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## Tort Reform, Innovation, and Playground Design

Benjamin H. Barton

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## TORT REFORM, INNOVATION, AND PLAYGROUND DESIGN

*Benjamin H. Barton\**

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The playground at the St. James Episcopal Church<sup>1</sup> is a nice, short walk from my home in Knoxville, Tennessee. The church generously allows neighborhood kids to use it, and with two young daughters (ages two and four), I spend quite a bit of time on playgrounds these days. The St. James playground is a great example of what I call the “new” playground

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1. Saint James Episcopal Church, <http://www.stjamesknox.org/ministries/html> (last visited June 1, 2005). For pictures of the playground, see Appendix A.

paradigm: It is built on a floor of wood chips and is modular, colorful, and made largely from plastic and rubber-coated steel. It is not an exceptional playground, but it is close to our house, and we end up there quite a bit.

We love this little playground. It has a ground level “house” with two windows, a little bench, and a round mirror. The girls love to play house there, as well as dump the wood chips in and out of the windows. There is a round tube with circular holes that we call the “tickle tunnel.” The tickle tunnel entry is a brazen invitation to Dad to stick his arms through the holes and tickle any willing victim silly.<sup>2</sup> There is a little stairway for my two-year-old and several different climbing options for my four-year-old. There are swinging chin-up hoops for the four-year-old to swing out and back on, and there is a raised fort with a steering wheel for pirate ship or bus driving adventures.<sup>3</sup> And, of course, there are three slides (one shorter for toddlers) and four swings (two baby/bucket swings and two regular swings).<sup>4</sup>

One of the unforeseen benefits of parenting is the light it sheds on your own childhood, parents, and upbringing. Playgrounds are no exception. Many times on the St. James playground I have thought about the sorry playgrounds I grew up with in the 1970s in Brooklyn, New York.<sup>5</sup> I generally played on what I will call the “traditional” playground: steel swings, freestanding steel slides, jungle gyms, and seesaws on a concrete surface surrounded by a chain link fence.<sup>6</sup> Even as a kid, these playgrounds struck me as stark, depressing, and unidimensional.

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2. This also doubles as the “smooches” tunnel, where the girls poke their lips through the holes in the tunnel, and I come to dole out smooches. In a humorous echo of my adolescent romantic life, tickles are always more popular than smooches.

3. As tempted as I was to pack this entire Article with photos of my family and the St. James playground, I thought it might be considered obnoxious. So, I dumped a bunch of photos (including swinging and driving photos) on a separate webpage. See *Playground Photos*, <http://www.law.utk.edu/faculty/playgroundpics.htm> (last visited June 1, 2005) [hereinafter *Playground Photos*].

4. For a picture of a typical bucket swing, see *Institutional Enclosed & Bucket Swing Seats*, [http://www.shapeupshop.com/games/playground/bucket\\_seats.html](http://www.shapeupshop.com/games/playground/bucket_seats.html) (last visited June 1, 2005) or *Playground Photos*, *supra* note 3.

5. I grew up in the Park Slope section of Brooklyn before it became a chi-chi yuppie neighborhood. For a roughly contemporaneous semi-fictional description of growing up in Boerum Hill (a neighboring, though less gentrified, Brooklyn neighborhood), see JONATHAN LETHEM, *THE FORTRESS OF SOLITUDE* (2003). For a more current description of life in Park Slope, see Louise G. Crawford, *Postcards from the Slope*, *Only the Blog Knows Brooklyn*, [http://onlytheblogknowsbrooklyn.typepad.com/only\\_the\\_blog\\_knows\\_brook/postcard\\_from\\_the\\_slope/index.html](http://onlytheblogknowsbrooklyn.typepad.com/only_the_blog_knows_brook/postcard_from_the_slope/index.html) (last visited June 1, 2005).

6. For a great example, less the fence and concrete, see Appendix B. Oblong Park Playground Fund, <http://www.villageofoblong.com/playground/> (last visited June 1, 2005) (raising money to replace the playground’s old equipment). For an example of seesaws situated on concrete, see *Playground Photos*, *supra* note 3.

I went to elementary school at P.S. 321<sup>7</sup> on Seventh Avenue, and I still remember vividly the day they placed rubber mats on top of the hard, hard concrete under our metal jungle gym. I remember because I had fallen and scraped myself many times on the concrete, and the rubber mats were a revelation: “You mean we could have had rubber mats all this time? What gives?”<sup>8</sup>

The movement that led to my rubber mats has spread all over the country. The traditional American playground has been replaced one playground at a time by a shiny new playground paradigm.<sup>9</sup> Modular playgrounds on soft surfaces, designed and constructed according to voluntary safety standards,<sup>10</sup> have sprouted up country-wide,<sup>11</sup> replacing the concrete and metal playgrounds of our youth.

7. For a current look at P.S. 321, see P.S. 321 Homepage, <http://ps321.org/> (last visited June 1, 2005).

8. Nevertheless, later that school year as I hung upside down from my knees on the monkey bars and stared down at the rubber mats (no doubt contemplating the fragility of both our existence and my own skull), I could not help but wonder about the relative thinness of the rubber covering vis-à-vis the potential velocity of my head in a face-first fall.

9. Many have noted this trend, from newspapers, see Carol Lawson, *Playgrounds Shaped by Today's Urban Concerns*, N.Y. TIMES, July 13, 1989, at C1 (“Many children around the country will never know the Spartan battleship-gray swings and monkey bars, planted in concrete, that shaped the childhoods of their parents. For them, the playground is a fanciful environment . . . mazes of tunnels, bridges, ladders, and platforms. . .”), to playground designers and park managers, see PLAY FOR ALL GUIDELINES 64-128 (Robin C. Moore et al. eds., 2d ed. 1992) (describing the new playground equipment and surfaces); LEONARD E. PHILLIPS, PARKS: DESIGN AND MANAGEMENT 17-32 (1996) (containing chapters on current playground design and playground safety), to tort reform advocates, see Philip K. Howard, *Is Civil Litigation a Threat to Freedom?*, 28 HARV. J.L. & PUB. POL'Y 97, 101 (2004) (“Ordinary elements of life, such as playgrounds, have been completely transformed.”).

10. There are two main bodies of American playground safety standards. The most comprehensive guide is the Consumer Product Safety Commission's Handbook for Public Safety. It offers safety guidelines (not mandatory regulations) for public playgrounds. See U.S. CONSUMER PRODUCT SAFETY COMMISSION, HANDBOOK FOR PUBLIC PLAYGROUND SAFETY (1997) [hereinafter CPSC, HANDBOOK]. The American Society for Testing Materials (ASTM) offers a set of guidelines for playground surfaces. See ASTM INTERNATIONAL, STANDARD GUIDE FOR ASTM STANDARDS ON PLAYGROUND SURFACING (2005). Although these standards are non-binding, they have become the state of the art for playground design, see PHILLIPS, *supra* note 9, at 27, and have been used as a baseline in playground litigation. See *Hinkley v. Krantz*, 658 N.E.2d 797, 799 (Ohio Ct. App. 1995).

11. For some great examples of these new style playgrounds, see Playground Photos, *supra* note 3. Also available on the internet are playground photos from manufacturers or playground designers. See, e.g., BCI Burke, Premiere Play Environments, <http://www.bciburke.com/product.s.html> (last visited June 1, 2005), Leathers & Associates, Custom-Designed Community Built Projects, [http://www.leathersassociates.com/photo\\_frame.htm](http://www.leathersassociates.com/photo_frame.htm) (last visited June 1, 2005). Apparently, there are now some spectacular new playgrounds in Prospect Park near where I grew up. See Prospect Park, Park Destinations: Playgrounds, <http://www.prospectpark.org/dest/main.cfm>

Chewing over this phenomenon on the St. James playground led me to two questions: What happened to the traditional playground, and if it is true that today's playgrounds are superior,<sup>12</sup> what does that tell us about the arguments for and against tort reform? As a torts professor, I had an easy answer for the first question: Liability and safety concerns killed the traditional playground. This killing actually was a pretty impressive accomplishment: The traditional playground had been criticized for years,<sup>13</sup> yet had basically survived unchanged from the turn of the century.<sup>14</sup>

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12. I later discuss this issue more fully, *infra* notes 145-47 and accompanying text, but know for now that the new playgrounds are not universally admired. Playground designers and landscape architects have criticized the sameness of current manufactured playgrounds. See BARBARA E. HENDRICKS, *DESIGNING FOR PLAY* 163-67 (2001) (decriing "[t]he sameness of public park playgrounds" and arguing that "[e]ach play area should be unique"); Janny Scott, *When Child's Play is Too Simple*, N.Y. TIMES, July 15, 2000, at B9 (stating that "some landscape architects and scholars" see "deadening sameness" in current playgrounds).

A less surprising group of criticisms have come from commentators decriing the "wimpification" of America, or our new "nanny-state." These wimpification diatribes are multiple (try a Google search for "wimpification of America"), but for a paradigmatic example, see Ronnie Polaneczky, *Will 'Unique' Park Lose Out to 'Standard?'*, PHILADELPHIA DAILY NEWS, July 18, 2003, at 5 (describing "[a]nother nail in the wimpification of Philly's children" because of the closure of Smith playground to meet insurance companies' standards). For a more measured, nanny-state type argument, consider Joseph H. King, Jr., *Exculpatory Agreements for Volunteers in Youth Activities—the Alternative to "Nerf®" Tiddlywinks*, 53 OHIO ST. L.J. 683, 684-86 (1992) (arguing that allowing tort liability for adult volunteers at children's activities despite exculpatory agreements might result in the elimination of many children's activities).

This criticism always makes me smirk. I suppose that the scrapes and bruises I received on those "prison yard"-like playgrounds, see Johnson, *infra* note 14, at 1, toughened me somehow, but the value of the whole experience is now lost on me. Maybe I need to run full speed and spill face first onto concrete to remember how good I had it. More fundamentally, I think the nanny-state critics and I are like ships in the night. To my mind the new playground structures are unquestionably superior to what they replaced. The new playgrounds are not only safer (do the tort reform critics really prefer concrete to wood chips or pebbles?), but are better in every objective sense. The new playgrounds are nicer looking, more fun to play on, require less parental and governmental supervision and maintenance, and encourage kids to play imaginatively and together. I offer a longer diatribe on the superiority of the new playgrounds, *infra* Part III.

13. See, e.g., ARLENE BRETT ET AL., *THE COMPLETE PLAYGROUND BOOK* 9-11 (1993) ("American playgrounds have traditionally consisted of a concrete or asphalt surface with steel jungle gyms, merry-go-rounds, slides, and swings. . . . Unfortunately, [these] traditional playgrounds still dominate American schools, public parks, community centers, and recreation sites."); ALBERT J. RUTLEDGE, *ANATOMY OF A PARK* 21 (1971) ("An example of standardization run amuck is the 'typical' playground. Always the same swings, the same teeter-totters, the same slides. Sameness dulls visual appetites. . . .").

14. A review of playground design literature shows that the big five of traditional playgrounds—swings, slides, seesaws, jungle gyms, and carousels—were part of the very first playgrounds around the turn of the century and remained fixtures until the late twentieth century. For example, the authors of a seminal 1909 book on playground design found "[t]he following apparatus . . . to be the most valuable to the playground: Swings, see-saws . . . an open air

The answer to the second question was harder. If the new playgrounds are better than the old playgrounds, a sacred cow of the tort reform battles is implicated. For years, tort reform advocates have argued that the laws of product liability and torts<sup>15</sup> retard innovation. The “product liability discourages innovation” trope has gained great currency, and been accepted by courts,<sup>16</sup> by Congress,<sup>17</sup> and by multiple commentators.<sup>18</sup> This

gymnasium [described similarly to a jungle gym] . . . [a] merry-go-round [and a] slide for life.” 1 ARTHUR LELAND & LORNA HIGBEE LELAND, *PLAYGROUND TECHNIQUE AND PLAYCRAFT* 196-97 (1910). A 1947 book on “recreation areas” similarly lists the swing, the slide, the climbing structure, and the see-saw among “common types of apparatus.” See GEORGE D. BUTLER, *RECREATION AREAS: THEIR DESIGN AND EQUIPMENT* 20-24 (2d ed. 1958). A children’s book by Richard Scarry from the 1960s shows the same basic playground equipment. See RICHARD SCARRY, *RICHARD SCARRY’S BEST WORD BOOK EVER* 12-13 (1963) (showing a swing, a slide, a seesaw, a merry-go-round, and a jungle gym on a page of common words titled “at the playground”). Concrete had been a favored and featured ground cover for a similarly lengthy time period. See AASE ERIKSEN, *PLAYGROUND DESIGN: OUTDOOR ENVIRONMENTS FOR LEARNING AND DEVELOPMENT* 16 (1985) (noting that “asphalt . . . eventually became standard” as the playground surface); Lauri MacMillan Johnson, *American Playgrounds and Schoolyards—A Time for Change*, Open Space Research Center Conference, at 1, available at <http://www.openspace.eca.ac.uk/conference/proceedings/PDF/Macmillan.pdf> (last visited Mar. 24, 2005) (“Comprising a collection of isolated metal structures set upon a flat paved surface, however, play yards from this period evoke images of prison yards.”).

15. I use both of these terms here because it is not always clear the area of the law that tort reform advocates claim as innovation killer. It seems most likely that they object to what has come to be known as the “design defect” aspect of product liability. Under a “design defect” theory, a plaintiff injured by a product that has been defectively designed can win a lawsuit by establishing the existence of a reasonable alternative design and without proving a negligent design. For a *much* fuller description of the law in this area, see RICHARD A. EPSTEIN, *TORTS* § 16.11 (1999); DAVID G. OWEN, *PRODUCTS LIABILITY LAW* 480-560 (2005). I also explore this theory further in Part I.

16. See, e.g., *White v. Ford Motor Co.*, 312 F.3d 998, 1018 (9th Cir. 2002) (discussing federalism concerns and punitive damages, and arguing that a Nevada award “may deter not only conduct tortious in other states, but also innovations and economies of production that other states have purposely tailored their laws not to discourage so strongly”); *Soproni v. Polygon Apartment Partners*, 971 P.2d 500, 509 n.2 (Wash. 1999) (Talmadge, J., concurring in part and dissenting in part) (citing Philip A. Talmadge, *Product Liability Act of 1981: Ten Years Later*, 27 GONZ. L. REV. 153, 159 (1991-1992)).

17. See S. REP. NO. 105-32, at 1 (1997) (“The [product liability] system’s unpredictability and inefficiency have stifled innovation, kept beneficial products off the market, and have handicapped American firms as they compete in the global economy.”).

18. See, e.g., PETER W. HUBER, *LIABILITY: THE LEGAL REVOLUTION AND ITS CONSEQUENCES* 155-61 (1988); Deborah J. La Fetra, *Freedom, Responsibility, and Risk: Fundamental Principles Supporting Tort Reform*, 36 IND. L. REV. 645, 646-54 (2003) (arguing that “the prospect of tort liability inhibits innovation”). The assertion has become so ingrained among tort-reform advocates that it is regularly listed by rote with the other alleged harms imposed by the tort system. See Victor E. Schwartz et al., *Fostering Mutual Respect and Cooperation Between State Courts and State Legislatures: A Sound Alternative to a Tort Tug of War*, 103 W. VA. L. REV. 1, 2 & n.1 (2000) [hereinafter Schwartz, *Fostering Mutual Respect*] (citing WALTER K. OLSON, *THE LITIGATION EXPLOSION* 223, 247 (1992) (claiming that “unchecked and unbalanced tort law can limit the availability of necessary medical services, discourage innovation, lead to the removal of useful and

argument has intuitive appeal. It seems right that fearful, chastened corporations would react to expanding tort liability by hesitating to create bold new products or to do anything that might expose them to further tort liability.

Despite this intuitive appeal, current playgrounds prove the exact opposite. The new playground design proves that the challenge of replacing and redesigning a failed and dangerous product actually may inspire manufacturers to create not only safer products, but better products.<sup>19</sup> Innovative manufacturers take the opportunity to redesign and to rethink unsafe products from the ground up with greatly improved results. This Article argues that the tort reformers have gotten at least one of their justifications for reform wrong: The law of product liability does not retard innovation.<sup>20</sup> To the contrary, in some markets it actually has led to a spectacular rise in innovation.

The Article is divided into three parts.<sup>21</sup> Part I describes the product

safe products and devices from the marketplace, and increase costs to consumers”); Victor E. Schwartz & Leah Lorber, *The General Aviation Revitalization Act: How Rational Civil Justice Reform Revitalized an Industry*, 67 J. AIR L. & COM. 1269, 1323 (2002) (“Excessive litigation affects interstate commerce through high damages awards, lack of uniformity and unpredictability under state law, which add to the price of products, discourage innovation, and hamper the competitiveness of American businesses.”).

19. There is an additional benefit to choosing playground design as my case study for the innovation/tort reform correlation: Playground design has become another new front in the ongoing battles over tort reform. A leading proponent of tort reform, Philip K. Howard, begins his seminal attack on the current tort system in *The Collapse of the Common Good* with an anecdote describing the removal of a double slide in Oologah, Oklahoma because of a lawsuit against the town. See PHILIP K. HOWARD, *THE COLLAPSE OF THE COMMON GOOD* 3-4 (2001). For more on Howard and playgrounds, see *infra* notes 148-63 and accompanying text. Other examples of a playground/tort reform connection include a recent *Newsweek* article, see Stuart Taylor Jr. et al., *Civil Wars*, NEWSWEEK, Dec. 15, 2003, at 42 (“Playgrounds all over the country have been stripped of monkey bars, jungle gyms, high slides and swings, seesaws and other old-fashioned equipment once popularized by President John F. Kennedy’s physical-fitness campaign. The reason: thousands of lawsuits by people who hurt themselves at playgrounds.”), and an op-ed piece by George Will, see George F. Will, *Why Think When You Can Sue?*, CLEVELAND PLAIN DEALER, June 2, 2002, at H3 (arguing that “seesaws and swings are endangered species of playground equipment” because of “fear of liability”). Congress featured the playground revolution in support of one of its recent legislative tort reform efforts. See H.R. REP. NO. 108-682, at 9-10 (2004) (referencing the above works by Philip Howard and Stuart Taylor in support of the contention that “[t]he lawsuit culture is even changing the traditional American landscape: playgrounds are increasingly removing seesaws for fear of liability”).

20. As noted *infra* note 166 and accompanying text, I am not making a broader claim about the merits of tort reform, or even a claim that all of the justifications for tort reform are bogus. I am convinced however, that the innovation claim is bunk.

21. Law review readers will recognize the archetypes for these three parts immediately: Part I poses the problem—does product liability law retard innovation?; Part II proposes an answer or a solution—no, and sometimes it encourages it; Part III provides an example and supporting evidence—playground design.

liability/innovation debate more extensively and details the arguments and empirical evidence for and against a negative correlation. Part II argues three main points: (1) Be careful predicting future economic effects when costs are easy to foresee and benefits are murkier; (2) outmoded technology and business approaches frequently remain on the market out of sheer inertia; and (3) entrepreneurial companies may not simply patch failed products, they fully rethink and redesign them. I also indulge in a brief discussion of the economist Joseph Schumpeter's entrepreneurial mindset and a Calabresian argument that manufacturers are probably in the best position to innovate and "make lemonade" out of the lemons of design defects. Part III then applies these theories to playground design and argues that product liability law and heightened safety concerns actually have resulted in a quality revolution in public playgrounds.

### I. PREVIOUS THINKING ON THE EFFECT OF PRODUCT LIABILITY LAW ON INNOVATION

A humorous side note to the innovation/product liability debate is the tort reformers' implication that this debate is somehow new and unprecedented. To the contrary, the common law courts' struggle at the intersection of law and innovation is the master narrative of nineteenth and twentieth century torts and product liability law.<sup>22</sup> Courts have had to decide how to apply the common law of torts—which was largely created in a pre-industrial era—to the innumerable innovations in manufacturing and retail in the last 160 years. The common law of torts and contracts was designed for a simpler time when almost every tort or contract case involved parties who knew each other and products that were individually manufactured.<sup>23</sup>

At first, common law courts reacted to the nineteenth century roil of innovation and mechanization with a series of doctrines protecting the new technologies and industries from liability. Lawrence Friedman's *A History of American Law* argues that nineteenth century tort law is best understood by reading a series of cases involving "the prince of machines," the

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22. See Alvin S. Weinstein et al., *Product Liability: An Interaction of Law and Technology*, 12 DUQ. L. REV. 1 (1974). For an example covering the railroad, a great nineteenth century innovation, see generally JAMES W. ELY, JR., *RAILROADS AND AMERICAN LAW* (2001).

23. See LAWRENCE M. FRIEDMAN, *A HISTORY OF AMERICAN LAW* 300 (2d ed. 1985) (arguing that "[e]xisting tort law was simply not designed to deal with" an industrialized society); John C. P. Goldberg, *Twentieth-Century Tort Theory*, 91 GEO. L.J. 513, 516-21 (2003) (describing the "traditional" account of tort law's infancy); Oliver Wendell Holmes, Dedication, *The Path of the Law*, 10 HARV. L. REV. 465, 467 (1897) (noting that turn-of-the-century torts involved injuries from railroads and factories, while the existing law of torts came from the "old days of isolated, ungeneralized wrongs, assaults, slanders, and the like").



railroad.<sup>24</sup> Courts devised defenses and new doctrinal bases for forgiving liability to the new industries, consciously and unconsciously seeking to shield “the key to economic development” from crushing liability.<sup>25</sup> Similarly, early product liability suits were stymied by the requirement of contractual privity<sup>26</sup> between sellers and buyers and the ancient doctrine of *caveat emptor*.<sup>27</sup>

Courts at the turn of the twentieth century began to create multiple exceptions to these protective doctrines,<sup>28</sup> and by the early twentieth century many protective doctrines had been abandoned.<sup>29</sup> A great product liability example is the elimination of the common law requirement of privity between the parties to a lawsuit.<sup>30</sup> Similar to arguments made during the current debate over tort reform, commentators criticized the elimination of the privity requirement as a potential industry killer.<sup>31</sup>

24. FRIEDMAN, *supra* note 23, at 300-02, 468-76.

25. *Id.* at 468. The defenses included contributory negligence, assumption of risk, and the fellow-servant rule. Doctrinal expansions included a great tightening of the rules of proximate cause. *See id.* at 468-76; Shawn Everett Kantor & Price V. Fishback, *Nonfatal Accident Compensation and the Common Law at the Turn of the Century*, 11 J.L. ECON. & ORG. 406, 408-11 (1995) (examining “three central issues relating to postaccident compensation under negligence liability,” including the extent to which tort defense doctrines influenced accident compensation at the turn of the century).

26. Courts had required “privity” (i.e., a contractual relationship) between sellers and buyers as a precursor to a warranty claim. Since a main feature of the industrial revolution was the rise of a separation between manufacturing and retail, this requirement proved a difficult hurdle to injured plaintiffs seeking to sue manufacturers. *See* Richard A. Epstein, *The Case Against Black Reparations*, 84 B.U.L. REV. 1177, 1184 (2004) (describing the history of the privity requirement); Timothy S. Hall, *Reimagining the Learned Intermediary Rule for the New Pharmaceutical Marketplace*, 35 SETON HALL L. REV. 193, 241 n.235 (2004) (same).

27. *See* OWEN, *supra* note 15, § 1.2, at 17-23; David Owen, *Products Liability Law Restated*, 49 S.C. L. REV. 273, 275-77 (1998). For an excellent history and consideration of “the judicial understandings that motivated the rise in modern tort law,” *see* Gary T. Schwartz, *The Beginning and the Possible End of the Rise of Modern American Tort Law*, 26 GA. L. REV. 601, 602 (1992).

28. *See* FRIEDMAN, *supra* note 23, at 476-87.

29. OWEN, *supra* note 15, § 1.3, at 23-24.

30. *See* *MacPherson v. Buick Motor Co.*, 111 N.E. 1050, 1053 (N.Y. 1916) (Cardozo, J.) (“We have put aside the notion that the duty to safeguard life and limb, when the consequences of negligence may be foreseen, grows out of contract and nothing else. We have put the source of the obligation where it ought to be. We have put its source in the law.”); *see also* William L. Prosser, *The Assault Upon the Citadel (Strict Liability to the Consumer)*, 69 YALE L.J. 1099, 1148 (1960) (concluding that the “assault upon the citadel of privity is proceeding in these days apace”). For a terrific historical discussion of *MacPherson*, *see* Sally H. Clarke, *Unmanageable Risks: MacPherson v. Buick and the Emergence of a Mass Consumer Market*, 23 LAW & HIST. REV. 1 (2005).

31. *See* Walter H. E. Jaeger, *Warranties of Merchantability and Fitness for Use: Recent Developments*, 16 RUTGERS L. REV. 493, 557 (1962); Note, *Strict Products Liability and the Bystander*, 64 COLUM. L. REV. 916, 923 (1964) (citing privity as a protection for industrial development).

The next great expansion of product liability law came in the 1960s with the adoption of a “strict liability” standard for manufactured products.<sup>32</sup> Theoretically, the new product liability law replaced a negligence standard with strict liability, but there has been ongoing disagreement about how “strict” product liability is, and whether the law has actually changed much from the negligence standard.<sup>33</sup>

Regardless of how the law is couched, however, there is little doubt that from the mid-1960s until the 1980s there was a large-scale expansion in manufacturer liability to plaintiffs injured by manufactured products.<sup>34</sup> Exactly how many suits there were, and how much was spent on damages, legal and court fees are still hotly debated questions,<sup>35</sup> but most agree that

32. Justice Traynor of the California Supreme Court penned two of the seminal opinions in the development of this law, starting with his concurrence in *Escola v. Coca Cola Bottling Co.*, 150 P.2d 436, 461 (Cal. 1944) (Traynor, J., concurring), and continuing on to the majority opinion in *Greenman v. Yuba Power Products, Inc.*, 377 P.2d 897, 900 (Cal. 1963), which held that “[a] manufacturer is strictly liable in tort when an article he places on the market, knowing that it is to be used without inspection for defects, proves to have a defect that causes injury to a human being.” For a full history of the development of product liability law and a description of its current status, see OWEN, *supra* note 15, at 3-48. For other more succinct versions of this history, see RICHARD A. EPSTEIN, *MODERN PRODUCTS LIABILITY LAW* 3-7 (1980); Gary T. Schwartz, *Product Liability and Medical Malpractice in Comparative Context*, in *THE LIABILITY MAZE* 28, 29-33 (Peter W. Huber & Robert E. Litan eds., 1991); Anita Bernstein, *A Model of Products Liability Reform*, 27 VAL. U. L. REV. 637, 637-39 (1993).

As a new Torts teacher, I can also recommend a simple reading through a Torts casebook section on product liability law.

33. Consider Judge Richard Posner’s influential opinion in *Navarro v. Fuji Heavy Industries, Ltd.*, 117 F.3d 1027, 1029 (7th Cir. 1997) (arguing that “there is little or no practical difference in a case of defective design” between strict product liability or a negligence standard of liability). See also Richard L. Cupp, Jr. & Danielle Polage, *The Rhetoric of Strict Products Liability Versus Negligence: An Empirical Analysis*, 77 N.Y.U. L. REV. 874, 899-900 (2002) (arguing that the negligent and defective design theories have collapsed into each other, and noting court rhetoric to the opposite effect).

There is also disagreement about the state of product liability law. Some argue that product liability law has settled into predictability and sameness. See, e.g., James A. Henderson, Jr. & Aaron D. Twerski, *Achieving Consensus On Defective Product Design*, 83 CORNELL L. REV. 867, 868-72 (1998). For an argument that product liability law is still a bloody mess, see RICHARD NEELY, *THE PRODUCT LIABILITY MESS* 46 (1988) (noting product liability law’s “lack of uniformity, lack of predictability, and lack of consistency”); OLSON, *supra* note 18, at 152-77 (same).

34. See Steven P. Croley & Jon D. Hanson, *Rescuing the Revolution: The Revived Case for Enterprise Liability*, 91 MICH. L. REV. 683, 695-706 (1993) (describing the change and growth in manufacturer liability).

35. The costs of product liability law have been widely disputed. For a great overview of these disputes, the multiple numbers attached to every aspect of the system, and an argument that most of the estimates have been greatly exaggerated, see Marc Galanter, *News From Nowhere: The Debated Debate on Civil Justice*, 71 DENV. U. L. REV. 77, 83-90 (1993). For an opposing calculation, see PETER W. HUBER, *THE LEGAL REVOLUTION AND ITS CONSEQUENCES* 3-5 (1988).

For a more recent high end calculation, see BEACON HILL INST., *TAXATION BY LITIGATION: THE* Published by UF Law Scholarship Repository, 2006

this era ushered in a whole new way for companies and the public to think about product safety and manufacturer liability.

The shift in societal mores during this time was probably more significant than the doctrinal shift.<sup>36</sup> Whether you call it the “lawsuit culture”<sup>37</sup> or a salutary emphasis on safety, there is little doubt that Americans in general (and more specifically manufacturers and lawyers) began to look at products differently. A uniquely lawyerly pursuit (looking at a product or activity and trying to spin out its worst case scenario or potential risks) became something of a national pastime.<sup>38</sup>

From the tort reform/innovation perspective, however, it is interesting to note that for the last hundred years or so, industrial liability for injuries to customers has continuously expanded.<sup>39</sup> While it is hard to measure with pinpoint accuracy given the American economic performance in the twentieth century, it would be hard to argue that this expansion of liability has crushed American innovation over the same period, especially in comparison to other legal regimes. Nevertheless, the latest expansion in product liability and its parallel psychological shift has been highly controversial, and there have been persistent cries for tort reform since the 1980s. The overarching costs and benefits of the current system have been the front line of this war, and one critical battleground is the reformers’ claim that product liability and tort laws hamper American manufacturer innovation.<sup>40</sup>

This claim, like many of the tort reformers’ arguments, begins with a powerful, intuitive story.<sup>41</sup> Product liability law has grown so expensive

ECONOMICS OF CIVIL JUSTICE REFORM IN MASSACHUSETTS (1998). For a rebuttal of the newer high-end figures, see Robert S. Peck et al., *Tort Reform 1999: A Building Without a Foundation*, 27 FLA. ST. U. L. REV. 397, 420-33 (2000).

36. Cf. Symposium, *Rational Actors or Rational Fools? The Implications of Psychology for Products Liability*, 6 ROGER WILLIAMS U. L. REV. 1 (2000) (describing the intersection of cognitive psychology and product liability law).

37. For a full description of this term, and a forceful argument that the “lawsuit culture” has deeply negative effects, see HOWARD, *supra* note 19, at 155-66.

38. For a great history of this phenomenon from the consumer perspective, see Martha Chamallas, *The Disappearing Consumer, Cognitive Bias and Tort Law*, 6 ROGER WILLIAMS U. L. REV. 9, 10-13 (2000).

39. The last ten years or so may mark a small retrenchment. For some raw product liability numbers, see Joachim Zekoll, *American Law in a Time of Global Interdependence: U.S. National Reports to the XVth International Congress of Comparative Law: Section II: Liability for Defective Products and Services*, 50 AM. J. COMP. L. 121, 148-49 (2002) (reporting that the number of personal injury product liability filings in federal courts grew from 2,393 in 1975 to 32,856 in 1997 and then tapered to 26,886 in 1998, 18,781 in 1999, and 14,428 in 2000). See also Frank J. Vandall, *Constricting Products Liability: Reforms in Theory and Procedure*, 48 VILL. L. REV. 843, 865-71 (2003) (listing some of the legal changes that have led to the product liability retrenchment).

40. See *supra* notes 16, 18, and accompanying text.

41. Although one would assume that the rise of law and economics and its application to tort

and pervasive that companies frequently will not risk releasing new, innovative products for fear of unforeseen liability. For example, Peter Huber argues that product liability law favors established products, with known risks and benefits, over risky new products.<sup>42</sup> The reformers also argue that liability fears have driven necessary and beneficial products off the market.<sup>43</sup>

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law would result in more rigorous and scientific scholarly thinking, it actually has resulted in the reign of the intuitive story. One of the tort reformers' greatest challenges is to overturn the intuitive story that underlies almost all of law and economics' treatment of torts: that both the negligence and design defect standards encourage optimal levels of public safety. Beginning in the 1970s, Richard Posner, among others, began a spirited defense of the Learned Hand formula for determining liability in negligence. See *United States v. Carroll Towing Co.*, 159 F.2d 169, 173 (2d Cir. 1947) ("Possibly it serves to bring this notion [of negligence law] into relief to state it in algebraic terms: if the probability be called P; the injury, L; and the burden, B; liability depends upon whether B is less than L multiplied by P: i.e., whether  $B < PL$ ."). Posner argued that this legal standard of negligence created a "formula for optimal accident avoidance." See RICHARD A. POSNER, *ECONOMIC ANALYSIS OF LAW* 167-70 (6th ed. 2003) [hereinafter POSNER, *ECONOMIC ANALYSIS*]. For one of the original formulations of this view by Posner, see RICHARD A. POSNER, *ECONOMIC ANALYSIS OF LAW* § 4.2, at 69-97 (1st ed. 1972).

Note that Posner and others consider the design defect cost-benefit analysis to be identical to the Hand formula for negligence, so the "optimal cost avoider" analysis applies equally to design defects. See POSNER, *ECONOMIC ANALYSIS*, *supra*, at 182-83. Posner's analysis is remarkably straightforward: If product liability law truly captures the potential cost of making any product design safer, and then balances it against the potential societal benefits of the safer design, only those companies that under-invest in safety will be held liable. See *id.* As a matter of economic theory one would expect companies to react to design defect cases by investing optimally in safety: Any safety innovation that will cost less than the potential benefit to the firm's customers will be adopted. See EPSTEIN, *supra* note 15, § 4.5, at 93-95 (providing similar analysis for both negligence and product liability).

42. See HUBER, *supra* note 18, at 14-15, 155-61; see also MICHAEL E. PORTER, *THE COMPETITIVE ADVANTAGE OF NATIONS* 649 (1990) (asserting that the United States' product liability system "is so extreme and uncertain as to retard innovation"); La Petra, *supra* note 18, at 646-54 ("It is as though an anvil labeled 'potential tort liability' swings precariously over any inventor, manufacturer, or business that dares to deviate from current knowledge and technology."); Man C. Maloo & Benjamin A. Neil, *Products Liability Exposure: The Sacrifice of American Innovation*, 13 J. PROD. LIAB. 361, 362 (1991) ("The fear of products liability lawsuits, and a legal system which encourages their institution and permits huge damage awards, are having a chilling effect on technological innovation . . ."); O. Lee Reed & John L. Watkins, *Product Liability Tort Reform: The Case for Federal Action*, 63 NEB. L. REV. 389, 438-43 (1984) (same); Dick Thornburgh, *America's Civil Justice Dilemma: The Prospects for Reform*, 55 MD. L. REV. 1074, 1078 (1996) ("The threat of liability has significantly inhibited the product development and innovation needed to provide improved services to consumers and to assure a leadership role for our economy worldwide.").

43. Gregory Brian Butler & Brian David Miller, *Fiddling While Rome Burns: A Response to Dr. Hensler*, 75 JUDICATURE 251, 252-53 (1992) (arguing that the civil justice system causes manufacturers to desert markets where liability risks outweigh potential gains); Peter W. Huber & Robert E. Litan, *Overview*, in *THE LIABILITY MAZE*, *supra* note 32, at 2 ("[W]hen the legal costs of certain kinds of accidents are prohibitively high and unpredictable, entire sectors of enterprise shut down.")

In addition to the intuitive arguments, reform advocates rely upon a series of anecdotes of industries or products that have been crippled by product liability.<sup>44</sup> The two classic examples are vaccines and small aircraft. In the 1980s producers of both small aircraft and certain vaccines pulled out of the market or greatly reduced their output because of litigation concerns.<sup>45</sup>

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44. It is interesting just how much of the tort reform argument is built on anecdote, since one of the tort reformers' most persuasive arguments against our current system is the unpredictability of using juries to find liability and set damages in tort cases. A regular feature in these criticisms is how juries are easily swayed by anecdotes and sob stories. See, e.g., STEPHEN DANIELS & JOAN MARTIN, CIVIL JURIES AND THE POLITICS OF REFORM 5 (1995) (discussing the jury's role in tort "horror stories"); HUBER, *supra* note 18, at 41-44 (criticizing the role of the jury in complex design defect cases); OLSON, *supra* note 18, at 173-75 (decrying the jury's role in the randomness of tort litigation). Nevertheless, tort reform advocates themselves rely almost wholly on a series of opposing anecdotes to make their case. For example, Philip Howard's *The Collapse of the Common Good* does not begin with statistics showing the growth in tort litigation or its overall societal cost. See HOWARD, *supra* note 19, at 3-4; see also MARK C. RAHDERT, COVERING ACCIDENT COSTS: INSURANCE, LIABILITY, AND TORT REFORM 119-21 (1995) (noting jury sympathy with plaintiffs over defendants); Murray Mackey, *Liability, Safety, and Innovation in the Automotive Industry*, in THE LIABILITY MAZE, *supra* note 32, at 191, 201-02 (noting with disapproval the prevalence of juries in American civil trials); David E. Bernstein, *Procedural Tort Reform: Lessons from Other Nations*, 19 REGULATION 71, 73-76 (1996), available at <http://www.cato.org/pubs/regulation/reg19n1e.html> (last visited June 1, 2005) (condemning "inconsistent, almost random jury verdicts"). The Economist magazine's favorable review of Howard's book called it "a rich seam of anecdote." Common Good, Selected Reviews, <http://cgood.org/learn-reading-other-booklist-28.html> (last visited June 1, 2005). Walter Olson's *The Litigation Explosion* similarly begins with an anecdote set in a Long Island hospital. See OLSON, *supra* note 18, at 15. Years of struggling against the current tort system seem to have subconsciously imprinted the system itself on the critics. By analogy, consider George Foreman's transformation from an angry, glowering heavyweight before fighting Muhammad Ali, to the almost goofy personality that emerged years later. It was as if Ali beat his own personality into Foreman. See WHEN WE WERE KINGS (Polygram Filmed Entertainment 1996).

45. For a discussion of the vaccine problem, see John P. Wilson, *The Resolution of Legal Impediments to the Manufacture and Administration of an AIDS Vaccine*, 34 SANTA CLARA L. REV. 495, 504-45 (1994), which describes litigation over vaccines and discusses vaccine manufacturers that left the market. See also HUBER, *supra* note 18, at 156 (discussing the decrease in the number of U.S. vaccine manufacturers as a result of product liability litigation). The deleterious effects of product liability on aircraft production are featured in no fewer than three chapters in *Product Liability and Innovation*. Benjamin A. Cosgrove, *Innovation, Engineering Practice, and Product Liability in Commercial Aviation*, in MANAGING RISK, *supra*, at 113; Frederick B. Sontag, *Indirect Effects of Product Liability on a Corporation*, in MANAGING RISK, *supra*, at 68, 69; Bruce E. Peterman, *General Aviation Engineering in a Product Liability Environment*, in PRODUCT LIABILITY AND INNOVATION: MANAGING RISK IN AN UNCERTAIN ENVIRONMENT 62 (Janet R. Hunziker & Trevor O. Jones eds., 1994) [hereinafter MANAGING RISK]; see also Jack B. Weinstein, *Compensation for Mass Tort Delicts: Evolving Roles of Administrative, Criminal, and Tort Law*, 2001 U. ILL. L. REV. 947, 970 (2001) ("Private litigation may also chill scientific innovation and create high transaction costs for victims and society at large. A 1991 ALI study suggested that the tort system, combined with administrative regulation, might over-deter development of technologically complex products such as drugs, vaccines, and aircrafts [sic]."). The withdrawal

These are strange examples, however, since both the small aircraft and vaccine industries have been aided by industry-friendly federal legislation.<sup>46</sup> Further, it may be that certain types of small aircraft production should be halted. Peter Huber's aviation/innovation anecdote is both telling and humorous:

America, land of the Wright brothers, has lost even its appetite for innovation in small planes. Burt Rutan, the pioneering designer of the *Voyager*, didn't have the resources to compete with larger manufacturers, but he had a cheaper way of getting his products out into the marketplace. He sold construction plans for novel airplanes to do-it-yourselfers, *who built the planes in their garages*. But in 1985, fearful of the lawsuits that would follow if a home-built plane based on his designs crashed, he stopped selling the plans.<sup>47</sup>

Really? Someone thought that selling innovative plane designs, *to be built in someone's garage* and then flown over an unsuspecting public, was a bad idea? Even assuming the designs were safe, why would Rutan possibly believe that an innovative plane could be safely built in someone's garage? This example actually proves the rule: Product liability concerns deterred an unreasonably dangerous activity.<sup>48</sup>

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of the morning sickness drug Bendectin in the face of multiple law suits (including some finding and some denying liability) is also a classic chestnut. See Robert E. Litan, *The Liability Explosion and American Trade Performance: Myths and Realities*, in *TORT LAW AND THE PUBLIC INTEREST* 127, 145 (Peter H. Schuck ed., 1991); La Fetra, *supra* note 18, at 653. Another frequently cited example of product liability restricting a new product is Monsanto's decision "not [to] market an already patented phosphate fiber asbestos substitute because of the liability risk." W. Kip Viscusi & Michael Moore, *Rationalizing the Relationship between Product Liability and Innovation*, in *TORT LAW AND THE PUBLIC INTEREST*, *supra*, at 105, 106 [hereinafter Viscusi & Moore, *Rationalizing*]. This example, however, proves the opposite. Perhaps the marketing of a replacement product on the heels of one of the single biggest product liability disasters in history is not such a great idea. If there ever was a product that required careful vetting before public release, it would be an asbestos substitute.

46. The General Aviation Revitalization Act of 1994 imposed a national statute of repose for airline manufacturers. See Pub. L. No. 103-298, 108 Stat. 1552 (codified at 49 U.S.C. § 40101 (2000)). In 2001 Congress passed a comprehensive law governing vaccine production and payments to anyone injured by a vaccine. See Pub. L. No. 99-660, § 311, 100 Stat. 3755 (codified at 42 U.S.C. §§ 300aa-1, 300aa-11 (2000)).

47. HUBER, *supra* note 18, at 156 (emphasis added); see also VERA FOSTER ROLLO, BURT RUTAN: REINVENTING THE AIRPLANE (1991) (detailing Burt Rutan's innovative plane designs).

48. Compare Rutan's activity to the nineteenth century cases imposing strict liability upon hot air ballooning as an unusually dangerous activity. Apparently in the nineteenth century, hot air ballooning was so dangerous that it was not unusual for hot air balloons to come crashing out of the sky in cities and other populated locales. Judge Posner has a great description of the early American ballooning case *Guille v. Swan* in *Indiana Harbor Belt Railroad Co. v. American Cyanamid Co.* 916 F.2d 1174, 1176-77 (7th Cir. 1990) (discussing *Guille v. Swan*, 19 Johns. Ch.

Outside of the anecdotal evidence, the tort reformers rely on two pieces of empirical evidence. First, reformers frequently cite to a 1988 Conference Board survey's finding that more than a third of surveyed CEOs reported that product liability had a "major impact" on their businesses, and a smaller share reported abandoning a new product because of liability fears.<sup>49</sup> Marc Galanter has made short work of this data on multiple occasions.<sup>50</sup> Suffice it to say that this survey was commissioned in direct response to an earlier Conference Board survey showing little economic effect and overall improved safety.<sup>51</sup>

The second set of empirical data is much more reliable, but also harder to confidently interpret. Professors W. Kip Viscusi and Michael J. Moore<sup>52</sup> wrote three roughly contemporaneous articles between 1991 and 1993, attempting to measure empirically the correlation between product liability law and innovation.<sup>53</sup> Each article uses different measures for innovation

381 (N.Y. Ch. 1822)).

49. E. Patrick McGuire, *The Impact of Product Liability*, Conf. Board Rep. No. 908, 6-20 (1988) (showing that out of 500 United States companies, four out of ten CEOs believe that the product liability system has had a major impact on their business; half said product liability has a major impact on the competitiveness of United States firms; two-thirds expect matters to get worse).

50. See Marc Galanter, *The Life and Times of the Big Six; Or, The Federal Courts Since the Good Old Days*, 1988 WIS. L. REV. 921, 941-42 & n.79 [hereinafter Galanter, *Big Six*]; Marc Galanter, *An Oil Strike in Hell: Contemporary Legends About the Civil Justice System*, 40 ARIZ. L. REV. 717, 741-43 (1998); Marc Galanter, *Shadow Play: The Fabled Menace of Punitive Damages*, 1998 WIS. L. REV. 1, 6-8 (1998).

51. See Galanter, *Big Six*, *supra* note 50, at 942 n.79 ("[A] 1986 Conference Board survey of the risk-managers of major United States corporations . . . found that product liability impinges in a major way only on a small number of specialized firms. . . . Surprise with the sanguine response of the [survey] respondents led the Conference Board to undertake 'a broader look at the effect of product liability on overall company operations' . . ." (quoting McGuire, *supra* note 49, at v)).

52. W. Kip Viscusi is the John F. Cogan, Jr. Professor of Law and Economics at the Harvard Law School and the Director of Harvard's program on empirical legal studies. See W. Kip Viscusi, *Faculty Homepage*, Harvard Law School, <http://www.law.harvard.edu/faculty/directory/facdir.php?id=77> (last visited Apr. 1, 2005). Michael J. Moore is the Bank of America Research Professor at the University of Virginia's Darden School of Business. See Michael J. Moore, *Faculty Homepage*, Darden Graduate School of Business Administration, <http://www.darden.virginia.edu/faculty/mooremi.htm> (last visited Apr. 1, 2005). Viscusi and Moore collaborated on several articles attempting to discern an empirical relationship between product liability law and innovation. See sources cited *infra* note 53.

53. See W. Kip Viscusi & Michael Moore, *An Industrial Profile of the Links between Product Liability and Innovation*, in THE LIABILITY MAZE, *supra* note 32, at 81 [hereinafter Viscusi & Moore, *Industrial Profile*]; Viscusi & Moore, *Rationalizing*, *supra* note 45, at 105; W. Kip Viscusi & Michael Moore, *Product Liability, Research and Development, and Innovation*, 101 J. POL. ECON. 161, 161-62 (1993) [hereinafter Viscusi & Moore, *Research & Development*]. By the way, it has long been rumored that even the most successful legal scholars basically revive and regurgitate three or four ideas into different permutations over the course of their careers. Do

(research and development data,<sup>54</sup> patent, and product change data<sup>55</sup>), and measures innovation against product liability costs. All three of the articles basically reach the same conclusion: “At low product liability cost levels, increases in liability costs foster innovation. Extremely high liability costs depress innovation once the disincentive effect on new product introductions becomes dominant.”<sup>56</sup>

Viscusi and Moore admit that innovation is difficult to measure empirically.<sup>57</sup> They also admit that the fact that high liability costs deter innovation may be evidence that the product liability system actually is working.<sup>58</sup> Product liability law is supposed to inhibit the manufacture of especially dangerous products at the margin,<sup>59</sup> and presumably industries with high liability costs are especially dangerous.<sup>60</sup> These empirical studies have not proven to be showstoppers on the question of whether product liability law deters innovation. For example, Viscusi and Moore’s work has been alternatively cited in support of the proposition that product liability encourages innovation,<sup>61</sup> and, conversely, discourages

famous economists do the same thing? Read the above and make your own call.

54. See Viscusi & Moore, *Research & Development*, *supra* note 53, at 168-69.

55. See Viscusi & Moore, *Industrial Profile*, *supra* note 53, at 84-93 (using research and development data as a validity check against the patent and product development data); Viscusi & Moore, *Rationalizing*, *supra* note 45, at 115-22.

56. Viscusi & Moore, *Rationalizing*, *supra* note 45, at 123; see also Viscusi & Moore, *Industrial Profile*, *supra* note 53, at 114 (“Tort liability does, however, have safety incentive effects. Higher levels of liability costs usually increase product-related research and development. However, extremely high levels of liability dampen innovation as firms reduce their focus on new product development.”). Viscusi & Moore, *Research & Development*, *supra* note 53, at 182-83, has a slightly darker take on the correlation: “Product liability costs increase product R & D intensity initially, but the effect eventually becomes negative.”

57. See, e.g., Viscusi & Moore, *Research & Development*, *supra* note 53, at 167-68 (finding that although the different components of the innovation process—safety innovations and product novelty—may respond differently to increasing liability costs, they cannot be isolated empirically to distinguish the competing effects).

58. See Viscusi & Moore, *Industrial Profile*, *supra* note 53, at 82 (“[Product liability law] should lead to the development of safer products and, in some cases, the discontinuation of research on very risky new products.”); Viscusi & Moore, *Rationalizing*, *supra* note 45, at 106 (“An effective liability system should lead to some withdrawal of products, [and] decreased product introductions . . .”).

59. Cf. POSNER, *supra* note 41, at 182-83 (describing how product liability law raises the price of more dangerous products on average, and causes consumers to choose safer products).

60. Of course, this is exactly where tort reform advocates (and probably Viscusi and Moore) object. Tort reformers love the vaccine and small aircraft anecdotes precisely because the high liability costs of these products seem undeserved.

61. See Daniel J. Capra, ‘An Accident and a Dream:’ *Problems with the Latest Attack on the Civil Justice System*, 20 PACE L. REV. 339, 358 & n.107 (2000) (citing Viscusi & Moore, *Rationalizing*, *supra* note 45) (arguing that “W. Kip Viscusi and Michael J. Moore are two respected researchers who also conclude that liability lawsuits do not stifle the development of better and safer products”); Marc Galanter, *Real World Torts: An Antidote to Anecdote*, 55 MD. L.



innovation.<sup>62</sup>

Nor has the battle of the anecdotes proven to be very satisfactory. Defenders of product liability have a simple in-kind response to the examples of small aircraft or orphan drugs: Take a walk through your local grocery store, or Home Depot, or CompUSA and decide whether you think the tort system has crippled innovation in today's economy.<sup>63</sup> This is, by definition, unscientific, but the sheer volume of new and better products alone makes one question any negative correlation between product liability law and innovation.<sup>64</sup>

Even the defenders of the current system, however, basically balance enhanced safety against any other loss of innovation as a result of product liability.<sup>65</sup> When they say product liability law may encourage innovation, they mean safety innovations.<sup>66</sup> My thinking on playground design has led me to make a broader claim: The firms that reacted to product liability by broadly rethinking and redesigning their dangerous products did more than increase safety, they actually created better, more innovative products across the board.<sup>67</sup>

REV. 1093, 1147 & n.217 (1996) (citing Viscusi & Moore, *Rationalizing*, *supra* note 45) (arguing that an "analysis by W. Kip Viscusi and Michael J. Moore found that product liability actually had a positive net effect on innovation").

62. Viscusi himself has used his research to support various product liability reforms. See W. Kip Viscusi, *Product and Occupational Liability*, 5 J. ECON. PERSP. 71, 88-89 (1991) (arguing that product liability law chills innovation and relying partially on previous empirical work); W. Kip Viscusi, *The Social Costs of Punitive Damages Against Corporations in Environmental and Safety Torts*, 87 GEO. L.J. 285, 325-27 (1998) (using his previous empirical work to argue that punitive damages discourage innovation).

63. These comparisons may be between apples and oranges, however: Vaccines and airplanes clearly are more complex products than most consumer goods.

64. See RAHDERT, *supra* note 44, at 161 ("The rapid proliferation of new products and services in our economy is ample evidence that stagnation due to tort liability is the exception, not the rule."); Peck et al., *supra* note 35, at 441-42 (same).

65. See Mary L. Lyndon, *Tort Law and Technology*, 12 YALE J. ON REG. 137, 148-70 (1995) (arguing for the importance of broad research and development on potential product dangers and asserting that the current product liability system provides the best safety incentives); Peck et al., *supra* note 35, at 441 ("While other commentators, especially Peter W. Huber, have suggested that liability discourages innovation . . . others recognize that tort liability does have safety incentive effects.").

66. See Peck et al., *supra* note 35, at 441.

67. Now seems like an appropriate time to respond to the inevitable complaint that my Article adds nothing more than additional intuitive stories and anecdotes to this debate. Any skeptical reader has howled by now: "This is all anecdotal! There is nothing empirical here! This is no argument at all." I have two responses. First, the entire academic study of innovation and product liability has been almost entirely anecdotal. In fact, if W. Kip Viscusi and Michael J. Moore had never been born, I would feel comfortable claiming that there are no true empirical studies in the area at all. I therefore feel supremely confident positing my anecdotes and intuitive arguments against my detractors. Since we are neighbors in glass houses we should get along very well. Second, as noted above, even the attempts at measuring innovation empirically are rough

## II. THE “Y2K EFFECT,” SCHUMPETERIAN ECONOMICS, AND THE INNOVATIVE EFFECTS OF POTENTIALLY CRIPPLING DISASTERS

In a market economy, innovative firms will react to foreseen business liabilities by turning lemons into lemonade: They will find ways to address liabilities that also increase overall efficiency, or product quality, or both. Assuming all competing firms in the market are equally affected by the foreseen liability, it will be the firms that most successfully innovate that will thrive. This Part explains how product liability law actually fosters innovation in certain circumstances.<sup>68</sup> I use the “Y2K crisis” and its aftermath as a case study and supporting evidence.<sup>69</sup>

I choose the Y2K crisis as an apt comparison to the product liability revolution for several reasons. First, both Y2K and the change in product liability law were generally known to businesses in advance of any direct impact on the balance sheet.<sup>70</sup> Some Y2K problems occurred before the year 2000, and some liability costs were paid out as the law expanded, but in both circumstances, most businesses and the government were acting in advance of foreseen potential financial hardships. The Y2K problem, and its subsequent positive effect on the economy, has thus been studied as a model of innovative businesses taking a foreseen liability and turning it into a large benefit.<sup>71</sup>

Second, the Y2K experience shows how counter-intuitive trends in innovation and in the economy can be. The predictions for the Y2K disaster ranged from a full-on biblical apocalypse, to an international computer network meltdown.<sup>72</sup> Even the more sanguine commentators

approximations and come to no hard conclusions. *See supra* note 57 and accompanying text. Since the empirical data is not conclusive, I feel fine about engaging in some anecdotal speculation.

68. I use the phrase “certain circumstances” here because I think that both sides of the tort reform debate tend to overstate the effects (positive or negative) of product liability law. *See supra* note 35 and accompanying text. Here, “certain circumstances” exist when litigation or safety concerns are significant enough to cause a substantial product redesign.

69. I put the term “crisis” in quotes because in retrospect, the entire Y2K problem was overblown. For an overview of what the Y2K problem was, see, for example, MARK A. KELLNER, *Y2K: APOCALYPSE OR OPPORTUNITY* (1999).

70. Y2K required businesses to replace defective hardware and software before the year 2000. *See id.* The products liability revolution did not include a looming deadline, but manufacturers knew ahead of time that liability for injury-causing products was expanding rapidly, and a new focus on safety, testing, and warnings would be necessary.

71. *See, e.g.,* Mark C. Anderson et al., *Y2K Spending by Entrepreneurial Firms*, 20 J. ACCT. & PUB. POL’Y 323 (2001) (analyzing the spending practices of firms on information technology (IT) applications in the context of the Y2K situation and studying these practices from the viewpoint of the evolutionary economics of Joseph A. Schumpeter); Jonathan Story & Robert J. Crawford, *Y2K: The Bug That Failed to Bite*, 3 BUS. & POL. 269 (2001) (studying Y2K as an example of global business practices).

72. *See, e.g.,* KELLNER, *supra* note 69, at 43-56 (1999) (business meltdown); Barnaby J.

estimated stunning costs to repair the potential Y2K difficulties, and the possibility of a Y2K fueled recession.<sup>73</sup> The Y2K recession theory was based on the sheer size of the remedial efforts, the transfer of information technology (IT) resources to Y2K compliance, and the possibility of mass computer failures on January 1, 2000.<sup>74</sup> Intuitively, these predictions made perfect sense: Every dollar spent on remediating the Y2K problem was a dollar diverted from other information technology or research and development uses.

Of course, those who predicted a Y2K recession were completely wrong. Not only were they wrong technically (there were not worldwide computer meltdowns), they were wrong theoretically. The expense of fixing the Y2K problem turned out to be a tremendous benefit for the economy instead of a detriment. Many companies responded to Y2K by reassessing and redesigning their IT functions rather than simply patching their existing software and hardware.<sup>75</sup> Instead of a Y2K recession, Y2K helped usher in a productivity boom.<sup>76</sup>

Feder & Andrew Pollack, *World Prepares for Possible Y2K Glitches*, TIMES-PICAYUNE (New Orleans), Dec. 27, 1998, at 22A (same); Videotape: Y2K Chaos (Ed Wheeler, The Prophecy Club 1998) (Y2K video suggesting a biblical apocalypse).

73. The Y2K cost predictions ranged from \$600 billion to \$1.6 trillion. See EDNA FERGUSON REID, *WHY 2K?: A CHRONOLOGICAL STUDY OF THE (Y2K) MILLENNIUM BUG 2-3* (1999). For a Y2K recession prediction, see ROBERT G. LOGAN, *DOUBLE WHAMMY: Y2K AND THE COMING RECESSION 15-40* (1999); Bradley D. Belt, *Y2K: A Global Ticking Time Bomb?*, CSIS CAPITAL MARKETS, June 23, 1998, <http://www.csis.org/html/cm062398.html>.

74. The leading economist on this front was Deutsche Bank's Edward Yardeni. See James Glassman, *The Apocalypse When?*, DENVER POST, Dec. 6, 1998, at H2 ("Edward Yardeni of Deutsche Bank Securities sees the Y2K problem causing a recession that will cut gross domestic product by 5 percent over two years and send stocks down 30 percent."). Based on his career trajectory, it appears that his mistaken analysis may have proven at least somewhat costly. Mary Beth Regan, *Ticking Down to the Millennium Bug, How Ready Are We?*, ATLANTA J. CONST., Dec. 20, 1998, at R1 ("Today, the Y2K computer problem is devouring 60 percent of the world's information technology resources. And the price tag for fixing Y2K glitches is expected to surpass \$1.2 trillion worldwide. Economists don't agree on the implications of the resource drain, but at least one prominent economist, Edward Yardeni, chief economist at Deutsche Banks Securities Inc. in New York, has put chances of the Y2K bug causing a global recession at 70 percent."); see also Carolyn Leitch, *Y2K Predictor Changes Jobs*, GLOBE & MAIL, Sept. 8, 2004, at B15 (announcing Yardeni's move from Wall Street to a firm in Akron, Ohio).

75. See U.S. S. SPEC. COMM. ON THE YEAR 2000 TECH. PROBLEM, 106TH CONG., REPORT ON Y2K AFTERMATH—CRISIS AVERTED, 17-18 (Comm. Print 2000), available at <http://www.senate.gov/~y2k/documents/final.pdf> [hereinafter Y2K AFTERMATH]. Interestingly, if these companies had simply patched their existing hardware and software the Y2K remediations likely would have been a disaster. A great deal of time and money would have been spent with no concomitant productivity growth. See *id.*

76. See, e.g., Roger W. Ferguson, Jr., Vice-Chairman, Bd. of Governors of Fed. Reserve Sys., Speech at the Stockton Lectures, London Business School, (Oct. 24, 2002), in *Productivity Growth—A Realistic Assessment*, Bank for International Settlements Review, available at <http://www.bis.org/review/r021028e1.pdf> (noting the potential connection between Y2K and the

Economist Chris Farrell offers a pithy explanation of the discrepancy between what economists and others thought would happen, and what actually did happen:

Economists initially looked at Y2K as a productivity killer. Imagine a town threatened by a rising river. Every able-bodied person in town is put to work stacking sandbags. It's necessary work to save the town, but it's unproductive work. Nothing gets built. No food gets grown.

With the Y2K bug, programmers, chief information officers, project managers, and other digital workers were getting paid to do unproductive work. In other words, stacking sandbags of silicon. No innovative investments. No new productivity enhancing software.

But economists were wrong. Y2K wasn't a flood.

Think of what happened as clearing a path choked with underbrush.

Once the trail is open, it's much easier to zip from point A to point B. Y2K gave companies an excuse to clean up their software and hardware underbrush. That's a critical factor in today's improved business productivity.<sup>77</sup>

I call this the "Y2K effect," when expenditures to avert a potential business liability result in unexpected benefits.<sup>78</sup>

There are three lessons to take away from the Y2K effect that are directly applicable to product liability. The first is to be careful in assessing costs and benefits of remediation efforts *ex ante*, because the costs frequently are much easier to estimate than the benefits. In the case of Y2K, it was easy to extrapolate the costs ahead of time: billions had to be spent to deal with date protocols in defective hardware and software.<sup>79</sup>

productivity acceleration that occurred in the late 1990s).

77. See Chris Farrell, *The Costs of Y2K, The Surprising Legacy of Y2K*, available at <http://americanradioworks.publicradio.org/features/y2k/b2.html> (last visited Apr. 1, 2005). For a much less pithy explanation making the same point, see Kevin L. Kliessen, *Was Y2K Behind the Business Investment Boom and Bust?*, FED. RES. BANK OF ST. LOUIS REV., Jan./Feb. 2003, at 31, 37-41; cf. Robert J. Gordon, *Technology and Economic Performance in the American Economy* 41 Nat'l Bureau of Econ. Research, Working Paper No. 8771, 2002 (noting the acceleration in IT spending from 1995-2000 and its effect on productivity).

78. This Y2K effect actually was noted by some IT professionals immediately before the year 2000. See Michael W. Bucken, *Y2K Aftermath Should be a Boon to Users*, APPLICATION DEV. TRENDS, Feb. 1999, at 8 (arguing, before Y2K occurred, that IT spending on Y2K would have substantial efficiency benefits); Lawrence A. Gordon & Martin P. Loeb, *The Y2K Boon to IS and Business*, 16 INFO. SYS. MGMT. 57 (1999) (same). But see Stephanie Schmitt-Grohé & Martín Uribe, *Y2K*, 2 REV. ECON. DYNAMICS 850 (1999) (arguing that Y2K would cripple IT spending based on a more pessimistic cost model).

79. Of course, even the cost predictions varied wildly. See Leon A. Kappelman, *The* Published by UF Law Scholarship Repository, 2006

The benefits, however, were much harder to predict because they depended on the reactions of innumerable firms, their willingness to do more than simply fix the narrow problem, and projections of potential productivity gains. In such a situation we can expect that prognosticators will systematically overestimate costs and underestimate benefits.<sup>80</sup>

The cost/benefit estimation problem is, if anything, more pronounced in the product liability area, where costs (damages awards, legal fees, product redesigns) are much easier to measure than the benefits (injuries averted, improved safety).<sup>81</sup> More cynically, in a politically charged atmosphere the costs of product liability are easy to overstate and manipulate, and the benefits easy to dismiss.<sup>82</sup>

Second, out of sheer inertia, outmoded technology, hardware, and business practices frequently linger on well beyond their “expiration date.” The Y2K problem actually was a result of programmers in the 1970s and 1980s assuming their programs and hardware would never last until the year 2000.<sup>83</sup> As the post-Y2K boom has shown, these programmers were right in principle—this IT never should have lasted that long. It took a major problem like Y2K to force a change.<sup>84</sup> Similarly, the product liability revolution, and the concurrent societal focus on safety issues, has brought about the redesign and replacement of a number of dangerous products that remained on the market out of sheer inertia. Playgrounds are one example, but it is also worth considering the safety advances in multiple other products.<sup>85</sup>

*Economics of Y2K: Questions and Answers*, 17 COMPUTER LAW. 11, 11-12 (2000) (comparing cost predictions to actual costs); Y2K AFTERMATH, *supra* note 75, at 11-12 (discussing the various final cost estimates for Y2K).

80. This, of course, raises the broader issue of carefully checking our intuition against the actual facts on the ground. Throughout this Article I have noted situations where economic predictions have been based on extremely persuasive intuitive stories, only to fail when placed against actuality. If economic projections were easy and intuitive there would be more billionaire economists. Cf. NICHOLAS DUNBAR, *INVENTING MONEY: THE STORY OF LONG-TERM CAPITAL MANAGEMENT AND THE LEGENDS BEHIND IT* (2000) (telling the story of the disastrous crash of a hedge fund Long-Term Capital Management (LTCM), which was founded by two Nobel Prize-winning economists, Robert C. Merton and Myron Scholes); ROGER LOWENSTEIN, *WHEN GENIUS FAILED: THE RISE AND FALL OF LONG-TERM CAPITAL MANAGEMENT* (2000) (same).

81. For a great example of an effort to balance the costs and benefits in the medical malpractice system, see generally Gary T. Schwartz, *Reality in the Economic Analysis of Tort Law: Does Tort Law Really Deter?*, 42 UCLA L. REV. 377 (1994).

82. For an argument that the costs of the current tort system have been overstated, see Marc Galanter, *supra* note 61, at 1140-43 (1996).

83. Feder & Pollack, *supra* note 72, at 22A.

84. See *supra* note 77 and accompanying text.

85. Crib design is a great example. When my wife and I began shopping for cribs, I was amazed to learn that former designs included gaps between the slats wide enough to allow a baby to push her head through the bars and get stuck. See Women’s Health, Nursery Furnishings, [http://womenshealth.aetna.com/WH/ih/WH/r\\_WSIHW000/st.36127/t.50902.html](http://womenshealth.aetna.com/WH/ih/WH/r_WSIHW000/st.36127/t.50902.html) (recommending

Third, never underestimate the capacity of entrepreneurial firms to turn lemons into lemonade. Foreseen business liabilities offer entrepreneurial firms the opportunity to rethink, redesign, and generally out-innovate their competitors.<sup>86</sup> The Y2K remediation resulted in new and improved IT instead of a global recession.<sup>87</sup> In some sectors the product liability revolution has likewise spurred an overall reevaluation and redesign, which resulted in increased safety<sup>88</sup> and better products overall.<sup>89</sup>

### A. Schumpeterian Economics, Entrepreneurship, and Innovation

My argument about the behavior of innovative firms matches a great

only using cribs designed after 1985 and that if an older crib is used, the “[c]rib slats should be no more than 2 3/8 inches (60 millimeters) apart to avoid trapping the infant’s head.”). Anyone who has ever seen a curious or angry baby in a crib can foresee a baby jamming her head through the bars of a crib. As my Mom once said: “It’s like a prison in there, and it is all bets off for escape.” Given this foreseeability, there was no excuse for producing cribs with wider slats. Yet, these designs remained on the market until the mid-1980s. *See id.* Cars are another fine example. There were many more automotive safety advances between 1960 and 2005 than in the preceding sixty-odd years of automotive history combined. For example, seat belts were not standard equipment in cars until the mid-1960s. *See Note, Oklahoma and the Seat Belt Defense: Should Fields be Reconsidered?*, 10 OKLA. CITY U. L. REV. 153, 157 (1985) (noting that seatbelts were standard equipment as of 1966).

86. Of course some liabilities will be too great for any business to overcome (the avalanche of lemons scenario). It is interesting to note, however, that even the tort reform advocates have relatively few examples of business sectors flatly crushed, or even products pulled off the market by the change in product liability law. *Cf. supra* text accompanying notes 44-51.

87. *See supra* note 77 and accompanying text.

88. *See generally* GEORGE EADS & PETER REUTER, *DESIGNING SAFER PRODUCTS: CORPORATE RESPONSES TO PRODUCT LIABILITY LAW AND REGULATION* (1983) (examining how firms have responded to increased pressure to produce safe products).

89. Of course, measuring exactly what “better” means, especially vis-à-vis concrete costs, is quite difficult. The difficulty in quantifying changes in quality is a problem recognized by economists. *See, e.g.*, ADVISORY COMMISSION TO STUDY THE CONSUMER PRICE INDEX, *TOWARD A MORE ACCURATE MEASURE OF THE COST OF LIVING*, 18-38 (1996) (criticizing the Consumer Price Index (CPI) and specifically noting the problem with “quality change bias”); Richard D. Raymond, *Potential Bias in the Estimation of Future Medical Care Costs: Empirical and Conceptual Issues*, 8 J. LEGAL ECON. 41, 44-46 (1998) (describing “quality change bias” and the problem of dealing with quality changes in the construction of a price index and explaining that “[t]o the extent that the CPI overweights mature products and underweights new products it will tend to have an upward bias”). The CPI measures the prices of products over time, but has a difficult time measuring changes in quality. *See id.* For example, the price of a refrigerator has risen over time (and that change is measured by the CPI). Current refrigerators also are vastly superior to older refrigerators. They break down less frequently, are better designed, and even are better looking. These changes in quality are quite difficult to capture as a matter of dollars and cents. *See* Robert J. Gordon & Zvi Griliches, *Quality Change and New Products*, 87 AM. ECON. REV. 84, 84-87 (1997); Paul R. Liegey & Nicole Shepler, *Adjusting VCR Prices for Quality Change: A Study Using Hedonic Methods*, MONTHLY LABOR REV., Sept. 1999, at 22 (noting difficulties in measuring changes in quality, and attempting to do so for VCRs).

deal of scholarly thought on the productivity boom, the “new economy,” and the powerful economic effects of entrepreneurship. At the forefront of this scholarship is a reawakening of interest in the economic theories of Joseph A. Schumpeter.<sup>90</sup> Schumpeter is best known for his theories of business cycles, and a process he dubbed “Creative Destruction.” Schumpeter rejected a static model of economic activity and argued that markets were best understood as a roil of change, revolution, and creative destruction as new firms and technologies displaced the old.<sup>91</sup> Schumpeter’s theories often are cited as fundamental to the modern study of evolutionary economics<sup>92</sup> and entrepreneurship.<sup>93</sup>

For our purposes, a key nugget from Schumpeter’s work is the role of entrepreneurs in the process of creative destruction. The firms that survive and excel in times of technological change or business disruptions are those that adapt and reorganize around the changed circumstances most efficiently.<sup>94</sup> Schumpeter’s work on entrepreneurship also was

90. Joseph Alois Schumpeter was an Austrian economist (and a lawyer) who emigrated to the United States permanently in the 1930s to teach at Harvard University. See DAVID REISMAN, *SCHUMPETER’S MARKET: ENTERPRISE AND EVOLUTION* 4-20 (2004) (providing a compressed discussion of Schumpeter’s life and work). For a full-on biography, see WOLFGANG F. STOLPER, *JOSEPH ALOIS SCHUMPETER* (1994). Regarding the “new economy” and the recent reawakening of interest in Schumpeter’s work, see, for example, Richard A. Posner, *Antitrust in the New Economy*, 68 *ANTITRUST L.J.* 925, 930 (2001) (“The gale of creative destruction that Schumpeter described, in which a sequence of temporary monopolies operates to maximize innovation that confers social benefits far in excess of the social costs of the short-lived monopoly prices that the process also gives rise to, may be the reality of the new economy.”).

91. See JOSEPH A. SCHUMPETER, *CAPITALISM, SOCIALISM, AND DEMOCRACY* 83 (3d ed. 1950) (“The opening up of new markets . . . illustrate[s] the same process of industrial mutation—if I may use that biological term—that incessantly revolutionizes the economic structure *from within*, incessantly destroying the old one, incessantly creating a new one. This process of Creative Destruction is the essential fact about capitalism.”). See generally MARIA BROUWER, *SCHUMPETERIAN PUZZLES: TECHNOLOGICAL COMPETITION AND ECONOMIC EVOLUTION* (1991) (discussing Schumpeterian economics in relation to creativity and change).

92. See Hyman P. Minsky, *Schumpeter: Finance and Evolution*, in *EVOLVING TECHNOLOGY AND MARKET STRUCTURE: STUDIES IN SCHUMPETERIAN ECONOMICS* 51, 60-65 (Arnold Heertje & Mark Perlman eds., 1990) (discussing Schumpeter, entrepreneurial finance, and economic evolution); Wolfgang F. Stolper, *Development: Theory and Empirical Evidence*, in *EVOLUTIONARY ECONOMICS* 9, 9-22 (Horst Hanusch ed., 1988) (noting the centrality of Schumpeter and the “International Schumpeter Society” to the study of evolutionary economics).

93. See generally ELIZABETH BOYLE & STEPHEN MEZIAS, *ORGANIZATIONAL DYNAMICS OF CREATIVE DESTRUCTION: ENTREPRENEURSHIP AND THE EMERGENCE OF INDUSTRIES* (2002) (applying Schumpeter’s theories of creative destruction and entrepreneurship to the new study of organizational dynamics); ALLEN OAKLEY, *SCHUMPETER’S THEORY OF CAPITALIST MOTION: A CRITICAL EXPOSITION AND REASSESSMENT* 110-21 (1990) (discussing applications of Schumpeter’s theories of entrepreneurship).

94. Some of these disruptions are the result of entrepreneurial activity itself (endogenous), and some come from outside the market (exogenous). See Sandye Gloria-Palermo, *Schumpeter and the Old Austrian School: Interpretations and Influences*, in *THE CONTRIBUTION OF JOSEPH*

groundbreaking because of its focus on the entrepreneur's psychological profile.<sup>95</sup>

There also has been an increased empirical focus on entrepreneurs recently, and Schumpeter's vision of a bold, inveterate risk-taker has been well corroborated. Entrepreneurs have been found to be less risk-averse than average,<sup>96</sup> over optimistic,<sup>97</sup> and motivated as much by a desire to revolutionize their market niche as by profits.<sup>98</sup>

SCHUMPETER TO ECONOMICS 21, 25 (Richard Arena & Cecile Dangel-Hagnauer eds., 2002). The reaction of entrepreneurs to disruptions is the key to Schumpeter's system. Schumpeter's entrepreneurs are unusual, risk-seeking individuals with a special quality, driven by "the dream and the will to found a private kingdom." JOSEPH A. SCHUMPETER, *THE THEORY OF ECONOMIC DEVELOPMENT* 93 (Redvers Opie trans., Oxford Univ. Press 1961) (1934) [hereinafter SCHUMPETER, *ECONOMIC DEVELOPMENT*]; see also Richard Arena & Paul-Marie Romani, *Schumpeter on Entrepreneurship*, in *CONTRIBUTION OF JOSEPH SCHUMPETER TO ECONOMICS*, *supra*, at 169-79 (exploring institutional applications of the Schumpeterian entrepreneur); Joseph A. Schumpeter, *The Creative Response in Economic History*, 7 *J. ECON. HIST.* 149 (1947) (describing the characteristics of creative response and explaining the function of the entrepreneur, the theories of entrepreneurial gains, and the social impact of entrepreneurship).

95. Schumpeter does not simply describe the entrepreneur in terms of his effect upon the economy; instead Schumpeter spends significant time discussing the entrepreneur's emotions and motivations: The entrepreneur is motivated by "the will to conquer: the impulse to fight, to prove oneself superior to others, to succeed for the sake . . . of success itself." See SCHUMPETER, *ECONOMIC DEVELOPMENT*, *supra* note 94, at 92-93; Andre Legris, *On the Boundaries Between Economic Analysis and Economic Sociology*, in *CONTRIBUTION OF JOSEPH SCHUMPETER TO ECONOMICS* 89, 99-103 (describing Schumpeter's treatment of entrepreneurs and institutions). For criticisms of Schumpeter's "heroic entrepreneur," see MARIA BROUWER, *SCHUMPETERIAN PUZZLES: TECHNOLOGICAL COMPETITION AND ECONOMIC EVOLUTION* 51-53 (1991).

96. See, e.g., Richard E. Kihlstrom & Jean-Jacques Laffont, *A General Equilibrium Entrepreneurial Theory of Firm Formation Based on Risk Aversion*, 87 *J. POL. ECON.* 719, 719 (1979).

97. See Manuel A. Utset, *Reciprocal Fairness, Strategic Behavior & Venture Survival: A Theory of Venture Capital-Financed Firms*, 2002 *WIS. L. REV.* 45, 100-07 (detailing literature and studies concerning entrepreneurial/over optimism). This overoptimism means that entrepreneurs who tend to rank their own competence at higher levels are more likely to succeed. See Gaylen N. Chandler & Erik Jansen, *The Founder's Self-Assessed Competence and Venture Performance*, 7 *J. BUS. VENT.* 223 (1992); Arnold C. Cooper et al., *Entrepreneurs' Perceived Chances for Success*, 3 *J. BUS. VENT.* 97, 106 (1988) (conducting an empirical study that found that "[e]ntrepreneurs perceive their prospects for success as substantially better than those for similar businesses"). A number of studies also have shown that entrepreneurs tend to interpret facts more optimistically than do non-entrepreneurs. See Leslie E. Palich & D. Ray Bagby, *Using Cognitive Theory to Explain Entrepreneurial Risk-Taking: Challenging Conventional Wisdom*, 10 *J. BUS. VENT.* 425, 426 (1995) ("[E]ntrepreneurs perceive[d] more strengths versus weaknesses, opportunities versus threats, and potential for performance improvement versus deterioration.").

98. Cf. Donald D. Myers & Daryl J. Hobbs, *Technical Entrepreneurs—Are They Different?*, in *FRONTIERS OF ENTREPRENEURIAL RESEARCH* 1986, 659, 670 (Robert Ronstadt et al. eds., 1986) (finding in a survey of more than 1,000 entrepreneurs or individuals who showed interest in entrepreneurship that 62.2% strongly agreed with the proposition that as an entrepreneur, you can better control outcomes in your life); Thomas M. Begley & David P. Boyd, *Psychological*



These characteristics are of particular interest to our study, because risk-taking entrepreneurs generally are less affected by fear of litigation or failure.<sup>99</sup> This helps explain two trends. First, it helps explain why the product liability revolution actually has had a relatively circumscribed effect on innovation across the economy. Simply put, both the opponents and proponents of tort reform tend to frame their arguments as if the current system has a powerful sway over all aspects of the economy.<sup>100</sup> While there is certainly empirical evidence to support the notion that liability concerns matter,<sup>101</sup> there also is substantial evidence that the actual effect on corporate decision-makers is relatively slight.<sup>102</sup>

Second, it helps explain why those areas of the market that have been more concerned with liability (drug manufacturing, product manufacturing for children) have not hung their heads and given up. In the face of increased liability, these industries have redoubled their efforts at innovation.<sup>103</sup>

*Characteristics Associated with Performance in Entrepreneurial Firms and Smaller Businesses*, 2 J. BUS. VENT. 79, 81-82 (1987) (citing studies); James W. Carland et al., *Differentiating Entrepreneurs from Small Business Owners: A Conceptualization*, 9 ACAD. MGMT. REV. 354, 356 tbl.1 (1984) (same).

99. Cf. RITA GUNTHER MCGRATH & IAN MACMILLAN, *THE ENTREPRENEURIAL MINDSET: STRATEGIES FOR CONTINUOUSLY CREATING OPPORTUNITY IN AN AGE OF UNCERTAINTY* 1-21 (2000) (describing the entrepreneurial mindset and making light of risk potential); REISMAN, *supra* note 90, at 1 (“Entrepreneurship is the propensity to pioneer new initiatives behind a veil of unknowledge so thick that it conceals the competition, the bad luck and the shipwreck.”).

100. The tort system’s defenders point to increased safety and fairness across the entire economy, while tort reformers describe a system that is choking the economy as a whole. Compare Capra, *supra* note 61, at 343-408, with La Fetra, *supra* note 18, at 646-54. For a discussion of how opponents and supporters of punitive damages differ over the impact of punitive damages on corporate behavior, see Steven R. Salbu, *Developing Rational Punitive Damages Policies: Beyond the Constitution*, 49 FLA. L. REV. 247, 250-60 (1997).

101. Consider the 1988 Conference Board survey’s findings on the consequences of the product liability system on management and operations. See McGuire, *supra* note 49, at 17-20 (reporting that product liability concerns have negatively affected introduction of products, production of certain products, product research efforts, and product innovation).

102. Compare the Conference Board’s 1986 survey to the 1988 survey cited above. See Nathan Weber, *Product Liability: The Corporate Response*, The Conference Board Report No. 893, at 2 (1987) (“The [survey’s] most striking finding is that the impact of the liability issue seems far more related to rhetoric than to reality.”); cf. Joseph Bankman, *The Structure of Silicon Valley Start-Ups*, 41 UCLA L. REV. 1737, 1747-49 (1994) (arguing that empirical analysis indicates that venture capitalists and entrepreneurs in Silicon Valley start-ups, surely high-risk ventures, operate in almost complete oblivion of taxation issues).

103. See Viscusi & Moore, *Industrial Profile*, *supra* note 53, at 94-98, 106-13 (discussing the drug industry (among others) and noting that despite high liability costs, its liability innovation ratio remained below the threshold where liability has a negative effect on research and development). It is worth noting, however, that Viscusi and Moore did find that the liability costs of aircraft manufacture were sufficiently high to fall above the negative correlation threshold (the avalanche of lemons scenario). See *id.* at 113.

### B. *The Calabresian Argument that Manufacturers Are the Most Capable of Reacting Entrepreneurially to Unsafe Products*

A focus upon the entrepreneurial nature of American business<sup>104</sup> offers a modified Calabresian defense for the product liability system.<sup>105</sup> In *The Costs of Accidents* and in a series of law review articles, Guido Calabresi offered his famous justification for strict liability over negligence in the area of product liability: the cost of accidents should be shifted to the “cheapest cost avoider,” rather than worrying about fault.<sup>106</sup> This places the economic safety incentive where it can make the greatest difference.<sup>107</sup> Since the cheapest cost avoider in a complex industrialized society generally is the manufacturer or seller (because they have the most concentrated information), strict product liability best serves societal interests.<sup>108</sup>

By comparison, the Y2K effect suggests that we should consider more than just the cheapest cost avoider; we should shift the costs of safety to the party most likely to respond to safety incentives entrepreneurially. In a Schumpeterian economy of entrepreneurial firms, we expect companies to turn lemons into lemonade. In the realm of product liability, we expect companies to use a safety redesign caused by fear of litigation (or actual litigation) as an opportunity to design products that are not only safer, but

104. See FINANCING ENTREPRENEURS 31-43 (Cynthia A. Beltz ed., 1994) (arguing that the abundance of venture capital and an entrepreneurial mindset are part of the United States’ considerable economic advantage); Myers & Hobbs, *supra* note 98, at 241-43 (same).

105. Jargon-haters beware. I am just about to use “Calabresian” and “Schumpeterian” together in the next paragraph. Live with it.

106. For the original and most comprehensive statement of the argument, see GUIDO CALABRESI, *THE COST OF ACCIDENTS* 135-73, 260-63 (1970). For shorter and clearer statements, see Guido Calabresi & A. Douglas Melamed, *Property Rules, Liability Rules, and Inalienability: One View of the Cathedral*, 85 HARV. L. REV. 1089, 1096-1109 (1972) (arguing that considerations of economic efficiency require placing the costs of accidents “on the party or activity which can most cheaply avoid them”), and Guido Calabresi & Jon T. Hirschoff, *Toward a Test for Strict Liability in Torts*, 81 YALE L.J. 1055, 1060 (1972) (“The strict liability test we suggest does not require that a government institution make . . . a cost-benefit analysis. It requires . . . only a decision as to which of the parties to the accident is in the best position to make the cost-benefit analysis between accident costs and accident avoidance costs and to act on that decision once it is made. The question for the court reduces to a search for the cheapest cost avoider.”). Obviously, Calabresi’s views have been controversial. Peter Huber, in particular, has laid much of the blame for the tort crisis on Calabresi. See PETER W. HUBER, *GALILEO’S REVENGE* 10-23 (1991). It also may be that any Calabresian defense is inapplicable to current law because current product liability law more closely resembles negligence than strict liability. See *supra* note 33 and accompanying text.

107. See CALABRESI, *supra* note 106, at 155.

108. See, e.g., Calabresi & Melamed, *supra* note 106, at 1096-1109 (stating that strict product liability benefits society because the cheapest cost avoider usually is the manufacturer or seller).

substantively better. The Calabresian approach is thus amended to include the possibility that the product liability system can encourage more than just increased safety; it can offer incentives to redesign and revolutionize whole product classes.

### III. PLAYGROUND DESIGN—A CASE STUDY

I chose playground design as a case study of my product liability/innovation theory for two main reasons. First, the change in American playgrounds over the last thirty years has been so marked that it presents a stark example of a product that has been radically altered by safety concerns and product liability. Second, tort reformers have seized upon playground design as support for their vision of a legal system gone mad, and I find the challenge of a point/counterpoint irresistible.<sup>109</sup>

There are, however, some good reasons not to choose playground design. It is not a pure product liability example, since plaintiffs frequently sue the government entity providing the playground instead of, or in addition to, the manufacturer/designer.<sup>110</sup> Further, the fact that the government is the purchaser of public playground equipment may distort the market somewhat. Despite these irregularities, I think the strengths outweigh the weaknesses.

Tort reformers tell a very simple playground design story. Kids loved seesaws and the traditional playground. Despite the children, evil plaintiffs' lawyers and nanny-staters have stripped playgrounds of their equipment and have diluted and wimpified the national identity.<sup>111</sup> I want to tell the opposite story: The old playgrounds were unfun deathtraps that have been thankfully replaced by immensely more amusing and safer playgrounds.

Unfortunately for both of us, the actual facts of the change in American

109. There also is a third, more selfish, reason: I am more interested in playground design than the other products I could have chosen. Believe it or not, I get paid to think and write about this sort of stuff. Thank you ABA and AALS! See ABA STANDARD FOR APPROVAL OF LAW SCHOOLS 402 (2005), available at <http://www.abanet.org/legaled/standards/chapter4.html> (requiring "a sufficient number of full-time faculty" and defining full time faculty as "one [who] . . . devotes substantially all working time during the academic year to [teaching and legal scholarship]"); BYLAWS OF THE ASSOCIATION OF AMERICAN LAW SCHOOLS § 6-4 (2004) (requiring "a sufficient number of full-time faculty members" and defining a full-time faculty member as one "who devotes substantially the entire time to the responsibilities of teacher, scholar, and educator").

110. For example, in *Reale v. Herco, Inc.*, 647 N.Y.S.2d 533 (N.Y. App. Div. 1996), the plaintiff sued the playground owner and operator, who brought a third-party suit against Game-Time, Inc., the slide's manufacturer. By comparison, in *Dash v. City of New York*, 654 N.Y.S.2d 33 (N.Y. App. Div. 1997), and *Davidson v. Sachem Central School District*, 751 N.Y.S.2d 300 (N.Y. App. Div. 2002), the plaintiff sued only the government entity, so the equipment manufacturer was not involved.

111. See *supra* note 19 and accompanying text.  
<https://scholarship.law.ufl.edu/flr/vol58/iss2/1>

playgrounds are much more complicated than either of our stories. The American playground was first created as a reaction to the plight of children growing up in the industrialized, urban centers of the late nineteenth century.<sup>112</sup> The first playgrounds were meant primarily for exercise and character-building among impoverished, urban youth.<sup>113</sup> The equipment on these playgrounds fit this austere, exercise-first model: seesaws, swings, slides, and monkeybars.<sup>114</sup> John F. Kennedy's Council on Youth Fitness further encouraged construction of traditional playgrounds in the 1960s,<sup>115</sup> and this basic playground design remained the dominant paradigm through the 1970s.<sup>116</sup>

Playground designers have long argued that this "traditional" paradigm was deeply flawed. The basic criticism was that playgrounds ignored children's play in favor of children's exercise.<sup>117</sup> As the study of cognitive psychology and children's play has grown, a new field studying child development and playgrounds has blossomed.<sup>118</sup> The upshot of these new

112. ERIKSEN, *supra* note 14, at 9-14; EDWARD ALAN HITT, AN HISTORICAL STUDY OF THE TRENDS IN PLAYGROUND DESIGN DEVELOPMENT 1885-1972, at 22-31 (1978).

113. See JAY B. NASH, THE ORGANIZATION AND ADMINISTRATION OF PLAYGROUNDS AND RECREATION 7-16 (1928) (describing how playgrounds counter-acted the problems of the new cities); PHILIP PREGILL & NANCY VOLKMAN, LANDSCAPES IN HISTORY: DESIGN AND PLANNING IN THE WESTERN TRADITION 514-15 (1993) ("Last, and of equal importance to growth of the playground movement, was the perception that through organized recreation, as through public schools, non-English-speaking immigrants could be taught the values of hard work and self-reliance.").

114. HITT, *supra* note 112, at 28 (listing the above equipment in a "standard play area in the 1900s").

115. Johnson, *supra* note 14, at 1.

116. See BRETT ET AL., *supra* note 13, at 9-11 ("American playgrounds have traditionally consisted of a concrete or asphalt surface with steel jungle gyms, merry-go-rounds, slides, and swings. . ."); BUTLER, *supra* note 14, at 20-24 (listing the swing, the slide, the climbing structure, and the see-saw among "common types of apparatus" in 1947); Marsha L. Galgano, The Historical Development of Playground and Apparatus Design from 1930 to 1973 (May 1973) (unpublished M.S. thesis, Smith College) (noting that as late as 1970 the U.S. was "building traditional parks and playground areas—paving them, putting chain-link fences round them, buying the run-of-the-mill equipment").

117. See BRETT ET AL., *supra* note 13, at 10-11 ("From a developmental point of view, the traditional playground ignores many of the critical needs of children."); MARGUERITE ROUARD & JACQUES SIMON, CHILDREN'S PLAY SPACES 13 (1977) (noting that "children rejected insufficient and unimaginatively arranged" playgrounds, and that "children must have dynamic, stimulating places filled with opportunities to exercise their sense of discovery").

118. See JOE L. FROST, AMERICAN PLAYGROUND MOVEMENT 178 (1985); JOE L. FROST ET AL., THE DEVELOPMENTAL BENEFITS OF PLAYGROUNDS (2004) [hereinafter FROST, DEVELOPMENTAL BENEFITS] (providing a great recent example of how a new field of study has emerged); JOE L. FROST ET AL., PLAY AND CHILD DEVELOPMENT (2001) (same); HENDRICKS, *supra* note 12 (same). For a more nuts and bolts list of child development objectives in playground design, see PLAY FOR ALL GUIDELINES, *supra* note 9, at 3-4. Of course, criticism of the lack of play in American playgrounds has been around almost as long as playgrounds themselves. See, e.g., NASH, *supra* note

studies was a broad recognition that playgrounds should do more to encourage group play, imaginative play, and child development in general.<sup>119</sup> There also were aesthetic critiques: “Comprising a collection of isolated metal structures set upon a flat paved surface, however, play yards from this period evoke images of prison yards.”<sup>120</sup>

The death knell for the traditional playground was not persistent criticism from designers and child development experts. Rather, the traditional playground was done in by a combination of liability concerns and regulatory measures from the Consumer Product Safety Commission (CPSC). Beginning in the 1970s there was a dawning realization that playgrounds were the cause of many serious childhood injuries and deaths. In 1975 the CPSC published its first hazard analysis of playground equipment,<sup>121</sup> and in 1981 the CPSC published its first Handbook for Public Playground Safety.<sup>122</sup> The Handbook had voluntary guidelines for playground equipment and surfaces, and it has been periodically updated

113, at 29-60 (discussing “play and recreation objectives” in the 1920s and criticizing the exercise-only approach).

119. See FROST, DEVELOPMENTAL BENEFITS, *supra* note 118, at 213 (“Because playgrounds are built and designed for many users, it is important that we take into consideration the ways children grow and develop, the ways children play, and the ways that playgrounds can support both of these elements.”); PLAY FOR ALL GUIDELINES, *supra* note 9, at 3-4 (outlining the “developmental opportunities” that a “well-designed, well-managed play environment should provide [to] children”); Pei-San Brown et al., *Play is Essential for Brain Development*, INT’L PLAY EQUIP. MNFRS. ASS’N, May 27, 2004, <http://www.ipema.org/News/default.aspx> (discussing the profound connection “between brain development and play”).

120. See Johnson, *supra* note 14, at 1-2.

121. See U.S. CONSUMER PROD. SAFETY COMM’N, BUREAU OF EPIDEMIOLOGY, HAZARD ANALYSIS OF INJURIES RELATING TO PLAYGROUND EQUIPMENT 3-6 (1975) [hereinafter CPSC, 1975 HAZARD ANALYSIS]. The story of the CPSC’s work on playgrounds actually is a great encapsulation of the history of the agency. The CPSC was created in 1972 pursuant to the Consumer Product Safety Act. See Consumer Product Safety Act, Pub. L. No. 92-573, 86 Stat. 1207 (1972) (codified at 15 U.S.C. §§ 2051-2064 (2000)). One of the CPSC’s first activities was the creation of the National Electronic Injury Surveillance System (NEISS), which went online July 1, 1972. See CPSC, 1975 HAZARD ANALYSIS, *supra*, at 4-6. The NEISS collected emergency room data from 119 hospitals, and then extrapolated the data to derive product-related injury and death statistics. See *id.* The first chunk of data was boiled down into a Hazard Index. Playground equipment was ranked 8th. See *id.* This prompted the 1975 Report’s more detailed study of playground injuries, and eventually led to the CPSC’s voluntary standards for playground equipment. See *id.*

There have been three studies of public playground injuries since. See U.S. CONSUMER PROD. SAFETY COMM’N, SPECIAL STUDY: INJURIES AND DEATHS ASSOCIATED WITH CHILDREN’S PLAYGROUND EQUIPMENT 1-2 (2001) [hereinafter CPSC, 2001 SPECIAL STUDY]; U.S. CONSUMER PROD. SAFETY COMM’N, PLAYGROUND EQUIPMENT-RELATED INJURIES AND DEATHS 3-6 (1990); U.S. CONSUMER PROD. SAFETY COMM’N, HAZARD ANALYSIS REPORT: PUBLIC PLAYGROUND EQUIPMENT (1979).

122. See CPSC HANDBOOK, *supra* note 10, at 1.

since 1981.<sup>123</sup> The CPSC's work in this area has spawned a veritable alphabet soup of groups interested in playground safety, including an industry group<sup>124</sup> and a playground safety non-profit group.<sup>125</sup>

The publication of the Handbook has had a tremendous effect upon playground design and maintenance. While safety was an issue listed in some earlier books on playgrounds,<sup>126</sup> the park and playground design books of the last thirty years really have focused on safety and maintenance issues. These books contain many more design specifications (frequently straight from the Handbook),<sup>127</sup> and playground equipment manufacturers now advertise that they follow the Handbook's guidelines.<sup>128</sup> During the same period, lawsuits became more prevalent and began to affect the decisions of schools and municipalities.<sup>129</sup>

123. *See id.*

124. The playground safety industry interest group is the International Play Equipment Manufacturers Association (IPEMA). *See* IPEMA Home Page, <http://www.ipema.org/> (last visited May 1, 2005).

125. The playground safety non-profit interest group, the National Program for Playground Safety (NPPS), was founded under a grant from the Center for Disease Control. *See* National Program for Playground Safety Home Page, <http://www.playgroundsafety.org/about/index.htm> (last visited May 1, 2005).

126. *See* NASH, *supra* note 113, at 99-102 (describing "safety suggestions" for playgrounds). Nevertheless, other contemporary playground sources make no specific mention of safety concerns. *See* LELAND & LELAND, *supra* note 14 (1910 book, no mention of "safety" in the index or table of contents); BUTLER, *supra* note 14 (1947 book, same).

127. *See* PHILLIPS, *supra* note 9, at 27-32 (devoting an entire chapter to playground safety and the CPSC Handbook); PLAY FOR ALL GUIDELINES, *supra* note 9, at 64-109 (describing "manufactured play equipment settings" and citing to the CPSC handbook throughout).

128. *See, e.g.*, Kaplan Early Learning Company, *Playgrounds*, <http://www.kaplanco.com/playgrounds/index.asp> (last visited May 1, 2005) ("Our Sales Team and Installers are certified by the National Playground Safety Institute, ensuring your project will meet all National Guidelines as put forth by the Consumer Product Safety Commission and ASTM F-1487 (American Society for Testing and Materials)."); Park Structures Homepage, <http://www.parkstructures.com/accessibility.iml> (last visited May 1, 2005) ("Adhering to and being an active member in all industry safety-related associations such as IPEMA, ASTM, and CPSC means your play system design not only meets guidelines, but that our sales agencies and playground consultants are also up-to-date . . ."); Progressive Design Playgrounds, *Safety & Standards*, <http://www.pdplay.com/safety.cfm> (last visited May 1, 2005) ("The company takes a proactive approach to safety compliance by continuously upgrading our products and creating new outdoor play structures that meet or exceed United States and International safety requirements including guidelines set forth by The International Playground Equipment Manufacturers Association (IPEMA), The Consumer Product Safety Commission (CPSC) and ASTM International.").

129. For a great overview of the case law in this area, see Edward Steinbrecher, *When Playtime Goes Wrong*, TRIAL MAGAZINE, July 2000, available at [http://www.seriousinjurylawyers.com/article\\_trialmag.html](http://www.seriousinjurylawyers.com/article_trialmag.html) (discussing liability for children's injuries on playgrounds); Edward M. Swartz, *Litigating Children's Products Cases*, C949 ALI-ABA 1, 4 (1994) (discussing a number of injuries and deaths connected to playground equipment).

The upshot of this new focus on liability and playground safety has been a tremendous turnover in American playgrounds.<sup>130</sup> Colorful, modular play areas are replacing the “traditional” playground all over America.<sup>131</sup> Interestingly, the “new” playground design is not only more concerned with safety, but also much more reflective of child development and child play concerns.<sup>132</sup> Additionally, new playgrounds are much easier to maintain than the old playgrounds (because rubber-covered steel and plastic is much more durable than wood or other materials), and require less parental or governmental oversight of play.<sup>133</sup> Admittedly, relative

(quoting a school administrator who discussed litigation and playground renovation); *see also* Michael D. Hinds, *A New Effort to Make Child's Play Less Deadly*, N.Y. TIMES, May 13, 1989, at A1 (containing the same viewpoint but expressed by an industry representative).

130. It may be that I spend too much time with other Torts professors, but I always get a “causation” objection at this point: “How do you know that it was litigation and safety concerns that drove this change? Couldn’t it have been rising incomes? Beautification? Or some other factor?” I have a rather unsatisfying answer: Sure, in any individual case it could have been some or all of these other factors. Nevertheless, each of those factors persisted since at least the 1920s, and the traditional playground survived (and thrived). While I cannot prove individual causation, the wholesale elimination of the traditional playground over such a short period of time can only be explained in light of a shift in legal regimes and our national psychology of child safety.

131. One great example of this effect is the most recent NPPS survey of playground equipment. *See* THE NAT’L PROGRAM FOR PLAYGROUND SAFETY, HOW SAFE ARE AMERICA’S PLAYGROUNDS? A NATIONAL PROFILE OF CHILDCARE, SCHOOL, AND PARK PLAYGROUNDS, AN UPDATE (2004) [hereinafter NPPS, HOW SAFE?]. Table 1 of the survey shows what equipment appears in the surveyed playgrounds, and the percent change in prevalence from 2000 to 2004. *Id.* at 4 tbl.1. From once having been a classic element of the ‘traditional’ playground, seesaws are now found in only thirteen percent of American playgrounds, down from twenty percent in 2000. *See id.* Merry-go-rounds are similarly disappearing, falling from fourteen percent in 2000 to seven percent in 2004. *See id.* Interestingly, looking at the playground accident data, one would expect swings and slides to disappear before seesaws or merry-go-rounds, since they have caused many more injuries. *See* CPSC, 2001 SPECIAL STUDY, *supra* note 121, at 13-14, 21-22.

132. For example, *Play for All Guidelines* has eight “planning criteria”: play value, programming potential, safety, play leadership, risk management, accessibility, integration, and management issues. *See* PLAY FOR ALL GUIDELINES, *supra* note 9, at 64-65; Linda Cain Ruth, *Playground Design and Equipment*, WHOLE BUILDING DESIGN GUIDE (2005), <http://www.wbdg.org/design/playground.php>; *cf.* ERIKSEN, *supra* note 14, at 57-92 (describing the “playscape” as a replacement for the traditional playground); Jay Beckwith, *No More Cookie Cutter Parks*, <http://www.bpfp.org/PlaygroundDesign?NoMoreCookieCutter.htm> (last visited May 1, 2005) (same).

133. Interestingly, the tort reform advocates, who generally take a more limited government, libertarian approach, have ignored the governmental and parental supervision effects in their vociferous defense of the traditional playground. Aside from the sheer cost of maintenance, pure libertarians presumably would frown on government provision of play areas at all. Further, even if governmental playgrounds are acceptable, why should the government supply extra risk to children? Riskier playgrounds impose extra costs in terms of governmental or parental supervision. I like to simply let my children wander free on the playground. I likely would feel quite differently on a traditional playground. It seems like a true limited government approach would supply a baseline of play and risk (and I would argue the new playgrounds do just that) and allow private

judgments about playground design are subjective, but I find it hard to believe that there are many who would choose the old prison yard-style playgrounds over the new style. New playgrounds have more activities, encourage group and imaginative play, and still have swings, slides, and climbing elements.<sup>134</sup> New playgrounds also are more likely to include water play and themes (like pirate ships or castles).<sup>135</sup>

Another sign that the new playground has hit a public nerve is the incorporation of playground design elements into new (formerly non-playground) public spaces. A great example is the new “Kid’s Cove” at the Knoxville Zoo, which includes slides and a water splashing area along with the more typical petting zoo. Other examples include the Crown Fountains at Chicago’s Millennium Park,<sup>136</sup> and plans for a center field berm playground at the University of South Carolina’s new baseball park.<sup>137</sup>

The new playground design has spread to the private sector: A visit to a McDonald’s playground or a Chuck E. Cheese’s certainly evinces the dominance of the new design over the traditional.<sup>138</sup> Backyard play

individuals to purchase any additional risk they want. If a tort reformer wants to pave her backyard and install a seesaw, they still are available for sale. *See, e.g.,* Outside Toys Pro Homepage, [http://www.outsidetoyspro.com/products/productDetail.asp?PROD\\_ID=79&DEPID=0&ROOT\\_dept=0](http://www.outsidetoyspro.com/products/productDetail.asp?PROD_ID=79&DEPID=0&ROOT_dept=0) (last visited July 1, 2005) (selling traditional playground seesaws for \$344.00).

134. Furthermore, the increased interest in playgrounds has led to whole new approaches to playground design. Consider the community-based design approach, which involves the community in every aspect of the design process. *See* Leathers & Associates, *About Us*, [http://www.leathersassociates.com/intro\\_frame.htm](http://www.leathersassociates.com/intro_frame.htm) (last visited June 1, 2005). Another example is the movement designing playgrounds for handicapped accessibility. *See* Boundless Playgrounds Homepage, [http://www.boundlessplaygrounds.org/aboutus/aboutus\\_unique.php](http://www.boundlessplaygrounds.org/aboutus/aboutus_unique.php) (last visited June 1, 2005) (“Boundless Playgrounds enable all children—including those with physical, developmental, cognitive and sensory disabilities—to experience independent, self-directed play . . .”).

135. Knoxville has two really fun water-based play areas, Concord Park and the Fountains at World’s Fair Park. A short walk from World’s Fair Park is Fort Kid, a wooden playground built with interlocking forts and castles connected by stairways, bridges and walkways. A mile or so away, Tyson Park has a large pirate ship-themed playground.

136. *See* Chicago’s Millennium Park, The Crown Fountain, <http://www.millenniumpark.org/crown.htm>. For a favorable review of the fountains and Millennium Park as a whole, *see* Witold Rybczynski, *Chicago’s Magic Kingdom*, SLATE, May 11, 2005, <http://slate.msn.com/id/2118377/> (last visited June 1, 2005). Knoxville’s World’s Fair Park also includes a substantial fountain play-area. *See* World’s Fair Park, Attractions, <http://www.worldsfairpark.com/attractions.html> (last visited June 1, 2005).

137. *See* John C. Drake, *Design Details Emerge for USC Baseball Stadium*, THE STATE (Columbia, S.C.), May 27, 2005, at A1, available at [http://www.thestate.com/mld/thestate/news/special\\_packages/growth/11749917.htm](http://www.thestate.com/mld/thestate/news/special_packages/growth/11749917.htm) (“Plans for USC’s \$17.5 million baseball stadium include grass berms for seating behind the outfield, a children’s playground behind center field, and a food court above the stands . . .”).

138. *See, e.g.,* Soft, Contained Playgrounds, Playgrounds That Power Business, Published by OF Law Scholarship Repository, 2006



structures also invariably resemble the new playgrounds more than the traditional.<sup>139</sup>

The true playground innovation is that playground manufacturers and purchasers did not merely update the traditional playground. For example, merely updating a dangerous product with a safer one would suggest replacing seesaws on a one-to-one basis with “Spring Rocking Equipment.”<sup>140</sup> If this is what had happened in playgrounds across America, I probably would agree with the tort reformers.<sup>141</sup> As the Consumer Products Safety Commission (CPSC) has dryly understated, “[p]reschool-age children enjoy the bouncing and rocking activities presented by this equipment, but older children may not find it challenging enough.”<sup>142</sup> Of course, this is generally not what happened. In response to the safety revolution, designers and manufacturers reimagined playgrounds from the ground up into a totally new format, featuring softer surfaces, bridges, slides, and little forts.

Thus, after almost a century of ignored complaints about the shortcomings of the traditional playground, the last thirty years have seen a wholesale replacement of deficient playground equipment and dangerous playground surfaces.<sup>143</sup> Of course, critics remain. Interestingly, playground designers have been among the critics of the new playground. Their complaints fall into two categories. First, the new playground design

<http://www.softplay.com/EN/Markets/MarketDetails.asp?MarketTypeID=10> (last visited June 1, 2005) (showing multiple corporate restaurant playground designs). I actually consider the private sector playgrounds to be conclusive proof that the new playgrounds are more fun than the traditional ones. If McDonald’s or Chuck E. Cheese’s were swooping in to provide the seesaws and carousels that the market so desperately desired, I might be convinced that the traditional playground is truly missed (and possibly even superior).

139. See, e.g., Walmart Online Catalogue, Outdoor Play, <http://www.walmart.com/catalog/catalog.gsp?cat=14521&path=0%3A4171%3A14521> (last visited July 12, 2005). There also has been tremendous worldwide growth in the playground equipment and design industries. See QIS Capital Corporation, Independent Research: Diversaflow Corporation, Ltd., <http://www.qiscapital.com/images/RRDVF.pdf> (last visited July 12, 2005) (giving a favorable report on playground manufacturing corporation, Diversaflow, and noting “[i]ncreasing worldwide demand for safe, sturdy play equipment”).

140. “Spring Rocking Equipment” is the little horse or duck resting on top of a spring in current playgrounds. The replacement of seesaws with spring rockers actually is exactly what the CPSC’s *Handbook for Public Playground Safety* suggests should be done. See CPSC, HANDBOOK, *supra* note 10, at 23. For illustrations of spring rockers, including a horse and a dog, see *id.* at 27.

141. Knoxville’s McCallie Park is a great example of an unimaginative response to safety concerns. It has a bare metal slide and a metal swingset on a bed of pebbles. When we brought our daughters to the playground my eldest asked: “Where’s the rest?” For pictures of this sad little playground, see Playground Photos, *supra* note 3.

142. CPSC, HANDBOOK, *supra* note 10, at 28.

143. According to the NPPS survey, eighty-two percent of playgrounds now have “suitable” playground surfaces (meaning that “asphalt, concrete, dirt, and grass” surfaces have been replaced with more shock absorbent materials). See NPPS, HOW SAFE?, *supra* note 131, at 12 tbl.5.

criteria stifle creativity, and second, the new playgrounds are boring and cookie-cutter.<sup>144</sup> Nevertheless, these criticisms generally compare the current playgrounds with uniquely designed playgrounds, and are not an endorsement of the “traditional” playground over the new playgrounds.<sup>145</sup> Even the critics admit that new “cookie-cutter” playgrounds are an improvement over the traditional, exercise-centered approach.<sup>146</sup>

Similarly, some tort reform advocates have latched on to playground design as anecdotal support for the negative effects of current tort law. Philip K. Howard provides probably the most well known example:

All across America, playgrounds are being closed or stripped of standard equipment. In 1997, Bristol, Connecticut, removed all of the seesaws and merry-go-rounds from its playgrounds. . . . Some towns . . . have the resources to replace playground equipment with new, safer alternatives, including transparent tubes to crawl through and a one-person seesaw that works on a spring. Can you wait? The new equipment is so boring, according to Lauri Macmillan Johnson, a professor of landscape architecture at the University of Arizona, that children make up dangerous games, like crashing into the equipment with their bicycles.<sup>147</sup>

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144. See HENDRICKS, *supra* note 12, at 163-65; Johnson, *supra* note 14, at 2-3; Janny Scott, *When Child's Play is Too Simple; Experts Criticize Safety-Conscious Recreation as Boring*, N.Y. TIMES, July 15, 2000, at B9. Not to sound cynical, but at least some of this criticism can be attributed to economic self-interest. Similar to architects' complaints about pre-fabricated housing, I tend to be a little suspicious of designers' complaints about prefab playgrounds. Further, given the mass replacement of traditional playgrounds, there has been a concomitant increase in interest and business in playground design. A great example is my old elementary school, P.S. 321, which replaced the sorry playground of my youth with one designed by a landscape architect. See Liz Farrell Landscape Architecture, Awards & Competitions, <http://www.newyorkarchitects.com/content/profiles/index.cfm?fuseaction=profile&architect=2037&lang=e> (last visited Oct. 22, 2005).

145. See Beckwith, *supra* note 132. Furthermore, some of the criticisms have a decidedly unrealistic and “designy” flavor. For example, playground designers continue to be infatuated with the idea of the ‘adventure playground.’ Starting in the 1940s in Europe, adventure playgrounds provided children with a small parcel of land, tools, and materials for building structures. See ERIKSEN, *supra* note 14, at 20-24. Under the supervision of an adult, the children built whatever they felt like. See *id.* Because of the level of supervision necessary (among other factors), the adventure playground never took off in the United States. See *id.* at 25-26. Despite the concept's lack of success in the United States, it still has a great following among playground designers. See Brenda Fjeldsted, ‘Standard’ Versus ‘Adventure’ Playground, in INNOVATION IN PLAY ENVIRONMENTS 34, 34-44 (Paul F. Wilkinson ed., 1980) (describing the strengths of the adventure playground model); ROUARD & SIMON, *supra* note 117, at 130-32 (same). Admittedly, the adventure playground does sound like fun, but deeply impractical. The requirement of permanent, professional adult supervision alone makes the idea untenable in the United States.

146. See BRETT ET AL., *supra* note 13, at 9-15 (comparing newer “creative playgrounds” favorably to “traditional playgrounds”).

Howard's critique raises three interesting points. First, the initial portion is a great example of considering the costs without the attendant benefits. Howard begins with the costs—traditional playgrounds are being “closed” or “stripped”—before he ever turns to the benefits of the replacement playgrounds.<sup>148</sup>

Second, once Howard does turn his attention to the potential benefits, he notes that new playground equipment is expensive and “boring.”<sup>149</sup> As support for this position, he uses “Lauri Macmillan Johnson, a professor of landscape architecture at the University of Arizona” and an anecdote about children crashing their bikes into the new, boring playground equipment. I was somewhat flummoxed by this criticism of the new playgrounds, and I seriously doubted the existence of an epidemic of children crashing their bikes into playground equipment.

So, I e-mailed Professor Johnson and asked her two questions. First, did empirical evidence exist supporting a bike-crashing trend? The answer, unsurprisingly, was no.<sup>150</sup> Second, I asked her if, despite her misgivings

Representatives, *see* H.R. REP. NO. 108-682, at 9-10 (2004) (citing Howard in support of the contention that “[t]he lawsuit culture is even changing the traditional American landscape: playgrounds are increasingly removing seesaws for fear of liability”), and echoed by Newsweek, *see* Stuart Taylor Jr. & Evan Thomas, *Civil Wars*, NEWSWEEK, Dec. 15, 2004, at 42 (“Playgrounds all over the country have been stripped of monkey bars, jungle gyms, high slides and swings, seesaws and other old-fashioned equipment once popularized by President John F. Kennedy’s physical-fitness campaign. The reason: thousands of lawsuits by people who hurt themselves at playgrounds.”).

148. *See* HOWARD, *supra* note 19, at 3-4. For a similar cost-first approach, *see* RAUCH, *supra* note 129, at 106-07, which argued that “playgrounds have been stripped of their equipment.” As for Bristol, Connecticut, it is hard to determine from a distance whether the town has left all of its playgrounds empty of equipment since 1997, but the Bristol Rotary Club website has a lengthy story about (and cool photos of) a fully handicapped-accessible “boundless” playground built in Bristol in 1999. *See* Bristol Rotary Club, Dewitt Page Park, <http://www.bristolrotaryct.org/Playground/Playground.htm> (last visited May 1, 2005); Bristol Rotary Club, Groundbreaking, <http://www.bristolrotaryct.org/Playground/Groundbreaking.htm> (last visited May 1, 2005); Boundless Playgrounds, Bristol, Connecticut, <http://www.boundlessplaygrounds.org/findplaygrounds/CT/bristol.php> (last visited May 1, 2005). There is another exceptional “boundless” playground in Chattanooga, Tennessee, at the Siskin School. *See* Siskin Childrens’ Institute, Playground Education, <http://www.siskin.org/playgroundedu/home.asp> (last visited May 1, 2005).

149. *See* HOWARD, *supra* note 19, at 3-4.

150. Her e-mail states: “I will be honest I have not seen Howard’s text on the bike-crashing story. I never meant to portray this as a trend.” Actually, the real story is even more interesting than a trend. Professor Johnson consulted on a lawsuit involving bike-crashing kids:

I was however, involved with a litigation where designers were being sued in a playground injury case involving a kid who broke his neck by crashing his bike into the play equipment. Attorneys interviewed me as a potential expert witness but ultimately did not use me. As I understand the story of this one isolated case, the kids had invented a game where they rode their bikes around the equipment

with the cookie-cutter nature of current playgrounds, she preferred them to the “prison yard” playgrounds of yore?<sup>151</sup> The answer was a qualified yes.<sup>152</sup>

Professor Johnson, among other playground designers, raises important questions about the interaction between risk, safety, and keeping children’s interest.<sup>153</sup> I think there certainly is something to the criticism that insulating children from all risks may be poor preparation for life, and may force them to seek risks in more dangerous and uncontrollable situations.<sup>154</sup>

Nevertheless, the realities of the new playground design suggest that the risk/safety calculus may be occurring. The CPSC’s 1975 survey showed that slides, climbing equipment like monkey-bars, and swings

and at a certain point they purposely crashed into the structure. I could not fault the designer in this case as the playground was designed to be safe and as a result lacked challenging experiences.

E-mail from Lauri Macmillan Johnson, Professor of Landscape Architecture, University of Arizona, to Benjamin H. Barton, Associate Professor of Law, University of Tennessee College of Law (on file with author).

151. The “prison yard” reference is Johnson’s own description of the traditional playground. See Johnson, *supra* note 14, at 1.

152. In her e-mail, Professor Johnson states the following:

However as far as your question goes I think some of these new playgrounds are better than the old playgrounds. Here’s what to look for when evaluating: Is the equipment a system with linked components? How many activities can be performed on the piece? Is there more than one way up and more than one way down? Are there different levels of risk incorporated into the piece? Are there deliberate ways the child can manipulate the piece?

E-mail from Lauri Macmillan Johnson, Professor of Landscape Architecture, University of Arizona, to Benjamin H. Barton, Associate Professor of Law, University of Tennessee College of Law (on file with author).

153. See Johnson, *supra* note 14, at 1-3, 6; Scott, *supra* note 144, at B9.

154. In the torts literature this is frequently referred to as the “second best” problem of eliminating products. See James A. Henderson, Jr., *Extending the Bounds of Strict Products Liability: Implications of the Theory of the Second Best*, 128 U. PA. L. REV. 1036, 1037-38 (1980) (arguing that if product liability eliminates or over-prices certain products, consumers may shift to even riskier substitutes). For example, if tort liability chases off all of the ladder manufacturers, people will cut their hedges or clean their gutters teetering on kitchen chairs, or other products more dangerous than ladders. Similarly, when children are denied simple dangers, they may overcompensate by climbing the tall structures or playing in dumpsters. See Johnson, *supra* note 14, at 2-3. The fact that falls from playground equipment are the number one cause of injury, lends credence to this theory. See CPSC, 2001 SPECIAL STUDY, *supra* note 121, at iii (“Overall three-fourths (79 percent) of the injuries that occurred on public equipment involved falls.”).

were much more dangerous than seesaws or carousels,<sup>155</sup> probably because falls from heights are the number one playground injury danger.<sup>156</sup> Nevertheless, slides, swings, and climbers are still found on most playgrounds, while seesaws and carousels are rapidly heading toward extinction.<sup>157</sup> As the NPPS noted, “the most common pieces of equipment found on playgrounds involve minimum heights of six feet.”<sup>158</sup> Playground safety advocates have focused on playground surfacing, rather than eliminating all height from playgrounds.<sup>159</sup> This is a sign that even the playground safety proponents balance the need for entertaining playgrounds with safety concerns.<sup>160</sup>

Third, Howard and others directly link the playground revolution to lawsuits,<sup>161</sup> but the loss of the seesaw hardly can be chalked up to lawsuits. A June 2005 Westlaw “all courts” search of “negligence or ‘product liability’ /p seesaw” drew only twenty-five cases nationally.<sup>162</sup> Given the paucity of seesaw cases, it seems much more likely that the CPSC’s non-mandatory Handbook on Playground Safety has had a much greater influence on the playground revolution than lawsuits. Most notably, changes in societal mores and psychology have driven most of the reforms. People, especially parents, are simply much more safety conscious these days.<sup>163</sup>

155. See CPSC, 1975 HAZARD ANALYSIS, *supra* note 121, at 13 fig.3, 14-16.

156. This was true in 1975 and 2001. See *id.* at 3 (“Three-fourths of all the injuries were falls [from slides or climbing apparatus] to the ground or onto other equipment.”); CPSC, 2001 SPECIAL STUDY, *supra* note 121, at iii (“Overall about three-fourths (79 percent) of the injuries that occurred on public equipment involved falls.”).

157. See NPPS, HOW SAFE?, *supra* note 131, at 4 tbl. 1.

158. See *id.* at 4.

159. See CPSC, 2001 SPECIAL STUDY, *supra* note 121, at 25; NPPS, HOW SAFE?, *supra* note 131, at 4.

160. I also wonder why tort reform advocates—who are presumably in favor of less government rather than more—want the government to supply risk at all. Howard and others want the government to provide riskier playgrounds. Why? Shouldn’t a limited government supply a relatively low baseline of risk to children with private individuals supplementing as they see fit? If a tort reformer wants to put a seesaw in his backyard they are still available for purchase (try a Google search for “backyard seesaw”). Riskier playgrounds are actually an imposition of duties on private parties and the government. Many of our friends like to trail their children throughout a playground to ensure safety. I prefer to lay back most of the time, and the new safer playgrounds allow me that freedom. Likewise, teachers responsible for children during recess likely react differently to the new and traditional playgrounds. The main point is that as playgrounds grow riskier they involve increased costs in parental and governmental oversight.

161. See HOWARD, *supra* note 19, at 3-6.

162. A Westlaw search of the “allcases” database on June 1, 2005, using the search terms “‘product liability’ negligence /p seesaw,” resulted in twenty-five cases ranging in date from 1994 to 1902.

163. Notably, Philip Howard actually probably agrees with me about this point. See Philip Howard, Comments at the 2002 Judicial Conference of the Second Circuit (June 7, 2002), available <https://scholarship.law.ufl.edu/flr/vol58/iss2/1>

Other children's products have followed a similar journey. I chose playground design as my case study, but a review of the design and manufacture of strollers, cribs, and high chairs would show that safety concerns have become paramount in the last thirty years. I would likewise argue that each of these products has been improved above and beyond safety improvements. Consider, for example, high chairs. I grew up eating in a wooden high chair with swinging parts and no safety belt. New high chairs not only are safer (made of rounded and frequently padded plastic, and including safety belts and bars to prevent slippage), but they also feature wheels for easy movement, angle adjustments for sleeping, height adjustments, and removable platters for easy cleaning, among other more exotic features.<sup>164</sup> Similar seismic shifts in design have occurred in strollers, car seats, and cribs.<sup>165</sup>

#### IV. CONCLUSION

Overall, in areas of significant liability concerns, like products for children, there have been substantial redesigns and safety improvements. Substantive design improvements unrelated to safety have tagged along, however, making these products better overall. The success of these products perfectly fits my entrepreneurial model: Innovative companies have reacted to the shift in product liability by rethinking and redesigning their products from the ground up. I conclude, therefore, that product liability has not cramped innovation. To the contrary, it has enhanced innovation in multiple product sectors, as safety enhancements have led to product enhancements.

Admittedly, product liability probably has had little effect on other areas of the economy, since few products required the kind of safety redesign that would trigger my innovation effect. Nevertheless, the unaffected areas certainly have not experienced a suppression of innovation.

I also should note that I am not suggesting that the tort reform advocates are wrong across the board, or that the tort system does not need reforming. I have great sympathy for the claim that the shift in American

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in 221 F.R.D. 38 (2002) ("I have not been able to find one case where someone sued and won over a seesaw, and yet seesaws are disappearing throughout America because people got the idea that who is going to protect you if one child gets off too soon and the other falls off.").

164. See, e.g., Amazon.com, *Cappuccino Prima Pappa "R" High Chair*, <http://www.amazon.com/exec/obidos/tg/detail/-/B00070QJBW/104-4713768-9179927?v=glance> (last visited July 1, 2005).

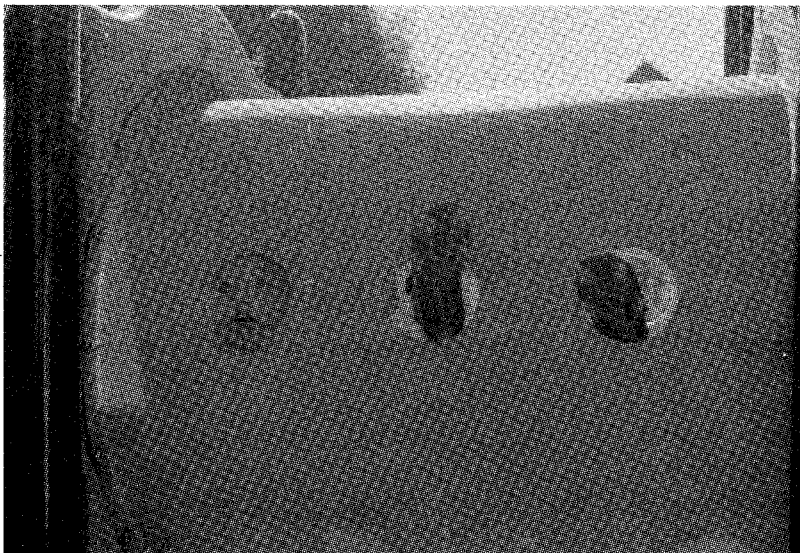
165. When I explained to my Mom that our baby car seats snapped out of a base in the car and into a folding, modular stroller, I thought she might lose her mind. When she emptied her attic and I saw the equipment I was raised on, I thought I might lose mine.

psychology has had insalubrious effects.<sup>166</sup> I am convinced, however, that these negative effects do not include a crushing of innovation and, therefore, should not dominate the calculus when considering tort reform.

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166. If you want an example of these effects, consider my behavior at home since I began research in this topic. My wife recently acquired a used swingset from neighbors. I immediately pronounced it "a major safety hazard" and began quoting CPSC statistics on home playground equipment accidents. Yes, I am indeed a non-stop party as a husband and Dad. A more pathetic example is a recent warning from the CPSC that bike helmets are not to be worn on playgrounds because of the strangulation hazard. *See* Press Release, CPSC, After Recent Death, CPSC Warns Against Wearing Bike Helmets on Playgrounds, (Feb. 22, 1999), *available at* <http://www.cpsc.gov/cpsc/pub/prere1/prhtml99/99065.html>. If safety concerns now dictate parents sending children out to play in helmets we have certainly gone too far.

### APPENDIX A





## APPENDIX B

