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Current securities fraud doctrine applying section 10(b) and Rule 10b-5 set a high bar for civil damages plaintiffs who must plead and prove both loss causation and transaction causation in order to prevail. Such a strict standard is not demanded by the law, given that the purpose of the Securities Act of 1933 and Securities Exchange Act of 1934 was to provide more protection for investors than had the common law of fraud. Nonetheless, the courts, especially the Supreme Court in Dura Pharmaceuticals v. Broudo*, have chosen to impose this additional requirement.*

This Article examines the behavioral psychology literature, much of which is traceable to the work of Nobel Prize-winner Daniel Kahneman, in order to determine whether such a strict standard is warranted as a policy matter. As it turns out, there is substantial evidence that people often make less-than-rational judgments regarding causation, can be manipulated to find causation where none exists, and mis-assign causation. This evidence argues for a high standard for proving loss causation in order to protect securities fraud defendants from unwarranted liability. Yet, there is also evidence of a psychological tendency to "blame the victim," which suggests that perhaps it is plaintiffs who need the law's protection.

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"[Causation] is the cement of the universe."[1]
– Hume

INTRODUCTION

In his recent book, *The Moral Molecule*, Paul Zak writes that the standard economics account of "rational self-interest is bupkis when it comes to real people."[2] While I find this an overstatement, I have long been aware of a meaningful gap between the rational choice theory account of how people make decisions and how I, and people I know, make decisions. I first cited Daniel Kahneman's heuristics and biases literature twenty-one years ago in an invited article on products liability, in which a co-author and I argued that requiring consumers to bargain for the exact "accident level"[3] they wanted in a product was unlikely to be as safe or efficient as imposing product liability upon designers and makers of products who, with a conscious decision to add a safety feature, can prevent injury to thousands of consumers whose minds will inevitably wander while driving a car, using a lawn mower, or working on an assembly line.[4]

Because I teach securities regulation, I often have returned to the work of Professors Kahneman and Tversky and their academic progeny to analyze various securities law issues, often taking the view that a purely contractarian approach to securities law that requires investors to protect themselves from fraud by making optimally rational decisions is unlikely to produce fair and efficient capital markets.[5] While conceding

1. DAVID HUME, AN ABSTRACT OF A TREATISE OF HUMAN NATURE 32 (1740).

2. PAUL J. ZAK, THE MORAL MOLECULE: THE SOURCE OF LOVE AND PROSPERITY 8 (2012).

3. *See* AM. LAW INST., 1 ENTERPRISE RESPONSIBILITY FOR PERSONAL INJURY: REPORTERS' STUDY 205–07 (1991) (arguing that consumers should presumptively choose their own "accident level").

4. Robert A. Prentice & Mark Roszkowski, *"Tort Reform" and the Liability "Revolution": Defending Strict Liability in Tort for Defective Products*, 27 GONZ. L. REV. 251, 293 nn.213, 218 (1991–1992). It is natural to cite Kahneman. *See* Amitai Etzioni, *Behavioral Economics: Next Steps*, 34 J. CONSUMER POL'Y 277, 284 (2011) (describing Kahneman as "the most influential behavioral economist"); Russell Korobkin, *Daniel Kahneman's Influence on Legal Theory*, 44 LOY. U. CHI. L.J. 1349, 1354 (2013) ("Professor Kahneman is not a law professor, yet his work has been cited in 2810 law journal articles. Even more impressive, the number of citations to his work in law journals has continued on a steady upward trajectory for the last three decades, even though his most influential articles were published in the 1970s." (internal footnotes omitted)).

5. *See, e.g.*, Robert A. Prentice, *Moral Equilibrium: Stock Brokers and the Limits of Disclosure*, 2011 WISC. L. REV. 1059 (arguing that moral licensing phenomenon means that the substantive fiduciary duty standard is preferable to a mere disclosure rule in protecting investors from abuse by stockbrokers); Robert A. Prentice, *Chicago Man, K-T Man, and the Future of Behavioral Law and Economics*, 56 VAND. L. REV. 1663 (2003) (defending heuristics and biases literature and its potential for improving policy prescriptions); Robert A. Prentice, *Enron: A Brief Behavioral Autopsy*, 40 AM. BUS. L.J. 417 (2003) (explaining how nonrational decision-making

that government regulation is far from perfect,[6] I have argued (in a debate that is admittedly unsettled) that securities regulation involving disclosure requirements, antifraud rules, punishment for insider trading, and private as well as public enforcement has been associated with lower costs of capital, stronger capital market development, and stronger economic growth.[7]

When I received an early notice of the program for the Second Annual Institute for Investor Protection Conference, "Behavioral Economics and Investor Protection," at the Loyola University Chicago School of Law, and saw that I had been arbitrarily placed in a session labeled "Behavioral Economics Applied: Expert Witnesses, Event Studies, Loss Causation, and Damages Calculations," I thought I might just examine the behavioral and cognitive literature regarding how people think about causation. The hope was to see what the literature had to say about the current law of loss causation in the most significant

by corporate actors can cause scandals); Robert A. Prentice, *Contract-Based Defenses in Securities Fraud Litigation: A Behavioral Analysis*, 2003 U. ILL. L. REV. 337 [hereinafter Prentice, *Contract-Based Defenses*] (suggesting that limitations on rational decision-making by investors leaves them particularly susceptible to securities fraud when contract-based defenses such as "no reliance" clauses are enforced); Robert A. Prentice, *Whither Securities Regulation? Some Behavioral Observations Regarding Proposals for Its Future*, 51 DUKE L.J. 1397 (2002) (arguing that various heuristics and biases that limit the efficacy of investor decision-making render it unlikely that completely deregulating the securities field would be a good idea); Robert A. Prentice, *The Case of the Irrational Auditor: A Behavioral Insight into Securities Fraud Litigation*, 95 NW. U. L. REV. 133 (2000) (arguing that the behavioral literature renders inaccurate the oft-stated legal presumption that auditors act rationally to maintain reputational capital); Robert A. Prentice, *The SEC and MDP: Implications of the Self-Serving Bias for Independent Auditing*, 61 OHIO ST. L.J. 1597 (2000) (arguing that strong evidence of pervasive self-serving bias makes it unlikely that accounting firms can provide a broad-range of legal services to audit clients yet stay objective and independent in performing the audit function).

6. And, as the securities markets become more and more complicated, crafting effective regulation has clearly become more and more difficult. The seeming impossibility of crafting a workable version of the Volcker Rule pursuant to the Dodd-Frank Act is an example. *See* Kevin Wack, *Senate Dems Sharply Criticize OCC's Handling of JPM Trades*, AM. BANKER, June 6, 2012 (quoting Senator Pat Toomey as saying Dodd-Frank gave them "an impossible job").

7. *See, e.g.*, Robert A. Prentice & Dain C. Donelson, *Insider Trading as a Signaling Device*, 47 AM. BUS. L.J. 1 (2010) (focusing on insider trading regulation); Robert A. Prentice, *Sarbanes-Oxley: The Evidence regarding the Impact of SOX 404*, 29 CARDOZO L. REV. 703 (2007) (examining the impact of one provision of Sarbanes-Oxley Act); Robert A. Prentice & David B. Spence, *Sarbanes-Oxley as Quack Corporate Governance: How Wise is the Received Wisdom?*, 95 GEO. L.J. 1843 (2007) (looking at the impact of several Sarbanes-Oxley provisions); Frank B. Cross & Robert A. Prentice, *The Economic Value of Securities Regulation*, 28 CARDOZO L. REV. 333 (2006) (pointing to a beneficial impact of vigorous securities regulation); Robert A. Prentice, *The Inevitability of a Strong SEC*, 91 CORNELL L. REV. 775 (2006) (defending the impact of securities regulation). While I believe in securities regulation, it is very difficult to determine the optimum level of regulation in a wide range of areas, and there is no doubt that too much regulation can be, and often is, harmful.

antifraud provisions in American securities law: section 10(b)[8] of the 1934 Securities Exchange Act and its attendant Rule 10b-5.[9]

This Article proceeds as follows. Part I summarizes the current state of the law of causation in section 10(b)/Rule 10b-5 litigation. It concludes that the current state of the law, although quite demanding of plaintiffs, contains sufficient vagueness to give judges the flexibility to occasionally give plaintiffs a break when they believe they detect a meritorious case or particularly odious conduct by defendants. Part II examines the behavioral and cognitive literature to determine how people typically think of causation, looking at both the strengths and the weaknesses of human decision making in this area. Part III then discusses the implications of the psychology literature for the state of the law, asking whether the literature sheds any light upon the appropriateness of the very stringent loss causation standard in securities fraud litigation.

I. THE LAW OF CAUSATION UNDER SECTION 10(B)

A. Introduction

Causation is critical in every area of the law. As a general rule, causation has two parts. *Actual cause* (also known as *cause in fact*) is a test of exclusion applying a "but for" or *sine qua non* approach. If courts can say that "but for" the defendant's wrong the plaintiff's injury

8. Section 10(b) reads, in pertinent part:

> It shall be unlawful for any person, directly or indirectly, by the use of any means or instrumentality of interstate commerce or of the mails, or of any facility of any national securities exchange
>
> (b) To use or employ, in connection with the purchase or sale of any security registered on a national securities exchange or any security not so registered, or any securities-based swap agreement[,] any manipulative or deceptive device or contrivance in contravention of such rules and regulations as the Commission may prescribe as necessary or appropriate in the public interest or for the protection of investors.

15 U.S.C. § 78j (2006).

9. Rule 10b-5 reads:

> It shall be unlawful for any person, directly or indirectly, by the use of any means or instrumentality of interstate commerce, or of the mails or of any facility of any national securities exchange,
>
> (a) To employ any device, scheme, or artifice to defraud,
>
> (b) To make any untrue statement of a material fact or to omit to state a material fact necessary in order to make the statements made, in the light of the circumstances under which they were made, not misleading, or
>
> (c) To engage in any act, practice, or course of business which operates or would operate as a fraud or deceit upon any person, in connection with the purchase or sale of any security.

17 C.F.R. § 240.10b-5 (2011).

would not have occurred, then courts look to the second requirement, inquiring as "to whether there is *proximate cause* [or *loss causation*], an inquiry driven by policy considerations such as whether the law should hold the defendant legally responsible for the harm caused by the defendant's [wrong]."[10]

B. The Early Days of the Rule 10b-5 Cause of Action

In securities fraud law specifically, Professor Olazábal has pointed out that in the earliest days of Rule 10b-5 civil litigation, the courts did not expressly require a plaintiff to prove what is variously called *proximate cause* or *loss causation*.[11] In *List v. Fashion Park, Inc.*,[12] for example, the court cited the original Restatement of Torts for the proposition that reliance (apparently alone) ensures that "the conduct of the defendant actually caused the plaintiff's injury."[13]

Thus, as the Rule 10b-5 cause of action originated, plaintiffs needed to establish only *transaction causation* (i.e., "Defendant's lie caused me to buy the securities which I later had to sell at a loss"). Plaintiffs did not have to prove that the securities' decline in price was caused by the lie specifically. After all, "but for" the defendant's lie that caused plaintiffs to purchase the shares, plaintiffs would not have lost money in connection with that purchase. Plaintiffs apparently needed to establish nothing more.

Requiring only reliance was not an unreasonable approach. It was arguably more pro-plaintiff than the common law rule of fraud, which generally required proof of both loss causation and transaction causation.[14] While setting pleading and other standards for Rule 10b-5 litigation, courts are constantly trying to balance competing policy interests—protecting investors on the one hand versus avoiding vexatious litigation on the other[15]—and section 10(b) was meant to provide *more* protection from fraud for securities purchasers than did

10. Justin D. Levinson & Kaiping Peng, *Different Torts for Different Cohorts: A Cultural Psychological Critique of Tort Law's Actual Cause and Foreseeability Inquiries*, 13 S. CAL. INTERDISC. L.J. 195, 200 (2004) (emphasis added).

11. Ann Morales Olazábal, *Loss Causation in Fraud-on-the-Market Cases Post*-Dura Pharmaceuticals, 3 BERKELEY BUS. L.J. 337, 343 (2006).

12. 340 F.2d 457 (2d Cir. 1965).

13. *Id.* at 462 (citing RESTATEMENT OF TORTS § 546 (1938)).

14. *See* PROSSER AND KEETON ON TORTS § 110, at 767 (5th ed. 1984) (discussing the measure of damages in tort actions).

15. *See* Brandon J. Stoker, Note, *Opening the Rule 10b-5 Floodgates: Ninth Circuit Split in* Gilead Sciences *Leaves the Loss Causation Pleading Standard in Limbo*, 2010 B.Y.U. L. REV. 301, 312–13.

the common law.[16] Therefore, such a pro-plaintiff departure from the common law was reasonable.

C. Advent of the Loss Causation Requirement

It did not take long, however, for courts to begin requiring not only transaction causation (reliance), but also loss causation (proximate cause).[17] In other words, plaintiffs had to prove not only that the defendant's lie caused them to buy the securities, but also that the lie (and its ultimate disclosure) caused the eventual price decline. To use an outlandish but hopefully clarifying example, assume that Defendant Stockbroker lies to plaintiffs, telling them that ABC Company's engineers have designed a breakthrough product that will blow competitors out of the water. There is no such product, but plaintiffs believe the lie and therefore buy ABC stock at $30/share. A week later, an earthquake levels ABC's corporate offices, killing its entire management team and destroying its most valuable asset (the building). ABC's stock price sinks to zero. "But for" the lie, plaintiffs would never have purchased the shares and therefore would not have lost $30 on each of them. The courts, however, would view this as establishing only transaction causation. The earthquake caused the actual drop in stock price, so plaintiffs cannot establish loss causation and will go home empty handed.

The loss causation requirement truly came into its own in cases such as *Bastian v. Petren Resources Corp.*,[18] where plaintiffs claimed that

16. Section 10(b) is based on the common law of fraud. Huddleston v. Herman & MacLean, 640 F.2d 534, 547 (5th Cir. 1981), *aff'd in part, rev'd in part sub nom.*, Herman & MacLean v. Huddleston, 459 U.S. 375 (1983); P. Schoenfeld Asset Mgmt. LLC v. Cendant Corp., 142 F. Supp. 2d 589, 595 (D.N.J. 2001). *See also* Harris v. Am. Inv. Co., 523 F.2d 220, 224 (8th Cir. 1975) ("[C]ommon law fraud concepts underlie the securities laws and provide guidance as to their reach and application . . . ."). The Supreme Court often accesses the common law for guidance regarding the meaning of section 10(b). *See, e.g.*, Dura Pharm., Inc. v. Broudo, 544 U.S. 336, 341 (2005); Basic Inc. v. Levinson, 485 U.S. 224, 231, 244 n.22 (1988); Bateman Eichler, Hill Richards, Inc. v. Berner, 472 U.S. 299, 310 (1985); Chiarella v. United States, 445 U.S. 222, 227–28 (1980). Significantly, section 10(b) was meant to strengthen, not weaken that common law protection. *See, e.g.*, SEC v. Tex. Gulf Sulphur Co., 401 F.2d 833, 855 (1968) (noting that section 10(b) should be interpreted so as to liberalize the common law in order to effectuate its remedial purpose). The Supreme Court has agreed, holding as an example that "[a] fundamental purpose" of the federal securities laws, including section 10(b), was to replace the common law fraud regime's caveat emptor rule in order "to achieve a high standard of business ethics in the securities industry." SEC v. Capital Gains Research Bureau, 375 U.S. 180, 186 (1963). *See also* Roberta S. Karmel, *When Should Investor Reliance Be Presumed in Securities Class Actions*?, 63 BUS. LAW. 25, 30 (2007) ("[T]he federal securities laws were passed because common law remedies for fraud on investors were inadequate in modern anonymous securities markets.").

17. *See, e.g.*, Schlick v. Penn-Dixie Cement, Corp., 507 F.2d 374 (2d Cir. 1974).

18. 892 F.2d 680 (7th Cir. 1990).

the defendant promoters had convinced them to invest $600,000 in oil and gas limited partnerships in 1981 and that by 1984 the interests were worthless.[19] Plaintiffs alleged that had it not been for the defendants' misrepresentations and omissions regarding their competence and integrity, they would never have purchased the interests and therefore could not have lost any money.[20] Plaintiffs did not articulate a theory for why the value of their investment had sunk to zero, and showed little interest in doing so. This frustrated Judge Posner, who penned the following about plaintiffs' unconvincing causation argument:

> It happens that 1981 was a peak year for oil prices and that those prices declined steadily in the succeeding years. When this happened the profitability of drilling for oil (and gas, which generally is produced with it) in the continental United States plummeted. The costs of obtaining oil and gas from our depleted reservoirs are far higher than the costs in other regions, and drilling for oil and gas is therefore profitable only in times when prices are very high. Suppose that because of the unexpected drop in oil prices after 1981, all or the vast majority of the oil and gas limited partnerships formed in 1981 became worthless. Then it would be highly unlikely that the plaintiffs' loss was due to the defendants' fraud. If the defendants had come clean in their offering memoranda, then we may assume—because the plaintiffs allege, and the case was dismissed on the complaint—that the plaintiffs would not have invested in the defendants' limited partnerships. But there were plenty of other oil and gas limited partnerships they could have invested in. They wanted to invest in oil and gas limited partnerships; they only wanted to be sure that the general partners were honest and competent people. Yet to be honest and competent is not to be gifted with prevision. If the alternative oil and gas limited partnerships to which these plaintiffs would have turned had the defendants leveled with them were also doomed, despite competent and honest management, to become worthless, the plaintiffs were not hurt by the fraud; it affected the place but not the time or amount of their loss.[21]

Ever since the famous *Palsgraf* case,[22] loss causation has generally been delimited by a requirement of reasonable foreseeability of harm flowing from the misrepresentation or omission.[23] As indicated earlier,

19. *Id.* at 682.

20. *Id.*

21. *Id.* at 684 (citations omitted).

22. Palsgraf v. Long Island R.R. Co., 162 N.E. 99 (N.Y. 1928). As Judge Cardozo famously put it, "'Proof of negligence in the air, so to speak, will not do.'" *Id.* at 102 (citing POLLOCK, TORTS 463 (12th ed.)). The "Cardozo Standard" holds that a person must be within a foreseeable zone of danger to assert a valid cause of action for negligent conduct. *See id.* at 100–01.

23. *See* Marbury Mgmt., Inc. v. Kohn, 629 F.2d 705, 708 (2d Cir. 1980) ("The generalization

loss causation is imposed as a policy matter to limit the scope of a defendant's liability for losses caused by its wrong. Judge Posner made his policy preferences clear in *Bastian*:

> No social purpose would be served by encouraging everyone who suffers an investment loss because of an unanticipated change in market conditions to pick through offering memoranda with a fine-tooth comb in the hope of uncovering a misrepresentation. Defrauders are a bad lot and should be punished, but Rule 10b-5 does not make them insurers against national economic calamities. If the defendants' oil and gas ventures failed not because of the personal shortcomings that the defendants concealed but because of industry-wide phenomena that destroyed all or most such ventures, then the plaintiffs, given their demonstrated desire to invest in such ventures, lost nothing by reason of the defendants' fraud and have no claim to damages.[24]

Thus, the loss causation issue is complicated by the fact that jurors are being asked to essentially make a policy determination, because that is what loss causation is all about—deciding who in the causal chain should bear liability and for how much of the loss and to which investors.[25] Jurors are guided by the somewhat open-ended concept of "reasonable foreseeability," but the policy implications of their decisions lead necessarily to frequent and often decisive judicial intervention.

D. Private Securities Litigation Reform Act

The tone and language of *Bastian* set a high causation bar for plaintiffs. Quickly, it became well established across the circuit courts that plaintiffs were required to plead and prove both transaction causation and loss causation.[26] Statutory developments also mattered;

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is that only the loss that might reasonably be expected to result from action or inaction in reliance on a fraudulent misrepresentation is legally, that is, proximately, caused by the misrepresentation.").

24. *Bastian*, 892 F.2d at 685 (citation omitted).

25. *See* 1 DAN B. DOBBS, THE LAW OF TORTS § 180, at 443 (2001) ("The proximate cause issue, in spite of the terminology, is not about causation at all but about the appropriate scope of responsibility."). *See also* Suez Equity Investors, L.P. v. Toronto-Dominion Bank, 250 F.3d 87, 96 (2d Cir. 2001) ("In the end, whether loss causation has been demonstrated presents a public policy question, the resolution of which is predicated upon notions of equity because it establishes who, if anyone, along the causal chain should be liable for the plaintiffs' losses."); Bruschi v. Brown, 876 F.2d 1526, 1530 n.6 (11th Cir. 1989) ("While courts often define proximate cause in terms of how 'direct' the connection is between the defendant's misconduct and the plaintiff's loss, or in terms of the foreseeability of the plaintiff's loss, it appears that policy considerations external to the transaction between the parties actually govern the courts' decisions.").

26. *See, e.g.*, Citibank, N.A. v. K-H Corp., 968 F.2d 1489, 1494 (2d Cir. 1992); McGonigle v.

in 1995, Congress overrode President Clinton's veto to enact the Private Securities Litigation Reform Act ("PSLRA"),[27] which attempted to rebalance securities fraud litigation under Rule 10b-5 in defendants' favor.[28]

In enacting the PSLRA, Congress codified the courts' requirement that Rule 10b-5 plaintiffs prove both transaction causation and loss causation.[29] The PSLRA also dramatically raised the pleading requirement for the scienter element of a Rule 10b-5 claim,[30] but did not do likewise with loss causation, which need not be pled with "particularity" to meet the exacting standards of the PSLRA.[31] Causation, however, "may not be pled by way of euphemism alone"[32] and must meet the strict standards of Federal Rule of Civil Procedure 9(b),[33] which apply when plaintiffs allege fraud.[34]

A misrepresentation or omission need not be the sole cause of a loss to be actionable; rather, it need only be "one *substantial cause* of the investment's decline in value," meaning that "other contributing forces

Combs, 968 F.2d 810, 820 (9th Cir. 1992); Arthur Young & Co. v. Reves, 937 F.2d 1310, 1327–28 (8th Cir. 1991); *Bruschi*, 876 F.2d at 1530.

27. 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)).

28. Among the PSLRA's provisions were: a replacement of joint and several liability with proportional liability, 15 U.S.C. § 78u-4(f); establishment of a statutory "bespeaks caution" defense, 15 U.S.C. § 78u-4(b)(4); and institution of stricter damages rules, 15 U.S.C. § 78u-4(e).

29. *See* 15 U.S.C. § 78u-4(b)(4). *See also* 15 U.S.C. § 77l(b) (loss causation means the "depreciation in value of the subject security" caused by the misrepresentation); 15 U.S.C. § 78u-4(e) (Rule 10b-5 recovery is to be based on stock price movements following disclosure of "the misstatement or omission that is the basis for the action").

30. Regarding the scienter element of a Rule 10b-5 claim, PSLRA replaced simple notice pleading with a requirement that any complaint "specify each statement alleged to have been misleading, the reason or reasons why the statement is misleading, and, if an allegation regarding the statement or omission is made on information and belief, the complaint shall state with particularity all facts on which that belief is formed." 15 U.S.C. § 78u-4(b)(1). Civil damage plaintiffs shall "state with particularity facts giving rise to a *strong inference* that the defendant acted with the required state of mind." 15 U.S.C § 78u-4(b)(2) (emphasis added).

31. *In re* A-Power Energy Generation Sys. Ltd. Sec. Litig., No. MDL 11-2302-GW(CWx), 2012 U.S. Dist. LEXIS 79417, at *19–20 (C.D. Cal. May 31, 2012); Curry v. Hansen Med., Inc., No. C 09-5094 CW, 2012 U.S. Dist. LEXIS 112449, at *39 (N.D. Cal. Aug. 10, 2012).

32. Metzler, Inv. GMBH v. Corinthian Colls., Inc., 540 F.2d 1049, 1062 (9th Cir. 2008). *See also* Solow v. Citigroup, Inc., No. 10 Civ. 2927 (RWS), 2012 U.S. Dist. LEXIS 70022, at *19 (S.D.N.Y. May 18, 2012) (holding that conclusory allegations are insufficient to plead loss causation); *In re* Merrill Lynch Tyco Research Sec. Litig., No. 03 CV 4080 (MP), 2004 U.S. Dist. LEXIS 2247, at *3–4 (S.D.N.Y. Feb. 18, 2004) (same).

33. FED. R. CIV. P. 9(b) ("In alleging fraud or mistake, a party must state with particularity the circumstances constituting fraud or mistake. Malice, intent, knowledge, and other conditions of a person's mind may be alleged generally.").

34. *In re* Mun. Mortg. & Equity, LLC Sec. & Deriv. Litig., No. MJG-08-1961-MDL, 2012 U.S. Dist. LEXIS 88339, at *14 (D. Md. June 26, 2012).

will not bar recovery."[35]

E. Inflated Value

Both before and after enactment of the PSLRA, the primary method of establishing loss causation, the *inflated value method*, allowed plaintiffs to produce expert witnesses who focused upon the inflated value of the securities involved (assuming it was a case in which plaintiffs had bought securities, rather than sold them, in connection with a fraud). The experts would testify, for example, that because of ABC Company's misrepresentations, its market price of $40/share was inflated by $10/share on the date of plaintiffs' purchase. Later, when the truth was exposed, the stock price fell to $30/share; thus, plaintiffs should recover $10/share under this approach.[36]

F. Dura Pharmaceuticals, Inc. v. Broudo

The Supreme Court rejected the inflated value method of establishing causation in *Dura Pharmaceuticals, Inc. v. Broudo*,[37] where plaintiffs alleged that Dura, prior to and throughout the class period, made false statements regarding its profits and future Food and Drug Administration ("FDA") approval of a new asthmatic spray device it hoped to market.[38] On the last day of the class period, Dura announced that its earnings would be lower than expected, primarily due to slow drug sales, and its stock price dropped by more than half.[39] Eight months later, Dura announced that the FDA would not approve its new device and its stock price briefly fell again (almost fully recovering within a week).[40] *Dura* was a "fraud-on-the-market" case in which the plaintiffs argued that transaction causation was established via their reliance upon the market price as an accurate indicator of the value of the shares.[41] The trial judge held that plaintiffs had not adequately

35. Sparling v. Daou, 411 F.3d 1006, 1025 (9th Cir. 2005) (citing Robbins v. Koger Props., Inc., 116 F.3d 1441, 1447 n.5 (11th Cir. 1997)). *See In re A-Power*, 2012 U.S. Dist. LEXIS 79417, at *19–20; *Curry*, 2012 U.S. Dist. LEXIS 112449, at *40; Kinnett v. Strayer Educ., Inc., Nos. 8:10-cv-2317-T-23MAP, 8:10-cv-2728-T-23MAP (consolidated), 2012 U.S. Dist. LEXIS 37737, at *53 (M.D. Fla. Jan. 3, 2012)

36. *See In re* Vicuron Pharm., Inc. Sec. Litig., 233 F.R.D. 421, 428 (E.D. Pa. 2006) (stating that a simple mathematical calculation is required once liability is assigned).

37. 544 U.S. 336 (2005).

38. *Id.* at 339.

39. *Id.*

40. *Id.*

41. *See id.* at 342. *See also* Basic Inc. v. Levinson, 485 U.S. 224, 242 (1988) (allowing plaintiffs in cases involving publicly traded companies to establish transaction causation (reliance) without showing that they had individually read or heard the misrepresentations by showing that they had relied on the market price of the inflated shares).

alleged loss causation regarding the spray device claims, but the Ninth Circuit held that plaintiffs' "inflated value" claims sufficed.[42] The Supreme Court disagreed with the circuit court, with Justice Breyer writing:

> Normally, in cases such as this one (*i.e.*, fraud-on-the-market cases), an inflated purchase price will not itself constitute or proximately cause the relevant economic loss.
>
> For one thing, as a matter of pure logic, at the moment the transaction takes place, the plaintiff has suffered no loss; the inflated purchase payment is offset by ownership of a share that *at that instant* possesses equivalent value. Moreover, the logical link between the inflated share purchase price and any later economic loss is not invariably strong. Shares are normally purchased with an eye toward a later sale. But if, say, the purchaser sells the shares quickly before the relevant truth begins to leak out, the misrepresentation will not have led to any loss. If the purchaser sells later after the truth makes its way into the marketplace, an initially inflated purchase price *might* mean a later loss. But that is far from inevitably so. When the purchaser subsequently resells such shares, even at a lower price, that lower price may reflect, not the earlier misrepresentation, but changed economic circumstances, changed investor expectations, new industry-specific or firm-specific facts, conditions, or other events, which taken separately or together account for some or all of that lower price. (The same is true in respect to a claim that a share's higher price is lower than it would otherwise have been—a claim we do not consider here.) . . .
>
> Given the tangle of factors affecting price, the most logic alone permits us to say is that the higher purchase price will *sometimes* play a role in bringing about a future loss. It may prove to be a necessary condition of any such loss, and in that sense one might say that the inflated purchase price suggests that the misrepresentation (using language the Ninth Circuit used) "touches upon" a later economic loss. But, even if that is so, it is insufficient. To "touch upon" a loss is not to *cause* a loss, and it is the latter that the law requires.[43]

Justice Breyer's primary justification for rejecting the inflated value approach to establishing loss causation (and damages) is the unreliability of the method. Many other factors could cause a stock's price to decline, especially if there has been a substantial period of time between the false statement or omission and the truth coming out. *Dura*

42. Broudo v. Dura Pharm., Inc., 339 F.3d 933, 938–39 (9th Cir. 2003), *rev'd*, 544 U.S. 366 (2005).

43. Dura Pharm., Inc. v. Broudo, 544 U.S. 336, 342–46 (2005) (citing 15 U.S.C. § 78u-4(b)(4), which states that securities fraud plaintiffs bear "the burden of proving" that the defendant's misrepresentations "caused the loss for which the plaintiff seeks to recover").

requires plaintiffs to eliminate losses caused by factors other than defendant's fraud from the damage calculation.[44]

Rather than simply showing an inflated price at the time of purchase, plaintiffs must produce "proof of a causal connection between the misrepresentation and the investment's subsequent decline in value."[45] In a fraud-on-the-market case, as in most Rule 10b-5 cases,[46] plaintiffs must prove not only the fraud-inflated price, but also that "the fraud-induced inflation that was baked into the plaintiff's purchase price was subsequently removed from the stock's price, thereby causing losses to the plaintiff."[47]

G. Two Primary Paths to Establishing Loss Causation

Dura was criticized in some quarters as imposing too high a burden on plaintiffs,[48] but most of the criticism aimed at the decision has focused on the Court's insufficient guidance regarding how to sufficiently plead loss causation.[49] If the inflated value method is

44. *See* William O. Fisher, *Does the Efficient Market Theory Help Us Do Justice in a Time of Madness*, 54 EMORY L.J. 843, 888 (2005) ("[T]he adjustment to remove the effect on damages of nonfraud influences—such as general market movement, new information about the issuer's industry, and news about the issuer that is unrelated to the asserted fraud—is critical because 'damages under Rule 10b-5 are limited to those proximately caused by defendant's misstatement [or] omission.'" (quoting 3 THOMAS L. HAZEN, THE LAW OF SECURITIES REGULATION, § 12.12[3], at 386 (5th ed. 2005))). Justice Breyer's majority opinion also held that the Ninth Circuit approach was not consistent with precedent, *Dura*, 544 U.S. at 343–44, that it undermined Rule 10b-5 policy (the *Bastian* notion that securities fraud suits exist to maintain public confidence in the securities markets by deterring fraud, not by providing insurance against losses), *id.* at 345, and that it was inconsistent with the PSLRA's loss causation requirement. *Id.* at 345–46. The PSLRA provision is, as cited above, 15 U.S.C. § 78u-4(b)(4), and Breyer wrote:

> The statute thereby makes clear Congress' intent to permit private securities fraud actions for recovery where, but only where, plaintiffs adequately allege and prove the traditional elements of causation and loss. By way of contrast, the Ninth Circuit's approach would allow recovery where a misrepresentation leads to an inflated purchase price but nonetheless does not proximately cause any economic loss. That is to say, it would permit recovery where these two traditional elements in fact are missing.

Id. at 346.

45. Hubbard v. BankAtlantic Bancorp, Inc., 688 F.3d 713, 725 (11th Cir. 2012) (citing Robbins v. Koger Props, Inc., 116 F.3d 1441, 1448 (11th Cir. 1997)).

46. In non-class action Rule 10b-5 cases, courts are often easier on plaintiffs when applying loss causation requirements. *See, e.g.*, Lau v. Mezei, No. 10CV4838(KMW), 2012 U.S. Dist. LEXIS 116608, at *20–21 (S.D.N.Y. Aug. 16, 2012) (finding it adequate for establishing loss causation when the plaintiff made "allegations that he was misinformed as to the degree of risk in the investment, the level of assets that [the companies he was induced to loan money to] had on hand, and the presence of a senior lender that [one of the borrowers] would pay before Lau . . .").

47. FindWhatInvestor Grp. v. FindWhat.com, 658 F.3d 1282, 1311 (11th Cir. 2011) (citing *Robbins*, 116 F.3d at 1448).

48. *See* Jill E. Fisch, *Cause for Concern: Causation and Federal Securities Fraud*, 94 IOWA L. REV. 811, 870 (2009).

49. *See, e.g.*, Merrit B. Fox, *After* Dura*: Causation in Fraud-on-the-Market Actions*, 31 J.

inadequate to plead and prove loss causation, how are plaintiffs to do so? Justice Breyer gave only vague direction, and since *Dura*, the lower courts have struggled to determine exactly how plaintiffs can adequately meet its loss causation pleading requirements.[50]

1. Corrective Disclosure

In his observation that the complaint failed "to claim that Dura's share price fell significantly after the truth became known,"[51] Justice Breyer suggested that such an allegation would serve to adequately allege loss causation. Illustrative of a common post-*Dura* approach to pleading and proving loss causation is the opinion in the *Dell* litigation,[52] wherein the court noted two ways in which plaintiffs could establish loss causation: the *corrective disclosure* and *materialization of risks* approaches.

First, in his opinion in *Dura*, Justice Breyer adverted to the "corrective disclosure" approach.[53] Plaintiffs can establish loss causation by showing that defendants corrected a previous false statement (in *Dura*, the defendant admitted that, inconsistent with previous statements, the FDA was not going to approve its new device) and that the correction caused the stock price drop (which plaintiffs could not adequately show in *Dura*).[54]

In *Curry v. Hansen Medical, Inc.*,[55] the defendant falsely inflated reported catheter sales, which became clear when it filed its quarterly report. Analysts expressed surprise and the stock price immediately declined by approximately twenty percent.[56] The link between the

CORP. L. 829, 847 (2006); Bryan L. Phipps, Note, In re Williams Securities Litigation—WCG Subclass*: How* Dura *Met* Daubert, 2010 BYU L. REV. 215, 222.

50. *See, e.g.*, *In re* Motorola Sec. Litig., 505 F. Supp. 2d 501, 538 (N.D. Ill. 2007) ("The [*Dura*] Court thus held that a plaintiff must prove loss causation, and cannot do so merely by showing that the share price was artificially inflated at the time of purchase; but the Court did not address *how* a plaintiff could prove loss causation.").

51. Dura Pharm., Inc. v. Broudo, 544 U.S. 336, 347 (2005).

52. *In re* Dell Inc. Sec. Litig., 591 F. Supp. 2d 877 (W.D. Tex. 2008).

53. *Id.* at 905–06.

54. *Id.* at 906–07.

55. No. C09-5094(CW), 2012 U.S. Dist. LEXIS 112449 (N.D. Cal. Aug. 10, 2012).

56. *Id.* at *41. *See also In re* Jiangbo Pharm., Inc. Sec. Litig., No. 11-22556-Civ, 2012 U.S. Dist. LEXIS 107186, at *52–53 (S.D. Fla. Aug. 1, 2012) ("Plaintiffs allege that, through a series of disclosures regarding [defendant] Jiangbo's several, and then final, defaults on the 2007 and 2008 Debenture, and Jin's statements in a conference call about the possibility that Jiangbo might file for bankruptcy because of its inability to make the debenture payments, the market learned that Jiangbo's cash reserves were overstated. Plaintiffs show that, following each disclosure, the Company's share prices dropped and trading was ultimately halted on May 31, 2011. These allegations are sufficient to show loss causation."); Norfolk Cnty. Ret. Sys. v. Ustian, No. 07C7014, 2009 U.S. Dist. LEXIS 65731, at *6 (N.D. Ill. July 28, 2009) ("[Plaintiffs] have

cause and the effect seemed fairly direct, and therefore the court ruled for the plaintiffs. However, in *In re Almost Family*, the court emphasized that misstatements must be revealed and responded to in the market in order to establish loss causation,[57] because "[w]ithout a revelation, one can only assume that other factors or speculation about unrevealed matters have caused the decline in stock value (such as external business conditions)."[58] As the court indicated:

> Requiring that fraud be revealed or disclosed to the market in order to adequately plead loss causation is both sensible and efficient. If the purpose of the loss causation requirement is to ensure that an investor's loss is *actually* caused by a defendant's fraud, and not an unrelated circumstance in the market, then a plaintiff cannot satisfy her pleading requirements while the fraud remains concealed from the market. Stated another way, the market cannot respond to fraud until it has been revealed. If the disclosure of a mere *risk* of fraud was enough to trigger loss causation, a private cause of action for securities fraud would accrue every time an allegation or rumor of wrongdoing circulated.[59]

2. Materialization of the Risk

The second way to establish loss causation—according to *Dell* and most other courts—is the "materialization of the risk" approach.[60] These courts argue that if the only way to establish loss causation is to show defendants made corrective disclosures that led to stock price drops, no defendant would ever make a corrective disclosure. Therefore, if the truth materializes in the market through other avenues and the plaintiffs can adequately link the materialization of the truth to stock price declines, loss causation is adequately proved.[61]

Where the alleged misstatement conceals a condition or event, which then occurs and causes the plaintiff's loss, it is the materialization of the

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identified a series of disclosures—a leakage of information—which indicated that [the defendant's] financial statements and accounting practices were unreliable. The market incorporated this information as the truth about the alleged fraud slowly leaked into the marketplace and share prices fell after each instance.").

57. *In re* Almost Family, Inc. Sec. Litig., No. 3:10-CV-00520-H, 2012 U.S. Dist. LEXIS 16857, at *32 n.6 (W.D. Ky. Feb. 20, 2012) (citing Lentell v. Merrill Lynch & Co., 396 F.3d 161, 174 (2d Cir. 2005)).

58. *Id.* at *33 n.7 (citing Dura Pharm., Inc. v. Broudo, 544 U.S. 336, 344–45 (2005)).

59. *Id.* at *37. In *Almost Family*, the court held that disclosure of an investigation of fraud was not tantamount to a disclosure of fraud. *Id.* at *40. *See also In re* Maxim Integrated Prods., Inc. Sec. Litig., 639 F. Supp. 2d 1038, 1047 (N.D. Cal. 2009) (agreeing with *Almost Family*); *In re* Dell Inc., Sec. Litig., 591 F. Supp. 2d 877, 910 (W.D. Tex. 2008) (same); *In re* Avista Corp. Sec. Litig., 415 F. Supp. 2d 1214, 1220–21 (E.D. Wash. 2005) (same).

60. *Dell*, 591 F. Supp. 2d at 910–11.

61. *Id.*

undisclosed condition or event that causes the loss. "By contrast, where the alleged misstatement is an intentionally false opinion, the market will not respond to the truth until the falsity is revealed—*i.e.* a corrective disclosure."[62]

Plaintiffs can surmount the causation bar by showing either that the defendant corrected a previous error and the correcting disclosure was followed shortly by a stock price movement, or the correcting information materialized in the market over time and such materialization was roughly correlated with stock price movements. With that knowledge, plaintiffs are able to separate the effects of fraud-related stock price inflation from non-fraud risks. The correcting disclosure method is apparently most appropriate where the defendant is accused of issuing a false statement; the materialization of the risk method is most appropriate where the alleged misstatement or omission conceals a condition or event that then occurs and causes a loss.

Some courts attempt to clarify the materialization of risk approach by speaking of a "zone of risk," concluding that loss causation is sufficiently pled if "the risk that caused the loss was within the zone of risk concealed by the misrepresentations and omissions alleged by a disappointed investor."[63] Pursuant to this theory,

> [i]f the significance of the truth is such as to cause a reasonable investor to consider seriously a zone of risk that would be perceived as remote or highly unlikely by one believing the fraud, and the loss ultimately suffered is within that zone, then a misrepresentation or omission as to that information may be deemed a foreseeable or proximate cause of the loss.[64]

H. A High Hill to Climb

Generally, though not inevitably, courts apply the loss causation rules in ways that make life very difficult for plaintiffs. It is certainly

62. *In re* Initial Pub. Offering Sec. Litig., 399 F. Supp. 2d 298, 307 (S.D.N.Y. 2005).

63. Freudenberg v. E*Trade Fin. Corp., 712 F. Supp. 2d 171, 202 (2010). *See also* Sawant v. Ramsey, No. 3:07-cv-980(VLB), 2012 U.S. Dist. LEXIS 112151, at *29 (D. Conn. June 21, 2012) (holding in favor of plaintiffs utilizing the zone of risk test); Solow v. Citigroup, Inc., No. 10 Civ. 2927(RWS), 2012 U.S. Dist. LEXIS 70022, at *20 (S.D.N.Y. May 18, 2012) (holding that plaintiff inadequately pled loss causation using the materialization of risk approach).

64. *In re* Gen. Elec. Sec. Litig., 857 F. Supp. 2d 367, 399 (S.D.N.Y. 2012) (quoting AUSA Life Ins. Co. v. Ernst & Young, 206 F.3d 202, 235 (2d Cir. 2000) (Winter., J., dissenting)). *See also* Egan v. TradingScreen, Inc., No. 10 Civ. 8202(LBS), 2011 U.S. Dist. LEXIS 47713, at *38 (S.D.N.Y. May 4, 2011) ("The Second Circuit has held that 'a misstatement or omission is the proximate cause of an investment loss if the risk that caused the loss was within the zone of risk concealed by the misrepresentation,' and that the loss causation inquiry requires 'both that the loss be foreseeable and that the loss be caused by the materialization of the concealed risk.'" (quoting Lentell v. Merrill Lynch & Co., 396 F.3d 161, 173 (2d Cir. 2005))).

reasonable to emphasize that "mere temporal proximity" does not establish loss causation.[65] And it is fair to hold that "[p]ost hoc ergo propter hoc will not do."[66] Hence, the Supreme Court was right in *Dura* when it claimed that "[o]ther things being equal, the longer the time between purchase and sale, the more likely that . . . other factors [than the fraud that induced the transaction] caused the loss."[67] But more is going on here than that.

In a recent article, Dain Donelson and I made the point that the extreme malleability of scienter pleading standards in Rule 10b-5 cases against outside auditors means that judges have virtually unlimited discretion to terminate cases at the motion to dismiss stage (if they feel them unpromising), or to move them along to a likely significant settlement if their gut feeling tells them that the case has merit.[68]

The loss causation standards also seem to afford judges meaningful discretion to punish unseemly behavior if they so choose. While most cases seem to be quite demanding of plaintiffs when determining loss causation, consider *Dondona v. Goldman Sachs & Co*.[69] Plaintiffs in *Dondona* alleged extraordinarily unattractive behavior on the part of Goldman Sachs. Plaintiffs alleged that Goldman Sachs took substantial short positions in mortgage-backed securities when it realized the mortgage market was going south. While it was going short, the firm continued to sell those same securities to clients knowing the clients would get slaughtered in the market.[70]

In the face of allegations of exceedingly contemptible misconduct (even by Wall Street standards), the court was relatively forgiving on the loss causation issue. When Goldman Sachs argued that the entire economy was hurting during the relevant time period and that this factor

65. *In re* Motorola Sec. Litig., 505 F. Supp. 2d 501, 547 (N.D. Ill. 2007).

66. Schiller & Schmidt, Inc. v. Nordisco Corp., 969 F.2d 410, 415 (7th Cir. 1992).

67. Dura Pharm., Inc. v. Broudo, 544 U.S. 336, 343 (2005).

68. Dain C. Donelson & Robert A. Prentice, *Scienter Pleading and Rule 10b-5: Empirical Analysis and Behavioral Implications*, 63 CASE W. RES. L. REV. 441 (2012).

69. 847 F. Supp. 2d 624 (S.D.N.Y. 2012).

70. The court indicated:

> In particular, Dondona alleges that the Defendants created the Hudson CDOs as part of a scheme to decrease Goldman's subprime exposure at the expense of its investors by shorting those same CDOs; that Defendants failed to disclose this strategy to investors; and that Defendants failed to disclose that they did not reasonably believe that the Hudson CDOs would be profitable for investors like Dodona. Dodona claims it suffered damages when the Hudson CDO notes were liquidated and when it sold them at a loss.

Dondona, 847 F. Supp. 2d at 635–36. For popular accounts of these types of transactions, see BETHANY MCLEAN & JOE NOCERA, ALL THE DEVILS ARE HERE 278–81 (2010); GRETCHEN MORGENSON & JOSHUA ROSNER, RECKLESS ENDANGERMENT 282 (2011).

likely contributed mightily to plaintiffs' losses, the court held that plaintiffs did not have to rule out all alternative causal explanations in order to survive a motion to dismiss.[71] Other courts in close cases also have appeared to go a little easy on plaintiffs, reasoning that "[l]oss causation becomes most critical at the proof stage."[72]

But most courts seem to reject the view that loss causation should not receive close scrutiny at the motion to dismiss stage.[73] The court in *Phillips v. Triad Guaranty, Inc.*, for example, held that even at the motion to dismiss stage, it is the plaintiffs' burden to adequately allege the fraud's causal impact on plaintiffs' losses and to distinguish the impact of the fraud from other factors, such as a market-wide collapse in defendant's industry.[74] The Eleventh Circuit recently held that

> to succeed in a fraud-on-the-market case, it is not enough to point to a decline in the security's price after the truth of the misrepresented matter was revealed to the public. The plaintiff must also offer evidence sufficient to allow the jury to separate portions of the price decline attributable to causes unrelated to the fraud, leaving only the part of the price decline attributable to the dissipation of the fraud-induced inflation.[75]

71. *Dondona*, 847 F. Supp. 2d at 644. *See also* King Cnty., Wash. v. IKB Deutsche Industriebank AG, 708 F. Supp. 2d 334, 342 (S.D.N.Y. 2010) (holding that the law does not require plaintiffs to plead facts "sufficient to exclude other non-fraud explanations").

72. McCabe v. Ernst & Young, LLP, 494 F.3d 418, 427 n.4 (3d Cir. 2007). *See also In re* Mun. Mortg. & Equity, LLC Sec. & Deriv. Litig., 876 F. Supp. 2d 616, 647 (D. Md. 2012) ("So long as the plaintiff alleges facts to support a theory that is not facially implausible, the court's skepticism is best reserved for later stages of the proceedings when the plaintiff's case can be rejected on evidentiary grounds." (citation omitted)).

73. *See, e.g.*, Phillips v. Triad Guar., Inc., No. 1:09CV71, 2012 U.S. Dist. LEXIS 10987, at *8 (M.D.N.C. Jan. 27, 2012) (rejecting plaintiff's claim that close attention to the loss causation issue was not warranted at the motion to dismiss stage).

74. *Id.* at *12–13.

75. Hubbard v. BankAtlantic Bancorp, Inc., 688 F.3d 713, 726 (11th Cir. 2012). Note that even if plaintiffs meet *Dura*'s standards and thereby demonstrate loss causation by proving that defendant's fraud was a substantial factor in causing their loss, they still may fail to recover by not adequately establishing their damages with specificity. They need to prove a "precise apportionment" of what percentage of the damages came from the fraud and what percentage was caused by other factors for which defendants are not responsible. *Id.* The Fourth Circuit has noted:

> [I]n a given case, a jury could properly conclude that (1) the plaintiff proved the defendant's fraud constituted a substantial cause of plaintiff's loss and so find the defendant liable but (2) the plaintiff failed to provide a method to discern by 'just and reasonable inference' the amount of plaintiff's loss solely caused by defendant's fraud, and so refuse to award the plaintiff any damages.

Miller v. Asensio & Co., 364 F.3d 223, 232 (4th Cir. 2004). Because of various confounding factors that could exist, plaintiffs "must offer some evidence separating the various causes of the decline in the security's price even to establish loss causation. Otherwise the jury has no basis on which to conclude that the dissipation of the fraud-induced inflation was a substantial factor in

This requirement is a challenging standard to meet.

As an indication of how hard the current standard can be on plaintiffs, consider *Hubbard v. BankAtlantic Bancorp, Inc.*, where pension fund State-Boston brought a Rule 10b-5 action against BankAtlantic Bancorp, Inc. ("Bancorp"), claiming that the bank holding company had misrepresented the level of risk associated with commercial real estate loans held by its subsidiary, BankAtlantic.[76] There is little doubt that the misrepresentation existed, but the plaintiff also had to establish loss causation and hired an expert witness in an attempt to do so.

The expert, a financial analyst named Candace Preston, performed an event study[77] to determine how much of the decline in the price of Bancorp's stock on two key corrective disclosure dates (April 26, 2007, and October 26, 2007) was attributable to company-specific factors rather than industry factors or general market conditions. She used the S&P 500 Index to eliminate any part of the stock price drop that might have been caused by market-wide factors. To eliminate industry-specific factors, she utilized the NASDAQ Bank Index, which tracks the stock price of hundreds of banks and bank holding companies. She found a "statistical fit" between those two indexes and Bancorp's stock price movement.[78] The court described the expert's testimony regarding the first key disclosure dates in this way:

> On April 26, 2007, although Bancorp's stock price dropped more than 5 percent, the S&P 500 and the NASDAQ Bank Index each fell less than 1 percent. Preston concluded based on those indexes that, of the 56-cent April 26 price decline, 55 cents could not be explained by market or industry factors and therefore must have resulted from company-specific factors. To isolate the amount attributable to the alleged fraud, as opposed to other company-specific factors, Preston looked at several analysts' projections of Bancorp's earnings per share for 2007. Those projections, she observed, dropped by an average of 15 cents after the April 26 disclosures. Based on information in the analysts' reports, Preston concluded that two-thirds of that drop in Bancorp's projected earnings were attributable to the disclosure of

bringing about the plaintiff's loss." *Hubbard*, 688 F.3d at 726 (citing *In re* Scientific Atl., Inc. Sec. Litig., 754 F. Supp. 2d 1339, 1376 (N.D. Ga. 2010)).

76. 688 F.3d 713 (11th Cir. 2012).

77. Event studies are currently the most common way for plaintiffs to establish the magnitude of loss caused by a fraud. Frederick C. Dunbar & Arun Sen, *Counterfactual Keys to Causation and Damages in Shareholder Class-Action Lawsuits*, 2009 WIS. L. REV. 199, 230–31. However, there are increasing questions about the viability of the event study in a wide variety of situations. *Id.* at 227.

78. *Hubbard*, 688 F.3d at 722.

> previously concealed risk in the commercial real estate portfolio on April 26. She then reasoned that the same proportion of the 55-cent residual decline in Bancorp's stock price—two-thirds, or 37 cents—was attributable to the fraud.[79]

Using similar methodology, Preston also attributed all thirty-eight percent of the October 26, 2007 drop in the stock price to materialization of the risk that defendant had been hiding.[80]

The expert's work was for naught, however, as the court rejected her conclusions because of a failure, in the court's eyes, to adequately account for the potential impact of a general collapse of the Florida real estate market, which could also have impacted Bancorp's stock price.[81]

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79. *Id.* at 722 (footnotes omitted).

80. The court stated:

> On October 26, 2007, as Bancorp's stock fell 38 percent, the S&P 500 rose about 1 percent, and the NASDAQ Bank Index rose 2 percent. Preston concluded that but for company-specific factors, Bancorp's stock price would have risen on that day. She thus found a residual decline of $3.15, even more than the actual decline of $2.93. To exclude company-specific factors other than the fraud, Preston looked at analyst reports responding to the October 25 disclosures. Because analysts seemed most concerned about the deterioration of the commercial real estate portfolio, Preston concluded that the entire residual decline was attributable to the disclosure of previously concealed risk in that portfolio. She therefore opined that the entire October 26 price decline of $2.93 was attributable to the fraud.

Id. at 722.

81. The court held:

> Preston failed, however, to account for the effects of the collapse of the Florida real estate market. The NASDAQ Bank Index may be well suited to capture the effects of national trends in the banking industry, such as the broader national financial crisis that reached its nadir in 2008. But in 2007, Florida, having benefitted more than most states from the real estate boom of the previous years, was hit harder than most by the ensuing bust. And Florida financial institutions, as Preston admitted on cross-examination, made up only a small percentage of the NASDAQ Bank Index. That index, therefore, would be inappropriate for the task of filtering out the effects of industry-wide factors that might affect the stock price of a bank, or of the holding company of a bank, whose assets were concentrated in loans tied to Florida real estate in 2007.
>
> BankAtlantic is just such a bank. As Bancorp acknowledged in several public SEC filings during the class period, BankAtlantic's assets were concentrated in loans tied to Florida real estate. As a result, BankAtlantic and Bancorp were particularly susceptible to any deterioration in the Florida real estate market, in addition to any national developments. To support a finding that Bancorp's misstatements were a substantial factor in bringing about its losses, therefore, State-Boston had to present evidence that would give a jury some indication, however rough, of how much of the decline in Bancorp's stock price resulted not from the fraud but from the general downturn in the Florida real estate market—the risk of which Bancorp is not alleged to have concealed. State-Boston failed to do so. None of its evidence excluded the possibility that class members' losses resulted not from anything specific about BankAtlantic's commercial real estate portfolio that Bancorp hid from the public, but from market forces that it had warned of—and that would likely have caused significant losses for an investor in any bank with a significant credit portfolio in

Because the expert testimony did not adequately rule out other potential causes of the stock price drop, the court granted summary judgment in favor of the defendant.[82]

Phillips v. Scientific-Atlanta, Inc.[83] provides a road map for defendants to avoid liability on loss causation grounds. The defendant, a cable TV set-top box maker, had allegedly engaged in channel stuffing to cover up decreasing demand for its products and hidden the practice from investors.[84] The truth about the weak demand came to light when the defendant announced sales numbers in July 2001, and its stock price immediately dropped, precipitating a Rule 10b-5 lawsuit.[85] The plaintiffs' expert witness performed an event study that sought to disaggregate the effects of the fraud from overall industry-wide factors that would have affected defendant and its competitors.[86] The defendant's July 2001 announcement, however, included not only the inventory data, but also other more general information.[87] That addition spelled the end for plaintiffs. The Eleventh Circuit held that the plaintiff had adequately disaggregated the effect of defendant's fraud on its stock price from that of industry-wide factors, but had not disaggregated that effect from the impact of other company-specific factors, such as its customers' reduced digital marketing efforts.[88] More specifically, the court said:

> The press releases and interviews that Plaintiffs have identified as presenting the "corrective disclosure" in this case include multiple pieces of non-fraud-related information (for example, the uncertain economic climate, reduced marketing by [defendant's] customers, unexpectedly slow deployment of interactive digital cable services) that qualify as "other possible depressing factors": revelations not about the supposed "channel stuffing." The other factors could have caused some amount of the identified price drop. Absent sufficient disaggregation of the relative price effects of these other different pieces of information, no fact-finder would be able to determine that

commercial real estate in Florida in 2007. Bancorp is therefore entitled to judgment as a matter of law.

Id. at 729–30 (citations and footnotes omitted).

82. *Id.* at 730.

83. 489 F. App'x 339 (11th Cir. 2012).

84. *Phillips*, 489 F. App'x at 340–41. Generally, channel stuffing occurs when an actor pulls sales from "future fiscal periods into the present fiscal period—by way of encouragement, discounts, or incentives—to increase current fiscal period performance." *Id.* at 340 n.1.

85. *Id*. at 341.

86. *Id*. at 343.

87. *See id*. at 342–43 (holding that the information released in July 2001 regarding a generally slowing economy was a confounding variable).

88. *Id*. at 343.

> the revelation of the supposed "channel stuffing" activities in this case satisfied the pertinent causation requirement.[89]

Thus, if defendants release other adverse information at the time they issue their corrective statement, they may make it well-nigh impossible for plaintiffs to meet their loss causation burden.[90]

The bottom line is that the stock market is very noisy.[91] Its workings are complex and the stock price movements of individual stocks are often mysterious. The largest market crashes tend not to correspond to any particular announcement of negative news,[92] and the market often moves little in response to what appear on their face to be significant news developments.[93] "The entire field of behavioral finance exists to point out that often a stock price moves up or down because of which month it is, whether the sun is out, [or] whether a particular team has won a championship . . . ."[94]

Determining why a particular company's stock price has gone up or down is often exceedingly difficult. Studies indicate that the great majority of individual stock price movements are not due to company-specific factors, but rather are caused by general market and industry factors and conditions.[95] Moreover, the microstructure of stock trading

89. *Id*. at 342–43.

90. *See* Dunbar & Sen, *supra* note 77, at 242 ("Complications arise when there is confounding news at the time of the revelation of the relevant truth. Although an event study can detect when a stock-price decline on such news is statistically significant, it cannot by itself determine which of simultaneous events caused the price drop.").

91. *See* Prentice & Donelson, *supra* note 68, at 21 (noting that stock prices are often based on "traders' fortuitous hunches and perhaps little else" (citing WILLIAM BAUMOL THE STOCK MARKET AND ECONOMIC EFFICIENCY 51 (1965))); Fischer Black, *Noise*, 41 J. FIN. 529, 530 (1986) ("Noise makes financial markets possible, but also makes them imperfect."); Robert Bloomfield et al., *How Noise Trading Affects Markets: An Experimental Analysis*, 22 REV. FIN. STUD. 2275, 2301 (2009) (noting that noise traders "introduce complex effects into market behavior"); J. Bradford De Long et al., *Noise Trader Risk in Financial Markets*, 98 J. POL. ECON. 703, 735 (1990) ("[N]oise trading can lead to a large divergence between market prices and fundamental values.").

92. *See* David M. Cutler et al., *What Moves Stock Prices*?, 15 J. PORTFOLIO MGMT. 4, 4 (1989) ("[The] apparent absence of fundamental economic news coincident with the dramatic stock market movement of late 1987 is particularly difficult to reconcile with the standard view.").

93. *Id.*

94. Prentice & Donelson, *supra* note 68, at 21 (concluding that psychological models of "irrational decision-making" can help explain pricing in speculative markets (citing Kenneth Arrow, *Risk Perception in Psychology and Economics*, 20 J. ECON. INQUIRY 1, 7–8 (1982))). *See also* Fisher, *supra* note 44, at 901–08 (discussing behavioral finance's assault on the efficient market theory).

95. *See* J.C. de Swann & Neil W.C. Harper, *Getting What You Pay For with Stock Options*, MCKINSEY Q., Spring 2003, at 152 (noting research finding that, from 1991 to 2000, market and industry factors accounted for roughly seventy percent of the returns of individual companies, while company-specific factors accounted for around thirty percent). To the extent that

markets can affect stock price movements in meaningful ways. The simple interaction between new order flow and the particular pattern of orders that are already in the pipeline can have a significant and confounding influence on stock price movement.[96] "[A] lot of stock price movement . . . has nothing to do with current news, but instead is an artifact of the interactions between new order flow and the particular pattern of orders that happens to be stored in the [stockbrokers'] book at a moment in time."[97]

There is the occasional case where corporations make corrective statements and the announcement is followed immediately by a stock price drop.[98] But generally, causation is not so clear, and in those gray-area cases it is typically very difficult for plaintiffs to adequately exclude other possible causes and thereby establish loss causation. Is such a strict standard justified?

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macroeconomic factors affect a company's stock price, lay people typically will have great difficulty understanding those causal relations. *See* David Leiser & Ronen Aroch, *Lay Understanding of Macroeconomic Causation: The Good-Begets-Good Heuristic*, 58 APPLIED PSYCHOL. 370, 378 (2009) (noting that "[t]he depth of explanation of economic concepts is low in all segments of the population" and that lay people tend to use a simple "good-begets-good heuristic to explain causal links").

96. In my article with Donelson, we gave this example:

> Assume that an insider learns positive, material, confidential information and calls his stockbroker, wishing to buy 1000 shares of his employer's stock. The broker routes the order to a stock exchange and the best available sell offer is a limit order at $20/share for 500 shares. The system will fill that order and then look for the next lowest limit order in order to fill the request for 500 more shares. If the next lowest limit order is at $21 for 600 shares, the market's ask price will move to $21. If the next lowest limit order is at $25, the ask price will move to $25. The price movement is substantially affected not by the substance of the material information or even the volume of the order. The biggest impact derives from the microstructure of the market itself.

Donelson & Prentice, *supra* note 68, at 21 n.112. *See also* ERIC D. BEINHOCKER, THE ORIGIN OF WEALTH 182 (2006); J. Doyne Farmer et al., *What Really Causes Large Price Changes*?, 4 QUANT FIN. 383, 393 (2004); Fabrizio Lillo et al., *Theory for Long Memory in Supply and Demand*, 71 PHYSICAL REV. E. 066122-1, 066122-2 (2005), *available at* http://pre.aps.org/pdf/PRE/v71/i6/e066122

97. RICHARD BOOKSTABER, A DEMON OF OUR OWN DESIGN: MARKETS, HEDGE FUNDS, AND THE PERILS OF FINANCIAL INNOVATION 182, 183 (2007). Bookstaber argues that the demand for liquidity, rather than information about companies, is the "primary driver of the day-to-day movement in [securities] prices." *Id.* at 182.

98. *Sawant v. Ramsey*, No. 2:11-cv-566-FtM-29SPC, 2012 U.S. Dist. LEXIS 112151 (D. Conn. June 21, 2012), presents an example of a slam-dunk in loss causation. Plaintiff's expert testified that defendant's stock price soared immediately after a false announcement that it had concluded a "transaction" with Wal-Mart, and dropped like a stone immediately following a correcting statement issued six weeks later. Furthermore, defendant produced no evidence that any factor other than the false statement had affected the stock price. *Id.* at *26–32.

II. THE PSYCHOLOGY OF CAUSATION

A. Introduction

Causation is, as Hume suggested in this Article's opening epigraph, critical in life. And, as it turns out, critical in law. Kahneman and Tversky have pointed out that people organize their views of the physical and social world in terms of causal relationships.[99]

But causation is a devilishly complicated notion. A quick perusal of *The Oxford Handbook of Causation* indicates that there are multiple standard approaches to causation—regularity theories,[100] counterfactual theories,[101] probabilistic theories,[102] causal process theories,[103] and agency and interventionist theories.[104] There are alternative approaches that involve causal powers and capacities,[105] anti-reductionism,[106] causal modeling,[107] mechanisms,[108] and causal pluralism.[109] There are specialized approaches to causation in different disciplines, including law,[110] social sciences,[111] biology,[112] and quantum mechanics.[113] The

99. *See* Amos Tversky & Daniel Kahneman, *Causal Schemes in Judgments Under Uncertainty*, *in* JUDGMENT UNDER UNCERTAINTY: HEURISTICS AND BIASES 117, 117 (Daniel Kahneman et al. eds., 1982) ("It is a psychological commonplace that people strive to achieve a coherent interpretation of the events that surround them, and that the organizations of events by schemas of cause-effect relations serves to achieve this goal."). *See also* Lawrence M. Solan, *Cognitive Foundations of the Impulse to Blame*, 68 BROOK. L. REV. 1003, 1012 (2003) [hereinafter Solan, *Cognitive Foundations*] ("We conceptualize the world in terms of events and we conceptualize events in terms of cause and result. We do all of this automatically and in circumstances having little or nothing to do with moral attribution, which means that use of these constructs in the attribution of responsibility comes with little cognitive cost.").

100. Stathis Psillos, *Regularity Theories*, *in* THE OXFORD HANDBOOK OF CAUSATION 131 (Helen Beebe et al. eds., 2012) [hereinafter OXFORD HANDBOOK].

101. L.A. Paul, *Counterfactual Theories*, *in* OXFORD HANDBOOK, *supra* note 100, at 158.

102. Jon Williamson, *Probabilistic Theories*, *in* OXFORD HANDBOOK, *supra* note 100, at 185.

103. Phil Dowe, *Causal Process Theories*, *in* OXFORD HANDBOOK, *supra* note 100, at 213.

104. James F. Woodward, *Agency and Interventionist Theories*, *in* OXFORD HANDBOOK, *supra* note 100, at 234.

105. Stephen Mumford, *Causal Powers and Capacities*, *in* OXFORD HANDBOOK, *supra* note 100, at 265.

106. John W. Carroll, *Anti-Reductionism*, *in* OXFORD HANDBOOK, *supra* note 100, at 279.

107. Christopher Hitchcock, *Causal Modeling*, *in* OXFORD HANDBOOK, *supra* note 100, at 299.

108. Stuart Glennan, *Mechanisms*, *in* OXFORD HANDBOOK, *supra* note 100, at 315.

109. Peter Godfrey-Smith, *Causal Pluralism*, *in* OXFORD HANDBOOK, *supra* note 100, at 326.

110. Jane Stapleton, *Causation in the Law*, *in* OXFORD HANDBOOK, *supra* note 100, at 744. There is a debate among legal scholars regarding the role of causation. *Compare* Christopher H. Schroeder, *Corrective Justice and Liability for Increasing Risk*, 37 UCLA L. REV. 439, 466–68 (1990) ("It is appropriate to sever the defendant-causation tie, from the ex ante view, because the full moral and legal significance of a defendant's action is appraisable at the moment of action."), *with* Ernest J. Weinrib, *Causation and Wrongdoing*, 63 CHI.-KENT L. REV. 407 (1987) (arguing for the necessity of a strong causation element in tort law).

field of psychology, for example, finds causality if the supposed effect happens after the supposed cause, if the two correlate or co-vary, and if there are no alternative explanations.[114]

B. How Do People Think About Causation?

Given the importance to survival of understanding causal forces as people interact with their environment, it is unsurprising that people have evolved a strong ability to understand causation.[115] Causal thinking usually involves both parts of the brain's two-track thinking system—one swift, automatic, and unconscious (System I), and the other slower, deliberate, and conscious (System II).[116]

There is evidence that six month-old babies perceive causality,[117] and it is clear that by the age of three, children constantly form hypotheses

111. Harold Kincaid, *Causation in the Social Sciences*, *in* OXFORD HANDBOOK, *supra* note 100, at 726. One of the most recent developments in statistical methodology for drawing causal inferences in social science is synthetic control, which aims to overcome difficulties in causal inferences in studies involving small samples or few occurrences of the phenomenon of interest. *See* Adam R. Fremeth et al., Did Chrysler Benefit from Government Assistance?: Making Causal Inferences in Small Samples Using Synthetic Control Methodology (Sept. 26, 2012) (unpublished manuscript), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2135294 (describing origins of synthetic control methodology, giving examples of its uses, and applying it to conclude that Chrysler would have sold approximately twenty percent more vehicles in the United States through summer 2011 had it refused a government bailout and instead relied on private financing).

112. Samir Okasha, *Causation in Biology*, *in* OXFORD HANDBOOK, *supra* note 100, at 707.

113. Richard Healey, *Causation in Quantum Mechanics*, *in* OXFORD HANDBOOK, *supra* note 100, at 673.

114. *See* Clifford Fisher, *The Role of Causation in Science as Law and Proposed Changes in the Current Common Law Toxic Tort System*, 9 BUFF. ENVTL. L.J. 35, 47 (2001) ("According to the discipline of psychology, a given relationship between two events is a cause-effect relationship if, and only if, it satisfies the following three conditions: (a) Time-Order, (b) Correlation or Co-variation, and (c) Absence of Alternative Explanations.").

115. Patricia W. Cheng & Laura R. Novick, *A Probabilistic Contrast Model of Causal Induction*, 58 J. PERSONALITY & SOC. PSYCHOL. 545, 545 (1990).

116. *See generally* Daniel Kahneman & Shane Frederick, *Representativeness Revisited: Attribute Substitution in Intuitive Judgment*, *in* HEURISTICS AND BIASES: THE PSYCHOLOGY OF INTUITIVE JUDGMENT 49, 51–60 (Thomas Gilovich, Dale Griffin & Daniel Kahneman eds., 2002); DANIEL KAHNEMAN, THINKING, FAST AND SLOW (2011); KEITH E. STANOVICH, WHO IS RATIONAL? (1999). To focus on thinking related solely to causation, causal cognition consists of both causal learning and causal reasoning. According to Danks, causal learning consists of both causal perception and causal inference. Causal perception is System I thinking—the relatively automatic and irresistible perception of a certain sequence of events involving causation. Causal inference, on the other hand, is System II higher-order thinking, based largely on statistical inference. David Danks, *The Psychology of Causal Perception and Reasoning*, *in* OXFORD HANDBOOK, *supra* note 100, at 452.

117. *See* Alan M. Leslie & Stephanie Keeble, *Do Six-Month-Old Infants Perceive Causality?*, 25 COGNITION 265, 282 (1987).

about the causes of events they observe.[118] These children do not need to be trained; these interests and abilities have evolved naturally. And it's not just children, of course. All adults also constantly think about causation. Hart and Honoré's famous book, *Causation in the Law*, emphasized that the common law regarding causation reflects people's *common sense reasoning*.[119] Hart and Honoré are certainly not alone in emphasizing the layperson's common sense as the key yardstick for causation determinations.[120] But how reliable is our common sense? How good are we at drawing proper conclusions regarding causality? Obviously we must be reasonably good at it; otherwise we would not have survived the evolutionary process. Yet there is ample evidence that our abilities in this area—as with most other areas of human endeavor—are far from optimal.

1. Attribution Theory and Intuitive Scientists

Early academic work done by Fritz Heider of the University of Kansas[121] and Albert Michotte at Louvain University in Belgium[122] explored how people perceive causality and make attributions of causality. If a square moves toward a circle on a visual screen, contacts it, and the circle then moves away, people perceive causality. Even though all that has happened is that a series of lights turned on and off on the screen, people naturally perceive that the square caused the circle to move.[123] They often even attribute intentionality to the geometric

118. Cheng & Novick, *supra* note 115, at 545.

119. H.L.A. HART & TONY HONORÉ, CAUSATION IN THE LAW xxxiv (2d ed. 1985).

120. Many foundational scholars in tort law have characterized the determination of causation not as a metaphysical or deeply theoretical exercise, but as a practical process engaged in by lay people using their common sense. *See, e.g.*, FOWLER V. HARPER ET AL., THE LAW OF TORTS § 20.2 (2d ed. 1986); PROSSER AND KEETON ON TORTS §§ 30, 41 (W. Page Keeton ed., 1984); Roscoe Pound, *The Theory of Judicial Decision*, 36 HARV. L. REV. 940, 952 (1923).

121. FRITZ HEIDER, THE PSYCHOLOGY OF INTERPERSONAL RELATIONSHIPS (1958). *See also* Fritz Heider & Marianne Simmel, *An Experimental Study of Apparent Behavior*, 57 AM. J. PSYCHOL. 243 (1944) (reporting a famous experiment). Heider is known as the founder of attribution theory.

122. ALBERT MICHOTTE, THE PERCEPTION OF CAUSALITY (1963). *See also* KAHNEMAN, THINKING, FAST AND SLOW, *supra* note 116, at 76 ("Michotte . . . argued that we *see* causality, just as directly as we see color . . . . We are evidently ready from birth to have *impressions* of causality, which do not depend on reasoning about patterns of causation. They are products of System 1.").

123. This point was brought home to me in the summer of 2012 when I visited the Exploratorium science museum in San Francisco. In its auditory illusions section, I watched a screen with a square. Two red balls emerged from the upper left and upper right corners of the screen, both moving diagonally. They met in the middle, making a little popping sound and then bounced off each other. The ball that had emerged from the upper left hand corner exited through the lower left hand corner. The ball that had emerged from the upper right hand corner exited through the lower right hand corner. At least, that is what my mind perceived. Obviously, the

shapes—the square meant to hit the circle and cause it to move away.[124]

Building on the work of Michotte and Heider, Kelley proposed that people are "intuitive scientists," drawing causal inferences based on the principle of covariation.[125] Over time, however, evidence has established that people are not as scientifically intuitive as originators of attribution theory had first posited.[126]

2. Factors Affecting Causal Thinking

Among multiple potential causes, what leads people to ascribe causality to A rather than to B or C? As early as 1935, Koffka

two balls were just lights on a screen. They did not really make a popping sound when they collided.

Indeed, when pursuant to a prompt on the screen I turned off the sound, the actual movement of the balls, as I perceived it, changed. Now, it appeared that the ball that entered the screen from the upper left hand corner proceeded right through the middle of the box and exited out the lower right hand corner and the ball that entered from the upper right hand corner proceeded through the middle of the box and exited out the lower left hand corner. Without the sound effect, my mind perceived that the balls proceeded in a straight line through the box, briefly occupying the same space in the very middle. But when a sound effect was introduced that my mind perceived as the sound of the two balls bouncing off one another, my visual perception of the balls' action changed completely. The sound caused me to reach a completely different conclusion regarding the movement of the balls. The demonstration is consistent with Danks' point about System I's causal perception, where the keys are often spatio-temporal cues. Two things happening in spatial proximity to one another are naturally more likely to be viewed as causally related than if they are not close to one another. And if A follows B temporally, B is more likely to be viewed as the cause of A than vice-versa. *See* Danks, *supra* note 116, at 457.

124. *See id.* at 449 (discussing the work of Michotte (especially this "launching effect") and of Heider and Simmel). *See also* KAHNEMAN, THINKING, FAST AND SLOW, *supra* note 116, at 76 ("The perception of intention and emotion is irresistible; only people afflicted with autism do not experience it. All this is entirely in your mind, of course. Your mind is ready and even eager to identify agents, assign them personality traits and specific intentions, and view their actions as expressing individual propensities. Here again, the evidence is that we are born prepared to make intentional attributions: infants under one year old identify bullies and victims, and expect a pursuer to follow the most direct path in attempting to catch whatever it is chasing."); Jeffrey M. Lipshaw, *The Financial Crisis of 2008-2009: Capitalism Didn't Fail, but the Metaphors Got a "C,"* 95 MINN. L. REV. 1532, 1538 (2011) (noting that the "language of causation reveals a human proclivity to import purposiveness and intentionality into causation" (citing STEVEN PINKER, THE STUFF OF THOUGHT: LANGUAGE AS A WINDOW INTO HUMAN NATURE 153–63 (2007))).

125. Harold H. Kelley & John L. Michela, *Attribution Theory and Research*, 31 ANN. REV. PSYCHOL. 457 (1980); Harold H. Kelley, *Attribution in Social Psychology*, *in* 15 NEB. SYMP. ON MOTIVATION 192, 194 (D. Levine ed., 1967) (announcing the co-variation ANOVA model that the "effect is attributed to that condition which is present when the effect is present and which is absent when the effect is absent").

126. Even regarding our own actions, we often do not understand the causes of what we do, frequently mistaking correlation for causation. *See* Antony Page, Batson*'s Blind-Spot: Unconscious Stereotyping and the Peremptory Challenge*, 85 B.U. L. REV. 155, 230 (2005). The label "intuitive scientist" has stuck, however, and is now generally used to describe how ordinary people make causal and other decisions. Gregory S. Alexander, *A Cognitive Theory of Fiduciary Relationships*, 85 CORNELL L. REV. 767, 771–72 (2000).

discovered that people are likely to ascribe unwarranted causality to some stimuli just because they are more salient than others.[127] This is sometimes called the *illusion of causation*[128] (or *illusory causation*), caused largely by the fact that people's literal point of view affects how they initially register or extract information from an observed interaction, which in turn affects judgments regarding causal influence.[129] This phenomenon has been manifested in legal settings, where, for example, studies show that if a camera is focused more on a criminal suspect who is confessing, mock jurors are twice as likely to convict the suspect as they are if the camera is focused upon the person asking the questions to the suspect.[130] The effect influences experts, like judges and law enforcement officers, as well as laypeople.[131]

Numerous other studies have shed light on causal thinking. For example, what causes people to help others? People tend to perceive that something "inside" high-status people causes them to help others, whereas external forces such as social pressure account for low-status people offering similar help.[132] What causes people to do bad things?

127. *See* OREN BAR-GILL, SEDUCTION BY CONTRACT 91–96 (2012) (explaining how salience or lack thereof causes people to act irrationally in entering into contracts). *See also* Jon Hanson & David Yosifon, *The Situation: An Introduction to the Situational Character, Critical Realism, Power Economics, and Deep Capture*, 152 U. PA. L. REV. 129, 137 (2003) [hereinafter Hanson & Yosifon, *The Situation*] ("[T]he mind tends to downplay the role of complexifying context and overplay the role of salient behavior."); Gregory Mitchell, *Case Studies, Counterfactuals, and Causal Explanations*, 152 U. PA. L. REV. 1517, 1566 (2004) (noting that a problem with counterfactual thinking is people's tendency to overweigh "vivid, anecdotal evidence relative to drab, statistical, or actuarial data"); Susan E. Taylor & Shelley T. Fiske, *Point of View and Perceptions of Causality*, 32 J. PERSONALITY & SOC. PSYCHOL. 439 (1975) (finding that salience is important in causation attributions, as people are likely to attribute an effect to the cause that is most salient in the perceptual field when the effect is observed); Cass R. Sunstein, *Empirically Informed Regulation*, 78 U. CHI. L. REV. 1349, 1354 (2011) ("Attention is a scarce resource, and vivid, salient, and novel presentations may trigger attention in ways that abstract or familiar ones cannot.").

128. Daniel.T. Gilbert, *Attribution and Interpersonal Perception*, *in* ADVANCED SOCIAL PSYCHOLOGY 99 (Abraham Tesser ed., 1995); Leslie Zebrowitz McArthur, *Illusory Causation and Illusory Correlation: Two Epistemological Accounts*, 6 PERSONALITY & SOC. PSYCHOL. BULL. 507, 517 (1980).

129. G. Daniel Lassiter et al., *Illusory Causation: Why It Occurs*, 13 PSYCHOL. SCI. 299, 304 (2002).

130. G. Daniel Lassiter, *Illusory Causation in the Courtroom*, 11 CURRENT DIRECTIONS IN PSYCHOL. SCI. 204, 206 (2002). *See also* Hanson & Yosifon, *The Situation*, *supra* note 127, at 333 ("[P]eople systematically—and often quite erroneously—attribute causation, responsibility, and blame to the most visible actors in a given situation. They compound their mistakes through the fundamental attribution error, by assuming that action is attributable to disposition, rather than situation.").

131. G. Daniel Lassiter et al., *Evaluating Videotaped Confessions*, 18 PSYCHOL. SCI. 224, 225 (2006).

132. John W. Thibaut & Henry W. Riecken, *Some Determinants and Consequences of the Perception of Social Causality*, 24 J. PERSONALITY 113 (1955).

Pursuant to the *fundamental attribution error*, people tend to perceive that, among other things, bad character causes other people to do bad things, but believe that they themselves do bad things because of situational factors (such as pressure from their superiors).[133] This is part of an overall tendency people have to underestimate the influence of the situations that other people find themselves in and to overestimate the influence of other people's individual characteristics.[134] Adequately

133. *See* BRUCE HOOD, THE SELF ILLUSION, at xvii (2012) (explaining the fundamental attribution error in rather colloquial terms: "When other people screw up, it's because they are stupid or losers, but when I screw up it's because of my circumstances"); LEE ROSS & RICHARD E. NISBETT, THE PERSON AND THE SITUATION 53 (1991) ("The tendency to make unwarranted leaps from acts to corresponding dispositions is perhaps the most fundamental and most common failing of social inference."); PHILIP G. ZIMBARDO & MICHAEL LEIPPE, THE PSYCHOLOGY OF ATTITUDE CHANGE AND SOCIAL INFLUENCE 93 (1991) ("[H]uman behavior is much more under the influence of situational variables than we usually recognize or are willing to admit."); Neal R. Feigenson, *The Rhetoric of Torts: How Advocates Help Jurors Think About Causation, Reasonableness, and Responsibility*, 47 HASTINGS L.J. 61, 128 (1995) [hereinafter Feigenson, *Rhetoric of Torts*] ("The fundamental attribution error reflects both the availability and representativeness heuristics. It derives from the availability heuristic because, in social settings, actors tend to appear more salient, and hence are more available, than situational elements, and are thus more likely to be seen as causal agents. It also derives from overreliance on the representativeness heuristic because it treats behavior as representative of a dispositional state it resembles."); Janice Nadler & Mary-Hunter McDonnell, *Moral Character, Motive, and the Psychology of Blame*, 97 CORNELL L. REV. 255, 291 (2012) ("[B]ad moral character prompts an inference to a desired conclusion, namely, increased blame. Judgments about greater causal influence and intent are also increased to justify the blame conclusion, which is likely to follow quickly and intuitively from the information about the severity of the harm and the moral character of the actor."); Serge Moscovici & Miles Hewstone, *Social Representations and Social Explanations: From the "Naive" to the "Amateur" Scientist*, *in* ATTRIBUTION THEORY: SOCIAL AND FUNCTIONAL EXTENSIONS 98, 120 (Miles Hewstone ed., 1983) [hereinafter ATTRIBUTION THEORY] (explaining that, because of the fundamental attribution error, "situational information is apparently ignored or poorly judged"); Philip E. Tetlock, *An Alternative Metaphor in the Study of Judgment and Choice: People as Politicians*, *in* RESEARCH ON JUDGMENT AND DECISION MAKING: CURRENTS, CONNECTIONS, AND CONTROVERSIES 657, 669 (William M. Goldstein & Robin M. Hogarth eds., 1997).

134. *See generally* Jon Hanson & David Yosifon, *The Situational Character: A Critical Realist Perspective on the Human Animal*, 93 GEO. L.J. 1, 106 (2004) [hereinafter Hanson & Yosifon, *Situational Character*] (making the case for "situationism" over "dispositionism") It is nearly impossible to read all the evidence assembled by Hanson and Yosifon in this article and not agree with the view that what they call "situationism" is extremely pervasive in human decision making and is also greatly underestimated (in favor of what they call "dispositionism") by decision makers. However, it is true that there are some studies that indicate qualifications to that view (which Hanson and Yosifon recognize). *See also* Susan M. Davies, *Evidence of Character to Prove Conduct: A Reassessment of Relevancy*, 27 CRIM. L. BULL. 504, 524 (1991) ("The studies of interpersonal perception relied upon to demonstrate that lay persons, including jurors and character witnesses, make erroneous predictions about behavior because they are unable to perceive and assess accurately the character traits of others, have been cast into doubt by criticisms of the experimental methodology employed, and by recent studies indicating significant accuracy in assessments of personality by lay observers." (footnotes omitted)); David C. Funder, *Errors and Mistakes: Evaluating the Accuracy of Social Judgment*, 101 PSYCHOL. BULL. 75, 76 (1987) (arguing that research on attribution error is almost completely irrelevant to

accounting for situational pressures, although seldom done, "is a necessary, though not sufficient, condition for making accurate causal attributions."[135]

What other tendencies do people have that might skew causality attributions? People tend to ascribe causality to the actions of humans rather than other factors.[136] Part of the reason may relate to the salience factor mentioned above—background situational factors are typically perceived as pallid next to the more dynamic actions of a human being.[137]

Due to an *action bias*, people attribute more causality to people's actions than to inactions with similar effects.[138]

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the accuracy of social judgment in daily life); Fiona Lee & Mark Hallahan, *Do Situational Expectations Produce Situational Inferences? The Role of Future Expectations in Directing Inferential Goals*, 80 J. PERSONALITY & SOC. PSYCHOL. 545, 554 (2001) (finding that "situational expectations led observers to make more situational inferences than dispositional inferences"); Roger C. Park, *Character at the Crossroads*, 49 HASTINGS L.J. 717, 738 (1998) ("[R]ecent [fundamental attribution error] studies seem to be more favorable to lay reasoning than those studies relied upon by legal scholars in the 1970s and 80s.").

135. Adam Benforado & Jon Hanson, *Attributions and Ideologies: Two Divergent Visions of Human Behavior Behind Our Laws, Policies, and Theories*, *in* IDEOLOGY, PSYCHOLOGY, AND LAW 298, 300 (Jon Hanson ed., 2012) [hereinafter IDEOLOGY].

136. REID HASTIE & ROBYN M. DAWES, RATIONAL CHOICE IN AN UNCERTAIN WORLD: THE PSYCHOLOGY OF JUDGMENT AND DECISION MAKING 29 (2001); HEIDER, *supra* note 121, at 96 (arguing that one flaw in people's causal attribution is that "under certain conditions there is a tendency to attribute the outcome of an action to the person even though its source may reside in the environment"); Feigenson, *Rhetoric of Torts*, *supra* note 133, at 126 ("Social psychological research strongly suggests that jurors are prone to assume that if an accident has occurred, someone deserves blame for it, and to allocate that blame based on the sorts of people they perceive the parties to be."); Jon Hanson & Michael McCann, *Situationist Torts*, 41 LOY. L.A. L. REV. 1345, 1370 (2008) ("Our proclivity to attribute human actions to the dispositions of the person and not the situation is the most basic of attributional biases (which is not to say that it is without exceptions)."); Hanson & Yosifon, *The Situation*, *supra* note 127, at 174 ("[H]uman actions dominate the field in our causal attributions—we see what is most obvious and salient, and tend to miss the rest.").

137. SUSAN T. FISKE & SHELLEY E. TAYLOR, SOCIAL COGNITION 67 (2d ed. 1991) ("Background factors, social context, roles, or situational pressures that may have given rise to the behavior are . . . relatively pallid and dull and unlikely to be noticed in comparison to the dynamic behavior of the actor.").

138. *See* Daniel Kahneman & Amos Tversky, *Psychology of Preferences*, SCI. AM., Jan. 1982, at 160, 173. A scenario conceived by Kahneman and Tversky illustrates this phenomenon, also called the *omission bias*. Assume that Stockbroker A switches his client's portfolio from ABC stock to XYZ stock, and that Stockbroker B considers switching his client's portfolio from XYZ stock to ABC stock but decides not to do so. Then assume that ABC stock rises in value and that the XYZ stock price plummets. Both Stockbroker A's decision to act and Stockbroker B's decision not to act had the same adverse effect on their clients, but studies show that jurors will find a stronger causal connection between the bad outcome and Stockbroker A's action than Stockbroker B's inaction. Jurors will also tend to blame Stockbroker A more and award Stockbroker A's clients greater damages. For more detail on the strong distinction people draw between action and inaction, see Jonathan Baron & Ilana Ritov, *Reference Points and Omission*

People like stories and often conceive of lawsuits as melodramas where they may tend to look for a "bad guy" to blame, especially if they can view other actors as plausibly innocent.[139]

The theory of *culpable causation* indicates that the more culpable a person's act, the more people will tend to view it as a cause of subsequent events,[140] even though there is no necessary logical

Bias, 59 ORGANIZATIONAL BEHAV. & HUM. DECISION PROCESSES 475 (1994). *See also* Johanna H. Kordes-de Vaal, *Intention and the Omission Bias: Omissions Perceived as Nondecision*, 93 ACTA PSYCHOLOGICA 161, 169 (1996) (noting the "reduced strength of the perceived causal link between an omission and its consequences" when compared to an action and its consequences); Robert A. Prentice & Jonathan J. Koehler, *A Normality Bias in Legal Decision Making*, 88 CORNELL L. REV. 583, 590–94, 612 (2003) ("[A]ttribution theory posits that the heightened negative emotions people experience for bad outcomes, which are associated with actions and abnormalities, is due to the fact that there is a tighter perceived causal connection between actions and outcomes than between omissions and outcomes.").

139. Neal R. Feigenson, *Accidents as Melodrama*, 43 N.Y.L. SCH. L. REV. 741, 752 (1999/2000) [hereinafter Feigenson, *Melodrama*]. According to Feigenson,

> people tend to prefer simple explanations for events or behaviors to complex ones. A century and a half ago, John Stuart Mill identified "the prejudice that a phenomenon cannot have more than one cause." We tend to be "satisficers," content to rely on what first strikes us as a plausible sufficient cause for an event, guided consciously by simple schemas for "how things go" or unconsciously by the mere availability of causal candidates. And even though people can sometimes generate multiple possible causes of their own or others' behavior, they tend to act as if causation were "hydraulic," such that the presence of one sufficient causal factor reduces the tendency to attribute causal force to any other factor.

Id. (citations omitted). An example is the story of the Exxon Valdez accident, where there were numerous causes, but where most people focused upon the intoxication of the ship's captain, Joseph Hazelwood. *See* STEVE COLL, PRIVATE EMPIRE: EXXONMOBIL AND AMERICAN POWER 6–7 (2012).

140. Mark D. Alicke, *Culpable Causation*, 63 J. PERSONALITY & SOC. PSYCHOL. 368, 370 (1992) ("With causal necessity, sufficiency, and proximity held constant, the more culpable act was deemed by subjects to have exerted a larger causal influence."); Mark D. Alicke, *Culpable Control and the Psychology of Blame*, 126 PSYCHOL. BULL. 556, 558 (2000) [hereinafter Alicke, *Culpable Control*] ("[P]eople are socialized to predicate blame on criteria such as intention, causation, and foresight."); Neal R. Feigenson, *On Social Cognition and Persuasive Writing*, 20 LEGAL STUD. F. 75, 77–78 (1996) [hereinafter Feigenson, *On Social Cognition*] (explaining how culpable causation works); Irwin A. Horowitz & Kenneth S. Bordens, *An Experimental Investigation of Procedural Issues in Complex Tort Trials*, 14 LAW & HUM. BEHAV. 269, 274–78 (1990) (finding in a simulated trial that mock jurors who heard evidence regarding bad conduct, causation, and damages found causation in 87.5% of cases, whereas jurors who heard only causation evidence found causation only 20% of the time); Levinson & Peng, *supra* note 10, at 214–15 ("Moral judgments are inextricably linked to causal determinations."); Richard A. Nagareda, *Outrageous Fortune and the Criminalization of Mass Torts*, 96 MICH. L. REV. 1121, 1168 (1998) ("Experimental research by cognitive psychologists indicates that mock juries tend to return more verdicts for plaintiffs when they consider close questions of scientific causation together with evidence of the defendant's fault, as compared to consideration of the causation issue alone."); Lawrence M. Solan, *Where Does Blaming Come From?*, 71 BROOK. L. REV. 939, 943 (2005) [hereinafter Solan, *Where Does Blaming*] ("[O]ur attribution in any particular situation may well be influenced by considerations including the prior assignment of blame."); Lawrence M. Solan & John M. Darley, *Causation, Contribution, and Legal Liability: An*

connection between culpability and causation,[141] and the legal definition of causation does not connect it to state of mind.[142]

Because of the *severity effect*, the more serious the injuries, the higher the levels of both causation and fault jurors are likely to find,[143] even though there is also no necessary connection between the severity of an injury and its cause.[144]

Causal reasoning "is clearly influenced by prior beliefs."[145] If people hold racist beliefs and a bad thing happens with both a black man and a white man available as potential perpetrators of the causal act, those people are more likely to believe that the black man's actions caused the bad thing than the white man's. Causal inferences people draw are significantly affected by the categories and concepts that their minds have already developed, even when those categories "are suboptimal for causal learning."[146]

People tend to perceive that which they expect to perceive.[147]

Empirical Study, 64 LAW & CONTEMP. PROBS. 265, 291 (2001) ("The more the enabler's state of mind approached intentionality, the greater the contribution he was seen as making to the accident.").

141. For example, when Driver X is involved in an auto accident, his role in causation is typically unaffected by the purpose of his trip. Whether he was driving somewhere to buy bread, to buy a basketball, or to buy drugs, his running of a stop sign, for example, has the same causal connection to the accident.

142. Martha Chamallas, *Warm Reasoning and Legal Proof of Discrimination*, *in* IDEOLOGY, *supra* note 135, at 380, 381 ("The legal definition of causation . . . has not been tied to state of mind . . .").

143. Feigenson, *Rhetoric of Torts*, *supra* note 133, at 147–48 (citing Elaine Walster, *Assignment of Responsibility for an Accident*, 3 J. PERSONALITY & SOC. PSYCHOL. 73, 77 (1966)); D. Chimaeze Ugwuegbu & Clyde Hendrick, *Personal Causality and Attribution of Responsibility*, 2 SOC. BEHAV. & PERSONALITY 76, 84 (1974) (finding that more severe harm translates into a jury finding more causality on defendant's part).

144. Feigenson, *Rhetoric of Torts*, *supra* note 133, at 147.

145. Danks, *supra* note 116, at 455. *See also* Brian H. Bornstein & Michelle Rajki, *Extra-Legal Factors and Product Liability: The Influence of Mock Jurors' Demographic Characteristics and Intuitions about the Cause of an Injury*, 12 BEHAV. SCI. & L. 127 (1994) (noting that people tend to give more causal weight to actions that are consistent with their pre-existing schemas regarding what typically causes a particular event); Sara Gordon, *Through the Eyes of Jurors: The Use of Cognitive Psychology in the Application of 'Plain Language' Jury Instructions*, HASTINGS L.J. (forthcoming 2013) (manuscript at 7), *available at* http://ssrn.com/abstract=2133000 (noting that people "tend to notice information that fits into existing schemas and ignore that which does not").

146. Danks, *supra* note 116, at 455 (citing Michael R. Waldmann & York Hagmayer, *Categories and Causality: The Neglected Direction*, 53 COGNITIVE PSYCHOL. 27 (2006)). In criminal cases, for example, jurors tend to judge guilt or innocence based on how well the evidence corresponds to their preexisting conception of the offense, rather than how the offense is defined in the judge's instructions to the jury. Feigenson, *Rhetoric of Torts*, *supra* note 133, at 94–95 (citing Vicki Smith, *Prototypes in the Courtroom: Lay Representations of Legal Concepts*, 61 J. PERSONALITY & SOC. PSYCHOL. 857, 858 (1991)).

147. Darren Newtson, *Foundations of Attribution: The Perception of Ongoing Behavior*, *in* I

Relatedly, they will tend to fit the facts to their theories as much as or more than they will fit their theories to the facts.[148] While engaging in causal reasoning, people will even "tend to remember information that is consistent with established schemas and have more difficulty recalling that which is not."[149]

Through *motivated reasoning*, people generally judge evidence of causal theories in a self-serving manner.[150]

People tend to prefer simple, even single explanations of causation (*monocausality*) to complex explanations.[151]

Via the *primacy effect*, people often tend to attribute greater influence to information acquired earlier in a sequence than information acquired later.[152]

NEW DIRECTIONS IN ATTRIBUTION RESEARCH 223, 241–45 (John H. Harvey et al. eds., 1976).

148. Solan, *Cognitive Foundations*, *supra* note 99, at 1026 ("People tend to maximize the evidence that supports reaching conclusions they believe to be fair, and to minimize the evidence that supports conclusions that they believe not to be fair.").

149. Gordon, *supra* note 145, at 78.

150. Ziva Kunda, *Motivated Inference: Self-Serving Generation and Evaluation of Causal Theories*, 53 J. PERSONALITY & SOC. PSYCH. 636 (1987). This self-serving bias accounts for what some have called the *defensive attribution hypothesis*, which is that victims of occupational accidents ascribe causation to external factors while their coworkers and superiors point to the victims' own actions as causative. *See* Sino Salminen, *Defensive Attribution Hypothesis and Serious Occupational Accidents*, 70 PSYCHOL. RPTS. 1195 (1992). Shaver theorizes that both victims and eyewitnesses tend to explain the causes of accidents so that their own personal responsibility is minimized rather than so that the true cause is discovered. Kelly G. Shaver, *Defensive Attribution: Effects of Severity and Relevance on the Responsibility Assigned for an Accident*, 14 J. PERSONALITY & SOC. PSYCHOL. 101 (1970). *See also* JONATHAN BARON, THINKING AND DECIDING 195 (3d ed. 2000) ("People tend not to look for evidence against what they favor, and, when they find it anyway, they tend to ignore it."); Dan M. Kahan & Donald Braman, *The Self-Defensive Cognition of Self-Defense*, 45 AM. CRIM. L. REV. 1, 17–19 (2008) (arguing that three theories—Culpable Control Theory, Identity-Protective Cognition, and Cultural Cognition of Risk—cause people to subconsciously bend the facts to fit self-serving views and therefore make it difficult for people to make objective judgments of causation and other matters); Charles G. Lord et al., *Biased Assimilation and Attitude Polarization: The Effects of Prior Theories on Subsequently Considered Evidence*, 37 J. PERSONALITY & SOC. PSYCHOL. 2098, 2099 (1979); Mitchell, *supra* note 127, at 1563–64 ("[F]rom a psychological perspective, a particular concern with thought experiments [such as those that occur during counterfactual thinking] is the potential biasing influence of preexisting theories, values, and beliefs; what one hopes to find may strongly influence what one ultimately finds.").

151. *See* Hanson & Yosifon, *Situational Character*, *supra* note 134, at 106 ("[W]e prefer simple explanations, those that can explain the most with as little complexity as possible."). *See also* RICHARD E. NISBETT & LEE ROSS, HUMAN INFERENCE: STRATEGIES AND SHORTCOMINGS OF SOCIAL JUDGMENT 114–15, 119, 129–30 (1980) ("[T]he intuitive scientist is prone to several major sources of error in causal analysis, including . . . use of simplistic and 'overly parsimonious' criteria for causal attribution."). One of the most common simplifying strategies is to eliminate situational factors from the calculation and attribute causation to an actor's character alone. Adam Benforado & Jon Hanson, *Backlash: The Reaction to Mind Sciences in Legal Academia*, *in* IDEOLOGY, *supra* note 135, at 501, 506.

152. *See, e.g.*, Joel T. Johnson et al., *Causal Primacy and Comparative Fault: The Effect of*

Framing, which is "an effect of the description, labeling, or presentation of a problem on responses to it,"[153] can affect people's thinking about situations on a number of dimensions, including causation.[154]

People's causal reasoning is subject to *content effects* in that the subject matter of the task affects reasoning performance.[155]

People tend to be rather poor at statistical reasoning,[156] which has obvious implications for their ability to accurately determine causality in a number of settings.[157] Among other things, people tend to

Position in a Causal Chain on Judgments of Legal Responsibility, 15 PERSONALITY & SOC. PSYCHOL. BULL. 161 (1989); Lee Ross et al., *Perseverance in Self-Perception and Social Perception: Biased Attributional Processes in the Debriefing Paradigm*, 32 J. PERSONALITY & SOC. PSYCHOL. 880 (1975); Amiram Vinokur & Icek Ajzen, *Relative Importance of Prior and Immediate Events: A Causal Primacy Effect*, 42 J. PERSONALITY & SOC. PSYCHOL. 820 (1982). However, this is not a reliable phenomenon in all circumstances. In some cases, later acquired information seems to have more impact in causal assignments. *See, e.g.*, Ahogni N'gbala & Nyla R. Branscombe, *Mental Simulation and Causal Attribution: When Simulating an Event Does Not Affect Fault Assignment*, 31 J. EXPERIMENTAL SOC. PSYCHOL. 139 (1995); Barbara A. Spellman, *Crediting Causality*, 126 J. EXPERIMENTAL PSYCHOL.: GENERAL 323 (1997) (finding a minimal impact arising from temporal order).

153. ANDREW M. COLMAN, A DICTIONARY OF PSYCHOLOGY 295 (3d ed. 2009). Framing was, of course, first studied in detail by Kahneman and Tversky. *See* Daniel Kahneman & Amos Tversky, *Choices, Values, and Frames*, 39 AM. PSYCHOLOGIST 341, 343 (1984) ("The same option, however, can be framed or described in different ways."); Amos Tversky & Daniel Kahneman, *The Framing of Decisions and the Psychology of Choice*, 211 SCIENCE 453, 453 (1981) ("[T]he decision-maker's conception of the acts, outcomes, and contingencies associated with a particular choice" constitute a decision frame). Because of framing, people think a hamburger labeled "75 percent lean" tastes better than an identical hamburger that is labeled "25 percent fat." WRAY HERBERT, ON SECOND THOUGHT: OUTSMARTING YOUR MIND'S HARD-WIRED HABITS 94 (2010).

154. *See* Adam Benforado et al., *Broken Scales: Obesity and Justice in America*, 53 EMORY L.J. 1645, 1668 (2004) ("The ways in which we construe our world and make attributions of causation, responsibility, and blame depend largely upon who presents the information, narratives, and images to us and how."); Lipshaw, *supra* note 124, at 1549–50 (noting that causation is very complex).

155. *See* Denise D. Cummins et al., *Conditional Reasoning and Causation*, 19 MEMORY & COGNITION 274, 274 (1991) ("Reasoning problems with identical formal properties but different subjective contents often produce different levels of performance."). *But see* Cheng & Novick, *supra* note 115, at 561 (proposing an alternative explanation).

156. *See* J. St. B.T. Evans, *Bias and Rationality*, *in* RATIONALITY: PSYCHOLOGICAL AND PHILOSOPHICAL PERSPECTIVES 6, 24–25 (K.I. Manktelow & D.E. Over eds., 1993) (observing that although people were formerly regarded as good intuitive statistical reasoners, over the past two decades "evidence has accumulated that the way in which subjective probabilities are formed is apparently subject to a wide variety of biases"); KAHNEMAN, THINKING, FAST AND SLOW, *supra* note 116, at 77 ("Unfortunately, System 1 does not have the capability for [the statistical] mode of reasoning; System 2 can learn to think statistically, but few people receive the necessary training.").

157. In the same vein is the iconic Kahneman study of air force flight instruction in Israel, where researchers found that when pilots were strongly criticized after a weak performance, they tended to improve thereafter, whereas when pilots were praised after a strong performance, they

underestimate disjunctive probabilities and overestimate conjunctive probabilities.[158]

Put all this together and it is clear that people are not exactly paragons of rationality when making determinations of causality. While we begin thinking about causality as babies and obviously must have a certain level of competence in drawing causal connections in order to survive in the world, the evidence from behavioral psychologists over the years clearly "illuminates the complexities of relying upon a judge or jury to fulfill our law's request to use 'common sense' when making judgments about causation."[159] As Daniel Kahneman has written, "System 1 is highly adept in one form of thinking—it automatically and effortlessly identifies causal connections between events, *sometimes even when the connection is spurious*."[160] System 2 also has a raft of shortcomings, including that people's "overall capacity for mental effort is limited"[161] and their probabilistic reasoning is often defective.[162] The impact of these deficiencies is exacerbated by overconfidence. Humans tend toward overconfidence in a wide variety of human endeavors,[163] so it is not surprising that people tend to believe their "causal attributions

tended to do worse thereafter. While an initial conclusion was that criticism caused improvement and praise caused decline, what was occurring was simply regression to the mean. Daniel Kahneman & Amos Tversky, *On the Psychology of Prediction*, *in* JUDGMENT UNDER UNCERTAINTY, *supra* note 99, at 67–68.

158. That is, they underestimate "A or B" probabilities, but overestimate "A and B" probabilities. *See* Aaron D. Twerski & Neil B. Cohen, *Informed Decision Making and the Law of Torts: The Myth of Justiciable Causation*, 1988 U. ILL. L. REV. 607, 631 (citing Gordon F. Pitz, *Sensitivity of Direct and Derived Judgments to Probabilistic Information*, 65 J. APPLIED PSYCHOL. 164 (1980)); Amos Tversky & Daniel Kahneman, *Extensional versus Intuitive Reasoning: The Conjunction Fallacy in Probability Judgment*, 90 PSYCHOLOGICAL REV. 293 (1983) (noting that people often misjudge conjunctive probabilities).

159. Levinson & Peng, *supra* note 10, at 207.

160. KAHNEMAN, THINKING, FAST AND SLOW, *supra* note 116, at 110 (emphasis added). *See also* HOOD, *supra* note 133, at 139–40 ("We naturally see the world in terms of causes and consequences, so when something happens, we assume that some causal event preceded it and start looking around for suitable candidates. *The problem is that we often identify causes that are not responsible*." (emphasis added)).

161. Daniel Kahneman, *Maps of Bounded Rationality: Psychology for Behavioral Economics*, 93 AM. ECON. REV. 1449, 1451 (2003).

162. Daniel Young, Note, *Curing What Ails Us: How the Lessons of Behavioral Economics Can Improve Health Care Markets*, 30 YALE L. & POL'Y REV. 461, 469 (2012) (citing sources for the proposition that "people are terrible decision makers when it comes to [probabilistic] calculations").

163. *See* MAX BAZERMAN, JUDGMENT IN MANAGERIAL DECISION MAKING 95 (4th ed. 1998) ("People have been found to perceive themselves as being better than others across a number of traits, including honesty, cooperativeness, rationality, driving skill, health, and intelligence."); DAVID BROOKS, THE SOCIAL ANIMAL 218 (2011) (noting that people's minds are "overconfidence machine[s]"); Hillel J. Einhorn, *Overconfidence in Judgment*, *in* 4 NEW DIRECTIONS FOR METHODOLOGY OF SOCIAL AND BEHAVIORAL SCIENCE 1 (1980).

to be, more or less, spot on."[164]

3. Counterfactual Reasoning

To delve more deeply into the processes of human causal reasoning, it is clear that much causal reasoning in the legal realm (and most others) is *counterfactual reasoning*.[165] Counterfactual thinking occurs when people imagine states of the world that might have happened but did not.[166] In other words, people ask: "If A had not occurred, would B have not occurred?"[167] To place the matter in a securities context, they might ask: "If ABC Company had not issued false financial statements, would Investor X have avoided losing $40,000 when ABC's stock price later dropped from $50 per share to $30 per share?"[168]

It is clear that "judgments of causality are often driven by not only what *actually* happened, but also what *almost* happened or what *normally* happens."[169] When people engage in counterfactual thinking to determine the cause of an accident, they imagine scenarios other than the one that actually occurred by *mutating* (undoing) one or more of the actions or events that preceded the outcome. In a car accident case, they might imagine what would have happened if Driver A had not exceeded the speed limit or if Driver B had not run the stop sign.

164. Adam Benforado & Jon Hanson, *Seeing Bias: Discrediting and Dismissing Accurate Attributions*, *in* IDEOLOGY, *supra* note 135, at 453, 454.

165. *See* Feigenson, *Rhetoric of Torts*, *supra* note 133, at 116 ("Research indicates that the analysis of causation is always implicitly, if not explicitly, counterfactual. All leading models of causal attribution give answers to variations on the question: Why did this event occur rather than that? And because explanations ordinarily are sought only when what happens is contrary to expectations or to the normal state of affairs, causal analysis can be understood to answer the question: Why did this event occur rather than the normal one? Thus, the question of causation in the accident case involves a comparison between what actually happened and a contrasting, 'normal' case in which the result to be explained—the accident—did not occur."). *See also* Marlys Gascho Lipe, *Counterfactual Reasoning as a Framework for Attribution Theories*, 109 PSYCHOL. BULL. 456 (1991) (arguing that social psychological causal attribution theories are all based on counterfactual thinking).

166. *See* Vittorio Girotto et al., *Event Controllability in Counterfactual Thinking*, 78 ACTA PSYCHOLOGICA 111, 112 (1991) (providing that counterfactual thinking is "the mental construction of alternatives to factual events").

167. *See generally* David Lewis, *Causation*, 70 J. PHIL. 556 (1973) (citing DAVID HUME, AN ENQUIRY CONCERNING HUMAN UNDERSTANDING, § VII (1748)) (drawing upon Hume's statement that causation exists "where, if the first object had not been, the second never had existed").

168. Sheila Foster's article on counterfactual (and contrastive) reasoning in employment discrimination cases, *Causation in Antidiscrimination Law: Beyond Intent versus Impact*, 41 HOUS. L. REV. 1469 (2005), has significantly influenced my thinking on how to organize this Article.

169. Adam D. Galinsky & Gordon B. Moskowitz, *Counterfactuals as Behavioral Primes: Priming the Simulation Heuristic and Consideration of Alternatives*, 36 J. EXPERIMENTAL SOC. PSYCHOL. 384, 385 (2000).

> The easier it is to imagine a particular change in the events preceding the outcome, the more probable [people] judge that alternative, and the more likely they are to think that the actual outcome need not have occurred. The cause of the actual event becomes the prior occurrence that is changed in the alternative story.[170]

Like most every other kind of human thinking, counterfactual thinking is "shaped by various influences—normative expectations and cognitive biases, for example—that critically shape [it] and can have a determinative role on causal attributions."[171] The weaknesses in causal thinking noted in the previous Subsection are naturally manifested when that causal thinking takes the form of counterfactual thinking. For example, studies have demonstrated that the tendency to focus on the salient, to see what we expect to see, and to fall victim to the fundamental attribution error are all part of counterfactual thinking.[172] And the amount of blame mock jurors assign to a particular party, studies show, can largely depend on whether the jurors are encouraged to generate counterfactuals involving that party.[173]

How do people decide which events to mutate when they engage in counterfactual thinking? Naturally, Daniel Kahneman has had a lot to say about counterfactual reasoning, particularly regarding the simulation heuristic and norm theory. The *simulation heuristic*[174] derives from a famous Kahneman and Tversky study in which different groups of subjects read descriptions of a car wreck.[175] In one scenario,

170. Feigenson, *Melodrama*, *supra* note 139, at 754–55 (footnote omitted). *See generally* Foster, *supra* note 168, at 1481–84 (providing a clear explanation of counterfactual thinking).

171. Foster, *supra* note 168, at 1476. "[C]ausal judgments are affected by the knowledge, biases, and motivations that individuals bring to the process. Although much of the way that individuals reason about causal judgments in everyday life is automatic, causal judgments are vulnerable to unconscious and deeply entrenched cognitive biases." *Id.* at 1478. The same is true of "contrastive" reasoning, which "compare[s] the occurrence with similar occurrences as a way to identify possible explanatory factors." *Id.* at 1475–76.

172. *See* Hanson & Yosifon, *Situational Character*, *supra* note 134, at 68–69 ("Our counterfactual patterns of thought are related to the same basic internal situation that drives the fundamental attribution error. For instance, both reflect the more general tendency to focus on what is easy to see and on what we expect to see. Moreover, counterfactual imaginings reflect and further entrench the situational character's dispositionism." (internal footnotes omitted)).

173. *See* Nyla R. Branscombe et al., *Rape and Accident Counterfactuals: Who Might Have Done Otherwise and Would It Have Changed the Outcome?*, 26 J. APPLIED SOC. PSYCHOL. 1042, 1061–64 (1996) (finding that by presenting a counterfactual focusing on the other party's client, lawyers can lower the blame placed on their own client).

174. *See* Feigenson, *On Social Cognition*, *supra* note 140, at 76 ("Using the simulation heuristic, people who must identify the cause(s) of some outcome construct scenarios other than the one that actually occurred by 'undoing' one or more of the events that preceded the outcome.").

175. Daniel Kahneman & Amos Tversky, *The Simulation Heuristic*, *in* JUDGMENT UNDER UNCERTAINTY, *supra* note 99, at 201–08.

the victim of the wreck left work at the usual time but took an unusual route home. In the other scenario, the victim left work at an unusual time (earlier than usual) but took the usual route home. In both cases, a teenager driving a truck while under the influence of drugs rammed the victim. In the case involving the usual time but unusual route, subjects were more likely to mutate the choice of route ("If only he had taken his normal path home, he would still be alive today."), whereas in the case of the unusual time, jurors were more likely to imagine changing that factor ("If only he had not left early, the accident needn't have happened"). The bottom line is that actions that depart from the norm are more likely to be mutated and therefore more likely to be viewed as important causal factors than normal actions.[176]

Kahneman and Miller[177] proposed in their article on *norm theory* that people have a tendency to associate greater responsibility with abnormal actions, in part because they are more likely to manipulate or mutate an unusual event than a normal event, and therefore to assign it more causation. It is simply easier to imagine doing the normal thing (thereby avoiding the harm that occurred).[178] "Causal questions about particular events are generally raised only when these events are abnormal."[179] Kahneman and Miller also emphasized "that norms are computed after the event rather than in advance."[180]

A cause must be an event that could easily have been otherwise. In particular, a cause cannot be a default value among the elements that the event produced. Hart and Honoré—who observed that the statement, "It was the presence of oxygen that caused the fire," makes sense only if there were reasons to view the presence of oxygen as abnormal—noted the rule that a default value cannot be presented as a cause.[181]

Several years ago, Jay Koehler and I reported the results of an experiment indicating that there is such a significant bias in favor of a normal state (the *normality bias*) that its effects swamp those of the

176. If mentally undoing an action produces an imagined outcome that is different from what actually occurred, then people will tend to perceive the action as a causal agent. *See* Gary L. Wells & Igor Gavanski, *Mental Simulation of Causality*, 56 J. PERSONALITY & SOC. PSYCHOL. 161, 161 (1989).

177. Daniel Kahneman & Dale T. Miller, *Norm Theory: Comparing Reality to Its Alternatives*, 93 PSYCHOL. REV. 136 (1986).

178. *Id.* at 144–45. *See generally* Foster, *supra* note 168, at 1481–84 (providing a basic explanation of the role of norm theory in counterfactual thinking).

179. Kahneman & Miller, *supra* note 177, at 148.

180. *Id.* at 136.

181. *Id.* at 149 (citing H. L. A. HART & ANTHONY HONORÉ, A.M., CAUSATION IN THE LAW (1959)).

action/inaction distinction (the tendency, mentioned above,[182] to find more causality stemming from actions than from inactions).[183] We also explained how the normality bias is supported by a raft of well-documented psychological phenomena that were discovered by Kahneman, Tversky, and others inspired by their research agenda, including the status quo bias,[184] the endowment effect,[185] loss aversion,[186] anchoring,[187] the sunk cost effect,[188] and regret aversion theory.

Regret aversion theory is the notion that people anticipate unpleasant emotions, such as regret, and even these anticipated emotions affect

182. *See supra* note 138 and accompanying text.

183. Prentice & Koehler, *supra* note 138, at 591–94.

184. According to the status quo bias, all other things equal, people will tend to prefer what they perceive to be the current state of affairs to other possible states of affairs. *See* Brigitte C. Madrian & Dennis F. Shea, *The Power of Suggestion: Inertia in 401(k) Participation and Savings Behavior*, 116 Q. J. ECON. 1149, 1176–77 (2001) (observing that people are slower to convert to new savings plans than they would be if they were automatically enrolled); William Samuelson & Richard Zeckhauser, *Status Quo Bias in Decision Making*, 1 J. RISK & UNCERTAINTY 7, 8 (1988) ("[D]ecision makers often stick with the status quo alternative, for example, to follow customary company policy, to elect an incumbent to still another term in office, to purchase the same product brands, or to stay in the same job.").

185. Because of the endowment effect, the perceived value of an item increases when it becomes part of an individual's endowment and that individual begins to think of the item as his or her own. *See* Daniel Kahneman et al., *Experimental Tests of the Endowment Effect and the Coase Theorem*, 98 J. POL. ECON. 1325 (1990); Russell Korobkin, *The Endowment Effect and Legal Analysis*, 97 NW. U. L. REV. 1227 (2003).

186. Loss aversion describes the notion that people's value function for losses tends to be steeper than their value function for gains. *See* RICHARD H. THALER, THE WINNER'S CURSE: PARADOXES AND ANOMALIES OF ECONOMIC LIFE 63–78 (1992); Daniel Kahneman et al., *Anomalies: The Endowment Effect, Loss Aversion, and Status Quo Bias*, 5 J. ECON. PERSP. 193, 199–203 (Winter 1991).

187. Pursuant to the anchoring heuristic, decision makers tend to estimate quantities by anchoring on a convenient value, and then adjusting for case-specific information, although typically not to a sufficient degree. *See* Gretchen B. Chapman & Brian H. Bornstein, *The More You Ask For, the More You Get: Anchoring in Personal Injury Verdicts*, 10 APPLIED COGNITIVE PSYCHOL. 519, 519 (1996) ("Anchoring and adjustment is a bias in which individuals' numerical judgments are inordinately influenced by an arbitrary or irrelevant number." (citation omitted)). *See also* MARK KELMAN, THE HEURISTICS DEBATE 23 (2011) (noting that people tend to adjust numbers based on other numbers they have used as "anchors"); Amos Tversky & Daniel Kahneman, *Judgment Under Uncertainty: Heuristics and Biases*, 185 SCIENCE 1124, 1128 (1974) ("[D]ifferent starting points yield different estimates, which are biased toward the initial values. We call this phenomenon anchoring.").

188. A sunk cost is one that was previously incurred and will not be affected by any future decision. Rational people should ignore sunk costs, but many people often do not. *See* ROBYN M. DAWES, RATIONAL CHOICE IN AN UNCERTAIN WORLD 22–24 (1988) (discussing and giving examples of sunk costs). *See also* Hillary A. Sale, *Judging Heuristics*, 35 U.C. DAVIS L. REV. 903, 919 (2002) (reporting on a Second Circuit case where the court rejected the argument that people look only at the short-term costs of decisions).

their *decision making*.[189] It emphasizes the role of emotions in counterfactual reasoning, another key point of Kahneman and Miller's norm theory.[190] Numerous subsequent studies have provided evidence supporting the view that what is perceived as normal has a big impact on what people mutate during counterfactual reasoning and therefore upon what they perceive to be causal.[191]

When both human actions and environmental events are involved, people engaged in counterfactual thinking are more likely to focus on the human actions as the cause, both because it is easier to imagine rectifying those actions and because they are more likely to be the abnormal feature in a situation.[192] Consistent with this psychological evidence, Hart and Honoré's analysis of case law found that, in identifying causes, people tend to recognize either a voluntary human

189. *See* Richard P. Larrick, *Motivational Factors in Decision Theories: The Role of Self-Protection*, 113 PSYCHOL. BULL. 440, 445 (1993) (discussing the role of anticipated emotions on decision making); Richard P. Larrick & Terry L. Boles, *Avoiding Regret in Decisions with Feedback: A Negotiation Example*, 63 ORGANIZATIONAL BEHAV. & HUM. DECISION PROCESSES 87 (1995) (similar). *See also* Dale T. Miller & Cathy McFarland, *Counterfactual Thinking and Victim Compensation: A Test of Norm Theory*, 12 PERSONALITY & SOC. PSYCHOL. BULL. 513, 516 (1986) (finding that "victims whose negative fates follow abnormal actions receive more sympathy than victims whose negative fates follow normal actions").

190. Kahneman & Miller, *supra* note 177, at 145 ("[T]he affective response to an event is enhanced if its causes are abnormal.").

191. *See, e.g.*, Denis J. Hilton & Ben R. Slugoski, *Knowledge-Based Causal Attribution: The Abnormal Conditions Focus Model*, 93 PSYCHOL. REV. 75, 87 (1986) (finding that variations in causal attribution can be predicted by looking at normal and abnormal conditions); C. Gustav Lundberg & Dean Elliott Frost, *Counterfactuals in Financial Decision Making*, 79 ACTA PSYCHOLOGICA 227, 233 (1992) (noting that "an unanticipated event is more likely to be undone by altering exceptional rather than routine aspects of the causal chain"); C. Neil Macrae et al., *Counterfactual Thinking and the Perception of Criminal Behaviour*, 84 BRIT. J. PSYCHOL. 221, 224–25 (1993) (reporting study where mock jurors awarded higher compensation to robber's victims when told that the robbery occurred when the subject took a new route home); Barbara A. Spellman & David R. Mandel, *When Possibility Informs Reality: Counterfactual Thinking as a Cue to Causality*, 8 CURRENT DIRECTIONS IN PSYCHOL. SCI. 120, 121 (1999) (observing that bad outcomes and abnormal events are most frequent triggers of counterfactual musings); Kandi Jo Turley et al., *Counterfactual Thinking and Perceptions of Rape*, 17 BASIC & APPLIED SOC. PSYCHOL. 285, 289–90 (1995) (finding that when a victim is raped while taking an unusual route home, mock jurors impose greater punishment on rapist than when victim is raped while taking normal way home); Gary L. Wells et al., *The Undoing of Scenarios*, 53 J. PERSONALITY & SOC. PSYCHOL. 421, 428 (1987) (finding evidence that "exceptional events are more psychologically mutable than are normal events"); Richard L. Wiener et al., *Counterfactual Thinking in Mock Juror Assessments of Negligence: A Preliminary Investigation*, 12 BEHAV. SCI. & L. 89, 91 (1994) ("Research in counterfactual thinking has shown that it is easier to mentally mutate exceptional or unusual events . . . .").

192. Alicke, *Culpable Control*, *supra* note 140, at 569 ("As Hart and Honoré suggested, human agency is frequently the abnormal feature that differentiates present from usual circumstances. In choosing between a drunk driver and weather conditions as causal candidates for the car accident, therefore, the culpable control model assumes that observers will favor the human act.").

action, or an abnormal factor, as the cause of an event.[193] Thus, the theory is borne out in empirical analysis of case decisions.

4. Contrastive Reasoning

Contrastive thinking may also be relevant to causal determinations in securities law cases.[194] The theory involves identifying causal explanations by contrasting the target event with cases where the event did not occur.[195] Factors that appear in one event but not the other are potential causes of the event. As Foster notes,

> Researchers have shown that contrastive and counterfactual reasoning "may correspond to different types of causal judgments." Counterfactual thinking involves assessing whether a factor is among those that influence an occurrence, while contrastive thinking involves identifying factors that distinguish an occurrence from contrasting background factors. In other words, contrastive reasoning is employed when individuals are confronted with an *explanation*-focused question—"What caused Y?"—whereas counterfactual reasoning is employed when individuals are confronted with *evaluative*-focused questions—"Did X cause Y?" Counterfactual reasoning, by focusing on instances in which a particular factor is absent, thus emphasizes the necessity of that factor to the outcome. This differs from contrastive reasoning, which focuses on instances in which the effect is absent, and thereby emphasizes the sufficiency of the factor.[196]

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193. HART & HONORÉ, *supra* note 119, at 33. As Wright points out:

> According to Hart and Honoré, the central notion in the common-sense concept of causation is that the cause is the factor which "makes a difference" by interfering with, intervening in, or otherwise changing the normal or reasonably expected course of events. Thus, a contributing factor is treated as the cause rather than as a mere condition if it was (1) a voluntary human intervention that was intended to produce the consequence (for example, deliberately breaking a vase) or (2) an abnormal action, event, or condition in the particular context (for example, a freak storm or driving at an excessive speed).

Richard W. Wright, *Causation in Tort Law*, 73 CALIF. L. REV. 1735, 1745–46 (1985).

194. Foster has a lengthy and detailed explanation of contrastive reasoning from which this Article borrows liberally. *See* Foster, *supra* note 168, at 1484–85. *See also* Tim De Mey & Erik Weber, *Explanation and Thought Experiments in History*, 42 HIST. & THEORY 28, 29–30 (2003) (explaining uses of contrastive thinking in history discipline).

195. Ann L. McGill & Jill G. Klein, *Contrastive and Counterfactual Reasoning in Causal Judgment*, 64 J. PERSONALITY & SOC. PSYCHOL. 897, 897 (1993).

196. Foster, *supra* note 168, at 1485 (citations omitted). Another way to look at the differences between counterfactual and contrastive reasoning is, as Foster explains:

> [T]he difference between counterfactual reasoning (an evaluative exercise) and contrastive reasoning (an explanatory exercise) is that the latter tends to focus on finding any *sufficient* factor or characteristic that might explain disparate treatment or outcomes, whereas the former tends to focus on the *necessity* of a particular causal factor to the decision or outcome. Another way of stating the difference is that

Thus, in a Rule 10b-5 case, during counterfactual reasoning, the alleged causal factor (the defendants' misstatement or omission) is mutated and people ask: "Would the stock price have fallen if the statement or omission had not been made?" In contrastive reasoning, however, the outcome or effect is mutated and people ask: "What made the difference between the stock price drop in defendants' company's stock and the stock price performance of other companies whose stock did not drop?"

For present purposes, it is important that "[c]ontrastive analysis is particularly susceptible to distortion from differences in motivation, cognitive biases, and faulty background knowledge."[197] Whether people are involved in counterfactual or contrastive reasoning, they are subject to that raft of heuristics and biases mentioned earlier (e.g., illusory causation, motivated reasoning, action bias, severity effect, culpable causation, and fundamental attribution error).

5. Causation Stories

As noted earlier,[198] people enjoy stories that help them engage in counterfactual, contrastive, and other forms of reasoning. They tend to try to fit the facts presented—including facts relevant to causal attributions—into various frameworks or *schemas*.[199]

In general, a *causal schema* is a conception of the manner in which two or more causal factors interact in relation to a particular kind of effect. A schema is derived from experience in observing cause and effect relationships, from experiments in which deliberate control has been exercised over causal factors, and from implicit and explicit teaching about the causal structure of the world. It enables a person to perform certain operations with limited information, and thereby to reach certain conclusions or inferences as to causation.[200]

Narrative is the fundamental way that people "translate *knowing* into

> evaluative causal mechanisms such as counterfactuals focus on instances in which the causal candidate is absent ("Would the employee have been fired if she were not a woman?"), whereas explanatory causal mechanisms consider instances in which the effect is absent ("What differentiates the employee who was fired from employees who were not fired?").

Id. at 1517–18.

197. *Id.* at 1490.

198. *See supra* note 139 and accompanying text.

199. "A 'schema' is a cognitive framework or concept that helps individuals organize and interpret information." Gordon, *supra* note 145, at 7 (footnote omitted).

200. Solan, *Cognitive Foundations*, *supra* note 99, at 1006. *See also* Kelley & Michela, *supra* note 125, at 471 ("A causal schema is a description of the common person's conception of how two or more causes combine to produce a certain effect.").

telling."[201] The work of Pennington/Hastie[202] and Feigenson[203] emphasizes that storytelling is critical to how jurors understand cases.[204] Their work and that of others shows "that jurors typically organize complex evidence into narrative form, and that their judgments and the confidence with which they hold them depend on the ease with which they can generate acceptable stories from the data."[205] In securities cases, as in others, jurors tease out causation through stories. Market actors themselves, such as brokers and investors, generally create meaning about market-related events through the story mode.[206] Simply put, "[p]eople like their world to make sense,"[207] and stories help them do that.

Feigenson argues that jurors look at cases as melodramas and tend to make sense of the evidence by conceiving of accidents using "monocausality, norm theory, culpable causation, and the fundamental attribution error,"[208] all phenomena mentioned above. In other words, to simplify the story, jurors tend to look for a single cause.[209] In

201. Hayden White, *The Value of Narrativity in the Representation of Reality*, 7 CRITICAL INQUIRY 5, 5 (1980).

202. *See, e.g.*, REID HASTIE ET AL., INSIDE THE JURY (1983); Reid Hastie, *Emotions in Jurors' Decisions*, 66 BROOK. L. REV. 991 (2001); Nancy Pennington & Reid Hastie, *Explaining the Evidence: Tests of the Story Model for Juror Decision Making*, 62 J. PERSONALITY & SOC. PSYCHOL. 189 (1992); Nancy Pennington & Reid Hastie, *A Cognitive Theory of Juror Decision Making: The Story Model*, 13 CARDOZO L. REV. 519 (1991); Nancy Pennington & Reid Hastie, *Explanation-Based Decision Making: Effects of Memory Structure on Judgment*, 14 J. EXP. PSYCHOL.: LEARNING, MEMORY, & COGNITION. 521 (1988); Nancy Pennington & Reid Hastie, *Evidence Evaluation in Complex Decision Making*, 51 J. PERSONALITY & SOC. PSYCHOL. 242 (1986).

203. *See, e.g.*, Feigenson, *Melodrama*, *supra* note 139, at 741; Feigenson, *Rhetoric of Torts*, *supra* note 133, at 61.

204. *See* Gordon, *supra* note 145, at 5–7 (explaining how juries use schemas to make sense of the evidence presented to them).

205. Feigenson, *Rhetoric of Torts*, *supra* note 133, at 96.

206. *See* Emre Tarim, Narrative as a Sensemaking Heuristic: Evidence from Individual Investors and Their Brokers 1–2 (June 22, 2012) (unpublished manuscript), *available at* http://ssrn.com/abstract=2115215 (explaining that stock market investors and brokers base their interpretations of the market on how they have conceptualize that market).

207. Benforado & Hanson, *Attributions and Ideologies*, *supra* note 135, at 302.

208. Feigenson, *Melodrama*, *supra* note 139, at 790.

209. *See id.* at 753. Perhaps the need to conserve scarce cognitive capacity is the cause of the preference for a single cause and the tendency to "satisfice"—to stop looking for additional causes once one plausible cause presents itself. *Id. See also* ROGER BROWN, SOCIAL PSYCHOLOGY 169–94 (2d ed. 1986) (discussing the general human tendency to overly simplify causation); KAHNEMAN, THINKING, FAST AND SLOW, *supra* note 116, at 114 ("[*W*]*e are prone to exaggerate the consistency and coherence of what we see*."); Linda Hamilton Krieger, *The Content of Our Categories: A Cognitive Bias Approach to Discrimination and Equal Employment Opportunity*, 47 STAN. L. REV. 1161, 1223 (1995) ("[V]ery few actions or decisions derive from a single cause. Indeed, a belief in monocausality . . . represents a common source of error in attributional judgment."); Mitchell, *supra* note 127, at 1573 ("The methodological

looking for that single cause, jurors (and others), consistent with Kahneman and Miller's norm theory, tend to look for abnormal actions upon which to pin causality.[210] Imposing a "good guy/bad guy" structure upon a case's facts, jurors often tend to believe that bad actions are more causal than innocent actions, even though the motivation behind an action is typically irrelevant to its causal quotient.[211] Relatedly, pursuant to the fundamental attribution error, jurors, like others, will tend to assign a larger portion of the cause upon a person whom they can blame for having bad character.[212] Put all of these factors together, and Feigenson argues that in negligence cases,

> when jurors decide, they usually blame someone for the accident, and when jurors conceive of accidents as melodrama, they implement a particular, culturally significant way of blaming. By simplifying and personalizing responsibility, melodrama in accident cases, as in popular culture generally, tends to divert attention from the more systemic causes of many unintended harms and thus to preserve the status quo of corporate industrial society.[213]

These are powerful tendencies. We have a "psychological need and desire . . . to connect causation to character and identity, to attribute responsibility and blame, and to give meaning to our melodramas and our lives."[214]

C. Lessons Learned

Thus, the evidence indicates that no matter how people think about causation—whether they engage in counterfactual thinking, contrastive thinking, story-telling, or some combination thereof—they are intuitive scientists rather than rational Chicago Man. And as these intuitive scientists apply their common sense approach in assigning causality,

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underdetermination problem [of counterfactual causal thinking] is exacerbated by what may be called the thought experiment's 'bias against complexity': the counterfactual thought experiment seems best suited to examining simple and direct causal relationships (in which the independent variable takes on only two values and has a main effect on the dependent variable), rather than probabilistic, contingent, and complex causal relationships (in which the independent variable may take on a range of values and may interact with other causal variables.").

210. Feigenson, *Melodrama*, *supra* note 139, at 754–55 (discussing Kahneman and Tversky's experiment revealing people are more likely to find abnormal actions as the cause of an accident).

211. *Id.* at 758. The evidence for culpable causation—the tendency to find more causation when an actor was acting culpably than innocently—traces, of course, to Mark Alicke's studies, cited *supra*, note 140. *See also* Levinson & Peng, *supra* note 10, at 216–18 (discussing culpable causation in a cross-cultural context).

212. Feigenson, *Melodrama*, *supra* note 139, at 758–60.

213. *Id.* at 783–84.

214. Philip N. Meyer, *Making the Narrative Move: Observations Based Upon Reading Gerry Spence's Closing Argument in* The Estate of Karen Silkwood v. Kerr-McGee, Inc., 9 CLINICAL L. REV. 229, 280 (2002).

they tend to ascribe more causality to human actions than to background factors, more to actions than to inactions, more to abnormal factors than to normal factors, more to factors they expect to see than those that they don't, more to factors that fit their preconceived notions than those that don't, more to those that fit a self-interested explanation than those that don't, more to causes that are simple than those that are complex, and so forth. Overall, the behavioral and cognitive literature does not give a tremendous vote of confidence to human decision making in the causal realm.

III. WHAT DOES THE PSYCHOLOGICAL LITERATURE TELL US ABOUT THE LOSS CAUSATION RULES OF SECTION 10(B) AND RULE 10B-5 LITIGATION?

A. In Praise of a Stiff Loss Causation Requirement

So far we have seen that the loss causation requirement in Rule 10b-5 cases is demanding and that individuals' causal reasoning is often unreliable. One can make the case that because people are likely to make mistakes in assessing causation, it is well that the law of securities fraud requires that a high bar be surmounted to establish loss causation in order to avoid erroneously imposing liability upon defendants. Although the Supreme Court has never cited any behavioral psychology literature in its section 10(b) decisions nor shown itself conversant with this literature outside the area of punitive damages,[215] the high bar for causation that it set in *Dura* is consistent with a common sense worry that psychological forces will cause jurors and judges to be too eager to find causal links where none actually exist.

Feigenson points out that attorneys' closing arguments on technical issues, such as causation, often have little to do with actual causation and other elements of the legal doctrines, such as negligence, that are at

215. The Court did demonstrate some familiarity with the self-serving bias in *Exxon Shipping Co. v. Grant Baker*, 554 U.S. 471 (2008):

> The Court is aware of a body of literature running parallel to anecdotal reports, examining the predictability of punitive awards by conducting numerous "mock juries," where different "jurors" are confronted with the same hypothetical case. *See, e.g.*, C. Sunstein, R. Hastie, J. Payne, D. Schkade, & W. Viscusi, Punitive Damages: How Juries Decide (2002); Schkade, Sunstein, & Kahneman, Deliberating About Dollars: The Severity Shift, 100 Colum. L. Rev. 1139 (2000); Hastie, Schkade, & Payne, Juror Judgments in Civil Cases: Effects of Plaintiff's Requests and Plaintiff's Identity on Punitive Damage Awards, 23 Law & Hum. Behav. 445 (1999); Sunstein, Kahneman, & Schkade, Assessing Punitive Damages (with Notes on Cognition and Valuation in Law), 107 Yale L.J. 2071 (1998). *Because this research was funded in part by [defendant] Exxon, we decline to rely on it.*

Id. at 501 n.17 (emphasis added). *See also* Cooper Indus. v. Leatherman Tool Grp., 532 U.S. 424, 432, 439 (2001) (citing some of these studies).

issue.[216] Thus, a plaintiffs' attorney in a Rule 10b-5 case may focus closing argument upon the magnitude of the plaintiffs' financial injury and elide the causation issue altogether. This practice is common sense evidence that something is amiss in human causal reasoning that carries important implications for our civil and criminal justice systems.

Sabovich similarly argues that people's tendency to impute more causation where defendants' conduct is more blameworthy leads plaintiffs' attorneys to finesse the causation issue by focusing evidence and arguments on that bad conduct,[217] and argues that judgments in Benedictin and breast implant products liability cases are strong examples of this phenomenon.[218] Judges, of course, are also subject to these same influences.[219]

Alicke explains, as we have seen above,[220] that normative expectations can create a propensity to blame human agents and to downplay mitigating circumstances. This suggests that if jurors learn that a speeding driver was involved in an accident, they are likely to blame his speeding, which generally is "highly diagnostic of causing car accidents," and to ignore subsequent information about poor weather conditions unless the latter is so strong that it overwhelms the former.[221] Thus, if a defendant's misstatements did inflate earnings, which is generally diagnostic of securities fraud, jurors may tend to ignore evidence of sector-wide factors or general economic conditions that also may have affected a firm's stock price, unless evidence of these other conditions was sufficient to utterly swamp the evidence related to the false statements.

Event schemas, Alicke also suggests, can involve observers' intuitive understanding of social motivation. He argues that if jurors know that Person A is jealous of Person B, they typically assume that Person A

216. Feigenson, *Rhetoric of Torts*, *supra* note 133, at 82.

217. James M. Sabovich, *Petition Without Prejudice: Against the Fraud Exception to* Noerr-Pennington *Immunity from the Toxic Tort Perspective*, 17 PENN ST. ENVTL. L. REV. 1, 36 (2008).

218. *Id.* at 36. *See also* Joseph Sanders, *From Science to Evidence: Testimony on Causation in the Bendectin Cases*, 46 STAN. L. REV. 1, 53 (1993) (observing that attorneys for plaintiffs in Bendectin cases "often attempted to commingle elements, thereby bolstering weak evidence on causation with stronger proof of breach of duty and damages").

219. *See supra* note 140 and accompanying text. In Rule 10b-5 litigation, the *Goldman Sachs* case mentioned earlier may also be an example. *See supra* notes 69–72 and accompanying text. Goldman Sachs's alleged conduct in the case was particularly egregious (selling instruments to clients that it had gone short on), and the court's holding on the loss causation issue was so relatively forgiving compared to most other cases that one may reasonably suspect that culpable causation bias was in action. *See* Dondona I, LLC v. Goldman, Sachs & Co., 847 F. Supp. 2d 624, 638–39, 649–50 (S.D.N.Y. 2012) (discussing and analyzing loss causation).

220. *See supra* note 140 and accompanying text.

221. Alicke, *Culpable Control*, *supra* note 140, at 569.

intentionally provoked Person B when a fight subsequently occurred.[222] In this way, if jurors learn that a CEO has overstated earnings and enjoys performance-linked bonuses, they may be especially likely to blame that overstatement for a subsequent price drop unless information about an overall economic slump overwhelms that information. And if jurors believe that CEOs tend to be overpaid and greedy, then they may be even more likely to blame their actions, rather than general market conditions, for stock price drops.

If plaintiffs' attorneys can induce jurors to feel sorry for investors who have lost their investments, their clients may benefit. Because of their preexisting beliefs and schemas, people "tend to maximize the evidence that supports reaching conclusions they believe to be fair, and to minimize the evidence that supports conclusions that they believe not to be fair."[223] Thus, experiments "show how jurors selectively use evidence to support outcomes they think are just."[224]

Mitchell speculates on how salience might skew causal thinking in a situation involving potential securities fraud:

> Thus, salient, spectacularly bad events such as Enron's collapse may assume much greater importance in the mind of a counterfactual theorist than statistical evidence about the infrequency of corporate collapses or the prevalence of corporate fraud, even if the salient events are unrepresentative of the category of behavior or outcomes in question. A corporation operating in the same economic and legal environment as Enron, but committing no apparent illegalities and only providing investors with "adequate" returns, prompts few to imagine counterfactual scenarios in which these adequate returns become pitiful.[225]

And one cannot forget the fundamental attribution error, which states that people think that, because someone may have done a bad thing, he or she is a bad person and is the cause of a bad outcome. As Levinson and Peng have noted, "[g]iven that the [fundamental attribution error] frequently causes jurors to make internal attributions in perceiving

222. *Id.* at 559.

223. Solan, *Cognitive Foundations*, *supra* note 99, at 1026.

224. *Id.* at 1025 (citing Kristin L. Sommer et al., *When Juries Fail to Comply with the Law: Biased Evidence Processing in Individual and Group Decision Making*, 27 PERSONALITY & SOC. PSYCHOL. BULL. 309 (2001)). However, because PSLRA provisions are likely to make a hedge fund the face of a class action lawsuit rather than a widow, orphan, or grandmother, this sort of pro-plaintiff sympathy might not be as easy to drum up as it once was. The PSLRA instructed judges naming securities fraud class action representatives to presume that the largest investors would have the most at stake and therefore be the best representatives for the class. *See* 15 U.S.C. § 78u-4(a)(3)(B)(iii)(I)(bb) (2006).

225. Mitchell, *supra* note 127, at 1566–67 (footnote omitted).

defendants as but-for causes, *fewer cases are excluded from the legal process than a non-biased inquiry would warrant*."[226] The same is true of the other phenomena discussed above—jurors may tend to find causation in situations where it is unwarranted.

This is, of course, all quite speculative. The evidence for the psychological tendencies discussed is generally quite strong, but exactly how it will impact securities litigation and, in particular, reasoning about the loss causation element is uncertain. Still, it is clear that people's causal reasoning is far from perfect. As Solan notes, people's "perceptions of what happened need not be accurate. We can attribute an event to someone because a causal schema is present, but we can be wrong about causation in this particular instance. In other words, we are all causal profilers in everyday life."[227]

To the extent that plaintiffs' attorneys could focus jurors' attention upon the actions of defendants (and away from background general economic factors), especially where the defendants acts were particularly culpable (culpable causation) or easily characterized as deviating from the norm (normality bias),[228] the plaintiffs' injuries are particularly severe (severity effect), or the defendant is effectively painted as a bad person (fundamental attribution error), jurors may draw causal conclusions where they are not truly justified.

B. Anti-Plaintiff Bias

1. Jurors

While the previous Section explored the evidence for the claim that the relatively high standard of proof for the loss causation element in securities fraud suits is justified by the fact that jurors and others are prone to various psychological and cognitive errors that can cause them to find causation where none exists, it turns out that one may make a pretty strong argument on the other side. Indeed, I have argued in a similar context that related biases can cause jurors and others to *blame the victim*, and that might mean that defendants are not so disadvantaged after all and may not need the protection of a stringent burden of proof for loss causation.[229]

226. Levinson & Peng, *supra* note 10, at 207 (emphasis added).

227. Solan, *Cognitive Foundations*, *supra* note 99, at 1009 (citing Alicke, *Culpable Control*, *supra* note 140, at 567).

228. *See* Feigenson, *On Social Cognition*, *supra* note 140, at 77 ("Aware of people's tendency to determine causation using the simulation heuristic, the persuasive [legal] writer should attempt to tell a story about the accident that portrays the other party's conduct as notably deviant.").

229. *See* Prentice, *Contract-Based Defenses*, *supra* note 5, at 405–08. Much of the following discussion is adapted from this article.

After thirty years of teaching securities regulation, I know that students often muster a grudging admiration for the clever crook and blame the victim for his or her gullibility, asking incredulously: "How could they be so stupid?"[230] It turns out that there is a strong human tendency to blame the victim in a wide variety of settings, such as the potential bias jurors may feel against plaintiffs.[231]

> [J]urors may believe that the plaintiff, because he started the suit, is more aggressive and demanding, and that this aggressive stance is due to negative traits (hostility toward the defendant or greed) rather than to the demands of the role (suing is how you get things done in the legal system); consequently, jurors may be biased against plaintiffs.[232]

Furthermore, because of the overoptimism bias,[233] people tend to believe that they would never be victims of the fraud and other wrongdoing that has happened to plaintiff.[234] They may then reason: if this wouldn't happen to me, but it did happen to plaintiff, then the plaintiff's own judgments and actions must have caused his or her loss.

This tendency is reinforced by the *illusion of control*[235]—people's pervasive tendency to believe that they control their environments in ways that they truly do not, and therefore that they can avoid victimization and other losses in ways that they actually cannot.[236]

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230. This student view is confounding because it seems obvious to me that the merely ignorant or careless investor deserves protection from the blatant fraudster.

231. For example, if jurors identify more with perpetrators than with victims, they will naturally have a tendency to blame the victim. Solan, *Cognitive Foundations*, *supra* note 99, at 1005.

232. Feigenson, *Rhetoric of Torts*, *supra* note 133, at 136.

233. Just as people tend toward overconfidence, see *supra* notes 163–64 and accompanying text, they also tend toward overoptimism—believing that the cancer, car wrecks, and other bad things that happen to other people will not happen to them. *See* Lynn A. Baker & Robert E. Emery, *When Every Relationship is Above Average: Perceptions and Expectations of Divorce at the Time of Marriage*, 17 LAW & HUM. BEHAV. 439, 443 (1993) (reporting that people realize that half of married couples will divorce but place their own chance at zero); BAR-GILL, *supra* note 127, at 57 ("The prevalence of the optimism bias has been confirmed in multiple studies."); Hanson & Yosifon, *Situational Character*, *supra* note 134, at 96 ("The tendency towards optimism is ubiquitous in human self-perception."); Sunstein, *supra* note 127, at 12 ("In some domains, people show unrealistic optimism.").

234. Prentice, *Contract-Based Defenses*, *supra* note 5, at 404.

235. Pursuant to the illusion of control, people tend to think that they have more control over outcomes—even chance outcomes like the flip of a coin—than they actually do. *See* SCOTT PLOUS, THE PSYCHOLOGY OF JUDGMENT AND DECISION MAKING 170–71 (1993); KEITH E. STANOVICH, HOW TO THINK STRAIGHT ABOUT PSYCHOLOGY 177 (6th ed. 2001).

236. *See* Donald C. Langevoort, *Selling Hope, Selling Risk: Some Lessons for Law from Behavioral Economics about Stockbrokers and Sophisticated Customers*, 84 CALIF. L. REV. 627, 639 (1996) ("A fair body of research suggests that people (perhaps especially those high in social and economic status) exhibit a predictable overconfidence in their ability to control future events and avoid risks.").

People not only tend to believe that they would not be victimized as plaintiffs have been; they *need* to believe it. For people to think that they might be similarly victimized is extremely uncomfortable for them, so they look to find ways to blame plaintiffs for their own losses. Psychologists call this tendency *defensive attribution*, in that people attempt to differentiate themselves from victims so that they do not feel vulnerable to a similar fate.[237] Thus, as psychological research indicates, people "frequently blame victims for their fate because they do not want to accept that such things can happen to them by chance and out of the blue."[238] Indeed, studies show that people often—as the severity of a plaintiff's injuries increases, and the psychological discomfort that people feel rises—assign more blame to the plaintiff.[239]

237. *See* Neal Feigenson et al., *Effect of Blameworthiness and Outcome Severity on Attributions of Responsibility and Damage Awards in Comparative Negligence Cases*, 21 LAW & HUM. BEHAV. 597, 612 (1997) [hereinafter Feigenson, *Blameworthiness*] ("By blaming the victim, observers distance themselves from him or her, preserving their belief that they will not find themselves in the same position."); Salminen, *supra* note 150, at 1198 (finding that accident victims tended to attribute causation to external factors, but coworkers and foremen tended to attribute causation to the victim's own actions).

238. *See* Gurnek Bains, *Explanations and the Need for Control*, *in* ATTRIBUTION THEORY, *supra* note 133, at 126, 131, 134 (noting that many studies support these motivational factors, but that others finding the same effect attribute it to cognitive factors, such as a belief that serious crimes are rare so more responsibility must lie with the victims of such crime); *accord* Tom R. Tyler & Victor Devinitz, *Self-Serving Bias in the Attribution of Responsibility: Cognitive Versus Motivational Explanations*, 17 J. EXPERIMENTAL SOC. PSYCHOL. 408, 413 (1981) (finding more evidence for cognitive explanations).

As a vivid example, consider the infamous McDonald's hot coffee case that spawned so many urban legends. The vast majority of people who heard about Stella Liebeck and her claims against McDonald's were happy to leap to the conclusion that she was to blame for her own serious injuries. They wished to blame Mrs. Liebeck for her own stupidity rather than to consider that they themselves might fall victim to a serious injury in that way. One of the jurors even admitted that before she heard the evidence, she thought "it was a ridiculous lawsuit." Mark Curriden, *"Runaway" No More: Despite Reputation, Juries Getting Less Likely to Give Big Awards or Buy Novel Defenses*, DALL. MORNING NEWS, May 8, 2000, at 1A (quoting juror Betty Farnham). My experience is that many years later, people are often still extremely vitriolic in their condemnation of Liebeck's "greed" in bringing the lawsuit and are more than happy to absolve McDonald's for selling coffee that was twenty degrees hotter than that sold by competitors, for ignoring 700 coffee burn complaints in the previous year, or for refusing an opportunity to settle the case by paying plaintiff's modest medical expenses. *See* Andrea Gerlin, *A Matter of Degree: How a Jury Decided That a Coffee Spill Is Worth $2.9 Million*, WALL ST. J., Sept. 1, 1994, at A1.

239. *See* Feigenson, *Blameworthiness*, *supra* note 237, at 608 (finding that mock jurors' "judgments on fault and damages show a fairly consistent antiplaintiff effect" and that the "percentage of fault attributed to the victim, which ought to be affected only by legal blameworthiness, is significantly greater when the victim's injuries are more severe"); Walster, *supra* note 143, at 77 (presenting the classic study showing that the worse the consequences of an accidental occurrence, the greater the tendency of others to assign responsibility to the accident victim and explicating the defensive attribution theory). *But see* Shaver, *supra* note 150, at 111 ("[I]ncreasing severity of outcome does not reliably produce correspondent increments in

Yet another factor underlying the "blame the victim" tendency is people's psychological need to believe in a "just world," which often causes people to derogate rather than sympathize with plaintiffs.[240] People need to believe that the world they live in is fair and that its processes and systems are just.[241] Their desire to believe that they live in a just world, where good things happen to good people and bad things happen to bad people, causes them to have an innate inclination to blame the victim.[242] People have great difficulty believing that a perfectly innocent person can suffer misfortune.[243] If "we can find a way to blame the victim of a bad event, by focusing on his or her bad disposition or flawed choice, we can assure ourselves that the world is just and maintain our firm grip on the reins of destiny."[244]

One more factor derives from the impact of counterfactual thinking.

attributed responsibility.").

240. *See* MELVIN J. LERNER, THE BELIEF IN A JUST WORLD: A FUNDAMENTAL DELUSION 39–41 (1990) (questioning whether "the motivation to find injustice in our world could lead to the perpetuation of the very social stereotypes [that] stand as a major impediment to the creation of actual social justice"); Avani Mehta Sood & Kevin M. Carlsmith, *Aggressive Interrogation and Retributive Justice: A Proposed Psychological Model*, *in* IDEOLOGY, *supra* note 135, at 574, 594 ("One corollary to the [just world] belief is that a bad event may be taken as evidence that the recipient of that event deserved the outcome. Hence, there is a human proclivity to 'blame the victim.'").

241. Adam Benforado, *Don't Blame Us: How Our Attributional Proclivities Influence the Relationship between Americans, Business and Government*, 5 ENTREPRENEURIAL BUS. L.J. 509, 521 (2010). *See also* Hanson & Yosifon, *Situational Character*, *supra* note 134, at 102 (noting that the "'just world hypothesis' has recently been substantially advanced by contemporary social psychologists who study the operations and influences of our thinking about the social systems with which we identify"); John T. Jost & Orsolya Hunyady, *The Psychology of System Justification and the Palliative Function of Ideology*, 13 EUR. REV. SOC. PSYCHOL. 111, 115–16 (2002) (describing the just world theory); Melvin J. Lerner & Dale T. Miller, *Just World Research and the Attribution Process: Looking Back and Ahead*, 85 PSYCHOL. BULL. 1030, 1030 (1978) (same).

242. *See* Benforado, *supra* note 241, at 540 (noting that people's strong motivation to believe in a just world "can naturally result in us blaming the victim when bad things happen"); Feigenson, *Rhetoric of Torts*, *supra* note 133, at 137 (suggesting that jurors might put the blame on plaintiffs, in part, because "just world" theory leads people to believe that bad things happen to bad people, so the plaintiff must be a bad person (also called the fundamental attribution error)); Solan, *Cognitive Foundations*, *supra* note 99, at 1005 (similar).

243. *See* Benforado, *supra* note 241, at 521 (arguing that people tend to be "strongly resistant to the notion that grievous harms can arise from the chance interaction of elements in our situations as opposed to human malfeasance" (citing P.F. STRAWSON, FREEDOM AND RESENTMENT, *in* STUDIES IN THE PHILOSOPHY OF THOUGHT AND ACTION (P.F. Strawson ed., 1968))); STANOVICH, *supra* note 235, at 177–78.

244. Benforado & Hanson, *supra* note 135, at 303–04. *See* Jon Hanson & Kathleen Hanson, *The Blame Frame: Justifying (Racial) Injustice in America*, 41 HARV. C.R.-C.L. L. REV. 413 (2006) (discussing how people who believe they are fair and just often blame victims and excuse the perpetrators because the recognition of suffering and inequalities creates a dissonance among human beings who wish for justice).

Some evidence indicates that the more a person identifies with a victim, the more that person will, when engaging in counterfactual reasoning, think about ways the victim might have avoided the accident, which can lead them to focus on the victim as the cause of the accident.[245]

People's need to make themselves feel comfortable in their environment—coupled with the overconfidence bias, the illusion of control, and their desire to feel free from potential victimhood and to believe that they live in a just world—all factor together to make it easy for jurors and others to tend to blame investors for their own losses. These influences are so strong that victims even tend to blame themselves for things that clearly are not their fault.[246]

It is no wonder that jurors might blame investors for their own losses when cancer victims often attribute their illness to their own misconduct,[247] parents often blame themselves for their children's serious illnesses,[248] women in low paying jobs come to believe that they deserve lower wages than men,[249] and even rape victims often blame themselves[250] much as they are often blamed by others for their own

245. *See* Christopher T. Burris & Nyla R. Branscombe, *Racism, Counterfactual Thinking, and Judgment Severity*, 23 J. APPLIED SOC. PSYCHOL. 980 (1993); Hanson & Yosifon, *Situational Character*, *supra* note 134, at 69 n.307 ("'A disturbing implication of these findings is that the more one identifies and emphasizes [sic] with a victim, the more likely one is to contemplate how the victim might have behaved otherwise and therefore to blame the victim.'" (quoting ZIVA KUNDA, SOCIAL COGNITION: MAKING SENSE OF PEOPLE 151 (1999))). *See also* Christopher G. Davis et al., *Self-Blame Following a Traumatic Event: The Role of Perceived Avoidability*, 22 PERSONALITY & SOC. PSYCHOL. BULL. 557 (1996) (arguing that respondents' self-blame for spinal cord injury was due to people's perceptions of avoidability); Michael W. Morris et al., *Choosing Remedies After Accidents: Counterfactual Thoughts and the Focus on Fixing "Human Error,"* 6 PSYCHONOMIC BULL. & REV. 579 (1999).

246. *See* Bains, *supra* note 238, at 128 ("[A] number of studies suggest that individuals frequently blame themselves for accidents and illnesses to which they fall victim."); Ronnie J. Bulman & Camille B. Wortman, *Attributions of Blame and Coping in the "Real World": Severe Accident Victims React to Their Lot*, 35 J. PERSONALITY & SOC. PSYCHOL. 351, 360 (1977) (finding that victims of serious accidents who blame themselves are better at coping with their misfortune).

247. *See* Ruth D. Abrams & Jacob E. Finesinger, *Guilt Reactions in Patients with Cancer*, 6 CANCER 474, 475–76 (1953) (noting that over half of the patients interviewed "reproached themselves" for having done something to cause their own cancer).

248. *See* Paul Chodoff et al., *Stress, Defenses and Coping Behavior: Observations in Parents of Children with Malignant Disease*, 120 AM. J. PSYCHIATRY 743, 747 (1964) (noting that self-blame "can serve the defensive purpose of denying the intolerable conclusion that no one is responsible, and therefore that neither expiation nor propitiation can undo a malign event [that] has come about impersonally and meaninglessly").

249. *See* Gary Blasi & John T. Jost, *System Justification Theory and Research: Implications for Law, Legal Advocacy, and Social Justice*, 94 CALIF. L. REV. 1119, 1136 (2006).

250. *See* Andrea Parrot, *Medical Community's Response to Acquaintance Rape Recommendations*, *in* ACQUAINTANCE RAPE: THE HIDDEN CRIME 304, 306 (Andrea Parrot & Laurie Bechhofer eds., 1991). Why in the world would rape victims blame themselves? Like all

misfortune.[251] Studies indicate that when the causes of accidents are thought to be human agency, "victims blame themselves nearly two-thirds of the time."[252] These tendencies result in only a small percentage of personal frauds that occur ever being reported.[253] Finally, jurors' "blame the victim" frame of mind will likely be exacerbated by the fact that plaintiffs' attorneys are among the most despised groups in America;[254] the securities law's plaintiffs' bar has been particularly demonized.[255]

All these factors may well lead people to draw causal inferences in a

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of us, they feel the need to control their environment in order to feel safe:

> Wortman argues that tendencies towards self-blame are also to be found among victims of rape, natural disasters and those who are made redundant. She suggests that one way of explaining such counter-intuitive findings may lie in the fact that, by blaming themselves for these unfortunate events, the victims reject the notion that they could occur by chance and, more importantly, preserve the view that in the future such calamities can be avoided by taking appropriate actions.

Bains, *supra* note 238, at 129 (citing Camille B. Wortman, *Causal Attributions and Personal Control*, *in* I NEW DIRECTIONS IN ATTRIBUTION RESEARCH 23–48 (John H. Harvey et al. eds., 1976)). *See also* Andrew E. Taslitz, *Patriarchal Stories I: Cultural Rape Narratives in the Courtroom*, 5 S. CAL. L. & WOMEN'S STUD. 387, 427–29 (1996) (noting the impact of fundamental attribution error on juror thinking in rape cases).

251. *See* Linda Olsen-Fulero & Solomon M. Fulero, *Commonsense Rape Judgments: An Empathy-Complexity Theory of Rape Juror Story Making*, 3 PSYCHOL. PUB. POL'Y & L. 402, 406–07 (1997) (noting several studies finding substantial blaming of the victim in rape cases).

252. Feigenson, *Melodrama*, *supra* note 139, at 784.

253. *See* Heith Copes et al., *Reporting Behavior of Fraud Victims and Black's Theory of Law: An Empirical Assessment*, 18 JUST. Q. 343, 352 (2001) (finding that only twenty-four percent of fraud victims reported the crime).

254. Due to the aggressive public relations campaigns of insurance companies and other tort reformers, the vision of a civil justice system that has gone terribly wrong "has become a part of contemporary American mass culture." Stephen Daniels & Joanne Martin, *"The Impact That It Has Had Is Between People's Ears:" Tort Reform, Mass Culture, and Plaintiffs' Lawyers*, 50 DEPAUL L. REV. 453, 491 (2000). *See also* Feigenson, *Melodrama*, *supra* note 139, at 781–82 (noting that contemporary images of greedy, undeserving plaintiffs give corporate defense attorneys a ready, plausible story to tell juries); Michael Freedman, *Judgment Day*, FORBES, May 14, 2001, at 132 ("Plaintiff lawyers: They are the folks everybody loves to hate."); Evan P. Schultz, *It's the Lawyers, Stupid: Presidential Wannabes Miss the Mark When They Take Aim at Attorneys*, N.J. L.J., Aug. 28, 2000, at 891 (noting that political candidates try to make hay by lawyer-bashing).

255. *See* Donald C. Langevoort, *Seeking Sunlight in* Santa Fe*'s Shadow: The SEC's Pursuit of Managerial Accountability*, 79 WASH. U. L. Q. 449, 478 (2001) ("This 'tarring' of the plaintiffs' bar has been immensely successful."); Steven A. Ramirez, *Arbitration and Reform in Private Securities Litigation: Dealing with the Meritorious as well as the Frivolous*, 40 WM. & MARY L. REV. 1055, 1069 (1999) ("In an era of pervasive demonization of attorneys, the private securities lawyer became the caricature of the greedy, self-serving destroyer of upstanding captains of industry."); Peter Lattman, *Investors' Billion-Dollar Fraud Fighter*, N.Y. TIMES, Oct. 9, 2012, at B1, B9 (quoting law professor J. Robert Brown as saying that the "securities class-action bar has come under relentless assault over the years," but noting that recently there has been a "shift in the public image and reputation of the securities class-action bar" toward the better).

manner detrimental to plaintiffs. This will not happen inevitably or universally, but a substantial impact seems likely.

2. Judges

One other point to keep in mind is that jurors will not make most meaningful causation decisions in most Rule 10b-5 cases. Rather, federal district judges will make these decisions at the motion to dismiss or summary judgment stage. As noted earlier,[256] Dain Donelson and I argued in a recent paper that the law of pleading scienter against independent auditors in Rule 10b-5 cases is hopelessly ambiguous, that this ambiguity creates nearly unfettered discretion for federal judges, and, of particular relevance to this Section of this Article, that discretion tends to disadvantage plaintiffs.[257]

There is no need to repeat in detail all the points we made in that article. But it bears mentioning that multiple studies show that judges, like jurors, are generally as prone to using the heuristics and being affected by the biases that have been identified by Kahneman, Tversky, and others.[258] Like other human decision makers, in making causation decisions, judges will tend to make decisions in a self-serving way, consistent with their preexisting beliefs and schemas.[259] There also is overwhelming empirical evidence that judges' decisions are affected, probably subconsciously, by their political orientation.[260] As the

256. Donelson & Prentice, *supra* note 68.

257. *Id.* at 488.

258. *See id.* and sources cited therein.

259. *See supra* note 223. *See also* Paul M. Secunda, *Cultural Cognition Insights into Judicial Decisionmaking in Employee Benefits Cases: Lessons from* Conkright v. Frommert, 3 AM. U. LAB. & EMP'T L. F. (forthcoming 2013) (manuscript at 8), *available at* http://ssrn.com/abstract=2139205 ("The cultural world view of judges unavoidably influence them, especially where judges have gaps in their legal knowledge or are encountering new types of information for the first time. The resulting legal opinions are written in a manner that is congenial to their preexisting cultural values.").

260. *See* Lee Epstein et al., *Ideology and the Study of Judicial Behavior*, *in* IDEOLOGY, *supra* note 135, at 705, 705 ("[E]xplanations of judicial behavior that fail to incorporate ideology are incomplete at best."); Josh Furgeson & Linda Babcock, *Legal Interpretation and Intuitions of Public Policy*, *in* IDEOLOGY, *supra* note 135, at 684, 695 ("We believe judges' decisions can be explained by motivated reasoning and the associated cognitive biases in processes used to search for, evaluate, and retrieve information. This biased processing can cause judges to unknowingly conflate seemingly necessary legal outcomes with the policies they simply prefer.") Eric D. Knowles & Peter H. Ditto, *Preference, Principle, and Political Casuistry*, *in* IDEOLOGY, *supra* note 135, at 341, 357 ("Legal scholars have long noted the tendency for political ideology to influence even the highest level of judicial reasoning."). *See also* EILEEN BRAMAN, LAW, POLITICS & PERCEPTION: HOW POLICY PREFERENCES INFLUENCE LEGAL REASONING 4–5 (2009); CASS R. SUNSTEIN ET AL., ARE JUDGES POLITICAL?: AN EMPIRICAL ANALYSIS OF THE FEDERAL JUDICIARY 3, 45 (2006); Orley Ashenfelter et al., *Politics and the Judiciary: The Influence of Judicial Background on Case Outcomes*, 24 J. LEGAL STUD. 257 (1995) (studying

federal judiciary has become increasingly conservative over the past thirty years,[261] plaintiffs have had a tougher time in many areas,[262] including federal securities cases, where federal judges "routinely express concern that securities class actions are often lawyer-driven suits brought in the hope of settling for their nuisance value."[263]

Consider that Professor Langevoort and his colleagues found in an empirical study that federal judges use the "fraud by hindsight" doctrine, which relates to pleading scienter in Rule 10b-5 causes of action, almost exclusively in cases where the hindsight bias (which is mitigated by the doctrine) might benefit plaintiffs, and almost never in cases where the hindsight bias might benefit defendants.[264] Also, Jack Coffee has been recently cited for his concern that the D.C. Circuit, which has overturned a string of SEC rules in recent years, is trying to return to the *Lochner* era.[265]

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influence of judges' attitudes on civil rights cases); James J. Brudney et al., *Judicial Hostility Toward Labor Unions?: Applying the Social Background Model to a Celebrated Concern*, 60 OHIO ST. L.J. 1675, 1761 (1999) (finding numerous personal and political background factors that affected judges' decisions in cases involving unions); Frank B. Cross & Emerson H. Tiller, *Judicial Partnership and Obedience to Legal Doctrine: Whistleblowing on the Federal Courts of Appeals*, 107 YALE L.J. 2155, 2175 (1998) ("Partisanship clearly affects how appellate courts review agency discretion."); Deborah Jones Merritt & James J. Brudney, *Stalking Secret Law: What Predicts Publication in the United States Courts of Appeals*, 54 VAND. L. REV. 71 (2001) (reporting on a study that found political affiliation helped predict votes in labor-management disputes dispositions); Thomas J. Miles & Cass R. Sunstein, *The Real World of Arbitrariness Review*, 75 U. CHI. L. REV. 761, 813 (2008) (finding significant differences between voting of Republic and Democratic judges); Richard E. Redding & N. Dickon Reppucci, *Effects of Lawyers' Socio-political Attitudes on Their Judgments of Social Science in Legal Decision Making*, 23 LAW & HUM. BEHAV. 31, 43–48 (1999); Richard L. Revesz, *Congressional Influence on Judicial Behavior? An Empirical Examination of Challenges to Agency Action in the D.C. Circuit*, 76 N.Y.U. L. REV. 1100 (2001) (providing evidence linking political affiliation and ideological preferences of judges to judicial outcomes); David B. Spence & Paula Murray, *The Law, Economics, and Politics of Federal Preemption Jurisprudence: A Quantitative Analysis*, 87 CAL. L. REV. 1125, 1195 (1999) (finding in an empirical study that decisions about federal preemption in environmental cases are the result of "actions of (partly) ideologically-motivated federal judges").

261. Donelson & Prentice, *supra* note 68, at 496–97.

262. *See* Secunda, *supra* note 259, at 9 (explaining that in the area of ERISA claims, "[c]ultural cognition theory would explain that hierarchical and individualistic-oriented [(i.e., conservative)] judges tend to favor employers and plan administrators in their interpretation of the [ERISA] plan language in order to ensure plan predictability, uniformity, and low administrative costs").

263. Mitu Gulati, Jeffrey J. Rachlinski & Donald C. Langevoort, *Fraud by Hindsight*, 98 NW. U. L. REV. 773, 782 (2004).

264. *Id.* at 822.

265. *The JOBS Act in Action: Overseeing Effective Implementation That Can Grow American Jobs, Hearing Before the Subcomm. on Tarp, Fin. Servs. & Bailouts of Pub. & Private Programs of the H. Comm. on Oversight and Gov't Reform*, 112th Cong. 44–83 (June 26, 2012) (testimony and statement of John C. Coffee, Jr., Professor of Law, Columbia University). *See also* J. Robert

Putting all this together, one may argue that it is plaintiffs, rather than defendants, in Rule 10b-5 cases who need to worry about judicial lawmaking regarding causation, obviating the need for such a strict standard of proof on the issue as that announced in *Dura* and as applied by the lower courts in recent years.

CONCLUSION

Rather than relax the causation standards of the common law—which would be consistent with the overall goal of the 1934 Securities Exchange Act to increase investor protection from what had come before—the courts, and eventually Congress, adopted a relatively demanding standard requiring plaintiffs to plead and prove both transaction causation and loss causation in Rule 10b-5 securities fraud cases. Is this sensible?

The psychological evidence indicates that people have many limitations when it comes to reasoning about causation. Among other tendencies, people often ascribe more causality to human actions than to background factors, more to actions than to inactions, more to abnormal factors than to normal factors, more to factors they expect to see than those that they don't, more to factors that fit their preconceived notions than those that don't, more to those that fit a self-interested explanation than those that don't, and more to causes that are simple than those that are complex. Indeed, adults may even exhibit "magical thinking" in drawing causal inferences.[266] Because many of these tendencies can be

Brown, Jr., *Shareholder Access and Uneconomic Economic Analysis:* Business Roundtable v. SEC, DENV. U. L. REV. ONLINE (Sept. 30, 2011. 2:57 PM), http://www.denverlawreview.org/online-articles/2011/9/30/shareholder-access-and-uneconomic-economic-analysis-business.html (arguing that the D.C. Circuit is pursuing its own policy preferences in reviewing SEC rules); Jennifer Connelly, How the D.C. Circuit Got It Wrong: The Decision in Business Roundtable v. SEC, SEC's Rule 14a-11 and the Proposal for Increased Access to Corporate Proxy Materials, (Nov. 2, 2012) (unpublished manuscript), *available at* http://ssrn.com/abstract=2170507 (same); James D. Cox & Benjamin J.C. Baucom, *The Emperor Has No Clothes: Confronting the D.C. Circuit's Usurpation of SEC Rulemaking Authority*, 90 TEX. L. REV. 1811 (2012) (same); Jill Fisch, *The Long Road Back:* Business Roundtable *and the Future of SEC Rulemaking*, 36 SEATTLE U. L. REV. 695 (2013) (same); Floyd Norris, *Circuit Court Needs to Let the S.E.C. Do Its Job*, N.Y. TIMES, Sept. 21, 2012, at B1 (same). *See also* Miles & Sunstein, *supra* note 260, at 806–07 ("The best conclusion is that in its operation, arbitrariness review is significantly affected by the ideological dispositions of federal judges in a way that produces serious errors in light of the aspirations of *State Farm* itself.").

266. It is not surprising that children often engage in magical thinking in drawing causal relationships, but research has shown that adults do so also. *See* Emily Pronin et al., *Everyday Magical Powers: The Role of Apparent Mental Causation in the Overestimation of Personal Influence*, 91 J. PERSONALITY & SOC. PSYCHOL. 218, 229 (2006) ("[E]veryday processes of causal inference can lead normal people to develop the perception that they have magical powers. . . . [A] similar mechanism influences beliefs about other people's causation."); Eugene

manipulated to disadvantage defendants, creating an illusion of causation where none exists, one can argue that a demanding causation standard in Rule 10b-5 cases is well justified as a means of protecting defendants from semi-frivolous litigation.

Yet, the evidence regarding people's inclination to "blame the victim" constitutes a counterweight to this initial conclusion. Perhaps it is securities fraud plaintiffs rather than securities fraud defendants who need the law tilted in their direction.

Overall, the evidence is sufficiently speculative that there is no strong case for changing the status quo. The evidence, however, makes it clear that jurors' and judges' ability to accurately draw causal connections is seriously bounded, which does not lend confidence to the results of our judicial system, particularly in complicated cases such as Rule 10b-5 class actions.

Subbotsky, *Magical Thinking in Judgments of Causation: Can Anomalous Phenomena Affect Ontological Causal Beliefs in Children and Adults?*, 22 BRIT. J. DEV. PSYCHOL. 123, 149 (2004) (reporting that studies indicate "magical beliefs [about causation] persist [in adults] in the modern industrialized world but are disguised to fit the dominant scientific paradigm").