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## Behavioral Science and Science in Class Action Securities Fraud Litigation

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## ESSAY

### Behavioral Science and Scierter in Class Action Securities Fraud Litigation

*Ann Morales Olazábal\**

#### INTRODUCTION

Daniel Kahneman and Amos Tversky's groundbreaking work in prospect theory and the subsequent body of related research has important implications for proof of scierter in section 10(b) cases.<sup>1</sup> In fact, because scierter involves inquiry into cognition and perception in the context of fraud allegations, we have perhaps been remiss until now in not asking directly how this now well-established psychology research affects the way we define and infer scierter, especially recklessness, given the Private Securities Litigation Reform Act's (PSLRA) heightened pleading standards.<sup>2</sup> This Essay asks that pointed question, in the hopes of encouraging further debate on the topic.

Part I briefly summarizes most of what others have concluded about the interplay between cognitive biases and heuristics, issuer communications, and the financial markets generally. Then, Part II describes somewhat less familiar behavioral concepts, namely System 1

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\* I am grateful to all participants in the Second Annual Institute for Investor Protection Conference at Loyola University Chicago School of Law, especially Judge Jed S. Rakoff and Professors Don Langevoort, Geoff Rapp, and Robert Prentice. I am also grateful to Dean Michael J. Kaufman, for inviting me to consider this question more deeply. I welcome comments at aolazabal@miami.edu.

1. Section 10(b) of the 1934 Securities Exchange Act of 1934 ("1934 Act") is codified at 15 U.S.C. § 78j(b) (2006). The Securities Exchange Commission promulgated Rule 10b-5 per its rulemaking authority under section 10(b). 17 C.F.R. § 240.10b-5 (2010). In *SEC v. Zandford*, the U.S. Supreme Court noted that the "scope of Rule 10b-5 is coextensive with the coverage of [section] 10(b)." 535 U.S. 813, 816 n.1 (2002). The Court, therefore, has adopted the use of "[section] 10(b) to refer to both the statutory provision and the Rule." This Essay will similarly refer to a securities fraud claim as a section 10(b) claim.

2. Private Securities Litigation Reform Act of 1995, Pub. L. No. 104-67, 109 Stat. 737 (codified as amended in scattered sections of 15 U.S.C. (2006)). The PSLRA's procedural reforms include, among others, new requirements for those who may serve as lead plaintiff and plaintiffs' counsel in open-market fraud cases, reducing the availability of joint and several liability, heightened pleading standards, and a broad discovery stay until after consideration of any motion to dismiss. See 15 U.S.C. § 78u-4(a)(3), (b)(2), (b)(3)(B), (f)(2)(A).

and System 2 thinking, and how they impact the delivery and receipt of market information. Against this social psychology backdrop, Part III renews my call for an objective, context-driven standard for establishing a strong inference of recklessness at the pleading stage,<sup>3</sup> incorporating new insights and argument based on behavioral science.

#### I. COGNITIVE SCIENCE, EXECUTIVES, AND CORPORATE DISCLOSURES

Much has been written in the area of behavioral law and economics.<sup>4</sup> A considerable amount of this scholarship has demonstrated how behavioral science and neurobiology explain human conduct,<sup>5</sup> and suggests how and whether we might change the legal system in salutary recognition of these scientifically robust phenomena.<sup>6</sup> Professor Donald Langevoort has led the way in identifying the relevant systematic cognitive errors and mental biases that affect and play out in the corporate financial arena.<sup>7</sup> In numerous articles over the last two

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3. I first articulated this thesis in 2010. Ann Morales Olazábal, *Defining Recklessness: A Doctrinal Approach to Deterrence of Open Market Securities Fraud*, 2010 WIS. L. REV. 1415, 1420.

4. Perhaps one of the best-known works is Christine Jolls, Cass R. Sunstein & Richard Thaler, *A Behavioral Approach to Law and Economics*, 50 STAN. L. REV. 1471, 1473–74 (1998) (“Our goal in this article is to advance an approach to the economic analysis of law that is informed by a more accurate conception of choice, one that reflects a better understanding of human behavior and its wellsprings.”). Also in 1998, Professor Donald C. Langevoort published the instrumental article, *Behavioral Theories of Judgment and Decision Making in Legal Scholarship: A Literature Review*, 51 VAND. L. REV. 1499 (1998) (describing the impact behavioral research had begun to have on the scholarship in a variety of legal sub-disciplines). Since then, behavioral law and economics as a theme has expanded immeasurably. A good account of the debate associated with the behavioral approach to law and economics is found in Russell B. Korobkin & Thomas S. Ulen, *Law and Behavioral Science: Removing the Rationality Assumption from Law and Economics*, 88 CALIF. L. REV. 1051 (2000).

5. See Geoffrey Christopher Rapp, *The Wreckage of Recklessness*, 86 WASH. U. L. REV. 111, 153–61 (2008) (introducing the implications of “neuroeconomics,” which “focuses on choice as a product of brain activity”).

6. A simple search of the term “behavioral law and economics” alone in the Lexis-Nexis Database turned up nearly 1000 law review articles purporting to put a behavioral spin on a legal topic, running the gamut from Barak D. Richman’s *Behavioral Economics and Health Policy: Understanding Medicaid’s Failure*, 90 CORNELL L. REV. 704 (2005), to Kent Greenfield’s *Using Behavioral Law and Economics to Show the Power and Efficiency of Corporate Law as a Regulatory Tool*, 35 U.C. DAVIS L. REV. 581 (2002), to Jasmin Yang’s *A Whole Different Ballgame: Ticket Scalping Legislation and Behavioral Economics?*, 7 VAND. J. ENT. L. & PRAC. 111 (2004). Other variations on the term are undoubtedly possible, increasing the quantity of scholarship devoted to this endeavor.

7. Professor Prentice has also written many influential pieces in this area. See, e.g., Robert A. Prentice, *Chicago Man, K-T Man, and the Future of Behavioral Law and Economics*, 56 VAND. L. REV. 1663 (2003); Robert Prentice, *Contract-Based Defenses in Securities Fraud Litigation: A Behavioral Analysis*, 2003 U. ILL. L. REV. 337; Robert Prentice, *Whither Securities Regulation? Some Behavioral Observations regarding Proposals for Its Future*, 51 DUKE L.J. 1397 (2002); Robert Prentice, *Enron: A Brief Behavioral Autopsy*, 40 AM. BUS. L.J. 417 (2002); Robert A.

decades, Langevoort has methodically diagnosed primary psychological causes and effects of individual behavior and organizational attributes that result in allegations of securities fraud.<sup>8</sup>

Chief among these are overconfidence, over-optimism, attribution error and illusion of control, the anchoring and framing effects, and loss aversion. To bring the reader along quickly to the argument, the next Subparts briefly address each of these—both from the individual and the organizational perspective—as they might relate to putative securities fraud.

#### A. *The Executive Decision Making Environment*

Decision making in the executive environment is fraught with ambiguity and a critical need to interpret and transmit large amounts of information. To manage such often overwhelming demands and any anxiety provoked by ambiguity, human beings—and perhaps executives in particular—develop “best available” interpretations and perspectives.<sup>9</sup> Well-established cognitive heuristics enable us to move quickly through the day’s tasks—making decisions and interpreting facts that are often incomplete—to the best of our ability, using “judgment.” Judgment is, at best, a mix of analytical and intuitive thinking, biased by the hardwiring of the human brain, which exhibits systematic and predictable mental “shortcuts.” The most relevant of these shortcuts are discussed here in brief.

Overconfidence is the human tendency to overestimate one’s

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Prentice, *The Case of the Irrational Auditor: A Behavioral Insight into Securities Fraud Litigation*, 95 NW. U. L. REV. 133 (2000).

8. See, e.g., Donald C. Langevoort, *State of Mind and the Global Financial Crisis* (manuscript on file with author) [hereinafter Langevoort, *State of Mind*]; Donald C. Langevoort, *Chasing the Greased Pig Down Wall Street: A Gatekeeper’s Guide to the Psychology, Culture, and Ethics of Financial Risk Taking*, 96 CORNELL L. REV. 1209 (2011); Donald C. Langevoort, *Psychological Perspectives on the Fiduciary Business*, 91 B.U. L. REV. 995 (2011); Donald C. Langevoort, *Reflections on Scierter (and the Securities Fraud Case against Martha Stewart That Never Happened)*, 10 LEWIS & CLARK L. REV. 1 (2006) [hereinafter Langevoort, *Reflections on Scierter*]; Donald C. Langevoort, *Resetting the Corporate Thermostat: Lessons from the Recent Financial Scandals about Self-Deception, Deceiving Others and the Design of Internal Controls*, 93 GEO. L.J. 285 (2004) [hereinafter Langevoort, *Thermostat*]; Donald C. Langevoort, *Taming the Animal Spirits of the Stock Markets: A Behavioral Approach to Securities Regulation*, 97 NW. U. L. REV. 135 (2002) [hereinafter Langevoort, *Animal Spirits*]; Donald C. Langevoort, *Monitoring: The Behavioral Economics of Corporate Compliance with Law*, 2002 COLUM. BUS. L. REV. 71; Donald C. Langevoort, *Organized Illusions: A Behavioral Theory of Why Corporations Mislead Stock Market Investors (and Cause Other Social Harms)*, 146 U. PA. L. REV. 101 (1997) [hereinafter Langevoort, *Organized Illusions*]; Donald C. Langevoort, *Selling Hope, Selling Risk: Some Lessons for Law from Behavioral Economics about Stockbrokers and Sophisticated Customers*, 84 CALIF. L. REV. 627 (1996).

9. See Langevoort, *Organized Illusions*, *supra* note 8, at 135.

competence.<sup>10</sup> This attribute may be especially prevalent among corporate executives, who overestimate not only their own knowledge but also the accuracy of their judgments.<sup>11</sup> This fairly systematic bias engenders in them an inflated perspective of the firm vis-à-vis its competitors and in the marketplace generally.<sup>12</sup> It is also most likely to be exhibited in connection with the more difficult judgments rather than the simple matters.<sup>13</sup>

Over-optimism is the human tendency to underestimate risk, in particular risk that bad things will happen to oneself.<sup>14</sup> This bias, as displayed by executives, is actually a prized adaptive quality.<sup>15</sup> The over-optimism bias in top executives who control reporting is especially relevant to corporate communications, because it skews disclosure of risks, tending to result in the painting of a rosier picture than is warranted.<sup>16</sup>

Attribution error is the human propensity to ascribe both good and bad results to human personalities while discounting situational factors in considerations of causality.<sup>17</sup> An important related notion is illusion

10. See, e.g., MAX H. BAZERMAN, JUDGMENT IN MANAGERIAL DECISION MAKING 37–39 (1994); Paul Slovic et al., *Facts versus Fears: Understanding Perceived Risk*, in JUDGMENT UNDER UNCERTAINTY: HEURISTICS AND BIASES (Daniel Kahneman et al. eds., 1982); Jeffrey J. Rachlinski, *The Uncertain Psychological Case for Paternalism*, 97 NW. U. L. REV. 1165, 1172 (2003).

11. Baruch Fischhoff et al., *Knowing with Certainty: The Appropriateness of Extreme Confidence*, 3 J. EXPERIMENTAL PSYCHOL. HUM. PERCEPTION & PERFORMANCE 552 (1977); Dale W. Griffin & Carol A. Varey, *Towards a Consensus on Overconfidence*, 65 ORG. BEHAV. & HUM. DECISION PROCESSES 227, 228 (1996).

12. A. Mechele Dickerson, *A Behavioral Approach to Analyzing Corporate Failures*, 38 WAKE FOREST L. REV. 1, 5 (2003); Langevoort, *Organized Illusions*, *supra* note 8, at 140.

13. See, e.g., Ward Edwards & Detlof von Winterfeldt, *Cognitive Illusions and Their Implications for the Law*, 59 S. CAL. L. REV. 225, 239 (1986) (“[P]eople are much less likely to be overconfident about easy probability judgments than about difficult ones. . . . [V]ery difficult judgments produce the most overconfidence.”).

14. See Moses L. Pava & Marc J. Epstein, *How Good is MD&A as an Investment Tool?*, 175 J. ACCT. 51, 52–53 (1993); Cass R. Sunstein, *Behavioral Analysis of Law*, 64 U. CHI. L. REV. 1175, 1183 (1997); Shelley E. Taylor & Jonathan D. Brown, *Illusion and Well-Being: A Social Psychological Perspective on Mental Health*, 103 PSYCHOL. BULL. 193, 196–97 (1988).

15. Professor Langevoort aptly describes this phenomenon:

Much research on individual cognition indicates that the most successful person, on average, tends not to be the realist, but rather the optimist. High levels of self-esteem and self-efficacy are associated with aggressiveness, perseverance, and optimal risk-taking. These biases may be particularly adaptive in business settings, where decisiveness and aggressiveness are considered indicators of a successful manager.

Langevoort, *Organized Illusions*, *supra* note 8, at 153–54 (footnotes omitted). See also *infra* note 19 and accompanying text (describing the link between over-optimism and risk).

16. See Donald C. Langevoort, *The Epistemology of Corporate-Securities Lawyering: Beliefs, Biases and Organizational Behavior*, 63 BROOK. L. REV. 629, 645 (1997) (opining that of the behavioral biases, over-optimism may pose the greatest threat to accurate securities disclosure).

17. Victor D. Quintanilla, *(Mis)Judging Intent: The Fundamental Attribution Error in Federal*

of control, which describes the mind's inclination to ignore the role of luck.<sup>18</sup> These biases, together with over-optimism, account for executives' hubris, which in turn encourages risky behavior. Over-optimism and illusions of control are linked to

[a] variety of positive outcomes: greater willingness to take risk, more persistence in the face of adversity, etc. One can readily see why being unrealistically confident, within moderation, can lead to greater success, even if it also leads to more mistakes as well. Those who bear greater risk are compensated for it, on average. Indeed, when they are also beneficiaries of a streak of good luck, we might expect that highly successful people . . . might be particularly infused with hubris.<sup>19</sup>

The anchoring effect is another well-understood cognitive bias, one that can result in the overestimation of the probability of success and underestimation of the likelihood of failure.<sup>20</sup> This explains, in part, the status quo bias, which leads us to stick to a conclusion once we have arrived at it.<sup>21</sup> The related confirmation bias explains our tendency to discard new information that does not fit well with our original assessment.<sup>22</sup> Add to that cognitive conservatism, which is human nature's predisposition not to see changes in the environment because our expectations are based on the original situation or circumstances.<sup>23</sup> So, a top corporate executive may first perceive a subject like financial

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*Securities Law*, 7 N.Y.U. J. L. & BUS. 195, 221 (2010). Fundamental attribution error is probably compounded by a variation of the halo error, or halo effect, which in the corporate arena causes us to exaggerate the impact business leaders and their management styles have on their organizations' success (or failure). See PHIL ROSENZWEIG, *THE HALO EFFECT* 50–64 (2007).

18. See, e.g., Edward J. Zajac & Max H. Bazerman, *Blind Spots in Industry and Competitor Analysis: Implications of Interfirm (Mis)perceptions for Strategic Decisions*, 16 ACAD. MGMT. REV. 37 (1991). Intimately related to the fundamental attribution error and illusion of control is the self-serving bias, which refers to a "tendency for individuals to make dispositional attributions for their successes and situational attributions for their failures," taking credit for the good and denying the bad. ELLIOT ARONSON, *THE SOCIAL ANIMAL* 176 (1995).

19. Langevoort, *Animal Spirits*, *supra* note 8, at 146–47.

20. See, e.g., Amos Tversky & Daniel Kahneman, *Rational Choice and the Framing of Decisions*, in *JUDGMENT UNDER UNCERTAINTY*, *supra* note 10, at 15–16; Stephen M. Bainbridge, *Mandatory Disclosure: A Behavioral Analysis*, 68 U. CIN. L. REV. 1023, 1046 (2000).

21. People even tend to cling to their beliefs when the evidence supporting such beliefs has been completely discredited. See Robert A. Prentice, *The SEC and MDP: Implications of the Self-Serving Bias for Independent Auditing*, 61 OHIO ST. L.J. 1597, 1618 & nn.101–03 (2000).

22. See J. Edward Russo et al., *The Distortion of Information During Decisions*, 66 ORG. BEHAV. & HUM. DECISION PROCESSES 102 (1996) ("It is widely known that after a decision is made, people distort information in favor of the chosen alternative in order to reduce cognitive dissonance. People seek information that confirms their choice and depreciate encountered information that opposes it." (internal citations omitted)); Prentice, *supra* note 21, at 1617 & n.98.

23. See, e.g., Sara Kiesler & Lee Sproull, *Managerial Response to Changing Environments: Perspectives on Problem Sensing from Social Cognition*, 27 ADMIN. SCI. Q. 548 (1982).

condition or status of a developing product as positive or neutral, and then anchor on that view, later refusing to acknowledge warning signs or to accept disconfirming information or developments, preferring—not consciously but cognitively—to cling to his or her original conclusion on the subject.<sup>24</sup>

Finally, loss aversion is responsible for the human tendency to take bigger risks to protect something one already has than one was willing to take to obtain it in the first place.<sup>25</sup> When aggregated with other biases discussed here, loss aversion has been shown to cause not only a persistence in commitment to a losing proposition, but also commitment's escalation over time.<sup>26</sup> Thus, as Langevoort points out, executives' commitment to failing projects or initiatives is likely to cause them to take larger and larger risks to avoid having to reverse course, either publicly or privately.<sup>27</sup>

In the aggregate, these biases establish a human mental environment that is not perfectly rational, but boundedly so. Like other humans, executives and those who surround and support their decision making are subject to flaws in their thinking—subconscious predispositions to see things in self-serving ways that result in a failure to actively and accurately perceive risks and warning signs.<sup>28</sup> To this mix we must add, for most executives in publicly traded corporations, an increasingly fast pace and immense competitive pressures. The landscape is one few of us have encountered, yet it is not one terribly difficult to imagine once this basic human psychology is understood.

Beyond these individual biases are those affecting groups, including business firms. Many of these cognitive effects are the same as those that are evident in individuals,<sup>29</sup> but these are exacerbated in

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24. According to Langevoort, these phenomena may create a “no worry” stance in the mind of a busy executive. Langevoort, *State of Mind*, *supra* note 8, at 11–12 (citing, *inter alia*, KAREN HO, LIQUIDATED: AN ETHNOGRAPHY OF WALL STREET 10–11, 242–43 (2009) (describing bankers' minds as “synchronous” with the markets, rejecting any information that does not assist in seizing immediate opportunities)).

25. See, e.g., Amos Tversky & Daniel Kahneman, *Rational Choice and the Framing of Decisions*, in JUDGMENT UNDER UNCERTAINTY, *supra* note 10, at 167, 173; Scott Rick & George Loewenstein, *Hypermotivation*, 45 J. MARKETING. RES. 645 (2008) (noting that motivation to avoid loss will be two to three times as great as motivation to obtain a gain of the same value, and suggesting that this does not entirely capture the level of motivation created, given largely neglected emotional components).

26. See, e.g., Barry M. Staw, *The Escalation of Commitment to a Course of Action*, 6 ACAD. MGMT. REV. 577, 584 (1981).

27. Langevoort, *Organized Illusions*, *supra* note 8, at 142–43 & nn.146–47.

28. What is self-serving to the individual may be the same or heavily interrelated with what is self-serving to the organization. See *id.* at 143 n.148 (“[D]isentangling self-serving and business-oriented biases may not be so easy.”).

29. Professor Langevoort has posited that “the people who rise to power and influence in a

organizations by problems associated with information flow.

### B. Organizational Cognition and Biases

Despite the greater complexity of groups, organizational cognition—the process whereby an organization collects information about its environment and uses that information to make decisions and develop courses of action—in many respects mimics individual cognition. As such, corporate cognition is subject to the same bounded rationality as that of individual decision makers. Professor Langevoort’s thoughtful and oft-cited work, *Organized Illusions: A Behavioral Theory of Why Corporations Mislead Stock Market Investors (and Cause Other Social Harms)*,<sup>30</sup> explains how psychological biases, such as cognitive conservatism and commitment, decision simplification, over-optimism and the illusion of control, and self-serving beliefs distort corporate decisions and communications.<sup>31</sup>

In fact, these cognitive biases and heuristic effects are not only present in groups like business organizations, but research shows they are often amplified in such settings.<sup>32</sup> For example, a manager’s tendency to produce positive schemas by construing information in ways that are consistent with his prior beliefs and attitudes will be stronger in cases of shared managerial decision making.<sup>33</sup> Without active de-biasing, management teams suffer from commitment effects, which render them likely to avoid admitting mistakes and reversing course.<sup>34</sup> Groups also intensify the optimism bias,<sup>35</sup> and the illusion of control may be so prevalent in the corporate environment that it has become systematic in some firms.<sup>36</sup> Finally, self-serving inferences are

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successful organization (and thus cluster at the top) are more likely to be those whose individual cognitive apparatus is synchronous with the institutional ‘grease’ of shared beliefs and myths.” Langevoort, *State of Mind*, *supra* note 8, at 8.

30. Langevoort, *Organized Illusions*, *supra* note 8.

31. *See id.* at 135–46.

32. The biases that result in high-risk tolerance are especially likely to persist and prevail. Professor Langevoort has argued fairly convincingly that those who rise to the top in organizations, and therefore have power over corporate decision making (of particular importance here, interpretation and communication of corporate information to the public) are those whose “psychological make-up inclines them toward [a high tolerance for] risk and flexibility without the burdens of doubt.” Langevoort, *State of Mind*, *supra* note 8, at 14. As these traits are necessary and rewarded in a competitive corporate environment, these managers are the winners in the promotion tournament. *See id.* at 13–16.

33. Langevoort, *Organized Illusions*, *supra* note 8, at 137 & nn.121–23.

34. *Id.* at 142 & nn.142–45.

35. *See, e.g.*, Chip Heath & Forest J. Jourden, *Illusion, Disillusion, and the Buffering Effect of Groups*, 69 *ORG. BEHAV. & HUM. DECISION PROCESSES* 103, 104–06 (1997) (discussing the way that groups of people increase the effects of over-optimism).

36. Langevoort, *Organized Illusions*, *supra* note 8, at 140.



“hard to disentangle from business justifications,” with management groups interpreting ambiguous information in a way that is consistent with their view of themselves as effective and in control.<sup>37</sup> Langevoort labels the interplay of these individual and group psychological effects an “optimism-commitment whipsaw.”<sup>38</sup>

While they tend to smooth the functioning of complex organizations, these cognitive biases can create a corporate environment in which risk is too often underestimated or rationalized.<sup>39</sup> Cognitive biases and decision making heuristics only exacerbate inevitably imperfect upward information flow.<sup>40</sup> Cognitive effects on each manager cause interpretive “winnowing and revisionism” of information that is then passed on to higher-ups, who repeat the process of biased interpretation and transmission at each “relay point.”<sup>41</sup> Given the robust, systematic, and predictable nature of these psychological biases, we must assume, then, that a great number of reports received and given by top corporate managers deserve, but may not get, more than a dose of healthy skepticism.<sup>42</sup>

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37. *Id.* at 145.

38. Langevoort describes the optimism-commitment “whipsaw” with the following allegory:

The firm was successful and no doubt had a good deal of aggregate self-esteem; the adverse bits of information were slow in coming and inconsistent with well-established schemas; and there was a heavy commitment to the success of the projects. It is perfectly plausible that, especially in the first small steps towards committing to the project—a point of very high ambiguity—individual managers were particular optimistic. In the early stages of the project, this optimistic schema was resistant to the first (still ambiguous) bits of potentially disconfirming information. By the time their seriousness started to become clearer, there was a high degree of commitment to strengthen the prevailing beliefs, not to mention strong political reasons for preserving the status quo. Moreover, by that time the managers were committed to their publicly expressed optimism, from which they would not easily step away, even as the signs of trouble became palpable. Only at that late stage was there a truly deliberate form of dissembling.

*Id.* at 147.

39. Despite their dangers, Langevoort points out that these individual and organizational biases persist, in part, because on average they have a positive payoff. Decisiveness and even aggressive risk-taking are often expected of successful managers; organizational optimism breeds good results, and “can do” cultures better harness employee effort so as to attract more resources. *See id.* at 153–55.

40. *Id.* at 119–26. *See also* Langevoort, *Thermostat*, *supra* note 8, at 312 (“[W]e should assume that some degree of informational opportunism—influence activity—is at work at every level within the management of the firm.”).

41. Langevoort, *Organized Illusions*, *supra* note 8, at 147. He uses the children’s game “telephone” as a rough illustration. *See id.* at 120.

42. *See id.* at 125 (“There is evidence in the literature that senior executives do habitually discount the veracity of information that moves upward, especially when it has a positive spin. But that discount is rough and imprecise, and thus of little aid in achieving disclosure accuracy.” (footnote omitted)).

This is a fairly typical behavioral law and economics story, one that will be quite familiar in some circles.<sup>43</sup> But it is not the entire story. Layered over these cognitive biases, or perhaps at their root, is a broader and more fundamental scientific conception of how our brains operate. This is the distinction between System 1 and System 2 thinking.

## II. AUTOMATIC VERSUS DELIBERATE THINKING

While the science has been around for years, Nobel prize-winning psychologist Daniel Kahneman popularized the understanding of automatic versus deliberate decision making in his 2011 book, *Thinking, Fast and Slow*.<sup>44</sup> Based on decades of his and others' scientific research, Professor Kahneman explains that the brain "thinks" in two different ways: fast or "System 1" thinking, and slow or "System 2" thinking.<sup>45</sup>

### A. A Closer Look at System 1 and System 2

System 1 thinking is the most common thought process; it is automatic, emotional, and unreflective.<sup>46</sup> System 2 thinking is more infrequent; it is deliberate, effortful, analytical, and logical.<sup>47</sup> A simple and universal illustration Professor Kahneman provides involves driving an automobile. Experienced adults employ System 1 thinking when driving on an open road, maneuvering their cars effortlessly and apparently without "thinking" about it. System 2 thinking takes over

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43. Behavioral law and economics is now considered by some to be "mainstream." Maurice E. Stucke, *Forward: The Rise of Behavioral Law and Economics*, 13 *TRANSACTIONS: TENN. J. BUS. L.* 309 (2012) (quoting Dan Lovallo & Olivier Sibony, *The Case for Behavioral Strategy*, *MCKINSEY Q.*, Mar. 2010, at 30).

44. DANIEL KAHNEMAN, *THINKING, FAST AND SLOW* (2011) (using decades of scientific studies of cognitive biases to show how human decision making occurs in two very different ways, one "fast" and one "slow").

45. Evidently, these terms were first introduced by Keith Stanovich and Richard West. *Id.* at 48. Kahneman is careful to point out that these terms and the fiction they evoke are just that: fictitious characters that help to explain the difference between automatic and deliberate thinking in humans. There are not two distinct and observable systems in our brains. *Id.* at 28–30.

46. Examples of "fast" thinking that Kahneman attributes to System 1 are our automatic ability to "detect that one object is more distant than another," to "understand simple sentences," to "orient to the source of a sudden sound," to "detect hostility in a voice," or to "complete the phrase 'bread and . . .'" *Id.* at 21. See also *id.* at 105 (providing a table that summarizes the characteristics of System 1).

47. *Id.* at 20. Examples of "slow" thinking that emanate from System 2 are "[mentally] computing the product of 17 x 24," "focus[ing] on the voice of a particular person in a crowded and noisy room," "count[ing] the occurrences of the letter *a* in a page of text," "fill[ing] out a tax form," and "check[ing] the validity of a complex logical argument." *Id.* at 22–23.

when a driver attempts a left turn into heavy traffic.<sup>48</sup> The effort involved in System 2 thinking is much greater, in fact, so much greater that one might even shut out other senses when considering important or difficult decisions or making complex computations. So, System 2 thinking may cause the driver to no longer hear the passenger's prattle or the radio as he contemplates making that tough left turn.<sup>49</sup> While System 1 thinking is instinctive and in fact involuntary, System 2 thinking requires one to exert effort, pay attention, or focus.<sup>50</sup>

Together, the two systems are quite efficient, minimizing cognitive effort and maximizing cognitive performance most of the time: System 1 generates impressions and intuitions from familiar patterns, making suggestions to System 2, which is generally "lazy" and content to endorse System 1's ideas and conclusions.<sup>51</sup> But System 2 also is able to "resist" System 1's suggestions, "slow[ing] things down and impos[ing] logical analysis."<sup>52</sup> Indeed, System 2 is responsible for self-control and can overcome System 1's instinctive thinking; it may prevent System 1 from making facile mistakes when it forces cognitive effort to be brought to bear on a question or situation.<sup>53</sup> But this will only happen when System 1 detects the potential for error in the first place.<sup>54</sup> Thus, according to Professor Kahneman, "errors of intuitive

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48. *Id.* at 21–23.

49. *Id.* at 23.

50. *Id.* at 22.

51. *Id.* at 24, 31–48. Interestingly, the science establishes that self-control and cognitive effort, the two primary activities of System 2, are both "mental work" that draw on the same energy. An excess of one can deplete the ability to engage in the other, as well as one's blood glucose level. Thus, it has thus been shown that cognitively busy people have more difficulty resisting temptation. Moreover, the phenomenon known as ego depletion occurs when one has had to force oneself to do something. Those who are ego depleted are less likely to exert self-control on the next occasion requiring it. *See id.* at 41–44.

52. *Id.* at 103.

53. *Id.* at 25–26. Professor Kahneman likes the following puzzle, which provides an example of System 2's ability but not necessarily propensity (in most people) to monitor System 1:

Do not try to solve it but listen to your intuition.

A bat and ball cost \$1.10.

The bat costs one dollar more than the ball.

How much does the ball cost?

A number came to your mind. The number of course, is 10: 10¢. The distinctive mark of this easy puzzle is that it evokes an answer that is intuitive, appealing, and wrong. Do the math and you will see. If the ball costs 10¢, then the total cost will be \$1.20 . . . not \$1.10. The correct answer is 5¢. . . .

. . . [W]e know a significant fact about anyone who says that the ball costs 10¢: that person did not actively check whether the answer was correct, and her System 2 endorsed an intuitive answer that it could have rejected with a small investment of effort.

*Id.* at 44.

54. *Id.* at 28.

thought are often difficult to prevent.”<sup>55</sup> Worse yet, most of our decisions are intuitive—System 2 simply fails to monitor every judgment we make.

Let us dig a little deeper into this decision making dichotomy, building on the lessons from Part I. The hallmark of System 1, the fast-thinking system, is its dependence on association and its use of the many heuristics and biases discussed earlier to create emotionally coherent stories from, and even causal relationships among, the facts before us, even when those facts are quite incomplete or even random.<sup>56</sup> In fact, System 1 subconsciously neglects ambiguity and suppresses doubt by using associative memory to interpret according to familiar frames and past experience.<sup>57</sup>

Professor Kahneman has coined the acronym WYSIATI (“what you see is all there is”) to describe the way System 1 jumps to conclusions based on the few facts before it, rather than consciously seeking alternatives or asking pertinent questions.<sup>58</sup> System 1 is what allows humans generally to make sense of a complex world<sup>59</sup> and enables us to get through the day without suffering from “analysis paralysis.”<sup>60</sup> Professor Kahneman sums up this facet of System 1 thinking as follows:

You cannot help dealing with the limited information you have as if it were all there is to know. You build the best possible story from the information available to you, and if it is a good story, you believe it. Paradoxically, it is easier to construct a coherent story when you know little, when there are fewer pieces to fit into the puzzle. Our comforting conviction that the world makes sense rests on a secure foundation: our almost unlimited ability to ignore our own ignorance.<sup>61</sup>

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55. *Id.*

56. *See id.* at 50–52, 85–88, 115–18. As Professor Kahneman explains,

[W]e pay more attention to the content of messages than to information about their reliability, and as a result end up with a view of the world around us that is simpler and more coherent than the data justify. . . .

. . . Statistics produce many observations that appear to beg for causal explanations but do not lend themselves to such explanations.

*Id.* at 118.

57. *Id.* at 79–81.

58. *See id.* at 85–88. *See also id.* at 85 (“The measure of success for System 1 is the coherence of the story it manages to create. The amount and quality of the data on which the story is based are largely irrelevant.”).

59. *Id.* at 85.

60. *See, e.g., Preventing ‘Analysis Paralysis,’* BLOOMBERG BUSINESSWEEK (Dec. 20, 2011), <http://www.businessweek.com/management/preventing-analysis-paralysis-12202011.html> (suggesting that access to vast amounts of data “has made decision-making increasingly intricate and exhausting,” using the term “analysis paralysis” in the corporate context).

61. KAHNEMAN, *supra* note 44, at 201.

This leads to what is known as the narrative fallacy,<sup>62</sup> which not only results from System 1's strong appetite for associative and emotional coherence, but also incorporates heavy doses of the halo effect—the tendency to like or dislike everything about a person<sup>63</sup>—and attribution error.<sup>64</sup> Closely related to the narrative fallacy is belief bias—the human propensity to put too much stock in our own intuitions.<sup>65</sup>

System 1's susceptibility to overconfidence as discussed here means many things, not least of which is that when people believe a conclusion is true, most also believe fallacious supporting arguments to be true.<sup>66</sup> When coupled with the affect heuristic, which involves the natural human tendency to allow likes and dislikes to determine one's view of the world,<sup>67</sup> conclusions become primary while supporting arguments become somewhat unnecessary.<sup>68</sup> Thus, as Kahneman points out, the affect heuristic explains why one who dislikes red meat (or tattoos) is likely to believe the risks associated with it are high and its benefits are negligible without seeking evidence in support.<sup>69</sup>

Finally, System 1 also has a tendency to make a decision by answering an easier question than the one posed or presented by the circumstances, in a process dubbed substitution.<sup>70</sup> Where difficult judgments or probabilistic predictions are required,<sup>71</sup> System 1 is

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62. *Id.* at 199 (citing NASSIM N. TALEB, *THE BLACK SWAN: THE IMPACT OF THE HIGHLY IMPROBABLE* (2007)).

63. *Id.* at 82–85.

64. *See supra* notes 17–19 and accompanying text.

65. *See* KAHNEMAN, *supra* note 44, at 81–82.

66. *Id.* at 45. This may also be called the truth bias. *See id.* (“Overriding [plausible answers] . . . requires hard work—the insistent idea that ‘it’s true, it’s true!’ makes it difficult to check the logic . . .”).

67. *Id.* at 103.

68. This is both compounded by, and in some cases caused by, confirmation bias—our predisposition to seek out information that compatible with our beliefs or conclusions, which in turn causes us to overestimate the likelihood of extreme or improbable events. *Id.* at 81. Moreover, based on associative and emotional coherence, when we like and trust a person or a group, we are strongly biased to believe what they say; the converse is also true. Daniel Kahneman, *Thinking What We Know*, Remarks at the National Science Foundation's Conference: The Science of Science Communication (May 21, 2012), available at <http://dotearth.blogs.nytimes.com/2012/05/25/daniel-kahneman-on-the-trap-of-thinking-that-we-know/>.

69. KAHNEMAN, *supra* note 44, at 103. This does not mean, according to Kahneman and supporting research, that one's mind is entirely closed. It simply means that new information will change an already embedded view. Data about decreased risk will change not only the perception of the risk as being lower, but also of the benefit as being higher without any new information related to benefits. *Id.*

70. *Id.* at 97–104.

71. *Id.* at 97–99. People's ability to deal with statistics, compute probabilities (or even answer questions correctly that require the use of probability) is notoriously bad. *See, e.g., id.* at 156–65 (discussing the “Linda problem,” which Kahneman deems one of his “best-known and most controversial experiments,” in which 85% of Stanford University Graduate School of Business

generally content to use its intuitive “mental shotgun”<sup>72</sup> to come up with a relatively quick answer that matches the intensity of the original question asked, and so feels comfortable and does not overly tax lazy System 2.<sup>73</sup>

The image this Part has hopefully conjured is that of a spontaneous System 1 with a strong appetite for coherence, which jumps to conclusions and often fails to seek necessary evidence or even to ask the right questions before rendering judgments. But that type of thinking is only half of the mental story. System 2 is the less frequently deployed, doubt-harboring, and analytical other half—the important other half that is capable of working through complex cognitive processes to make more reasoned and logical decisions.<sup>74</sup>

Importantly, System 2 is critical to making well-founded predictions. Dominated by System 1, many human predictions are purely intuitive in nature, ignoring luck and well-documented phenomena like regression to the mean.<sup>75</sup> In the professional realm, however, Professor Kahneman notes that predictions tend to be marked by a combination of analysis and intuition.<sup>76</sup> This is because when System 2 is called into action, it can correct for the element of intuition that is inherent in predictions, by making the effort to seek the relevant reference category, to estimate a baseline, and to actively evaluate the quality of the evidence that is before it.<sup>77</sup> But as we know, System 2 is not always engaged—it is more dominant in some people than others.<sup>78</sup>

We now have a richer picture of the two systems of thinking, fast and slow. System 1 is automatic and prone to error. But it is also the source

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students flunked a probability test); Isaac M. Lipkus et al., *General Performance on a Numeracy Scale among Highly Educated Samples*, 21 MED. DECISION MAKING 37, 41–43 (2001) (establishing that even highly educated people experience difficulty with relatively simple numeracy tasks). For the relationship of innumeracy to overconfidence, see Edwards & Winterfeldt, *supra* note 13, at 239 (observing that people are far more likely to be overconfident on difficult judgments rather than simple probabilistic judgments); Korobkin & Ulen, *supra* note 4, at 1091 (noting the persistence of the overconfidence bias even when statistical distribution of outcomes is made available).

72. See KAHNEMAN, *supra* note 44, at 98 (describing the mental shotgun as “the imprecise control we have over targeting our responses to questions”).

73. *Id.* at 89–99, 186–87. As Professor Kahneman illustrates, a question such as “How should financial advisors who prey on the elderly be punished?” would require one to deal with difficult questions such as “What are the standard sentences for other financial crimes?” Consequently, System 1 substitutes the difficult question asked with one much more easily answered: “How much anger do I feel when I think of financial predators?” *Id.* at 98–99.

74. *See id.* at 39–49.

75. *Id.* at 185–89.

76. *Id.* at 185–86.

77. *Id.* at 192.

78. *Id.* at 46–48.

of most of what we do right, which, as Professor Kahneman says, “is most of what we do.”<sup>79</sup> System 2, in turn, is a powerful but underutilized monitor. If we recognize the need to set it in motion, it can help protect us from error. Let us now consider the implications of this important science on legal conceptions of scienter, especially in the context of securities fraud litigation.

### B. Systems 1 and 2 and Scienter

What we have seen so far appears to have some profound implications for the way that corporations and their executives act, think, and importantly, speak to the public. The fields of psychology, neurobiology, and behavioral economics point not necessarily to perverse incentives, but instead to perverse predispositions with respect to accurate and fair corporate disclosure for the benefit of shareholders.

When we humans make decisions and draw conclusions, we are subject to the fallacies, illusions, biases, and heuristics about which psychologists, neurobiologists, and behavioral economists like Professor Kahneman warn us.<sup>80</sup> Corporate officers and managers are not spared by virtue of their positions. They are human beings like everyone else. Setting to one side naked opportunism,<sup>81</sup> and even possible motivation and purpose to stay shielded from the truth,<sup>82</sup> what we know about cognitive heuristics and biases tells us fairly unequivocally that top managers’ judgments about risks, corporate performance, and business prospects are subject to a host of skewing phenomena. Importantly, what we have learned about fast and slow thinking thus far raises the likelihood that executives who speak to the market about their businesses are, by dint of human nature, likely to be more reckless than they and we may have thought.

Little in the ordinary organizational structure is calculated or inclined to prevent what is perhaps subtle, but gradually compounded shading of

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79. *Id.* at 416.

80. Notably, Professor Kahneman points out that expert (and therefore better) intuitive judgments can become ingrained in System 1 thinking of those who are highly trained. *Id.* at 185 (citing GARY A. KLEIN, *SOURCES OF POWER* (1998) (giving the examples of chess masters, fireground commanders, and physicians)).

81. *See, e.g.*, Jennifer H. Arlen & William J. Carney, *Vicarious Liability for Fraud on Securities Markets: Theory and Evidence*, 1992 U. ILL. L. REV. 691 (establishing empirically that frauds are ordinarily perpetrated by executives who find themselves in “end period” circumstances); Langevoort, *Thermostat*, *supra* note 8, at 303–04 (discussing implications of recurring executive “final periods” and demonstrating the likelihood that those who succeed at the highest levels of the executive employment tournament are the most “ethically plastic”).

82. *See* Abbe David Lowell & Kathryn C. Arnold, *Corporate Crime after 2000: A New Law Enforcement Challenge or Déjà Vu?*, 40 AM. CRIM. L. REV. 219, 229–31 (2003) (discussing “conscious avoidance doctrine”).

information toward the rosy.<sup>83</sup> In fact, as discussed further below, the internal and external audit functions provide valuable de-biasing only with respect to certain kinds of independently verifiable data,<sup>84</sup> and they are most effective at preventing and detecting intentional frauds or misrepresentations.<sup>85</sup>

Even presumably objective, (semi-)external gatekeepers like lawyers and directors, who have access to internal information and perhaps input in decision making, seem to have been unable to provide the necessary grain of salt.<sup>86</sup> Neither have public sentiment and legislative action nor judicial efforts succeeded in improving the quality of securities disclosure.<sup>87</sup> Prosecutorial energy, both criminal and regulatory, has also been notoriously flimsy.<sup>88</sup> Worse yet, it stands to reason that investors—who are also human beings subject to System 1 and System 2 thinking and their attendant plethora of heuristics and biases—may be more than a little predisposed to believe what they hear.<sup>89</sup> This makes the risk of reckless misrepresentation all the more heightened and that risk's maturity all the more distressing.

Accordingly, System 2 should be harnessed to prevent or at least dampen the likelihood of perhaps hopeful, but still ill-founded securities disclosures. In fact, as discussed below, organizations may be better

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83. See Langevoort, *Organized Illusions*, *supra* note 8, at 148–54 (noting that despite scores of books and consulting strategies adverting us to “managerial myopia and excessive optimism,” and even examples of specific corporate structures designed to avoid myopia and over-optimism, these biases have an adaptive function, and thus remain notwithstanding negative repercussions).

84. *Id.* at 122.

85. Langevoort, *Greased Pig*, *supra* note 8, at 1213.

86. See *id.* at 1214 (suggesting that gatekeepers may be “inclined—indeed motivated—to infer that nothing is amiss so long as the people they meet and the behaviors they observe show none of the visible markings of disloyalty and concluding that the markers of loyalty that may induce gatekeepers to let their guards down, “hard work, intensity, optimism, and enthusiasm[,] can sometimes be the source of the trouble”).

87. See Olazábal, *supra* note 3, at 1445–59.

88. See Lowell & Arnold, *supra* note 82 (noting irregular interest in criminal prosecution of white collar criminals, typically spurred by pressing nature of scandal, which then tails off). Prosecutions of corporate officers were at their apex in the first year after Sarbanes-Oxley. See Greg Hitt, *Corporate Reform: The First Year: SEC Chief Says Worst of Fraud is Likely Past; Federal Task Force Set Up to Investigate Wrongdoing Marks a Year on the Beat*, WALL ST. J., July 23, 2003, at C9 (reporting that twenty-five convictions or guilty pleas were obtained from CEOs by a multi-agency task force in first year). As for the lack of prosecutorial zeal relative to the 2008 credit crisis, see Peter Schweizer, *Obama's DOJ and Wall Street: Too Big for Jail?*, FORBES (May 7, 2012), <http://www.forbes.com/sites/realspin/2012/05/07/obamas-doj-and-wall-street-too-big-for-jail/>.

89. See, e.g., Susanna Kim Ripken, *The Dangers and Drawbacks of the Disclosure Antidote: Toward a More Substantive Approach to Securities Regulation*, 58 BAYLOR L. REV. 139, 177–84 (2006) (noting that information overload and other heuristics and cognitive biases make existing required disclosures less than meaningful to investors, and arguing that investor psychology should play a role in fashioning better disclosure regulation).



suited than individuals to catch and correct for cognitive biases by engaging in System 2 thinking.

### III. SECURITIES FRAUD: RECKLESSNESS, DETERRENCE, AND SYSTEM 2 THINKING

Indeed, when motivated by strong incentives and clear mandates, slow organizational thinking may be able to prevent the type of recklessness that often results in allegations of securities fraud. If current legislation and jurisprudence are insufficient to spark the necessary slow thinking within corporate securities issuers—and these extant legal apparatuses apparently are insufficient—perhaps System 2 thinking can be activated instead by a more robust system of individual deterrence.

#### A. *The Unfulfilled Promise of Sarbanes-Oxley Section 404*

Any discussion of corporate securities disclosures and their quality would be remiss without mention of the Sarbanes-Oxley Act of 2002 (“Sarbanes-Oxley”).<sup>90</sup> More specifically, section 404 of Sarbanes-Oxley requires both the establishment and auditing of internal and disclosure controls that ensure accurate and timely reporting to investors.<sup>91</sup>

In 2006, Professor Bamberger—drawing on principles of organizational behavior and learning—analyzed section 404’s promise.<sup>92</sup> Bamberger argued that the prominence of Sarbanes-Oxley’s passage and the publicity surrounding its proposed enforcement should have drawn additional attention to compliance and counteracted many cognitive biases.<sup>93</sup> Moreover, Sarbanes-Oxley’s certification requirements should have created greater mindfulness in the corporate leaders ultimately responsible for disclosure, and the need for reevaluation of internal and disclosure controls at “episodic intervals” should have avoided the kind of organizational adaptation that masks rather than reveals risk.<sup>94</sup>

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90. Sarbanes-Oxley Act of 2002, Pub. L. No. 107-204, 116 Stat. 745 (codified as amended in scattered sections of 15 U.S.C. and 18 U.S.C. (2006)). The relevant provisions of the statute and attendant regulatory pronouncements are found at 15 U.S.C. § 7262 and 17 C.F.R. §§ 210, 228–29, 240, 249, 270, 274 (2011).

91. See, e.g., Olazábal, *supra* note 3, at 1451–53 (discussing internal controls, disclosure controls, and monitoring).

92. Kenneth A. Bamberger, *Regulation as Delegation: Private Firms, Decisionmaking, and Accountability in the Administrative State*, 56 DUKE L.J. 377, 420–23, 447–49 (2006).

93. *Id.* at 449.

94. *Id.*

As so-called “attention regulation,”<sup>95</sup> Sarbanes-Oxley’s internal and disclosure control requirements, along with its mandate to provide executive certification of these control systems and annual audits thereof, might have created a suitable environment for “cognitive accountability”<sup>96</sup> within organizations. All told, Sarbanes-Oxley should have ameliorated the likelihood that corporate disclosures would be susceptible to being as inaccurate as the end product of a children’s game of telephone.<sup>97</sup> Alas, however, section 404 has failed to yield this golden fruit. Instead, current research confirms that the quality of issuer disclosure is no better today than it was before Sarbanes-Oxley.<sup>98</sup>

Nonetheless, as Professor Bamberger noted, the “simplest way to overcome harmful cognitive shortcuts is by providing external shocks that direct individuals to devote their attention to, and feel responsible for, a particular decision.”<sup>99</sup> Given the failure of Sarbanes-Oxley’s targeted internal and disclosure controls and executive certification provisions (or any other means for that matter) to achieve this goal, perhaps we are in fact fated to return to the debate over what form of liability provides the best deterrence against inaccurate or otherwise misleading disclosure.<sup>100</sup>

The next Section discusses System 2 thinking and how its use by organizations supports the view that a doctrinal refinement resulting in added deterrent value may provide the necessary “external shock.” In light of the PSLRA’s heightened pleading standards and the procedure and jurisprudence that has developed around them, an objective theory of recklessness may both spur and enable improvements in the quality of corporate disclosure.

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95. *Id.* at 448.

96. *Id.* at 450–51.

97. Langevoort, *Organized Illusions*, *supra* note 8, at 120; Bamberger, *supra* note 92, at 419 (citing John C. Coffee, Jr., *Beyond the Shut-Eyed Sentry: Toward a Theoretical View of Corporate Misconduct and an Effective Legal Response*, 63 VA. L. REV. 1099, 1137 (1977)).

98. *See, e.g.*, Jeffrey S. Ray, *Assessing the Success of Sarbanes-Oxley* (July 9, 2012), available at <http://ssrn.com/abstract=2103555> (establishing that the quality of auditing processes and board monitoring has not improved and that Sarbanes-Oxley has failed to stem the tide of corporate fraud). *But see* Robert A. Prentice & David B. Spence, *Sarbanes-Oxley as Quack Corporate Governance: How Wise is the Received Wisdom?*, 95 GEO. L.J. 1843 (2007) (contending that it is too early to know whether Sarbanes-Oxley’s benefits will exceed its substantial and perhaps unquantifiable costs, a view not in accord with the early Sarbanes-Oxley critics’ harsh conclusions).

99. Bamberger, *supra* note 92, at 448.

100. This is exactly what Bamberger’s “attention regulation” thesis sought to avoid: “[Section 404 of Sarbanes-Oxley and its implementing regulations] suggest[] a means for moving beyond ongoing debate as to which types of ex post liability best deter wrongdoing.” *Id.* at 449.

### B. Harnessing the Power of System 2

If the goal of Sarbanes-Oxley and section 10(b) is to provide more unbiased corporate information to investors, including “soft” information that serves the important function of providing an educated interpretation of unambiguous facts, we must find a way to harness System 2 in both executives and organizations. Slow thinking in responsible individuals can decrease the influence of self-serving intuition and counteract the other biases and cognitive heuristics that are at play when high-ranking executives and those around them contemplate making disclosures.

Further, and critically, System 2 thinking in organizations can be activated and formally instituted in a way that is not feasible in individuals.

[Organizations] naturally think more slowly and have the power to impose orderly procedures. Organizations can institute and enforce the application of useful checklists, as well as more elaborate exercises, such as reference-class forecasting and the premortem. . . . [O]rganizations can also encourage a culture in which people watch out for one another as they approach [cognitive] minefields. Whatever else it produces, an organization is a factory that manufactures judgments and decisions. Every factory must have ways to ensure the quality of its products in the initial design, in fabrication, and in final inspections.<sup>101</sup>

Such an informational quality control system would need to go beyond extant corporate efforts at shoring up internal and disclosure controls. If section 404 had a beneficial effect on corporate disclosures, it has long since worn off or was never more than illusory in some quarters. And it was never specifically designed to counteract the cognitive effects discussed here.

So how might slow thinking à la System 2 provide the ex ante prophylaxis needed to encourage more careful and unbiased interpretation, and therefore less misleading issuer disclosure? Suffice it to say, based on what we know about System 2, a strong catalyst for slow thinking must be encouraged or developed. As Professor Kahneman has said, System 2 springs into action, inter alia, when we

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101. KAHNEMAN, *supra* note 44, at 418. Here I note the relevance of scant case law in this direction. See, e.g., *In re Warner Commn's Sec. Litig.*, 618 F. Supp. 735, 752 (S.D.N.Y. 1985) (“As to Warner, plaintiffs arguably need only show either that one or more members of top management knew of material information indicating an earnings decline, but failed to stop the issuance of misleading statements or to correct prior statements that had become misleading, or that Warner management had recklessly failed to set up a procedure that insured the dissemination of correct information to the marketplace.”), *aff'd* 798 F.2d 35 (2d Cir. 1986).

are contemplating “matters of life and death.”<sup>102</sup> While certainly not life or death, a strong deterrent effect like individual culpability in class action securities fraud litigation might serve as that necessary external shock, especially where no other incentives seem to have worked.<sup>103</sup>

*C. On Recklessness, Deterrence, and System 2 Thinking*

It has been suggested that since cognitive illusions, mental heuristics, and other psychological effects inevitably bias issuer disclosure, a level of scienter closer to gross negligence (or even negligence) may be the key to achieving an appropriate level of deterrent effect via the law.<sup>104</sup> I agree, and I do not see this as requiring upheaval of existing jurisprudence regarding what constitutes scienter for purposes of a section 10(b) violation.<sup>105</sup> Instead, as elaborated briefly below, I have advocated in favor of a crisper, more objective view of recklessness as a level of intent capable of producing securities fraud.

At least in the securities fraud case law, recklessness has remained stubbornly ill-defined and in most decisions awkwardly conjoined to actual intent.<sup>106</sup> The recklessness standard that is rather mechanically articulated by courts in connection with motions to dismiss in 10(b) cases is rarely assessed as a separate level of intent, and its intellectual underpinnings are strained at best and altogether unmoored at worst.<sup>107</sup> These pitfalls are exacerbated by the fact that recklessness is most often considered at the pleading stage, where the stakes are high and facts in short supply.

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102. Daniel Kahneman, *Thinking What We Know*, *supra* note 68.

103. Olazábal, *supra* note 3, at 1419 & nn.21–23.

104. *See, e.g.,* Langevoort, *Reflections on Scienter*, *supra* note 8, at 9 (“One could certainly argue that, in light of the cognition literature, we ought to move away from knowledge or subjective awareness in favor of something like negligence or gross negligence if we want the law to have its desired deterrence or compensatory effect.”).

105. The Supreme Court has repeatedly reserved the question of whether recklessness suffices to establish scienter in section 10(b) cases, leaving the unanimous circuit court standard in place. *Matrixx Initiatives, Inc. v. Siracusano*, 131 S. Ct. 1309, 1323–24 (2011) (“[W]e assume, without deciding, that [recklessness] is sufficient to establish scienter.”); *Tellabs, Inc. v. Makor Issues & Rights, Ltd.*, 551 U.S. 308, 319 n.3 (2007) (“Every Court of Appeals that has considered this issue has held that a plaintiff may meet the scienter requirement by showing that the defendant acted intentionally or recklessly, though the Circuits differ on the degree of recklessness required.”).

106. Olazábal, *supra* note 3, at 1425–27.

107. *See id.* at 1421–27 (calling its application in the courts “rudderless”); *id.* at 1442–45 (noting that the section 10(b) case law on recklessness is in “disarray”); Ann Morales Olazábal, *The Search for “Middle Ground”: Towards a Harmonized Interpretation of the Private Securities Litigation Reform Act’s New Pleading Standard*, 6 *STAN. J.L. BUS. & FIN.* 153, 162–64 (2001) (demonstrating how the circuits’ labels for what appear to be different forms of recklessness all refer to the same standard first articulated by the Seventh Circuit in *Sundstrand*).

As a corrective, I suggest a more meaningful conception of recklessness on a motion to dismiss in 10(b) cases, one that takes into account the most common stance presented at that stage. In the archetypal class action securities fraud suit, plaintiffs identify an executive's misstatement and then throw numerous and often convoluted facts at the wall, in an effort to overcome defense rhetoric that presumes, but need not at that juncture directly assert, that top management was actually ignorant of the truth or any contrary evidence.<sup>108</sup> In my mind, this plausible deniability defies logic in cases where the misstated information meets certain criteria: its absolute or proportional magnitude or other "atypicality," or its suspicious timing. These contextual factors will vary from case to case, but they are overtly objective.<sup>109</sup> Thus, at least at the pleading stage, there is certain information about an issuer that a top-level officer can be presumed to know—his or her failure to know it when making disclosures based thereupon, in itself, supports a strong inference of recklessness, given the corresponding high likelihood of harm to investors.<sup>110</sup>

This approach to recklessness is within the 10(b) ambit. First, as described above, in its objectivity and relative familiarity,<sup>111</sup> it provides a pragmatic tool for in-depth judicial inquiry into scienter at the pleading stage.<sup>112</sup> Second, it is supported by both the most

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108. In practice, given the fact that most courts are willing to conflate consideration of actual intent and recklessness into a singular analysis of the officer's knowledge (which might rather imply intentional deception), the defense's angle is simply to sever any such link between the officer and the truth, either by casting the inference as too weak or the facts not sufficiently particularized. *See, e.g., In re Apple Computer, Inc. Sec. Litig.*, 243 F. Supp. 2d 1012 (N.D. Cal. 2002).

109. Olazábal, *supra* note 3, at 1442–45 (concluding, upon analysis of the context of and antecedent to *Sundstrand*, that an objective standard is best suited for analysis at the pleading stage).

110. *Id.* at 1427–39. Beyond the pleading stage, after the evidence is developed, a court can employ a more fact-intensive analysis of what an officer actually knew, which permits analysis of recklessness from both an objective and a subjective standpoint. *See, e.g., SEC v. Platforms Wireless Int'l Corp.*, 617 F.3d 1072, 1094–95 (9th Cir. 2010) (holding that an inference, at the summary judgment stage, that an officer did not subjectively perceive risk of a press release misleading investors, was not plausible given his admitted knowledge of important facts); *Backman v. Polaroid Corp.*, 893 F.2d 1405, 1418 (1st Cir. 1990) (depublished) (finding error in the trial court's failure to explicitly instruct the jury regarding the good-faith defense to scienter allegations, but upholding sufficiency of evidence at trial of a section 10(b) violation).

111. *See* Olazábal, *supra* note 3, at 1430 (establishing that the magnitude, atypicality, and timing factors are at least implicitly factors that have long been in use for judicial assessment of the suspiciousness of insider stock trades in section 10(b) cases, and therefore inferences of scienter to be drawn therefrom at the pleading stage).

112. At the dismissal stage, judges are tasked with considering the complaint "holistically" and parsing all available inferences to decide whether a strong inference of scienter is available. It should come as no surprise to the reader that judges' rationality is also bounded. Stephen Bainbridge & G. Mitu Gulati, *How Do Judges Maximize? (The Same Way Everybody Else Does—*

intellectually grounded and current 10(b) case law<sup>113</sup> and collective scholarly thought on recklessness in tort more generally,<sup>114</sup> as well as by numerous policy considerations, not the least of which is fairly widespread political will.<sup>115</sup> Third, it has the potential to serve as the necessary stimulant to System 2 thinking by executives and issuers as they prepare public disclosures.

This deeper and more practical approach to recklessness at the pleading stage, if adopted by an increasing number of courts, will lead to more individual accountability for officers. Of course, officers who are found, through fully developed evidence, to have been merely negligent in their misstatements eventually will be vindicated at trial.<sup>116</sup> But as we know, such a victory is likely to be at least somewhat pyrrhic given the costs of legal defense that must be borne, win or lose. Instead,

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*Boundedly*): *Rules of Thumb in Securities Fraud Opinions*, 51 EMORY L.J. 83, 100–03 (2002). Their efforts at addressing recklessness today have mostly amounted to a hollow heuristic of the type described by Bainbridge and Gulati, *id.* at 119–36, which has resulted in both “mediocre doctrine” and a “safe harbor for bad behavior.” *Id.* at 137–38. Presumably more objective tools can aid in preserving judges’ cognitive resources and in circumventing the psychological biases at work in their deliberative processes.

113. *See, e.g.*, *City of Dearborn Heights Act 345 Police & Fire Ret. Sys. v. Waters Corp.*, 632 F.3d 751, 759 (1st Cir. 2011) (pointing to the small size and proportion of foreign sales impacted by new Japanese regulation as insufficient to support a strong inference of scienter with regard to allegedly tardy disclosure of regulation’s impact); *Makor Issues & Rights, Ltd. v. Tellabs, Inc.*, 513 F.3d 702, 704 (7th Cir. 2008) (“[K]nowledge is inferable from gravity . . . .”); *Berson v. Applied Signal Tech., Inc.*, 527 F.3d 982, 989 (9th Cir. 2008) (finding sufficient plaintiff’s proffered inference of at least recklessness, where it was “hard to believe” defendants were unaware of salient facts rendering their public statements false); *Glazer Capital Mgmt., LP v. Magistri*, 549 F.3d 736, 747 (9th Cir. 2008) (rejecting plaintiffs’ claim that it was “absurd to suggest” that officer defendants were unaware of certain facts about the corporation).

This analysis is not the same as that which forms the basis of the “core operations” doctrine, which is ably treated in Michael J. Kaufman & John M. Wunderlich, *Messy Mental Markers: Inferring Scienter From Core Operations in Securities Fraud Litigation*, 73 OHIO ST. L.J. 507 (2012).

114. By this, I refer to the Restatement (Third) of Torts, which adopts an objective balancing test for consideration of recklessness, departing from prior purely subjective iterations. *See* Olazábal, *supra* note 3, at 1445–47 (detailing the Second and Third Restatement approaches to identifying the indifference, callousness, or lack of concern for others that signal recklessness).

115. *See id.* at 1447–58 (citing, beyond the legislative impetus embodied in Sarbanes-Oxley, a widespread desire for improved investor confidence, popular demand for executive accountability, and a need to rein in the trend toward exonerating corporate leaders in the face of injury to shareholders). Arguably, by enacting Sarbanes-Oxley’s internal and disclosure controls provisions, along with executive certifications thereof and criminal penalties, Congress and its constituents intended to avoid application of the Supreme Court’s holding in *Santa Fe Industries v. Green*, 430 U.S. 462 (1977), to support a finding that failure to ensure adequate internal controls exist is mere negligence, viz. “internal corporate mismanagement.” *Id.* at 479. *Cf.* *Kaplan v. Charlier*, 426 F. App’x 547 (9th Cir. 2011) (finding management’s failure to ensure adequate internal controls to be mere negligence).

116. Olazábal, *supra* note 3, at 1456. *See also supra* note 110 (citing case law supporting this approach to negligence).

the battle (so to speak) is won at the pleading stage.<sup>117</sup> Therefore, there is a substantial and very pointed deterrent effect to be garnered here, both on the part of the officer making the statement and the corporation for which he or she is an agent, by recognizing the power of an objective recklessness standard in civil securities fraud suits.

Here is where System 2 comes back into the picture. If a large enough deterrent—in the form of significantly increased exposure to individual civil liability, from a doctrinal perspective—is in place, it may act as that “life or death” prompt to double check the accuracy of the judgments being offered for investors’ consumption and, importantly, the balance with which they being are conveyed.<sup>118</sup>

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117. The denial of a motion to dismiss in a securities class action suit is the death knell for the defendant, giving plaintiffs extraordinary leverage to secure a substantial settlement, no matter the actual merits of the case. See Janet Cooper Alexander, *Do the Merits Matter? A Study of Settlements in Securities Class Actions*, 43 STAN. L. REV. 497, 499 (1991). Loud and persistent cries that too many meritless complaints were regularly being filed as strike suits, seeking a quick settlement at the level of cost of defense, formed the basis of the lobbying efforts that resulted in the Private Securities Litigation Reform Act’s passage in 1995. See John W. Avery, *Securities Litigation Reform: The Long and Winding Road to the Private Securities Litigation Reform Act of 1995*, 51 BUS. LAW 335 (1996) (tracing the legislative history of the PSLRA).

Since that time, we have discovered that perhaps the root of the evil then being suffered by issuers (if any), in the name of frivolous litigation, was unethical plaintiffs’ lawyers. Successful securities fraud litigators Melvin Weiss and William Lerach, popularly known for vindicating the defrauded “little guy,” were separately convicted of conspiring instead with “professional plaintiffs” to race to the courthouse with securities fraud complaints between 1979 and 2005, ensuring that the Milberg, Weiss firm (and later its Southern California offshoot led by Lerach) would seize lead counsel status, earning the firm’s lawyers hundreds of millions of dollars in contingency fees from settlements. Edvard Pettersson, *Weiss Sentenced to 2 ½ Years for Kickback Scheme*, BLOOMBERG (June 2, 2008, 4:38 PM), <http://www.bloomberg.com/apps/news?pid=newsarchive&sid=aGqfpC4ZjoAw>; Michael Parrish, *Leading Class-Action Lawyer is Sentenced to Two Years in Kickback Scheme*, N.Y. TIMES (Feb. 12, 2008), [www.nytimes.com/2008/02/12/business/12legal.html?ref=williamslerach&\\_r=0](http://www.nytimes.com/2008/02/12/business/12legal.html?ref=williamslerach&_r=0); Peter J. Elkind, *The Fall of America’s Meanest Law Firm*, CNNMONEY (Nov. 3, 2006), [http://money.cnn.com/magazines/fortune/fortune\\_archive/2006/11/13/8393127/](http://money.cnn.com/magazines/fortune/fortune_archive/2006/11/13/8393127/).

One has to ask whether early investigation into the professional conduct of these lawyers, perhaps by way of serious consideration of a Rule 11 motion made under the Federal Rules of Civil Procedure (if not criminal investigation), might not have stemmed the tide of frivolous litigation without enacting a statute the strictures of which have probably thrown out at least a few babies with the bathwater. See, e.g., Hillary A. Sale, *Heightened Pleading and Discovery Stays: An Analysis of the Effect of the PSLRA’s Internal-Information Standard on ’33 and ’34 Act Claims*, 76 WASH. U.L. Q. 537, 564 (1998). Further, it is questionable whether the costs of the purported frivolous litigation that sparked the legislation was all that massive, especially as compared to the cost of the loss of confidence caused by unremedied fraud in the market. See Lynn A. Stout, *Type I Error, Type II Error, and the Private Securities Litigation Reform Act*, 38 ARIZ. L. REV. 711, 714 (1996) (roughly fixing the former at several hundreds of millions of dollars and the latter at about \$100 billion).

118. By this logic, revision of prosecutorial discretion to pursue more criminal charges against fraudsters might act as an even stronger deterrent and more intense impetus to engage System 2. But this is unlikely, given the resource constraints and the higher mens rea requirement in criminal law generally.

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Officers and corporations alike can thus be spurred to slow their thinking down, tame the influence of intuition, correct for such biases as overconfidence, illusion of control, and loss aversion, and thereby avoid the “optimism-commitment whipsaw” that may point to a slide down the slippery slope from mistaken judgment to securities fraud.<sup>119</sup>

#### CONCLUSION

Corporate disclosure today is made in a fast-paced, competitive, and ambiguity-ridden environment. Science tells us that corporate decision makers and the organizations in which they operate are also plagued by cognitive biases that may predispose them to reckless predictions and otherwise unfounded public statements. If so-called System 1 fast thinking is the problem, and System 2 slow thinking the solution, the question is how to best channel System 2’s monitoring capabilities. Because System 2 is reliably galvanized by a palpable danger, I advocate in favor of a powerful deterrent threat: personal liability in class action securities fraud litigation, this to be provided by a socially desirable and intellectually supported doctrinal enhancement.

The goal here is not to increase the number of executives who “pay” for misleading disclosures. Instead, it is to create an environment in which issuers’ public statements and periodic filings are less rosy and more accurate. System 2’s slow thinking—if effectively deployed by top ranking managers at publicly traded companies, singly and within the hierarchy of individuals responsible for corporate disclosures—has the potential to *de-bias*; to rein in overly optimistic views that are the product of confirmation bias, escalating commitment, and other skewing cognitive effects. If our legal regime can encourage that environment by using behavioral economics and psychology prophylactically, investors and the markets will be better served.

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119. Langevoort, *State of Mind*, *supra* note 8, at 11–12 (citing Catherine Schrand & Sarah Zechman, *Executive Overconfidence and the Slippery Slope to Financial Misreporting*, 53 J. ACCT. & ECON. 311 (2012) (documenting and explaining the slippery slope from overconfidence to fraud)).