course corrections along the way as needed; and perhaps most important; and (3) the capacity to engage the concentration object ever more intensely—called intensifying—so as to add a deepening dimension to the earlier directing process.

At the outset, note that there are many discussions about the choice of a concentration object to match the personality of the meditator.<sup>126</sup> For people who strongly identify with thought processes (like lawyers and law students), meditation on the breath is recommended because it is sensory.<sup>127</sup>

122. See generally LODRÖ, *supra* note 97. See also TSONG-KHA-PA, THE GREAT TREATISE ON THE STAGES OF THE PATH TO ENLIGHTENMENT 3 (Lamrim Chenmo Translation Committee, trans., Joshua W.C. Cutler & Guy Newland eds., 2000).

123. See LODRÖ, *supra* note 97. See also TSONG-KHA-PA, *supra* note 122.

124. The Tibetan translation is “*gnas ba*.”

125. Moviegoers may recall a celebrated scene of Woody Allen's *Annie Hall* where a distressed character in the movie called 911 because he had forgotten his secret meditation mantra. ANNIE HALL (Metro-Goldwyn-Mayer 1977). The object of concentration is not as important as choosing one and practicing regularly with it.

126. See BHADANTĀCARIYA BUDDHAGHOSA, THE PATH OF PURIFICATION: A CLASSIC TEXT IN BUDDHIST PSYCHOLOGY 1–2 (Buddhist Publication Society ed., Bhikkhu Ñāṇamoli trans., online ed., 2011).

127. See TSONG-KHA-PA, *supra* note 122. See also Van M. Pounds, *Promoting Truthfulness in Negotiation: A Mindful Approach*, 40 WILLAMETTE L. REV. 181, 201–02 (2004) (explaining breath is preferred concentration object in Vipassana meditation).

Again, while many contemplative traditions use a sensory-based object like the breath as an object of meditation, how it is used here is what makes a difference for developing the specific skill of engaged attention. With that initial background, developing attention through concentration practice within meditation entails three specific skills. The first is called *directing* the mind toward the concentration object.<sup>128</sup> We like to think of training concentration as being analogous to learning to drive a car. When you first get behind the wheel, turn on the ignition, start the car and the car begins to move the crucial initial skill is learning to steer the car. Directing means steering one's attention repeatedly toward the concentration object. Whenever the mind wanders, repeatedly steer it back.<sup>129</sup> Learning to drive a car involves growing accustomed to continually using the steering wheel so that the car stays on the road. Likewise, initial concentration entails repeatedly directing or steering attention to the concentration object and then trying to sustain concentration. It is advisable to think of initial concentration training in terms of movement—either there is the repeated, intentional movement of directed attention toward the concentration object, or there is the spontaneous movement of distraction, typically toward thought or sensory experience.

The process of directing attention in Indo-Tibetan concentration entails all three of the main attention systems described by Posner and others. It entails orienting toward the concentration object, sustaining vigilant alertness on the target concentration object, and selectively focusing on the target concentration object while resisting all distraction by competing attention demands. The goal is twofold: to sustain concentration on the target object for longer and longer duration and for distractions to occur less and less frequently. This state is called continuous staying.

Once attention is directed towards the concentration object, the Asangha system of concentration entails an additional skill called *intensifying*.<sup>130</sup> According to the tradition, intensifying requires sustained effort to stay more closely engaged with the concentration object. As a consequence of intensifying, concentration remains so busily engaged with the concentration object that distraction is greatly reduced, followed by progressive enhancement of perception of finer and finer details of the concentration object. In the Asangha system, intensifying is the key ingredient of rapid, deep concentration. Intensifying is unique to the Asangha Indo-Tibetan system. It is not found in Burmese mindfulness, many forms of Zen, or Transcendental Med-

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128. The Tibetan translation is “*bsam gtan*.”

129. See Pounds, *supra* note 127. Pounds explains that the breath is ever-present and thus ideal as the sense means to reconnect the practitioner to the “now” should the mind wander during meditation. *Id.*

130. The Tibetan translation is “*sgrim pa*.”



itation. The Asangha system, therefore, presents a unique approach for training concentration quickly and deeply because of its emphasis on the practice of intensifying. Once distraction has been somewhat eliminated, intensifying is neurologically analogous to facilitation and enhancement of selective attention. Using our car analogy, intensifying is like learning to use the accelerator, which requires adding more fuel or effort to move the car in a sustained, focused manner along the road. According to the tradition, intensifying is defined in terms of staying more closely on the target concentration object. That is to say, intensifying involves engaging the concentration object more fully in such a way that more of the details about the concentration object become clearer, and in such a way that attention is so fully engaged on the concentration object that there is little occasion to become distracted by thought or sense experience. Intensifying is like holding the reins of a horse tighter so that the horse has little play to wander off the trail to find something to eat. Likewise, by intensifying attention, the focus of attention is held tighter upon the concentration object, like a short leash, so that there is little possibility of wandering off the object.

At the same time, it is important to recognize that initially this practice may be especially difficult for law students and lawyers because of a natural pride in their having developed the capacity for reasoned analysis. There is something specifically challenging about being asked to turn aside from often intriguing problems or trains of thought to focus on something seemingly as relatively uninteresting as one's breathing.<sup>131</sup> As lawyers, we are deeply involved in words, and thoughts about words, beginning in law school with reading and discussing judicial opinions, statutes, or regulations, with those held in highest esteem which demonstrate well-reasoned analysis. While this form of mental activity is necessary for understanding and using the law, it is relatively slow. For example, co-author Brown found that using a high-speed instrument, a tachistoscope, under standard luminance conditions, it takes from 500-2000 milliseconds for thoughts to arise and be useful. A second level of mental activity is directed attention, which works at about 200 milliseconds, about twice the speed of the fastest thought. But

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131. This situation has been co-author Baker's initial experience, though regular practice is helpful. In that regard, it is also worth noting that some aspects of concentration practice may initially be easier for some than others, simply because of how different people are energized and how they prefer to take in information and then make decisions about it. Awareness of these preferences, however, can be helpful to learning concentration practice itself. See generally R. Lisle Baker, *Using Insights About Perception and Judgment from the Myers-Briggs Type Indicator Instrument as an Aid to Mediation*, 9 HARV. NEGOT. L. REV. 115 (2004). The article analyzes how samples of the general public, lawyers, judges, and mediators compare in how they prefer to gain information and make decisions about it, and how mediator understanding of those different cognitive preferences can be an aid to the mediation of disputes. *Id.*

there is a third level, the intention of pure awareness, which is as fast as testing equipment can measure, less than ten milliseconds.

To understand this level of thinking, it is useful to consider major league baseball players who must be aware of the ball's likely location so quickly that, without thinking, their brains send signals to their bodies to move the bat to precisely the right place at the right time with the right force to hit it out to fans in the stands.<sup>132</sup> Law students are not baseball players, but they can benefit from some of the insights that baseball provides about how the mind works because it is through accessing this third level of mental activity—the intention of pure awareness—that the second level—directed attention—can be enhanced. Also, the use of metacognitive intelligence can help enhance self-awareness in general, aiding the ability to respond, rather than just react, to challenging situations as they arise. Achieving these results, however, requires practice, just as it does in baseball. It is, therefore, not enough to know what to do, but to be able, and willing, to do it again and again.<sup>133</sup>

#### VII. THE PROGRESSIVE DEVELOPMENT OF CONCENTRATION MEDITATION

According to the Indo-Tibetan theory of mind, so-called “mental events”<sup>134</sup> start as simple events and become more and more “elaborated” thoughts along a continuum of thought elaboration.<sup>135</sup> First, all mental events are said to begin as very quick bursts of energy or light, called mind-moments. These bursts are constructed into fleeting thoughts, wherein the practitioner knows thinking is occurring but the content is so rudimentary that it is rarely recognized. Fleeting thoughts become elaborated into specific thoughts, wherein the practitioner recognizes both that thinking is occurring as well as recognizes the specific content of the thought. Specific thoughts become elaborated as associations, such as a succession of thoughts loosely associated with each other. Associations become elaborated into reverie states and daydreams.

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132. It is not just batters who have to be aware. Chicago Cubs shortstop Starlin Castro was held out of the starting lineup for not paying attention in the field as a pitch was thrown. See Huff Post Sports, *Starlin Castro, Chicago Cubs Shortstop, Benched for Not Paying Attention During Game*, THE HUFFINGTON POST, (Aug. 22, 2011, 10:22 PM), [http://www.huffingtonpost.com/2011/08/22/starlin-castro-cubs-benched-slacking-off-espn\\_n\\_933682.html](http://www.huffingtonpost.com/2011/08/22/starlin-castro-cubs-benched-slacking-off-espn_n_933682.html) (last visited on February 11, 2013).

133. To this end, consider the following encouraging finding about our neural functioning: “the importance—and effectiveness—of training, of brute practice, is overwhelmingly clear. . . . What was previously taxing will have become more natural, more habitual, more effortless; in other words, easier.” MARIA KONNIKOVA, *MASTERMIND: HOW TO THINK LIKE SHERLOCK HOLMES* 72 (2013).

134. The Tibetan translation is “*sems 'byung*.”

135. The Tibetan translation is “*spros ba*.”

Mind-moments are considered the “head,” and daydreams the “tail” of the thought elaboration continuum. The further along the continuum, from head to tail, the more complex the thought product, the more attentive awareness declines.

### The Continuum of Thought Elaboration

Thought “tail”

Thought “head”

Elaborated daydreams	Chain of associated thoughts	Specific recognizable thoughts	Fleeting, barely recognizable thoughts	Unelaborated mind moments
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More elaborated thought

Less elaborated thought

That is why, when we are in a normal waking state, we get “lost” in complex daydreams. Concentration meditation reverses the normal waking tendency toward thought elaboration in general, and in particular, getting lost in daydreams and extraneous thoughts. Essentially, the greater the skill in concentration, the lesser the frequency and magnitude of thought elaboration. Thus, skilled concentrators experience longer episodes of “stillness” and shorter episodes of “thought movement.”<sup>136</sup> Additionally, the episodes of thought show a distinct shift away from tail-end thought products, like daydreams and associations, toward short-duration, specific thoughts, and fleeting thought, many of which are associated with keeping meditation on track.<sup>137</sup> The Indo-Tibetan term for concentration is called *staying-calming* meditation.<sup>138</sup> It is a compound term consisting of two parts, “calming”<sup>139</sup> and “staying.”<sup>140</sup> It means that the mind’s attention progressively “stays” continuously and completely on the concentration object, while the frequency and magnitude of background thought elaboration becomes progressively “calm.”

Skilled concentration is marked both in terms of the duration that concentration is sustained (“continuous staying”) and the degree to which thought elaboration is diminished both in terms of frequency and magnitude (“calming”). A good initial benchmark of progress is defined by staying on the concentration object for over fifty percent of the meditation session, and excellent concentration in terms of staying on the concentration object for eighty to one hundred percent of the session. Once the practitioner gets

136. The Tibetan translation is “*mi gyo ba*.”

137. See LODRÖ, *supra* note 97, at 82–83.

138. The Tibetan translation is “*zhi gnas*.”

139. The Tibetan translation is “*zhi ba*.”

140. The Tibetan translation is “*gnas ba*.”

within this range, he or she is likely to become aware of much more background noise. There is a tendency to misinterpret awareness of this background noise as a sign of deterioration of concentration. That is incorrect. Rather, the skilled practitioner through metacognitive monitoring has sensitized awareness to detect engagement in the background noise that has occurred all along. This phenomenon is called “patchy” or “partial staying.”<sup>141</sup>

Take for example concentration on the rising and falling of the breath. Unskilled meditators direct attention to an aspect of the rising breath, and then while the rising breath continues, the meditator unwittingly resumes engagement in the background noise of thought and sensory experience. The same “patchy” response occurs for the falling breath. In terms of apportioning attention, the meditator is likely to have apportioned twenty percent of his or her attention to the rising, then falling breath, and eighty percent to the background noise. The unskilled practitioner may develop a false confidence, for, technically, he or she has selectively attended to each rising and falling breath without missing any. The problem here is partial staying, a type of divided attention. The goal at this stage of concentration is to develop *complete staying*, which occurs when at any given point in time the meditator is staying one hundred percent on the concentration object. Developing complete staying is usually accompanied by a remarkable decrease in the frequency and magnitude of thought elaboration, so much so that it rarely interferes with meditation thereafter.

Once continuous staying has been developed, two strategies are used to train complete staying. First, the practitioner can increase the overall degree of intensifying. Second, the practitioner can break the concentration object into more and more areas to keep track of, so that he or she remains so busily engaged in all of the parts of the concentration object that there is little occasion to become distracted.<sup>142</sup>

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141. The Tibetan translation is “*gnas cha*.” In talking about the “patchy” practice of Buddhist dharma, the Dalai Lama has stressed, which is true with any learning exercise, that when “your approach . . . is patchy, . . . then similarly the results that you will gain from such approaches will also be patchy. It wouldn’t have the comprehensiveness that you would otherwise have . . . .” DALAI LAMA, *THE DALAI LAMA IN AMERICA: LIVE FROM THE BEACON THEATER: TRAINING THE MIND* (Simon & Schuster 1999).

142. The meditator will likely struggle with episodes of drowsiness or agitation as progress in concentration develops. Both drowsiness and agitation share a common feature. Both are extremes of arousal wherein the rope of attending fails to stay on the concentration object. Consider the task of trying to dock a sailboat. On a calm day it is easy to maneuver the boat to the dock and tie the rope securely to the cleat. However, when the sea is rough the boat bounces around, making it difficult to locate the cleat. Likewise, the agitated mind is said to bounce around so much that the rope of attending doesn’t stay on the concentration object. Yet, if the sea is very calm there is a tendency to become lax in securing the rope to the cleat, so that even the smallest of currents keeps pulling the rope from the cleat. Likewise, for the drowsy mind the rope of attending is said to keep slipping from the object. See LODRÖ, *supra* note 97, at 77–82. In the Indo-Tibetan tradition there are many remedies for drowsiness and

There are nine stages to concentration in the Asangha system.<sup>143</sup> This review has covered the first four stages. To summarize, in the first stage the meditator spends less than fifty percent of the session staying on the concentration object. In the second stage the meditator develops relatively continuous staying (fifty to one-hundred percent) of the session on the concentration object. In the third stage, complete staying is mastered and the background noise of extraneous thought becomes remarkably calm. At the fourth stage energy imbalances are mastered and the meditator has developed balanced and sustainable energy in order to concentrate for longer durations without discomfort.

Full mastery of the advanced stages (stages five through nine), is said to make the mind serviceable.<sup>144</sup> At the ninth stage, serviceable means that with no more than the simple intention to focus, attention remains fully sustained on the object of focus for as long as intended, even hours, with no extraneous thought elaboration, and no reactivity.<sup>145</sup> Intention is said to be a property of pure awareness that is much quicker than thought and even much quicker than directed attention.<sup>146</sup> In this type of expertise in deep concentration, intention is like a laser light that shines in a penetrating way without any interference by any extraneous stimuli. This kind of advanced training, however, goes beyond anything practical or necessary for busy law students, attorneys, or judges, because mastery of the first four stages results in continuous and complete staying on the object of concentration with very rare distractions by extraneous thought. These four stages are relatively easy to learn in a reasonable period of time with regular and sustained practice.

#### VIII. PRACTICAL APPLICATIONS OF CONCENTRATION TRAINING

To see how concentration practice might help law students, beginning during the 2011–12 academic year, under the oversight of co-author Dr. Brown, students in co-author Baker's classes at Suffolk University Law

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agitation. The most common practice to remedy drowsiness is to remain focused on the concentration object in the foreground and imagine that such concentration is taking place against a backdrop of an infinite vast expanse of space filled with light. The meditator holds the backdrop long enough to notice the energy level elevating to an optimal level before discontinuing the backdrop and focusing fully on the concentration object again. For agitation, the backdrop consists of the dark and still space closely contracted around the meditator. The practitioner holds the backdrop until all agitation subsides, discontinues imaging the contracted, close dark space, and continues to concentrate fully on the concentration object. The advantage of these visualizations is that the meditator never has to depart from the concentration object to remedy agitation or drowsiness. See *id.* at 72.

143. See LODRÓ, *supra* note 97, at 70–90.

144. See TSONG-KHA-PA, *supra* note 122.

145. See *id.*

146. See *id.*

School have been exposed to the importance of paying attention as a basic professional skill. This exposure has involved recommended regular practice, two versions of which are described in the Appendix, for accomplishing it.<sup>147</sup> The basic tool is to build the capacity for attending through training focused concentration.

The purpose of these controlled concentration training exercises is to strengthen the capacity of the mind to stay attentive to the intended object without distraction. It sounds simple, but it requires controlled conditions for practice and development, much like achieving skill in sports or in playing an instrument. It is especially true for law students who have been socialized and taught that the path to success is reasoned analysis. Paradoxically, they, like co-author Baker, have to learn to set thoughts aside temporarily to increase their ability to think more clearly when they want to do so.

The concentration practice itself involves four inter-related activities of the mind.<sup>148</sup> The first is to choose an object of concentration to which the mind can attend.<sup>149</sup> Due to the fact that many distractions for lawyers come from their having been trained in “thinking like a lawyer,” it is especially helpful to choose an object of concentration, which is distinct from thought. The felt sense of the body, as distinct from its surroundings, provides a good foundation of a static object. From here, attention can then be focused on the movement of breathing, a more dynamic target or object of concentration.

Once the object of concentration has been chosen, the second activity is to consciously steer the mind’s attention to the object, and when it wanders, steer it back.<sup>150</sup> The third activity is to become more closely engaged or interested in the object, which helps minimize the wandering of the mind.<sup>151</sup> The fourth is to develop the capacity to be aware of when the mind wanders, so that it can be brought back more quickly to the intended object of concentration. This is known as the exercise of metacognition.<sup>152</sup> It is this process that requires the kind of awareness, rather than thought, to be swift enough to maintain a focus.

It is important to recognize that the level of practice undertaken here is the early stages, and is no substitute for more formal training; consistent and regular practice is needed. Learning to concentrate requires step-by-step development outlined above in order to develop a full and deep capacity to concentrate on and pay attention to what is intended. On the other hand, it is encouraging to report some enhancement in student life. One student in co-

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147. *See infra* Appendix 1.

148. *Id.*

149. *Id.*

150. *Id.*

151. *Id.*

152. *Id.*

author Baker's mediation class reported his experience with regular practice during the course, called an "attending exercise," this way:

[S]ince conducting my attending exercises, I have experienced a significant ability to focus my thoughts, live in the moment (now), and be extremely alert and engaged in conversations at work, home and school. Specifically, I have noticed a keen ability to harness my thoughts so that my mind is focused and that my mind does not wander.<sup>153</sup>

While the practice of calm staying focuses on concentration, it also had the collateral effect on several students of helping them stay calm. One such student reported, "[t]hese concentration exercises have a positive impact on my life. I feel more relaxed in the mornings and alert during the day."<sup>154</sup>

A second student said, "I use the concentration exercises to calm myself down during hard or difficult times of the day/week."<sup>155</sup> Finally, a third student reported:

I have found that this time has really been a sanctuary for me. It helps me to manage my anxiety levels . . . to calm my nerves and enhance my performance when I use it amidst doing work. . . . Recently I have been working on trial prep for a pending trial in district court and I use it when I feel overwhelmed or nervous about the possibility of going to trial.

...

This weekend I took the MPRE [Massachusetts Professional Responsibility Examination]. . . . When I woke up in the morning I was tired and stressed, but I had a little bit of time to do some concentration work. . . . This really helped me focus and relieve my mind from what the task ahead was. Obviously, while taking the test I felt some pressure, but this

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153. The student further reported:

For example, in meetings at work when a colleague or speaker may be talking a lot and there is a general tendency of others to allow thoughts to wander, I have been able to listen attentively and capture what the speaker is saying, while others tune out and miss the message and the direction of the conversation. In meetings, I am able to listen attentively and actively participate in conversations. I often affirm what I hear others are saying which the speaker(s) and others in the meeting sincerely appreciate . . . . In addition, my attending exercises have helped me experience a new calm in my life. Even though I have completed your class, I faithfully schedule regular attending exercises, normally in the morning. Doing so, helps me start the day refreshed and with a calm sense of self and an equilibrium that I had not experienced prior to conducting my attending exercises.

E-mail from Henry J. DiGiacomo, Student, Suffolk University Law School, to co-author Baker (May 23, 2012, 18:00 EST) (on file with co-author Baker).

154. Law Practice Planning Class Journal of Nicole Alfon, Student, Suffolk University Law School, Fall 2012 (on file with co-author Baker).

155. Law Practice Planning Class Journal of Michael Brown, Student, Suffolk University Law School, Fall 2012 (on file with co-author Baker).

allowed me to calm myself before arriving at the test center. It contributed to an overall feeling of ease and tranquility in the midst of the exam.<sup>156</sup>

Aside from reported student experience, a recent study compared three groups in a controlled comparison on how well they could perform differing tasks: one group given an eight week training in meditation, a second in relaxation, and a third group given neither. The first group was instructed primarily in focused attention meditation, which is a simple form of the concentration meditation here described. The first group performed better than the other two in terms of time on task, though there were other benefits from relaxation. The study authors wrote the following:

We found that those in the meditation group . . . showed greater time on task and a reduced number of task-switches post-training as compared with pre-training. This appears to be an implicit effect of the meditation training, since participants were never explicitly instructed during meditation training to shift their attention less often. . . .

[F]ocused attention . . . training appears to strengthen one's ability to notice interruptions without necessarily relinquishing one's current task.<sup>157</sup>

Moreover, as law students consistently report not having enough time to do what they need to do, the only way they can expand the time available is to make the best use of what they have. Here, fifteen to twenty minutes a day should save far more time lost to distraction.

Making the mind serviceable through deep concentration does not, however, eliminate useful thought activity. For example, co-author Brown taught a course on concentration practice for Massachusetts Superior Court judges. Halfway through concentration training, one judge raised his hand and expressed a concern. He said, "I rarely get enough time to write my findings on cases so I have to compose them in my mind while I am shaving and brushing my teeth. If there is no thought elaboration I won't be able to write my findings." Co-author Brown promised him that he would re-visit his question at the end of the course once most of the group had attained some proficiency in concentration. Then, as the last exercise, co-author Brown invited the judges to engage in a directed thought exercise. He asked each judge to think about a case privately that entailed composing findings. He asked the judges to use the full laser-like quality of a concentrated mind

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156. Law Practice Planning Class Journal of Scott Zanoli, Student, Suffolk University Law School, Fall 2012 (on file with co-author Baker).

157. David M. Levy et al., *The Effects of Mindfulness Meditation Training on Multitasking in a High-Stress Information Environment*, GRAPHICS INTERFACE CONFERENCE 45, 50 (Toronto, Canada May 28–30, 2012). (The authors are grateful to Maria Konnikova for providing a copy of this study.).



to compose the findings in their minds, and to directly experience what it is like to engage in directed thinking without either the activity of any extraneous thought or reactivity. In this way, the judges could discover in their own experience the benefit to thinking and writing that comes from being able to bring to the task a fully concentrated and serviceable mind. Thought elaboration is greatly diminished during deep concentration, unless the goal of a fully concentrated mind is directed thought, in which case directed thought is much clearer than ordinary thinking precisely because all the extraneous thought and background chatter has become calm. In effect, while already skilled in legal analysis, the judges were also beginning to substitute goal directed attention for stimulus-driven attention, allowing them to work both more efficiently and effectively with the limited time at hand.

Finally, it is important not to view concentration as a skill in a moral vacuum any more than one would view a skill in a martial art. Concentration is a foundational aspect for what has been called a “flow” experience, where the task is difficult enough to be challenging but not so difficult as to be overwhelming.<sup>158</sup> And when meaning is added to flow, it becomes “vital engagement,” a foundation for not just occasional episodes of peak performance, but mastery in everyday life.<sup>159</sup> This is the subject for another day, but important to raise because the engagement law students can gain in learning how to pay attention, together with the legal skills they already learn, are necessary but not sufficient to constitute what Dr. Howard Gardner calls “Good Work.”<sup>160</sup> The third element he cites is ethics. To the extent that law schools seek to help students learn positive virtues, as well as the Code of Professional Conduct, and principles of justice as well as law, the engagement they gain in learning how to pay attention through concentration practice can help them find in their legal careers all three aspects of the ethics, excellence, and engagement cited by Dr. Gardner as constituting “Good Work.”<sup>161</sup>

## IX. CONCLUSION

We therefore suggest that developing the skill of attending has important benefits for learning, memorizing, and writing by law students, as well as attorneys and judges. In short, while the purpose for which law students and lawyers use their minds matters ethically, as a matter of vital engagement, a fully concentrated and serviceable mind is available for a varie-

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158. See CSIKSZENTMIHALYI, *supra* note 3, at 33.

159. See Nakamura & Csikszentmihalyi, *supra* note 3, at 86–87; Brown, *supra* note 94, at 239–49.

160. See *supra* Part II (discussing importance of attentional control, including note 11).

161. *Id.*

ty of attentional uses. Our hope is that training law students' ability to concentrate will increase their capacity for clearer and more focused attention. The result, we hope, is to enable them to achieve more positive results as both law students and future lawyers, and in significantly less time than they would otherwise require with an untrained mind, which is so often distracted from the task at hand.

## APPENDIX I

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**Setting the Stage for Paying Attention and Two Attending Practices**

## A. Setting the Stage for Paying Attention.

Paying attention is not easy, so there are some things you can do to enhance your chances of success.

1. So how do you find the time to be concentrated? You practice, just as you practiced scales in learning an instrument. First, test your personal capacity for focused attention. Then, the duration of the session is as long as you can maintain good quality of concentration. Generally, short repeated good quality sessions are better than one longer session characterized by a good deal of distracting thought or sleepiness. Remember, the goal is to train alert, concentrated attention, not to train thought or dullness.

2. Commit the time. When he was in law practice, then attorney Louis Brandeis used to go to Chatham for a month's vacation in August. When he was asked how he could take so much time off from his work, he said that he "can get twelve month's work done in eleven months, but not in twelve."<sup>162</sup> If you can expand the time you actually are doing something rather than you are distracted from doing something, it is like adding time to your day.

3. Condition the environment. That's why students are asked not to use laptops or other electronic devices, including cell phones, since they are distracting both to the user and those around him or her. Also, concentrating takes safe space; make sure you feel secure. (Buddha apparently received his insights with his back protected by a Bodhi tree.)<sup>163</sup>

4. Prepare your body to help your brain. The three-pound brain has more connections than there are stars in the Milky Way, so it uses twenty percent of the energy of the body just to keep it going. That means eating regularly with a balanced diet so that your brain as well as your body gets the nutrition it needs.

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162. Melvin Urofsky, *The Life of Louis Brandeis*, AMERICAN UNIVERSITY (Dec. 8, 2009), <http://www.american.edu/americanoday/campus-news/20091208-dershowitz-brandeis-urofsky.cfm> (last visited on February 2, 2013).

163. See Wisdom-Tree.com, *The Bodhi Tree—A Buddhist Spiritual Practice Based on the Buddha's Night of Liberation*, THE BODHI TREE MEDITATION (Last updated 2007), <http://www.wisdom-tree.com/index.html> (explaining Buddha received insights while sitting under a Bodhi tree and providing steps for Bodhi tree meditation practice).

5. Get enough exercise to make sure your body processes oxygen efficiently and you have the core muscle strength to support the spine without aid.

6. Get enough sleep. Sleep goes through phases and you need to get enough deep sleep, as well as initial rest. Your mind cannot work well if you are sleepy, as anyone who has tried to take an examination after cramming all night can attest.

7. Avoid multi-tasking. Studies have shown that moving from one task to another requires switching energies and each task takes longer than they would have sequentially. (An exception is those physical activities that are almost on automatic pilot, like breathing or walking, where you can use your brain efficiently.)

8. Sit so you can pay attention, though not “at attention” in a military sense. Learning how to pay attention is not the same thing as relaxing, or even inducing “the relaxation response,” though it may be a byproduct. If you sit up straight, so that your head is over your spine, and allow the muscles of the trunk and arms to be engaged by holding your hands up above your navel, it causes an even distribution and output of muscle work, even if you are sitting still. That constant output of muscle work has been shown to guarantee an optimal level of alertness to support the practice and reduce spontaneous wandering thought activity. Good posture helps you attend to what you want to.

9. What object should you practice concentrating on? The best concentration object is something that it is not mental itself—focus instead on a sensory-based concentration object. First, become aware of your body. Once you are aware of it, you can focus on the movement or felt-sense of the rising and falling of your breathing, returning to the focus to the felt-sense of the body as a whole in between breaths. When you find you are distracted, bring your attention back to your sense of your body, and then your breathing.

10. Below are more explicit instructions in two attending practice exercises.

#### B. Attending Practice: Exercise One.

Each of you has the capacity to do well or you would not be in law school. At the same time, as you know, legal education—not to mention, law practice—can be personally challenging, regardless of your level of substantive understanding. Part of your legal skill is your ability and willingness to be prepared, besides reading, writing, and speaking. An additional level of preparation involves learning how to manage the stresses you encounter, as well as enhancing your capacity to concentrate on what you want with limited distraction. The understanding from the literature is that

we perform best when we are under moderate stress; enough to be engaging, but not so much that it becomes distress and distracting by itself. Enhancing your capacity to avoid distress and to focus on the task at hand can be part of your preparation to complement, though not substitute for, your substantive understanding.

Therefore, it is important to learn some stress and concentration management techniques. There is one in particular which involves enhancing your ability to pay attention and avoid distraction so that you can enhance your capacity to respond to challenging assignments with the full power of your intellect. Here is a simple exercise to get started:

First, get into a comfortable but alert posture, with your spine and neck relatively straight, and lift the upper trunk so it does not slump forward to prevent sleepiness. Close your eyes more than half-way, enough so that light still comes in but all objects in the visual field begin to fade. (Enabling enough light to enter, but not focusing on anything in particular within your field of vision; closing your eyes fully can cause you to get sleepy.) Then, begin by paying attention to what is sometimes called the “felt sense” of the body in the posture you have chosen. When you can isolate and pay attention to how your body as-a-whole feels, that will help provide a base object of concentration. Then, as your attention is interrupted by thoughts or sensations, gently redirect your attention repeatedly, like steering a car, to being aware of that felt bodily sense.

As you get more settled, you can then begin to notice the rising and falling of your breathing, so that you can attend to the felt-sense and movement of your in-breath, your out-breath, and the felt sense of your body-as-a-whole during the interval in between the full cycle of breaths. Again, when your attention wanders from the concentration object, recognize when it has done so and then direct your attention like a steering wheel, over and over, back to the object of your concentration—in this case, the rising and falling of your breathing and the felt sense of the body-as-a-whole in between. It is this continual redirection that strengthens your capacity to attend to the object of concentration. With practice, you will notice more and more quickly when your attention has been distracted elsewhere. That in turn will enable you to refocus your attention on the concentration object more and more rapidly, as well as to stay calmly on the chosen object of concentration for longer and longer periods of time. The primary goal of concentration is extending the duration of staying focused on the object of concentration, free of distraction to thought or sense experience. This is called “continuous staying.” Try to maintain an optimal level of alertness, free of the extremes of becoming sleepy or agitated.

The practice should also help you manage daily stress by creating an island of peace in the middle of a distracting and often anxiety-producing environment.

Try it for as long as you feel you can—five minutes is a good start, then work up to about fifteen minutes. It may seem difficult to appear to be doing nothing when you have so much to do. Experience shows, however, that regular practice gains you more time than you lose. To get the most out of this practice, try doing it daily, just as you would do exercise, which is a good idea in itself. Good luck!

### C. Developing Concentration Skill: Advanced Attending Practice.

Once you train yourself to redirect your attention repeatedly away from distracting thought or sense experience and toward the concentration object, time and time again, you should begin to experience improvements in your ability to concentrate. Specifically, the cumulative effects of repeatedly steering attention are that: (1) attention stays concentrated for longer and longer duration on the concentration object; and (2) there will be a decrease in the frequency and magnitude of thought elaboration and other distractions. A realistic initial goal of concentration training is to stay on the concentration object for more than 50% of the meditation session.

Skill in concentration is greatly enhanced by learning to intensify on the concentration object. Once you have gained the ability to direct or steer your attention toward the concentration object, increase the effort to stay much more closely engaged with the object. For example, direct your attention to the movement and felt-sense of the rising breath. Then, rather than becoming idle while the rising breath continues, put the effort into engaging the entire movement of the rising breath as closely and carefully as possible. Intensifying requires such close engagement with the concentration object, so busily engaged with all of the details of the concentration object, that there is little occasion for becoming distracted elsewhere.

As a way of understanding this element of the practice, consider writing the letter “A” on a piece of paper about 4 inches high in thick print and using this letter as a concentration object. Hold the paper with the letter at arms’ length and try to maintain concentration on the target letter “A.” It is easy to become distracted by all the objects in the visual field when the target of concentration is held at a distance. Now, bring the paper and the target letter very close to your face. When the target is held so closely only the finer details of the target become noticeable in the field of awareness and there is little occasion to notice the background distraction. The same result occurs in the non-visual sense of your breathing the more closely engaged you become in focusing on the rising and falling of your breathing.

A common mistake is to confuse intensifying with simply trying harder. If you do that you will become fatigued. Intensifying is done correctly only when it results in much more close engagement with the object of concentration.

In Indo-Tibetan meditation practice intensifying is said to result in progressively closer and closer staying on the concentration object, becoming so engaged with it that there is little occasion to become distracted elsewhere. Intensifying is analogous to when you hold the reins on a horse tighter and give the horse less play, the horse is less likely to wander off the trail. Likewise, if you hold the reins of the mind tighter through intensifying, the mind is less likely to wander off the path of concentration to chase after the next interesting thought. Learning to intensify correctly will greatly increase continuous staying on the concentration object. A realistic goal at this stage of skill is to stay on the concentration object for 80-100% of the session. Then, you have more or less achieved the second goal of concentration, namely continuous staying.

Nevertheless, at this stage it is likely that you are unwittingly dividing your attention between the concentration object and the background noise of thought. This problem is called partial or patchy staying. To correct for this, and to fully disengage from all background noise, it is necessary to develop skill in complete (not partial) staying. That is, at any given point in time, you are no longer dividing your attention between the concentration object and the background noise, but are completely staying nearly 100% on the concentration object at all times. In order to develop the skill of complete staying, give the concentration session more structure by breaking the concentration object into more areas to focus on. For example, rather than simply focusing on the rising and falling breath, focus on the very moment the rising breath begins, then follow everything about the full movement of the rising breath very carefully and closely for its entire duration, and then focus on the very moment that the rising breath stops. Do the same for the falling breath. Then focus on the felt sense of the body-as-a-whole in the interval between the full cycle of the breaths. By adding more details to keep track of, you become so busily engaged with so many details of the concentration object that there is very little occasion to become distracted elsewhere.

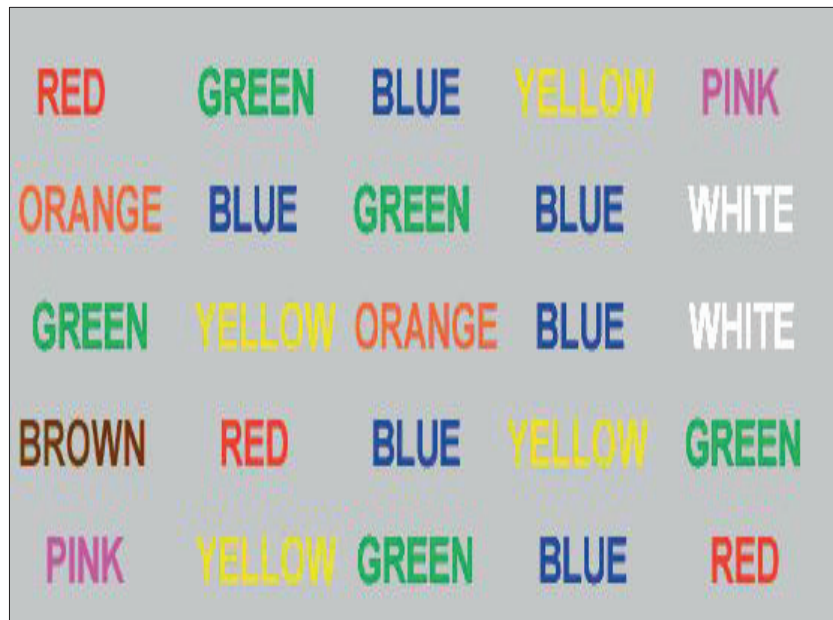
The combination of: (1) increasing intensifying, and (2) breaking the concentration object into more and more details to concentrate on, leads over time to developing the skill of complete staying. Furthermore, there will be a remarkable drop in the frequency and magnitude of thought elaboration. As a result, it becomes possible to stay on the concentration object for much longer duration over time, with very little distraction (continuous staying), and at any given point in time, to stay fully on the concentration object without dividing attention between the concentration object and the background noise (complete staying). Having done so, you have mastered the third goal of concentration, namely continuous and complete staying.

The intended result is that you will enjoy long periods of deep stillness characterized by the relative absence of extraneous thought activity, and will become fully absorbed in whatever you are concentrating on.

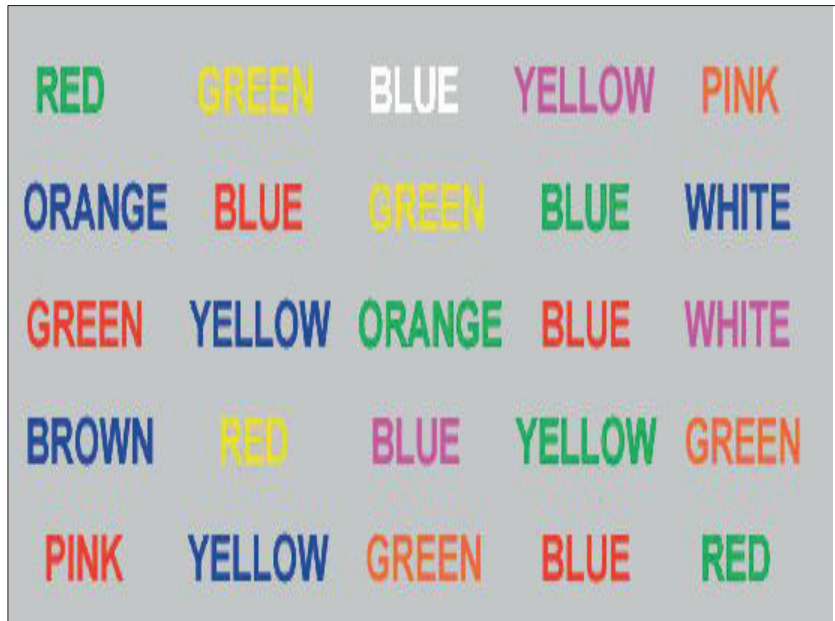
## APPENDIX 2

**The Stroop Test**

In this experiment you are asked to say silently to yourself, but as if you are speaking, the color of the word, not what the word says. For example, for the word, **RED**, if it is red, you should say to yourself “red.” If instead the word **RED** is blue, you should say “blue.” As soon as the words appear on your screen, read the list as fast as you can. When you have finished, log your time in seconds at the conclusion of the reading of each of the two charts, and compare your elapsed total times for each reading.

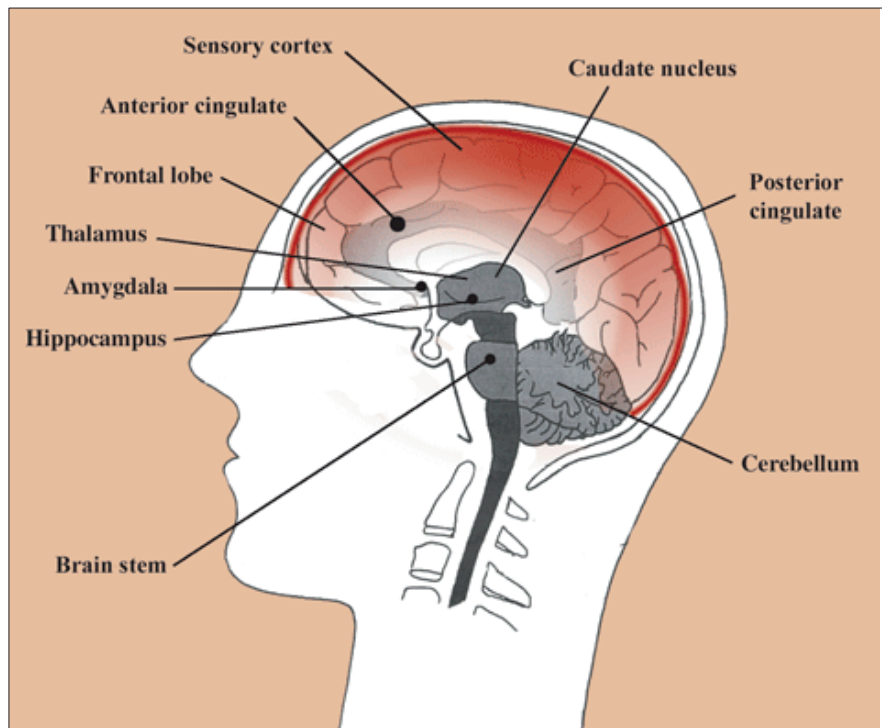






*Adapted from* Eric H. Chudler, *Colors, Colors*, <http://faculty.washington.edu/chudler/words.html> (last visited Nov. 7, 2012.) [reproduced with permission]. (Note that even though reproduced here only in shades of grey, the difference between the two images is that the words and the colors of the words are the same in the first image and different from each other in the second, making the second harder to read. For example, in the first image, the word “red” is in red, but in the second, it is in green. Readers interested in taking the test should visit the website to see the difference in color directly.)

## APPENDIX 3

**The Anterior Cingulate Cortex**

*Adapted from Judith M. Shedden, Contemporary Problems PSY720, Module Two, <http://brain.mcmaster.ca/cp720/> (last visited Nov. 7, 2012) [reproduced with permission].*