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### Of Reptiles and Velcro: The Brain's Negativity Bias and Persuasion

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# OF REPTILES AND VELCRO: THE BRAIN'S NEGATIVITY BIAS AND PERSUASION

Kenneth D. Chestek\*

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\* Associate professor of law and Assistant Director, the Center for the Study of Written Advocacy, University of Wyoming College of Law. This article is based on presentations at the *Fourth Applied Legal Storytelling Conference*, held at the City University of London, England, in July 2013, and the *Conference on Psychology and Lawyering: Coalescing the Field*, held in February 2014, at the University of Nevada Las Vegas Boyd School of Law. The author wishes to thank Prof. Kathryn Stanchi, Prof. Michael Smith, Prof. Ruth Anne Robbins, Prof. Steve Johansen, and John Williamson (J.D. Candidate, Villanova School of Law) for their review and helpful comments on earlier drafts of this work. Special thanks to the Legal Writing Institute's *Writer's Workshop* at Villanova University in June, 2014, and to the participants in the small group that read and commented on this article: Prof. Lou Sirico, Prof. Cathren Koehlert-Page, Prof. Elizabeth Lenhart, and Prof. Rosemary Queenan. Thanks also to the Rocky Mountain Legal Writing Scholarship Group for its encouragement and assistance with this project.

## INTRODUCTION

*“Voters may wonder why campaigns use negative ‘attack’ advertising. The answer is, because it works.”*<sup>1</sup>

Admit it. You have told many people how much you hate negative campaign ads, right? And, you have agreed with many other people who have said the same thing. I know I have made this claim many times, and in my heart I believe it; I really do hate all the mudslinging and attacking. But, as often as all of us say this, the barrage of negative campaigning never seems to end. Instead, it now reaches beyond the realm of high-stakes national politics and is becoming commonplace, even in local elections.<sup>2</sup>

The reason that this tactic is growing is obvious: it works. Cognitive psychologists attribute this to a phenomenon they call the brain’s “negativity bias.”<sup>3</sup> That is, our brains are more apt to process, and retain, negative information as opposed to positive information. As one neuropsychologist has put it, “[y]our brain is like Velcro for negative experiences and Teflon for positive ones.”<sup>4</sup>

Several years ago, a group of researchers at Case Western Reserve University analyzed all of the then-current studies that compared the relative strengths of good and bad stimuli.<sup>5</sup> They hoped to identify different phenomena where bad or negative stimuli had more power effects on people, and a different group of phenomena where good or positive stimuli had more power. After identifying these phenomena, they hoped to study them to determine how and why

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<sup>1</sup> Al Tompkins-Poynter, *The Power of Negative Political Ads*, HELP FOR JOURNALISTS, <http://helpforjournalists.com/political-advertising/the-power-of-negative-political-ads/> (last visited Apr. 19, 2015).

<sup>2</sup> Ruthann Lariscy, *Why Negative Political Ads Work*, CNN (Jan. 2, 2012, 11:57 AM), <http://www.cnn.com/2012/01/02/opinion/lariscy-negative-ads/> (“While at one time attacks were reserved largely for campaigns for national office, today they are evident in local and statewide campaigns as well.”).

<sup>3</sup> Scholars have used various terms to refer to this phenomenon, but the term “negativity bias” has emerged as the most common term. See, e.g., Stacey Wood & Michael A. Kisley, *The Negativity Bias Is Eliminated in Older Adults: Age-Related Reduction in Event-Related Brain Potentials Associated with Evaluative Categorization*, 21 PSYCHOL. & AGING 815 (2006).

<sup>4</sup> RICK HANSON WITH RICHARD MENDIUS, *BUDDHA’S BRAIN: THE PRACTICAL NEUROSCIENCE OF HAPPINESS, LOVE & WISDOM* 41 (2009). Think about what this means for the law professor: which student evaluations do you remember the longest, or think about the most? That one negative evaluation, maybe merely from a student who was having a bad day at the time, is likely to be the one that affects you the most.

<sup>5</sup> See generally Roy F. Baumeister et al., *Bad Is Stronger Than Good*, 5 REV. GEN. PSYCHOL. 323 (2001). It is, of course, difficult to put a definitive meaning on the terms “bad” and “good.” Baumeister and his team of researchers did not even try to define the terms closely, describing “bad” only as “temptation and destructive instincts” and “good” as “strivings for virtue, altruism, and fulfillment.” *Id.* at 323 They conclude by observing that “[g]ood” and “bad” are among the first words and concepts learned by children (and even by house pets), and most people can readily characterize almost any experience, emotion, or outcome as good or bad.” *Id.*

good and bad stimuli work on our brains. What the researchers found surprised them: bad stimuli had significantly more power “across a broad range of psychological phenomena.”<sup>6</sup> They found no area where good stimuli were more powerful than bad ones, although they did find a few areas in which other psychological processes overrode the negative stimuli.<sup>7</sup>

What are the implications of this finding for legal writing?<sup>8</sup> For example, how do judges respond to negative themes in briefs? Should lawyers phrase their legal arguments in terms of avoiding bad outcomes instead of promoting good outcomes? Should rule statements in briefs highlight the possible negative consequences of a particular ruling as opposed to a positive outcome? Does this finding change the way lawyers should do, or at least think about, counteranalysis? Does a judge’s negative opinion of an advocate have more power than a potential positive view of the client?

Answering these questions in the affirmative might be controversial. Many judges (as well as many legal writing professors) counsel lawyers and law students to avoid the negative, and emphasize the positive.<sup>9</sup> Given the near ubiquitousness of this advice, it seems that the cognitive psychology on negativity bias is worth studying. Have we all been giving bad advice all this time?

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<sup>6</sup> *Id.* at 354.

<sup>7</sup> *Id.* at 354–55.

<sup>8</sup> This article specifically focuses on judges and written persuasion. The implications of this finding on influencing jurors are, of course, significant. *See generally, e.g.*, DAVID BALL & DON KEENAN, REPTILE: THE 2009 MANUAL OF THE PLAINTIFF’S REVOLUTION (2009) (discussing ways in which plaintiff’s attorneys can appeal to juror’s embedded “reptile” in order to counteract negative information previously implanted in their brains by the tort reform movement). I have chosen to focus on the implications for written advocacy and the judicial audience here because I think that question is more interesting and complex. Does a judge’s special training and experience in the law provide the judge with more tools to resist, or at least process, negative information?

<sup>9</sup> *See, e.g.*, Frank H. Easterbrook, *Friedman Lecture in Appellate Advocacy*, 23 FED. CIR. B.J. 1, 6–7 (2013–14) (suggesting that advocates confront their opposing counsel’s counterarguments by dealing with them as part of your “positive theme” of the case); Gerald Lebovits et al., *Winning the Moot Court Oral Argument: A Guide for Intramural and Intermural Moot Court Competitors*, 41 CAP. U. L. REV. 887, 903 (2013) (advising moot court competitors that “a winning theme addresses the positive policy implications of a ruling in the advocate’s favor”); Laurie A. Lewis, *Winning the Game of Appellate Musical Shoes: When the Appeals Band Plays, Jump from the Client’s to the Judge’s Shoes to Write the Statement of Facts Ballad*, 46 WAKE FOREST L. REV. 983, 1017 (2011) (recommending that brief writers emphasize good facts and de-emphasize bad facts to cast the client in a positive light); Jane R. Roth & Mani S. Walia, *Persuading Quickly: Tips for Writing an Effective Appellate Brief*, 11 J. APP. PRAC. & PROCESS 443, 445–46 (2010) (recommending that advocates present both legally relevant facts and additional facts that add to the human interest in order to portray the client in a positive light); Gerald Lebovits, *Free at Last from Obscurity: Clarity—Part 2*, N.Y. ST. B. ASS’N J., Jan. 2004, at 64, 64 (again advocating that lawyers “writ[e] in the positive”); Steven R. Merican, *Thoughts from an Unconstrained Practitioner: Writing an Appellate Brief, or, How to Make Tax Law an Interesting Read*, 19 DUPAGE COUNTY B. ASS’N BRIEF, Mar. 2007, at 10, 11 (arguing that “[r]eadability and persuasiveness are improved by being assertive and positive”). The list could go on indefinitely.

Part I of this article will explore the cognitive psychology literature documenting the extent of the brain's negativity bias. Part II turns to an examination of the potential reasons why this might be true, starting with the theory first enunciated by Paul MacLean that all humans have a "triune brain" that includes a "reptilian" brain to control basic survival needs, a limbic system which controls emotional responses, and a neocortex which controls rational thought. It examines these questions from both a social science perspective as well as a public policy and political perspective. Part III then explores what this might mean for the attorney seeking to persuade a judge through written advocacy. Finally, Part IV concludes with some thoughts on future research regarding how these concepts might affect judicial thinking.

This article is an expanded version of a presentation I gave at the Conference on Psychology and Lawyering: Coalescing the Field, held in February 2014 at the University of Nevada Las Vegas, William S. Boyd School of Law.<sup>10</sup> That conference was intended to begin conversations not only among the various disciplines in legal academia, but also between legal academia and other disciplines, such as cognitive psychology, about the areas where law and psychology intersect. This article does not propose definitive answers to the questions it raises, although it does propose some hypotheses based on cognitive science. Rather, this article is intended to be a conversation starter. The implications of the negativity bias for written persuasion are large, as suggested above. Such questions can only be answered definitively through valid empirical testing.<sup>11</sup> I hope to conduct some empirical research on these topics, and I hope this article will inspire others to conduct similar studies.

## I. BAD IS STRONGER THAN GOOD

Current thinking in cognitive psychology is that people (both adults and children) display what is called a "negativity bias."<sup>12</sup> One group of researchers concluded that "adults spend more time looking at negative than at positive stimuli, perceive negative stimuli to be more complex than positive ones, and

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<sup>10</sup> I also presented some of this material at the *Fourth Applied Legal Storytelling Conference* in London, England in July, 2013.

<sup>11</sup> Judge Richard A. Posner of the Seventh Circuit has written that "[l]ogic plays only a limited role in adjudication, especially at the appellate level . . . , relative to psychology—an understudied influence on judicial behavior." RICHARD A. POSNER, *HOW JUDGES THINK* 376–77 (2008). Judge Posner has recently teamed up with two professors to conduct empirical studies of what we might learn about judicial behavior by examining their decisions. *See generally* LEE EPSTEIN ET AL., *THE BEHAVIOR OF FEDERAL JUDGES: A THEORETICAL & EMPIRICAL STUDY OF RATIONAL CHOICE* (2013) (using a methodology that is unlike most social science research because the authors do not engage the test subjects (judges) directly. Instead, the authors look at actual judicial decisions and compare the outcomes to other observable characteristics of the individual judges to draw inferences about possible motivating factors).

<sup>12</sup> *See, e.g.*, Wood & Kisley *supra* note 3. Others refer to this phenomenon as "negativity dominance." DANIEL KAHNEMAN, *THINKING, FAST AND SLOW* 300–02 (2011).

form more complex cognitive representations of negative than of positive stimuli.”<sup>13</sup> This section of the article first examines the evidence in social science literature about the nature and extent of the negativity bias, then looks at the issue through the lens of public policy and politics.

#### A. *Social Science Findings*

Negative experiences are more powerful than positive ones. This is true across a wide range of phenomena. In 2001, a group of cognitive psychologists at Case Western Reserve University analyzed all of the then-current studies that compared the relative strength of good and bad effects.<sup>14</sup> For example, one study the authors analyzed found that in personal relationships, it takes at least five positive experiences to overcome the feelings generated by one negative one.<sup>15</sup> They also observed that “[a]mong journalists and communication scientists, it is considered common knowledge that bad events are more newsworthy and attract more reader attention” and that “bad news sells more papers.”<sup>16</sup>

Recent scholarship in the Applied Legal Storytelling<sup>17</sup> movement makes a similar point. I have pointed out elsewhere that “conflict is the fuel that drives the story.”<sup>18</sup> L.A. Fiedler has likewise pointed out that “no one has ever been able to make a successful novel about a happy marriage.”<sup>19</sup> Conflict is interesting; it makes us pay attention. And, let’s face it, without conflict there would be no lawsuits.

Many of the studies analyzed in the Case Western study suggest that negative information is retained longer and affects us more because the brain processes negative stimuli more thoroughly, possibly because it is evolutionarily

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<sup>13</sup> Amrisha Vaish et al., *Not All Emotions Are Created Equal: The Negativity Bias in Social-Emotional Development*, 134 PSYCHOL. BULL. 383, 383 (2008).

<sup>14</sup> See generally Baumeister et al., *supra* note 5.

<sup>15</sup> See JOHN GOTTMAN, WHY MARRIAGES SUCCEED OR FAIL AND HOW TO MAKE YOURS LAST 29 (1994).

<sup>16</sup> Baumeister, *supra* note 5, at 343.

<sup>17</sup> The Applied Legal Storytelling movement (sometimes referred to as AppLS) is a body of scholarship that studies how storytelling affects the judicial process. Ruth Anne Robbins, *An Introduction to Applied Storytelling and to This Symposium*, 14 LEGAL WRITING 3, 3 (2008) (introducing a symposium issue of that journal which published a group of articles presented at the *Once upon a Legal Time: Developing the Skills of Storytelling in Law* conference held in London, England in 2007). The London conference has been followed by additional conferences in Portland, Oregon in 2009, Denver, Colorado in 2011, and another conference in London in 2013. A fifth AppLS conference is scheduled for the summer of 2015 in Seattle, Washington. Many scholarly articles have been published out of these conferences.

<sup>18</sup> Kenneth D. Chestek, *The Plot Thickens: The Appellate Brief as Story*, 14 LEGAL WRITING 127, 140 (2008); accord Brian J. Foley & Ruth Anne Robbins, *Fiction 101: A Primer for Lawyers on How to Use Fiction Writing Techniques to Write Persuasive Facts Sections*, 32 RUTGERS L.J. 459, 466 (2001).

<sup>19</sup> Baumeister, *supra* note 5, at 343 (citing L.A. FIEDLER, LOVE AND DEATH IN THE AMERICAN NOVEL (1982)).

adaptive behavior.<sup>20</sup> That is, bad things can kill us, while good things generally cannot. Organisms that are more attuned to detecting and reacting to bad things are therefore more likely to survive.

Because we are prone to processing bad information more extensively, we are more likely to remember bad things. For example, in one study the investigators simply asked people to recall a recent emotional event that had affected them, either positive or negative. The subjects reported negative events more often than positive ones, by about a four-to-one margin.<sup>21</sup> Another study showed that test subjects remembered more negative words than positive ones, and that the negative words (stimuli) resulted in slower responses and more eye blinks, indicating greater conscious processing of the negative stimuli.<sup>22</sup>

In another study, researchers interviewed three groups: people who had won a lottery about a year before the interview, people who had suffered paralysis in an accident about a year before the interview, and a third group who had not experienced any kind of major life-changing event within the last year. Although the group which had suffered paralysis reported significantly lower happiness one year after that event, the lottery winners did not report any significantly higher level of happiness over the control group, suggesting once again that bad feelings and emotions are much longer-lasting than good ones.<sup>23</sup>

Negative information is weighted more heavily than positive information in forming impressions of others. The Case Western researchers described nearly twenty studies that all confirmed that negative information about another person was retained longer and had a more profound impact on test subjects' overall impressions of that other person.<sup>24</sup> One of those studies also found that persons evaluating others were more confident about their bad impressions of the other than they were of their favorable impression of others with good traits.<sup>25</sup>

But, several studies surveyed by the Case Western researchers revealed an important nuance: there seems to be a negativity bias when one evaluates another's *moral* behavior, but a positivity bias when evaluating the other's *competence*. That is, immoral or dishonest behavior was more important in judging

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<sup>20</sup> Baumeister, *supra* note 5, at 325.

<sup>21</sup> Catrin Finkenauer & Bernard Rimé, *Socially Shared Emotional Experiences vs. Emotional Experiences Kept Secret: Differential Characteristics and Consequences*, 17 J. SOC. & CLINICAL PSYCHOL. 295 (1998).

<sup>22</sup> Hideki Ohira et al., *Effects of Stimulus Valence on Recognition Memory and Endogenous Eyeblinks: Further Evidence for Positive-Negative Asymmetry*, 24 PERSONALITY & SOC. PSYCHOL. BULL. 986, 989–90 (1998).

<sup>23</sup> Philip Brickman et al., *Lottery Winners and Accident Victims: Is Happiness Relative?*, 36 J. PERSONALITY & SOC. PSYCHOL. 917, 918–19, 923–24 (1978).

<sup>24</sup> Baumeister, *supra* note 5, at 344–48; accord Guido Peeters & Janusz Czapinski, *Positive-Negative Asymmetry in Evaluations: The Distinction Between Affective and Informational Negativity Effects*, 1 EUR. REV. SOC. PSYCHOL. 33, 33–34 (1990).

<sup>25</sup> Baumeister, *supra* note 5, at 345 (discussing David L. Hamilton & Mark P. Zanna, *Differential Weighting of Favorable and Unfavorable Attributes in Impressions of Personality*, 6 J. EXPERIMENTAL RES. PERSONALITY 204 (1972)).



another person's moral trait, but extremely intelligent acts were more important in judging another person's competence.<sup>26</sup> One of the studies surveyed states the following theory:

[O]ne may be regarded as a liar despite telling the truth on many occasions, but one will not be regarded as an honest man if he tells many lies. The opposite may apply to intelligence, however, because a stupid person can never be brilliant, whereas a very intelligent person can occasionally do a stupid thing.<sup>27</sup>

More recent research adds another nuance to the concept that bad is stronger than good: there may be age-related differences in the negativity bias. Perhaps counterintuitively, some researchers have found that the negativity bias is less pronounced as people age. One group of researchers concluded that the frequency of experiencing negative emotions declines as people age, leveling off around age sixty.<sup>28</sup> They conclude that although older people are just as likely as younger people to perceive threatening information, they are less likely to dwell on it. Instead, older people tend to focus more on positive information.<sup>29</sup>

Two researchers at the University of Colorado, Colorado Springs recorded electrophysiological signals to measure reactions when subjects were presented with a range of different images.<sup>30</sup> The images were selected randomly to show positive, negative, and neutral emotional content. The subjects varied in age from nineteen to eighty-one years old. They found that the younger group reacted more strongly to emotionally valenced images (either positive or negative) than to neutral images, with negative images producing the largest reaction. The older adults also responded more significantly to the valenced images as opposed to the neutral ones, but the degree of their reaction to positive and negative images was just about the same.<sup>31</sup> This suggests that the negativity bias may decline or disappear over time.

In a follow-up study, these researchers were able to replicate the results on a slightly larger sample of adults between the ages of eighteen and eighty-

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<sup>26</sup> *Id.* at 346–47.

<sup>27</sup> *Id.* at 346 (discussing John J. Skowronski & Donal E. Carlston, *Caught in the Act: When Impressions Based on Highly Diagnostic Behaviours are Resistant to Contradiction*, 22 EUR. J. SOC. PSYCHOL. 435 (1992)). This distinction between moral and competence evaluations has significant implications for lawyer credibility, of course. Much has been written about how a lawyer's *ethos* can impact how a case is decided. *See, e.g.*, Michael Frost, *Ethos, Pathos & Legal Audience*, 99 DICK. L. REV. 85, 85–86 (1994); Melissa H. Weresh, *Morality, Trust, and Illusion: Ethos as Relationship*, 9 LEGAL COMM. & RHETORIC: JALWD 229, 231 (2012). However, that subject is beyond the scope of this article.

<sup>28</sup> Mara Mather & Laura L. Carstensen, *Aging and Motivated Cognition: The Positivity Effect in Attention and Memory*, 9 TRENDS COGNITIVE SCI. 496, 496 (2005).

<sup>29</sup> *Id.*

<sup>30</sup> Wood & Kisley, *supra* note 3, at 817.

<sup>31</sup> *Id.* at 816–19.



one.<sup>32</sup> They concluded that the reduced negativity bias resulted from older adults attending less to negative information as they age, whereas the older adults attended to positive image at about the same rate as younger adults. They presented their findings in three scatter plots, showing the responses of all subjects to neutral, negative, and positive information. Consistent with their prior study, the “best fit” regression lines showed stronger reactions to both the positive and negative images than to the neutral images. However, the regression line for positive information was essentially flat: older subjects had the same level of reaction to positive information as did the younger subjects.<sup>33</sup>

The regression line for the negative images showed a steady decline in the amplitude of subjects’ reactions over time. At age twenty, the reaction to negative images was nearly twice as strong as to the positive images. By age sixty, however, the reaction to negative information was only slightly stronger than to positive information. By age eighty, the reactions were approximately the same.<sup>34</sup> The authors hypothesized that this effect might be the result of intentional efforts by older adults to focus their attention more on positive information, perhaps in an effort to “maximize emotional goals as one’s perceived remaining lifetime becomes shorter.”<sup>35</sup>

This effect may also be a result of the greater life experience of older persons, which provides them with more context in which to evaluate negative experiences. Whatever the cause, however, the effect is the same: it may be possible to overcome the negativity bias through conscious effort.<sup>36</sup>

#### B. Public Policy Example

Fear is very effective in persuading people. We need only look to our recent history of how a majority of American citizens were persuaded that invading Iraq was a good idea.

Jonathan Marks, a professor of bioethics, humanities, and law at Penn State University, describes the type of “social cascades” that can lead people to false conclusions.<sup>37</sup> He argues that the news media’s uncritical reporting of government positions led people to believe three things that turned out to be untrue: “(i) that evidence of links between Iraq and Al Qaeda had been found; (ii) that weapons of mass destruction had been found in Iraq; and (iii) that world public

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<sup>32</sup> Michael A. Kisley et al., *Looking at the Sunny Side of Life: Age-Related Change in an Event-Related Potential Measure of the Negativity Bias*, 18 PSYCHOL. SCI. 838, 838–39 (2007).

<sup>33</sup> *Id.* at 841.

<sup>34</sup> *Id.*

<sup>35</sup> *Id.* at 842.

<sup>36</sup> *See id.* Or, stated another way, the brain’s System 2 might be trained to overcome an inaccurate or unproductive System 1 response. For a fuller discussion of this possibility, see *infra* Part III.A.1.

<sup>37</sup> Jonathan Marks, *The Fourth Estate and the Case for War in Iraq: Apology or Apologia*, in *THE AGE OF APOLOGY: FACING UP TO THE PAST* 298, 300 (Mark Gibney et al. eds., 2008).

opinion favored the U.S. going to war with Iraq.”<sup>38</sup> He then documented several public opinion polls that demonstrated that a majority of Americans still held some or all of these beliefs even after numerous non-partisan investigations, including the Senate Select Committee on Intelligence and the 9/11 Commission, had proven that all three claims were false.<sup>39</sup>

Professor Marks concludes that the media became complicit in playing up the government’s preferred narrative of imminent danger to American interests out of fear of being branded as “traitors” or (perhaps even worse?) “liberals” by other media outlets, which would result in a loss of viewers or readers.<sup>40</sup>

I have a slightly different, but not inconsistent, theory: fear sells.<sup>41</sup> Readers are attuned to negative information for the same reason that the negativity bias is evolutionarily adaptive: you need to know about the bad stuff that might cause you harm. We cannot escape the reptile buried deep within our psyches.

## II. WHY IS BAD STRONGER THAN GOOD?

One might suppose that the negativity bias is something that a trained mind, like a lawyer or judge, may be able to overcome through higher cognitive functions, like logical reasoning.<sup>42</sup> Cognitive science, however, suggests otherwise. Because the negativity bias is thought to be an evolutionary adaptation, it

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<sup>38</sup> *Id.* at 302.

<sup>39</sup> *Id.* at 303.

<sup>40</sup> *Id.* at 307. If this is true, this could be yet another demonstration of the power of the negativity bias; fear of the loss of ratings trumped good journalistic ethics and practices.

<sup>41</sup> *Id.* at 303–04 (documenting the ways in which the negative claims put forth by the government were given front-page or “top of the news” play in numerous media outlets, while subsequent refutations of those claims were buried or even went unreported). Public opinion about the recent revelations about the National Security Agency’s program of collecting information about domestic e-mail and telephone traffic may provide another example of how fear influences opinions. A Pew Research Center study in July 2013 revealed that, while 56 percent of those polled believed the federal courts had failed to provide “adequate limits” on what the NSA was collecting, 30 percent still approved of the program’s limits. *Few See Adequate Limits on NSA Surveillance Program*, PEW RESEARCH CENTER, (July 26, 2013), <http://www.people-press.org/2013/07/26/few-see-adequate-limits-on-nsa-surveillance-program/>. Ultimately, 50 percent of respondents approved of the program overall, while 44 percent disapproved (6 percent had no opinion). *Id.* Apparently, at least for some people the fear of terrorism still trumped civil liberties. In other words, bad was stronger than good in the Pew poll.

<sup>42</sup> It is not my intention in this article to get into the age-old battle between legal realism and legal positivism; I align myself strongly with the legal realists. But Profs. Lee Epstein and William M. Landes and Judge Richard A. Posner have proposed a more nuanced theory of judicial behavior which they call the labor market theory of judicial behavior. EPSTEIN ET AL, *supra* note 11, at 5. This theory is essentially a variety of legal realism in which judges are seen as rational actors in a labor market consisting of all judges, and then studies their behavior in light of all of the things that affect workers in any labor market (*e.g.* pecuniary factors such as pay and benefits, and more importantly non-pecuniary factors such as job satisfaction, esteem, reputation, leisure, opportunities for job advancement and promotion, professional and institutional norms, etc.). *Id.*

is very deeply seated in our psyches.<sup>43</sup> It probably resides in the amygdala, the portion of the brain that is closely associated with emotional processing and fear responses.<sup>44</sup>

Neuroscientist Paul MacLean first developed the theory that our brains evolved in three stages, which he called the “triune brain.”<sup>45</sup> The first brain structure to evolve was what he termed the “protoreptilian formation,” or “R-complex,” which many people now refer to as the “reptilian brain.”<sup>46</sup> The reptilian brain controls involuntary motor movements, instinctive behaviors, as well as the so-called “fight or flight” response; its primary function is self-preservation of the organism.<sup>47</sup> Second, the paleomammalian brain (also called

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<sup>43</sup> Daniel Kahneman, who describes two types of mental processes as “System 1” and “System 2” thinking, agrees that what he calls the “negativity dominance” phenomenon is a result of evolutionary adaptation. KAHNEMAN, *supra* note 12, at 300–01 (“The brains of humans and other animals contain a mechanism that is designed to give priority to bad news. By shaving a few hundredths of a second from the time needed to detect a predator, this circuit improves the animal’s odds of living long enough to reproduce. The automatic operations of System 1 reflect this evolutionary history.”); *see* discussion of System 1 and System 2 thinking *infra* Part III.A.1.

<sup>44</sup> *See, e.g.*, KAHNEMAN, *supra* note 12, at 301; Alberto A. Rasia-Filho et al., *Functional Activities of the Amygdala: An Overview*, 25 J. PSYCHIATRY & NEUROSCIENCE 14, 15–17 (2000). A normal brain has two amygdalae, one in each hemisphere of the brain. JOSEPH LEDOUX, *THE EMOTIONAL BRAIN: THE MYSTERIOUS UNDERPINNINGS OF EMOTIONAL LIFE* 157 (1996).

<sup>45</sup> *See generally* PAUL D. MACLEAN, *THE TRIUNE BRAIN IN EVOLUTION: ROLE IN PALEOCEREBRAL FUNCTIONS* (1990).

It should be noted that some scholars have criticized the triune brain theory as an oversimplification. *See, e.g.*, ANN B. BUTLER & WILLIAM HODOS, *COMPARATIVE VERTEBRATE NEUROANATOMY: EVOLUTION AND ADAPTATION* 114 (2d ed. 2005) (“Although MacLean’s theory has had no significant impact on neurobiology, it has become popular in the lay press and among some psychological and educational therapists . . . . The extensive body of work in comparative neurobiology over the past three decades unequivocally contradicts this theory.”); C.U.M. (Chris) Smith, *The Triune Brain in Antiquity: Plato, Aristotle, Erasistratus*, 19 J. HIST. NEUROSCIENCES 1, 13 (2010) (“It may be . . . that the Western mind has been conditioned to accept tripartite schematics by its millennial experience of tripartite social stratifications. Perhaps it is now time to discard such age-old and nowadays unconvincing analogies and acknowledge that the brain and the mind have a far more intricate dynamic.”). While these criticisms have merit for the experts who continue to advance knowledge in this field, for our more simple purposes in this article, the concept of the reptilian brain provides a useful framework for thinking about how and why the negativity bias works.

<sup>46</sup> *See* MACLEAN, *supra* note 45, at 15.

<sup>47</sup> For a more colorful, albeit less scientific, explanation of the function of the reptilian brain, *see* BALL AND KEENAN, *supra* note 8, at 13. They base their conclusions on MacLean’s “triune brain” theory:

The Reptilian brain houses basic life functions, such a breathing, balance, hunger, the sex drive, and the fundamental life force: survival. The Reptile does not tend to these functions solely to keep you alive. Her larger purpose is to keep your genes alive and spread as many of them as possible into future generations. This impulse drives all life. Even people who want no children cannot normally get rid of the Reptilian imperative of personal survival. Nor can they get rid of the Reptilian drives that the Reptile has developed for the creation and nurturing of children (such as the sex drive).

the “limbic system”) evolved, primarily involved with controlling emotional responses.<sup>48</sup> MacLean points out that the limbic system can serve as a sort of “amplifier” for guiding behavior required for “self-preservation and preservation of the species,” a function also found in the reptilian brain.<sup>49</sup> Finally, the neomammalian brain (also called the “neocortex”) evolved, responsible for rational thought.<sup>50</sup> Unlike the reptilian brain and limbic system, the neocortex is primarily oriented toward the external world.<sup>51</sup>

MacLean acknowledges that all three systems are interrelated and to some degree interdependent;<sup>52</sup> more recent studies confirm that the three systems must work together.<sup>53</sup> However, the basic concept of the triune brain is still useful in thinking about the influence of both the reptilian brain and the emotional brain (limbic system) on the logical brain (the neocortex). For example, one explanation of the emotional brain is that it evolved to make us feel fear or pleasure in order to do what the reptilian brain deems necessary for survival.<sup>54</sup> And, as neuroscientist Antonio Damasio and others have demonstrated, the logical brain literally cannot function without input from the emotional brain.<sup>55</sup> We cannot escape our instincts.<sup>56</sup>

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We like to believe we are run by logic and emotion. Sometimes we are. But when something we do or don't do can affect—even a little—our safety or the propagation and safety of our genes, the Reptile takes over. If your cognitive or emotional brain resists, the Reptile turns it to her will. The greater the perceived danger to you or your offspring, the more firmly the Reptile controls you.

In other words, the Reptile invented and built the rest of the brain, and now she runs it.

*Id.* at 17. This may explain in part why negative campaign ads are so effective. If they demonstrate a threat to the viewer or the viewer's offspring, the reptilian brain automatically kicks in and takes defensive measures (such as “Don't ever vote for that other candidate who poses such a threat!”).

<sup>48</sup> MACLEAN, *supra* note 45, at 16–17.

<sup>49</sup> *Id.* at 17.

<sup>50</sup> *Id.* at 17–18.

<sup>51</sup> *Id.* at 17. It should be noted that other scholars dispute the location-specific nature of these brain functions. For example, Daniel Kahneman disclaims that his “System 1” and “System 2” processes reside in any specific part of the brain. KAHNEMAN, *supra* note 11, at 29.

<sup>52</sup> MACLEAN, *supra* note 45, at 9. He also claims that these three systems evolved in that order. *Id.* at 15–17.

<sup>53</sup> See, e.g., ANTONIO DAMASIO, DESCARTES' ERROR: EMOTION, REASON, AND THE HUMAN BRAIN 3–79 (1994) (discussing and analyzing the case of Phineas P. Gage and other similar cases of prefrontal lobe damage); LEDOUX, *supra* note 44, at 98–101 (1996).

<sup>54</sup> BALL & KEENAN, *supra* note 8, at 19.

<sup>55</sup> DAMASIO, *supra* note 53, at 84, 247–50.

<sup>56</sup> Ball and Keenan put this more colorfully: “Logic cannot budge a Reptile out of survival stance.” BALL & KEENAN, *supra* note 8, at 26. Their point is that once the reptilian brain detects a danger that it believes is a threat to its survival, or the survival of its community, the reptilian brain springs into action and overrides both the limbic system and the neocortex (the logical brain). In fact it may even recruit the limbic system as a means of overcoming the logical brain.

Professor Damasio has long been at the forefront of studying the emotional brain and its impact on logical thinking. His groundbreaking work *Descartes' Error* challenged the French philosopher's maxim "I think, therefore I am."<sup>57</sup> Based on both historical and modern clinical studies of patients with damage to the regions of the brain thought to control emotional responses, Damasio concluded that the emotional brain is not subservient to the rational brain; instead it is actually essential to rational thinking.<sup>58</sup>

In a later work, Damasio argues that "emotions are biologically determined processes, depending on innately set brain devices, laid down by a long evolutionary history."<sup>59</sup> He writes further that "most, if not all, emotional responses are the result of a long history of evolutionary fine-tuning. Emotions are part of the bioregulatory devices with which we come equipped to survive."<sup>60</sup> Emotions serve useful biological functions that enable an organism to react immediately, and usually reliably, to various stimuli, from perceived dangers to valuable or pleasurable situations. "[E]motions are not a dispensable luxury. Emotions are curious adaptations that are part and parcel of the machinery with which organisms regulate survival."<sup>61</sup>

Damasio describes a patient of his (whom he refers to simply as "S") who presented with mild seizures. He discovered that she suffered from an organic brain disease that had calcified the amygdalae on both sides of her brain. The remainder of her brain appeared normal on CT scans. After resolving the seizure issue with medication, he began a study spanning several years to determine whether the severe damage to her amygdalae had resulted in any cognitive or social impairment.<sup>62</sup>

Damasio and his research team concluded that S's ability to learn new facts was completely unimpaired. Likewise, her language skills, sensory perception, and general intelligence appeared to be perfectly normal. However, her social skills were abnormal. Damasio reported:

S approached people and situations with a predominantly positive attitude. Others would say that her approach was excessively and inappropriately forthcoming. S was not only pleasant and cheerful, she seemed eager to interact with most anyone who would engage her in conversation . . . [and] the reserve and reticence one would have expected from her was simply lacking. . . . She made friends easily, formed romantic attachments without difficulty, and had often been taken advantage of by those she trusted.<sup>63</sup>

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<sup>57</sup> DAMASIO, *supra* note 53, at 247–50.

<sup>58</sup> *Id.* at 83–84.

<sup>59</sup> ANTONIO R. DAMASIO, *THE FEELING OF WHAT HAPPENS: BODY AND EMOTION IN THE MAKING OF CONSCIOUSNESS* 51 (1999).

<sup>60</sup> *Id.* at 53.

<sup>61</sup> *Id.* at 54.

<sup>62</sup> *Id.* at 62–64.

<sup>63</sup> *Id.* at 64.

Upon further study, Damasio and his team concluded that the damage to S's amygdalae had impaired her ability to feel fear and anger, which allowed her life to be dominated by positive emotions.<sup>64</sup> He concluded that:

Immersed in a secure Pollyanna world . . . individuals [like S] cannot protect themselves against simple and not-so-simple social risks and are thus more vulnerable and less independent than we are. Their life histories testify to this chronic impairment as much as they testify to the paramount importance of emotion in the governance not just of simple creatures but of humans as well.<sup>65</sup>

To sum up, the negativity bias is an evolutionary adaptation that helps organisms avoid or respond to danger. The bias is deeply rooted in the brain's limbic system, which involves the emotional brain. Because emotional thinking is closely related to, and necessary for, logical reasoning, it is unlikely and probably impossible for one's rational brain to completely overrule the emotional brain—of which the negativity bias is an important part.

### III. WHAT DOES THIS HAVE TO DO WITH PERSUASION?

The negativity bias posits that the human brain is more attentive to negative information. It processes negative information more thoroughly, and therefore is more likely to be influenced by it and to remember it longer. That seems to have some significant implications for persuasive legal writing. For example, does this mean counteranalysis is more important than we might otherwise think? Does the negativity bias help us think about whether, and how, to present policy arguments? What about a choice of theme? Should advocates choose a negative theme, attacking their opponents, rather than a positive theme showing the court why their client is deserving of relief? A related question relates to tone: should written advocacy adopt an aggressive, attacking tone (*i.e.* “going negative”), or a more neutral, apparently objective tone? And, perhaps most importantly, are judges really affected by this bias?<sup>66</sup> Or can they avoid this bias simply by becoming aware of it? What follows is a preliminary exploration of these questions, starting with the last one.

#### A. *Are Judges Affected by the Negativity Bias?*

The simple answer to this question is probably, of course they are! To the extent that the negativity bias is a natural, deep-seated feature of the human brain, judges are not immune to its influence. But, of course, the simple answers are usually incomplete, or even misleading. Let us dig a little deeper.

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<sup>64</sup> *Id.* at 65–66. Recall MacLean's analogy that the limbic system (of which the amygdala is an important part) serves as an “amplifier” for threats and dangers perceived by the reptilian brain. *See supra* text accompanying note 49.

<sup>65</sup> DAMASIO, *supra* note 59, at 67.

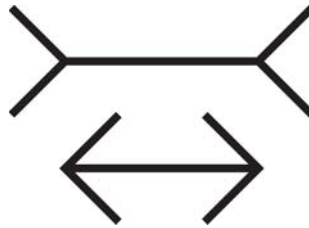
<sup>66</sup> A fairly compelling case can be made that jurors are likely affected by the negativity bias. In fact, a prominent plaintiff's trial lawyer has written a “manual” recommending ways in which plaintiffs' lawyers can appeal to the “Reptile” in jurors' brains in order to achieve success. *See generally* BALL & KEENAN, *supra* note 8.



1. *System 1 and System 2 Thinking*

What should we make of the studies discussed above<sup>67</sup> that suggest that the negativity bias may decline over time? Does that mean that lawyers need to write a different brief for older judges than for younger ones? Probably not, because the studies reported still show that although negative stimuli become less powerful over time, by age sixty negative information still has slightly more power than positive information.<sup>68</sup> But, what those studies may suggest is that motivated cognition may overcome instinctive reactions.<sup>69</sup> In other words, there is hope: although negative information may initially be more powerful, it can be overcome by higher-level reasoning focusing more on positive information.

Nobel Laureate Daniel Kahneman has recently proposed a construct in which he describes two ways in which the human brain processes stimuli and makes decisions. He describes “System 1” thinking as intuitive, “fast” thinking; it processes stimuli almost instantaneously and unconsciously.<sup>70</sup> “System 2” is more methodical; it monitors System 1, articulates judgments and makes choices. It is “who we think we are;” essentially, it is our conscious, rational self.<sup>71</sup> It does not operate independently of System 1 because “it often endorses or rationalizes ideas and feelings that were generated by System 1.”<sup>72</sup> However, System 2 can be trained to overrule System 1, which is a good thing because System 1 often makes mistakes. Kahneman uses the famous example of the Müller-Lyon illusion:<sup>73</sup>



Anybody who looks at this image “knows” that the horizontal line on the upper image is longer than the horizontal line on the lower one. At least, that is what your System 1 perception tells you, instinctively and automatically because the line *looks* longer to your brain. But, take out a ruler and measure the two lines and you will discover that they are exactly the same length. That is

<sup>67</sup> See *supra* text accompanying notes 28–36.

<sup>68</sup> Kisley et al., *supra* note 32, at 841 fig.2.

<sup>69</sup> “[A]s people age, they devote more resources to controlling negative emotional responses, but allow automatic responses to positive stimuli to proceed without restraint.” *Id.* at 842.

<sup>70</sup> KAHNEMAN, *supra* note 12, at 408, 415.

<sup>71</sup> *Id.*

<sup>72</sup> *Id.* at 415.

<sup>73</sup> *Id.* at 27.



your System 2 processing and correcting misinformation provided by System 1.<sup>74</sup>

Shouldn't it therefore be possible for a judge to train her System 2 processes to detect and overrule incorrect intuitions and feelings generated by System 1? Kahneman is skeptical. First, he points out that even though System 2 now *knows* that the two horizontal lines are the same length, the upper line still *looks* longer.<sup>75</sup> Second, he points out that “[n]ot all illusions are visual.”<sup>76</sup> He describes “cognitive illusions” in which sympathy for an individual might cloud a judgment about that individual. Because that sympathy arises from System 1, it is harder to detect because it is unconscious and feels right.<sup>77</sup> Kahneman argues that cognitive illusions are very difficult to overcome “[b]ecause System 1 operates automatically and cannot be turned off at will, errors of intuitive thought are often difficult to prevent. Biases cannot always be avoided, because System 2 may have no clue to the error.”<sup>78</sup> But he does offer this glimmer of hope: “[t]he best we can do is . . . [to] learn to recognize situations in which mistakes are likely and try harder to avoid significant mistakes when the stakes are high.”<sup>79</sup>

To the extent that “stakes are high” in every decision a judge has to make, perhaps it is possible for a judge to learn to spot biases and overcome them. However, psychological research into judicial biases to date has suggested that most judges are still subject to the same types of cognitive biases that the rest of us are.<sup>80</sup> More empirical research into this phenomenon would be useful.

## 2. *Stake in the Outcome*

Most of the studies reported above that have investigated the negativity bias do so from the perspective of determining how individuals make choices rel-

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<sup>74</sup> *Id.*

<sup>75</sup> *Id.* at 27 (“You have chosen to believe the measurement, but you cannot prevent System 1 from doing its thing; you cannot decide to see the lines as equal, although you know they are.”).

<sup>76</sup> *Id.*

<sup>77</sup> *Id.* at 27–28.

<sup>78</sup> *Id.* at 28.

<sup>79</sup> *Id.*

<sup>80</sup> *See, e.g.*, Chris Guthrie et al., *Blinking on the Bench: How Judges Decide Cases*, 93 CORNELL L. REV. 1, 1–3 (2007) (studying the effect of intuition on judicial decisionmaking); Chris Guthrie et al., *Inside the Judicial Mind*, 86 CORNELL L. REV. 777, 784 (2001) (studying the effect of five common cognitive illusions on the decisionmaking of 167 federal magistrate judges); Jeffrey J. Rachlinski et al., *Does Unconscious Racial Bias Affect Trial Judges?*, 84 NOTRE DAME L. REV. 1195, 1195 (2009); Andrew J. Wistrich et al., *Can Judges Ignore Inadmissible Information? The Difficulty of Deliberately Disregarding*, 153 U. PA. L. REV. 1251, 1251–52 (2005) (studying whether judges really can ignore inadmissible evidence); Jeffrey J. Rachlinski et al., *Probable Cause, Probability, and Hindsight* 1, 10, 13–17, 19–27 (July 2, 2011) (unpublished manuscript), available at [http://ssrn.com/abstract\\_id=1877125](http://ssrn.com/abstract_id=1877125).

evant to their own well-being.<sup>81</sup> The question most frequently asked is whether the negative information motivates them to make a choice pertinent to their own lives. Having a personal stake in the choice to be made may have a significant impact on how seriously they evaluate the negative information. To some extent, the subjects of these investigations are personally “at risk” in these experiments.

But, judges are not personally at risk in most of the cases they decide. Thus, one must ask: to what extent are the teachings of these experiments transferable to the judicial decision-making environment? Because judges, for the most part, do not have to live with the consequences of the decisions they render, can they detach themselves from the negative information and thus overcome the negativity bias?

A definitive answer to these questions cannot be made without some experimentation (and probably not even then because the answers would be murky). But let me propose a hypothesis for such an investigation: in most cases, a judge’s thinking would still be significantly influenced by the negativity bias. Here is why I think this is likely to be true.

First, one of the features of the reptilian brain is that it protects not only itself, but its community. Remember that the only concern of the reptilian brain is the survival of the organism; or, more accurately, the organism’s genes, so that the species can continue after the death of the organism.<sup>82</sup> Communities can make organisms safer.<sup>83</sup> Therefore, a threat to the community can awaken the reptile in each of us, thereby providing powerful incentive to act in such a way as to protect the community. To the extent that judges see themselves as protectors of civil community,<sup>84</sup> negative information or events that might threaten that community are likely to awaken the judges’ inner reptiles, and motivate them to take action to protect the community.<sup>85</sup>

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<sup>81</sup> To that extent, therefore, these are studies of our reptilian brain, since that is the region of the brain most concerned with survival. *See supra* text accompanying notes 54–56.

<sup>82</sup> BALL & KEENAN, *supra* note 8, at 21.

<sup>83</sup> *Id.* at 27.

<sup>84</sup> Prof. Ruth Anne Robbins has argued that litigants should cast judges in the role of mentors to the litigants. Ruth Anne Robbins, *Harry Potter, Ruby Slippers and Merlin: Telling the Client’s Story Using the Characters and Paradigm of the Archetypal Hero’s Journey*, 29 SEATTLE U. L. REV. 767, 782 (2006). In a pure story about the parties, that is their most likely role. However, in a story about the law, the judge might play the role of the ruler hero because the judge must create a new rule of law or interpret an ambiguous rule in such a way as to create a prosperous community. *Id.* at 803.

<sup>85</sup> I am not claiming that this response is the only, or even the most important, influence on a judge’s behavior. Reptilian responses are instinctive and instantaneous; judges generally have time to think and reflect, which likely mitigates the effect of the reptilian response. *See supra* Part III.A.1, for a discussion of System 1 and System 2 responses. I am claiming, however, that any instinctive protective response that a judge may feel is likely to feel normal and natural to the judge, and could well provide at least some motivation for a particular ruling.

Second, several of the leaders of the Applied Legal Storytelling movement have proposed that any lawsuit involves potentially as many as three different stories (plot lines, if you will). The lawsuit could be a story about the parties to the lawsuit (*i.e.* the dispute that caused the lawsuit to be filed in the first place). It could be a story about the law itself (such as the recent series of cases involving the right to same-sex marriage, where the individual facts are not that different but the purpose of the lawsuit is to change the law). Or, the lawsuit may involve a story of the process (*i.e.* the procedures by which a court goes about its work).<sup>86</sup> Any lawsuit could involve several, or all three, of these types of stories. For example, a plaintiff might claim a statute is unconstitutional on its face (a story about the law), while alternatively claiming that it is unconstitutional as applied (a story about the parties). The defendant may then file a motion to dismiss that case on the basis that the plaintiffs lack standing to sue (a story of the process). Many lawsuits will tell several of these stories at different points in time; for example, by testing the structure of the case (stories of the process) through early motions, then testing the merits of the case through dispositive motions (stories of either the law or the parties).

In the case of stories about the process, it is hard to claim that the judge deciding the case does not have a personal stake in the outcome; after all, the story turns on whether the judge has the power to decide the case, or the methods the judge will use to decide the case. And in a story about the law, once again it seems like the judge has an indirect, yet still personal, stake in the outcome. To the extent a story of the law is designed to change the law that governs society, the judge, as a member of that society, is affected by the outcome as much as any other member of society.<sup>87</sup>

I suggest, however, that even in a story about the parties, the judge, especially at the trial level, has a stake in the outcome sufficient to trigger the negativity bias. The trial judge in particular is likely aware that whatever decision she renders is unlikely to be appealed, and even if appealed it is unlikely to be reversed.<sup>88</sup> With the understanding that the trial judge's decision is likely final comes the responsibility to reach the correct result. Thus, a conscientious trial judge will have to carefully consider the consequences of her decision on the litigants before her,<sup>89</sup> and in doing so, become a participant (albeit transiently)

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<sup>86</sup> RUTH ANNE ROBBINS ET AL., *YOUR CLIENT'S STORY: PERSUASIVE LEGAL WRITING* 104 (2013).

<sup>87</sup> This may be more true of appellate judges than of trial judges.

<sup>88</sup> Consolidated reversal data for state courts is difficult to obtain. For federal courts, in the fiscal year ending on June 30, 2013, of 58,534 appeals terminated in all circuits, only 6.9 percent of all types of appeals resulted in a reversal. Cases categorized as "other private civil" cases were reversed at a rate of 11.3 percent. U.S. COURTS, U.S. COURTS OF APPEALS—APPEALS TERMINATED ON THE MERITS, BY CIRCUIT, DURING THE 12-MONTH PERIOD ENDING JUNE 30, 2013 (2013), available at <http://www.uscourts.gov/uscourts/Statistics/StatisticalTablesForTheFederalJudiciary/2013/june/B05Jun13.pdf>.

<sup>89</sup> Or, stated another way, the judge must have empathy for the litigants. See Thomas B. Colby, *In Defense of Judicial Empathy*, 96 MINN. L. REV. 1944, 1946 (2012).

in the lives of those litigants. At that moment, it seems, the negativity bias will most likely come into play.

This may be a controversial claim. Legal positivists will likely claim that a trial judge should decide a case based solely on the law, and should not allow her emotions to cloud her judgment. However, this claim overlooks the fact that many of the rules of law that the court is asked to apply contain fuzzy standards that can only be resolved through narrative reasoning (*i.e.* reasoning that engages the judge's emotional intelligence).<sup>90</sup>

Even appellate judges are probably not immune from relying on their personal belief systems in rendering their decisions. Chief Justice John Roberts, during his Senate confirmation hearings, famously claimed that he was merely an umpire calling balls and strikes, relying only on the rule of law.<sup>91</sup> But,

according to one observer, “[i]n every major case since he became the nation’s seventeenth Chief Justice, Roberts has sided with the prosecution over the defendant, the state over the condemned, the executive branch over the legislative, and the corporate defendant over the individual plaintiff.” The Chief Justice thinks that he is umpiring in a neutral fashion, but perhaps he is just subconsciously empathizing only with those whose experiences and perspectives most closely resemble his own as a former corporate and executive-branch lawyer.<sup>92</sup>

To the extent that appellate judges are guided by their own “experiences and perceptions,” the negativity bias is likely to influence their perception of the parties and therefore their thinking about how a case should be decided.

#### B. Addressing Adverse Information (Counteranalysis)

So if judges are likely to be affected by a negativity bias, what are some of the ways in which this might happen? The major premise of this article is that negative information is more powerful than positive information. Lawsuits, of course, are full of negative information: both, or all, sides involved in the dispute draw different conclusions from the same set of facts and circumstances, and try to paint their opponents in as poor a light as possible. If it is true that negative information is more powerful than positive information, then it seems likely that at some point in almost any litigated matter, an advocate is going to need to address adverse (negative) information.

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<sup>90</sup> Kenneth D. Chestek, *The Life of the Law Has Not Been Logic: It Has Been Story*, 1 SAVANNAH L. REV. 21, 29–33 (2014); see also Susan Bandes, *Empathy, Narrative, and Victim Impact Statements*, 63 U. CHI. L. REV. 361, 366 (1996); Terry A. Maroney, *The Persistent Cultural Script of Judicial Dispassion*, 99 CALIF. L. REV. 629, 645–48 (2011) (arguing that good reasoning requires engaging the emotional brain).

<sup>91</sup> *Confirmation Hearing on the Nomination of John G. Roberts, Jr. to Be Chief Justice of the United States: Hearing Before the S. Comm. on the Judiciary*, 109th Cong. 55 (2005) (statement of John G. Roberts, Jr., nominee to be Chief Justice of the United States).

<sup>92</sup> Colby, *supra* note 89, at 1993 (footnote omitted) (citing Jeffrey Toobin, *No More Mr. Nice Guy*, NEW YORKER (May 25, 2009), [http://www.newyorker.com/reporting/2009/05/25/090525fa\\_fact\\_toobin](http://www.newyorker.com/reporting/2009/05/25/090525fa_fact_toobin)).

Lawyers have long debated about whether, or how, to disclose adverse information (bad facts or bad law) when representing a client.<sup>93</sup> Professor Kathryn Stanchi has studied the issue by looking at social science research, and concluded “in many situations, there is a strategic advantage to preemptively raising negative information.”<sup>94</sup> There are two bodies of social science research that lead her to this conclusion: research into “message sidedness,” which essentially considers whether one- or two-sided messages are more persuasive, and “inoculation theory.”<sup>95</sup> Stanchi looked at numerous psychological studies and concluded that “[t]wo-sided refutational messages are more effective because they cause sustained attitude change that is less vulnerable to opposing arguments.”<sup>96</sup> She also concluded that this effect is a result of the enhanced credibility of the advocate in presenting both sides of the issue. Since “[m]ost people expect issues to have two sides, . . . two-sided messages lead the audience to perceive the message source as more credible and knowledgeable than one-sided messages.”<sup>97</sup>

Perhaps more importantly for our current inquiry, inoculation theory also suggests that in many cases presenting negative information before your opponent has the opportunity to do so is a better choice than waiting for your opponent to raise the bad information and then trying to refute it post-hoc. Inoculation, as the name implies, works by presenting the audience with a weakened version of the adverse argument or bad facts in an effort to make the audience resistant to that information when presented at full strength by opposing counsel.<sup>98</sup> The research reviewed by Stanchi concluded that, in many situations, inoculating messages did in fact cause the message recipients to resist the later bad information.<sup>99</sup>

This, of course, does not prove that “bad is stronger than good.” It does suggest, however, that “bad is strong and must be dealt with,” or perhaps more optimistically, “bad is strong and *can* be dealt with.” Professor Stanchi’s analysis of why inoculation works may shed some insight on the power of bad. She writes that “[t]he key to the inoculation response is ‘threat.’”<sup>100</sup> In essence, bad is recruited to serve the good because upon seeing the weakened version of the bad information, the recipient generates stronger counterarguments that favor the position advocated. When the stronger version of the harmful argument is

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<sup>93</sup> For a good discussion of both sides of this debate, see Kathryn M. Stanchi, *Playing with Fire: The Science of Confronting Adverse Material in Legal Advocacy*, 60 RUTGERS L. REV. 381, 383–92 (2008) [hereinafter Stanchi, *Playing with Fire*]; see also Kathryn Stanchi, *What Cognitive Dissonance Tells Us About Tone in Persuasion*, 22 BROOKLYN J.L. & POL’Y 101, 102 (2013) [hereinafter Stanchi, *Cognitive Dissonance*].

<sup>94</sup> Stanchi, *Playing with Fire*, *supra* note 93, at 393.

<sup>95</sup> *Id.* at 392–93.

<sup>96</sup> *Id.* at 395.

<sup>97</sup> *Id.* at 397.

<sup>98</sup> *Id.* at 399–400.

<sup>99</sup> *Id.* at 401–06.

<sup>100</sup> *Id.* at 406.

then perceived, the favorable counterargument is retrieved to refute the harmful argument. And, because the recipient of the inoculation generates the counterargument, that argument is inherently persuasive to the recipient.

So: bad is strong, but can be turned to good through careful counteranalysis.

### C. Making Policy Arguments

Another possible implication of the negativity bias may reside in how an advocate phrases an argument to the court. Will the court be more amenable to a negative argument as opposed to a positive one?

Professor Michael R. Smith has proposed that, because of a combination of several cognitive phenomena, including the loss aversion effect, the endowment effect, and the negativity bias, a policy argument may be more effective if phrased in terms of avoiding bad outcomes rather than promoting good ones.<sup>101</sup> He argues, for example, that the classic slippery slope argument can be phrased more memorably and persuasively as avoiding a negative outcome: X result would prevent a “flood of litigation” is stronger than X result would protect the “resources and efficiency of the court.”<sup>102</sup> He provides numerous examples of how this is fairly easy to do, as most positive statements can be stated in the inverse.

Policy arguments are sometimes used to advocate for a new rule or a change in the law.<sup>103</sup> Professor Smith cites *Ahtna Tene Nené v. Alaska Dep’t of Fish & Game*<sup>104</sup> as an example of how a narrative argument based on the policy of fairness succeeded in creating a new rule regarding the practice of law by unlicensed individuals.<sup>105</sup> Notably, the court ruled that allowing unlicensed individuals to recover attorney fees “without taking on the obligations and responsibilities of being a lawyer is *fundamentally unfair*.”<sup>106</sup> The fact that the court phrased its rationale negatively, that is, in terms of *unfairness* instead of *fairness*, suggests that the negativity bias played a role in its decision.<sup>107</sup>

### D. Choosing Themes

Counteranalysis and policy arguments are just two specific places where the negativity bias might play a role in shaping a judge’s thoughts about a par-

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<sup>101</sup> Michael R. Smith, *The Sociological and Cognitive Dimensions of Policy-Based Persuasion*, 22 J.L. & POL’Y 35, 76–79 (2013).

<sup>102</sup> See *id.* at 78.

<sup>103</sup> *Id.* at 51–53.

<sup>104</sup> *Ahtna Tene Nené v. Alaska Dep’t of Fish & Game*, 288 P.3d 452 (Alaska 2012).

<sup>105</sup> Smith, *supra* note 101, at 51–53.

<sup>106</sup> *Ahtna*, 288 P.3d at 463 (emphasis added).

<sup>107</sup> For additional discussion of the role of the negativity bias in arguing for a change in the law, see discussion *infra* Part III.D.3.



ticular case. But what about a more general concept: the theme of an advocate's case?

One definition of a theme of a case is “the essential reason [a] writer advances to convince a judge or jury that a ruling in [your client's favor] is fair, just, and emotionally satisfying.”<sup>108</sup> Note that the “theme” differs from the “theory” of a case. The “theory” refers to the legal theory that gives the court a legal basis to rule in your client's favor, or the *logos* strand of reasoning.<sup>109</sup> The theme relates more to *pathos* of the argument, and therefore may be influenced by the negativity bias.

Themes can be positive: “The court should rule in my client's favor because my client is good and therefore worthy of assistance.” Or they can be negative: “The court should rule in my client's favor because the opposing party is bad and therefore not worthy of assistance.” Or perhaps they are somewhere in between: “My client has been grievously harmed and needs help from this court.” The question therefore becomes, if negative information is more powerful than positive, shouldn't advocates always choose negative themes?

As abstract as that question is, I know the answer as definitively as the supercomputer Deep Thought knows the answer to the Great Question of Life, the Universe, and Everything.<sup>110</sup> The correct choice of theme is: it depends.<sup>111</sup> But, just as Deep Thought's answer simply led to another question, my answer does too: what does your choice of theme depend on?

Unfortunately, this deeper question cannot be answered satisfactorily without empirical research. I would like to offer a few test hypotheses for such an experiment based upon what cognitive psychologists have studied.<sup>112</sup> Let me propose a few common types of factual disputes and legal issues, and suggest what thematic choices might be suggested by the research.

### 1. *The Legal Issue Revolves Around Dishonest or Immoral Conduct*

Suppose your case, or at least one aspect of your case, depends on a finding that the opponent behaved in a dishonest or immoral manner. This could arise, for example, in a case where a plaintiff seeks exemplary damages, or where a defendant raises a defense of unclean hands or laches in an equity case. In such a situation, a negative theme is likely to be most persuasive, since the negati-

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<sup>108</sup> ROBBINS ET AL, *supra* note 86, at 45. Ball and Keenan define “theme” as “the establishing and maintaining of a concept as one of the lenses through which jurors continually view the trial.” BALL AND KEENAN, *supra* note 8, at 102.

<sup>109</sup> Kenneth D. Chestek, *Judging by the Numbers: An Empirical Study of the Power of Story*, 7 J. ASS'N LEGAL WRITING DIRECTORS 1, 14 (2010).

<sup>110</sup> The answer, of course, is forty-two. See DOUGLAS ADAMS, *THE HITCHHIKER'S GUIDE TO THE GALAXY* (1979).

<sup>111</sup> This is the SLA, or Standard Legal Answer. It is the correct answer to every legal question.

<sup>112</sup> See *supra* Part I.



ty bias seems to hold greater potency when moral behavior is being evaluated.<sup>113</sup>

## 2. *The Legal Issue Revolves Around Competence*

Alternatively, the case may depend on a determination that your client is competent and likely to perform competently in the future. For example, in a child custody dispute, the court may be required to decide which of two litigants is likely to provide a safer and more stable home environment for minor children. In such a case, a positive theme is best (*i.e.* showing the positive traits of your client rather than focusing on the negative traits of the opposing client). This is because there appears to be a positivity bias when persons must evaluate the competency of another.<sup>114</sup>

A question arises, however, about whether the positivity bias applies only prospectively, or if it influences a judge's, or jury's, decision about whether somebody acted competently in the past. For example, in a medical malpractice case, will evidence that the defendant doctor has successfully performed the same procedure countless previous times trigger the jury's positivity bias and make it more likely that the jury will find the doctor performed competently this time? Or, will it simply create contrast in the jury's mind between the doctor's usual successful practice and this one incident where the procedure was unsuccessful? That is to say, a jury may conclude that if the doctor had been able to do this procedure without incident frequently in the past, he must have done something very wrong this time to get the different result. If that is the case, the positive theme chosen by the defendant (the doctor is competent) may only enhance the power of the negative theme chosen by the plaintiff (this doctor made a horrible mistake). More research on this question would be interesting, but probably not conclusive, since the facts of real cases vary widely.

## 3. *The Law (or the Rules of Procedure) Need to Be Changed in Order for Your Client to Prevail*

This is the classic "story of the law" situation.<sup>115</sup> Sometimes, the point of the lawsuit is to force a substantive change to the common law, or the interpretation of enacted law. In such cases, the individual facts of the case are often undisputed and nearly irrelevant. The "opposing party" is often the government, or some proxy for the government that has a vested interest in keeping the law unchanged. The most significant current example of this type of lawsuit

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<sup>113</sup> See *supra* text accompanying notes 26–27.

<sup>114</sup> See *supra* text accompanying notes 26–27. Of course, another factor may be at play in this example: the parent that "goes negative" may be viewed by the court as more selfish and less interested in the welfare of the child than the parent which takes the higher road.

<sup>115</sup> Note that a claim that the rules of procedure should be changed is really a story of the law, not a story of the process. In a true story of the process, the rules of procedure are not at issue; it is how those rules apply to the case in front of the judge that is controverted.

is the widespread litigation about the constitutionality of same-sex marriage in the wake of *United States v. Windsor*,<sup>116</sup> although there have been many similar types of cases over the years.

It seems likely that in this type of case, both sides should choose negative themes. Because the cognitive psychology research suggests that the recipient processes negative information more thoroughly, plaintiff's counsel should certainly attempt to demonstrate how the existing state of the law causes injury to her client or members of the class of persons of which her client is a member. Forcing the judge to process that negative information seems more likely to result in a ruling changing the status quo than a theme which merely shows how much better the plaintiff's life would be if the rules were different.

But, even the defendant in such a case should arguably choose a negative theme as well. That is, defendants should portray the requested change as a threat to the settled, tranquil state of affairs currently in force. Stability is generally perceived to be safe, and changes are threatening; therefore, any change to the law may awaken the defensive instincts of the reptile within.

However, the themes of the same-sex marriage cases that are coursing rapidly through the courts today may seem to contradict my analysis that advocates for changing the legal rules should choose a negative theme. The theme chosen by many same-sex marriage advocates has been "fairness."<sup>117</sup> Some courts have explicitly cited fairness as at least part of the rationale for striking down bans on same-sex marriage.<sup>118</sup> But, isn't "fairness" a value we all share, and therefore a positive theme?

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<sup>116</sup> *United States v. Windsor*, 133 S. Ct. 2675 (2013).

<sup>117</sup> See, e.g., FAIRNESS COALITION, <http://fairnesscoalition.org/> (last visited Apr. 27, 2015) (touting the fact that since Kentucky passed a human rights act in 1960, "cities like Lexington, Louisville, and Covington have all worked tirelessly to honor this legacy by enacting fairness ordinances—laws that ensure everyone in our commonwealth has equal protection," specifically nondiscrimination against LGBT persons); *Marriage Fairness*, N.Y. CIV. LIBERTIES UNION, <http://www.nyclu.org/issues/lgbt-rights/marriage-fairness> (last visited Apr. 27, 2015); *Out for Freedom*, AM. CIV. LIBERTIES UNION, <https://www.aclu.org/out-freedom> (last visited Mar. 24, 2015) (making the argument that "we can decisively win fair marriage laws and relegate discrimination against gay and lesbian couples to the dustbin of history"); see also *Federal Appeals Court Says Gay Couples Have Right to Marry*, CBS NEWS (June 24, 2014, 10:15 PM), <http://www.cbsnews.com/news/federal-appeals-court-says-gay-couples-have-right-to-marry/> (stating the lead counsel for the plaintiffs in the recent Tenth Circuit decision striking down Utah's ban on same-sex marriage, Peggy Tomsic, hailed the decision as "an absolute victory for fairness and equality for all families in Utah, in every state in the 10th Circuit and every state in this great nation of the United States").

<sup>118</sup> See, e.g., *Bostic v. Rainey*, 970 F. Supp. 2d 456, 484 (E.D. Va. 2014). Judge Arenda L. Wright Allen eloquently quoted Abraham Lincoln:

Almost one hundred and fifty four years ago, as Abraham Lincoln approached the cataclysmic rending of our nation over a struggle for other freedoms, a rending that would take his life and the lives of hundreds of thousands of others, he wrote these words: "*It can not have failed to strike you that these men ask for just . . . the same thing—fairness, and fairness only. This, so far as in my power, they, and all others, shall have.*"

On closer examination, the “fairness” theme implicitly triggers the negativity bias. Everybody is in favor of fairness; so why are these same-sex couples in court? Oh, they are claiming that they have been denied fairness for arbitrary reasons. That is bad! The plaintiffs in these cases produce evidence of negative consequences of this arbitrary rule,<sup>119</sup> which requires the listener to think and process that information—one of the main reasons why negative stimuli are so powerful. Thus the reptile awakens to protect the value of “fairness” and a stable community.

The example of the same-sex marriage cases leads to a categorization problem: what is the difference between a positive theme and a negative theme? Can’t all negative themes be phrased in a positive way, just as many plaintiffs have done in that litigation?

Jury consultant David Ball and prominent plaintiff’s attorney Don Keenan argue that, although they recommend trying to awaken the reptile in each juror, “[g]loom and doom don’t win cases for you.” They recommend selecting a theme that inspires the reptile to provide a positive solution, even though the reptile was awakened by a fear response or negative stimuli. From a plaintiff’s perspective, they suggest choosing themes that make a jury feel safer. That is, they recommend not focusing on how badly the plaintiff was injured and on how he needs a big verdict (a negative theme), but instead focusing on what safety rule the defendant violated, and how awarding a verdict will deter that defendant and others from violating that safety rule in the future.<sup>120</sup> Thus, in a medical malpractice case, the plaintiff should focus the jury’s attention not on the doctor’s bad behavior (*i.e.* the doctor hurt the patient grievously by failing

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The men and women, and the children too, whose voices join in noble harmony with Plaintiffs today, also ask for fairness, and fairness only. This, so far as it is in this Court’s power, they and all others shall have.

*Id.*

<sup>119</sup> See, e.g., Brief of Plaintiffs-Appellees at 3–4, *Kitchen v. Herbert*, 755 F.3d 1193 (10th Cir. 2014) (No. 13-4178), 2014 WL 897509, at \*3–4, (leading to the decision affirming the striking down of Utah’s same-sex marriage statute in *Kitchen v. Herbert*, 755 F.3d 1193 (10th Cir. 2014)). The brief’s introduction stated:

Amendment 3 denies same-sex couples the vast array of state and federal protections that enable married couples to join their lives together, care for one another in times of illness and crisis, be recognized as a surviving spouse in the event of the other partner’s death, provide for one another financially, make important joint decisions, and have their relationship acknowledged and respected by the government and third parties. No matter how deeply they care for one another or how long they have stood by one another, for better or for worse, in sickness and in health, Amendment 3 treats Plaintiffs and other same-sex couples as legal strangers to one another. It communicates to them and to all the world that their relationships are not as real, valuable, or worthy as those of opposite-sex couples; that they are worthy of no recognition at all; and that they are not, and never can be, true families.

*Id.*

<sup>120</sup> Whether you consider that a negative theme (defendant violated a rule) or a positive one (the jury can encourage safe future behavior) is debatable but almost meaningless. The theme incorporates both negative and positive elements.

to live up to the standard of care), but on the safety rule that needs to be enforced (*i.e.* doctors should not needlessly risk injury to their patients by performing surgeries in a particular way; the best way to prevent future injuries is to award damages to this patient equivalent to his grievous injury).<sup>121</sup>

In the context of the same-sex marriage litigation, that is exactly how the appeal to “fairness” works. “Unfairness” is a threat, in the sense that fairness is a “safety rule” imposed for the good of society (*i.e.* it is a value that we all agree about). Therefore, rules that are unfair are a threat to the community, and the safest thing to do is to replace those rules with more fair rules.

#### 4. *Often, Multiple Themes May Be Useful*

Most lawsuits, of course, are primarily stories about the parties. Some conflict arose between one or more persons or entities, and the court’s job is simply to sort out the dispute and resolve it. It is nearly impossible to generalize about thematic choices in such cases, because the universe of possibilities is probably endless. But, it might still be useful to think about the advocate’s choices in these cases.

First, remember that each party in these cases will be telling different stories about each other. The judge’s or jury’s default position is likely to be that all parties to the case acted with good intentions, and that no party is purely evil or purely good.<sup>122</sup> Therefore, any attempt to go completely negative will likely be met with skepticism, as will any attempt to portray your client as flawless. Your theme or themes should therefore be chosen to present the world as it likely is: not perfect, but on balance favoring your client.

There is no reason why an advocate needs to limit herself to a single theme. If you go with multiple themes, consider choosing a positive and a negative one: my client is good AND the opponents are bad. The tension between those two themes creates the conflict that drives the story.

#### E. *Choosing Tone*

A concept related to theme is tone. Although the tone of written advocacy relates more to ethos, it seems likely that the negativity bias is still at play here. Would a brief that adopts a strident, aggressive tone (think of the negative political ads referred to at the beginning of the article) be more effective than a more neutral, objective-sounding tone? After all, the negativity bias works by commanding more of the listener’s attention, and by causing the brain to process negative information more thoroughly. Shouldn’t that be a useful outcome for the advocate?

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<sup>121</sup> BALL AND KEENAN, *supra* note 8, at 62–66.

<sup>122</sup> ROBBINS ET AL., *supra* note 86, at 92; *see also* Cathren Koehlert-Page, *Breaking Bad Facts: What Intriguing Contradictions in Fiction Narratives Can Teach Lawyers About Coping with Harmful Evidence* (2015) (unpublished manuscript) (on file with author).

Professor Kathryn Stanchi suggests that a negative tone in a legal brief might backfire, because it could cause the recipient to *reject* the message.<sup>123</sup> She analyzes the phenomenon of cognitive dissonance, both in situations where it is harmful to the advocate (by creating a barrier to persuasion) and helpful (by creating an opportunity to minimize harmful facts or legal concepts). The former situation is most relevant to the concept of tone.

Legal writing professors, judges, and skilled advocates almost universally advise brief writers to avoid *ad hominem* attacks on opposing counsel or the lower court in an appellate brief. That advice seems to run counter to the notion that “bad is stronger than good,” but Stanchi argues a brief that is too strident in tone can cause a reader to feel manipulated, which “arouse[s] all kinds of negative feelings, including anger and betrayal.”<sup>124</sup> This typically causes a “reactance” response in the reader that may motivate the reader to reject the message or even to generate a positive response to the message being attacked.<sup>125</sup>

Stanchi cites an interesting “think aloud” study conducted by Professor Jim Stratman, in which he asked an advocate to record his thoughts as he wrote an appellate brief.<sup>126</sup> He then showed the brief to a group of law clerks and had them record their responses to the brief as they read it. The attorney’s thoughts centered on different ways he could “attack” the lower court’s opinion; the resulting brief had a “harshly negative” tone regarding the lower court opinion, which attacked even the most trivial aspects of the opinion.<sup>127</sup> The result was predictable: the law clerks reacted negatively to the advocate and ultimately rejected the message of the brief.<sup>128</sup>

While the results of Stratman’s study are not surprising, his “think aloud” technique is intriguing. It would be useful for other scholars to do similar experiments and analyze the results on actual cases with live subjects.

#### IV. WHERE DO WE GO FROM HERE?

Social science is not exact. Because it deals with human behavior and the wide range of possibilities among each individual, all social scientists can do is look for patterns and make generalizations. One researcher proposes a hypothesis, tests it through experimentation, and then reports her findings to her peers. Others read the report and either replicate (or not) the findings through further testing, or they vary the parameters of the previous test, run a new experiment, and report those results to try to determine the boundaries or variables associated with the first finding. The investigators then discuss their findings with each

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<sup>123</sup> Stanchi, *Cognitive Dissonance*, *supra* note 93, at 107–08.

<sup>124</sup> *Id.*

<sup>125</sup> *Id.* at 107–08, 115–16.

<sup>126</sup> James F. Stratman, *Investigating Persuasive Processes in Legal Discourse in Real Time: Cognitive Biases and Rhetorical Strategy in Appeal Court Briefs*, 17 DISCOURSE PROCESSES 1, 44, 46–47 (1994) (cited in Stanchi, *Cognitive Dissonance*, *supra* note 93 at 108 n.47).

<sup>127</sup> Stanchi, *Cognitive Dissonance*, *supra* note 91, at 109.

<sup>128</sup> *Id.* at 110.

other, theorize about what those findings mean, and consequently, knowledge of the studied phenomenon grows.

Judicial decisionmaking is a form of human behavior that can, and should, be tested using social science methodology.<sup>129</sup> Some work in this area has already begun,<sup>130</sup> including some tests reported at the UNLV Conference on Psychology and Lawyering.<sup>131</sup> I hope to test some of the hypotheses I proposed above in future empirical studies, but I also encourage others to conduct similar research. We, as the legal academy, need to learn from our colleagues in the social science departments how to construct and implement scientifically valid studies, then compare our results to determine whether we are coming up with sound conclusions. I look forward to future Psychology of Lawyering conferences where the conversation started in Las Vegas can continue.

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<sup>129</sup> Using empirical methods to examine judicial behavior is not without controversy. See, e.g., Harry T. Edwards, Essay, *Collegiality and Decision Making on the D.C. Circuit*, 84 VA. L. REV. 1335, 1335 (1998) (“[E]ven when one looks carefully at the so-called ‘empirical studies’ that purport to analyze the work of my Circuit, it is clear that, in most cases, judicial decision making is a principled enterprise that is greatly facilitated by collegiality among judges.”); see generally Harry T. Edwards & Michael A. Livermore, *Pitfalls of Empirical Studies That Attempt to Understand the Factors Affecting Appellate Decisionmaking*, 58 DUKE L.J. 1895 (2009). For a good overview of the current debate about using empirical methods to study judges, see generally Gregory C. Sisk & Michael Heise, *Judges and Ideology: Public and Academic Debates About Statistical Measures*, 99 NORTHWESTERN U. L. REV. 743 (2005).

<sup>130</sup> See sources cited *supra* note 80; see also Chestek, *supra* note 109 (studying judges’ reactions to narrative reasoning in an appellate brief).

Other sorts of empirical studies which try to draw conclusions simply from examining judicial decisions without engaging the judges directly have been conducted by scholars for years; the recent book by Profs. Epstein, Landes, and Posner is but one example of such work. See generally EPSTEIN ET AL., *supra* note 11. There is of course great value in such studies, because they eliminate the possibility of skewed data resulting from cognitive biases or lack of judicial self-awareness. However, such studies require a good deal of interpretation and even some degree of speculation as to what is really going on. Direct psychological testing of the type described here is also a valuable tool for understanding judicial behavior.

<sup>131</sup> See, e.g., Nicole E. Negowetti, *Implicit Bias and The Legal Profession’s “Diversity Crisis”: A Call for Self-Reflection*, 15 NEV. L.J. 930 (2015).