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ESSAY - Tort Reform, Innovation, and Playground Design

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The above playground at the St. James Episcopal Church² is a nice, short walk

from my home in Knoxville, Tennessee. The church generously allows neighborhood

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Tennessee College of Law for generous research support, and the Honorable Diana Gribbon Motz. ² Saint James Episcopal Church, About, *at* <u>http://www.stjamesknox.org/ministries.html</u> (last visited June 1, 2005).

kids to use it, and with two little daughters (aged 2 and 4) 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 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 (pictured above) that we call the "tickle tunnel." Tickle tunnel entry is a brazen invitation to Dad to stick his arms through the holes and tickle any willing victim silly.³ There is a little stairway for my 2-year-old, and several different climbing options for the 4 year old. There are swinging chin-up hoops for the 4-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.⁴ And, of course, there are three slides (one shorter for toddlers) and four swings (two baby/bucket swings and two regular swings).⁵

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 St. James playground I have thought about the sorry playgrounds I grew up with in 1970's

⁴ As tempted as I was to pack this entire essay 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, *at* <u>http://www.law.utk.edu/faculty/playgroundpics.htm</u> (last visited June 1, 2005) [Hereinafter Playground Photos].

³ 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.

⁵ For a picture of a bucket swing, see Institutional Enclosed & Bucket Swing Seats, *at* <u>http://www.shapeupshop.com/games/playground/bucket_seats.html</u> (last visited June 1, 2005) or Playground Photos, *supra* note ___.

Brooklyn, New York.⁶ 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.⁷ Even as a kid these playgrounds

struck me as stark, depressing, and unidimensional.

I went to elementary school at P.S. 321⁸ 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?"⁹

⁷ Here's a great example, less the fence and concrete:



See Oblong Park Playground Fund, Village of

Oblong, at <u>http://www.villageofoblong.com/playground/</u> (raising money to replace the above equipment) (last visited June 1, 2005). For an example of seesaws on concrete, *see* Playground Photos, *supra* note _____. ⁸ For a current look at PS 321, see *Homepage*, PS 321, *at* <u>http://ps321.org/</u> (last visited June 1, 2005).

⁹ 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.

⁶ 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, *at*

http://onlytheblogknowsbrooklyn.typepad.com/only_the_blog_knows_brook/postcard_from_the_slope/ind ex.html (last visited June 1, 2005);

Homepage, Park Slope, at http://www.parkslope.com (last visited June 1, 2005).

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.¹⁰ Modular playgrounds on soft surfaces, designed and constructed according to voluntary safety standards,¹¹ have sprouted up country-wide,¹² replacing the concrete and metal playgrounds of our youth.

Chewing over this phenomenon on the St. James playground led to two questions: what happened to the traditional playground, and if it is true that today's playgrounds are superior, ¹³ what does that tell us about the arguments for and against tort reform? As a

¹⁰ 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) (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.").

¹¹ 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). The American Society for Testing Materials ("ASTM") offers a set of guidelines for playground surfaces. *See* ASTM, 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 ___, at 27, and have been used as a baseline in playground litigation. *See* Hinkley v. Krantz, 658 N.E. 2d 797, 799 (Ohio App. 1995).
¹² For some great examples of these new style playgrounds, see Playground Photos, *supra* note ___. There are also great playground photos on the web from manufacturers, *see, e.g.*, BCI Burke, *Premiere Play Environments, at* <u>http://www.bciburke.com/products.iml</u> (last visited June 1, 2005), or playground designers. *See* Leathers & Assoc., *Custom-Designed Community Built Projects, at* <u>http://www.leathersassociates.com/photo_frame.htm</u> (last visited June 1, 2005). There are apparently now some spectacular new playgrounds in Prospect Park near where I grew up. *See* Prospect Park, *Playgrounds, at* http://www.prospectpark.org/dest/main.cfm?target=play (last visited June 1, 2005).

¹³ I discuss this issue more fully, *infra* notes ____ 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) (decrying "[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 decrying 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*

torts professor I had an easy answer for the first question: liability and safety concerns killed the traditional playground. This killing was actually a pretty impressive accomplishment; the traditional playground had been criticized for years,¹⁴ yet had basically survived unchanged from the turn of the century.¹⁵

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, 684-87 (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, *see* Johnson, *supra* note ___, playgrounds 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/maintenance, and encourage kids to play imaginatively and together. I offer a longer diatribe on the superiority of the new playgrounds, *infra* notes __, and accompanying text.

¹⁴ See, e.g., ALBERT J. RUTLEDGE, ANATOMY OF A PARK 21 (1971) ("An example of standardization run amok is the 'typical' playground. Always the same swings, the same teeter totters, the same slides. Sameness dulls visual appetites."); 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.").

¹⁵ 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 a fixture until the late 20th century. For example, the authors of a seminal 1909 book on playground design suggests "[t]he following apparatus we have found the most valuable to the playground: Swings, see-saws . . . an open air gymnasium [described similarly to a jungle gym] . . . [a] merry-go-round [and a] slide for life" among the most recommended playground items. *See* ARTHUR LELAND & LORNA HIGBEE LELAND, PLAYGROUND TECHNIQUE AND PLAYCRAFT 196-97 (1909). 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 20-25 (1947). 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 similar 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, at* <u>http://www.openspace.eca.ac.uk/conference/proceedings/PDF/Macmillan.pdf</u> (last visited March 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.").

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 law of product liability and torts¹⁶ retards innovation. The "product liability discourages innovation" trope has gained great currency, and been accepted by courts,¹⁷ Congress,¹⁸ and multiple commentators.¹⁹ This 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 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 may actually inspire manufacturers to create not only safer

¹⁶ 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 killers. 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 DAVID G. OWEN, PRODUCTS LIABILITY LAW (2005); RICHARD A. EPSTEIN, TORTS 407-16 (1999). I also give it a little more expansive treatment *infra* Part I.

¹⁷ 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, dissenting in part).

¹⁸ See SEN. 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.").

¹⁹ See, e.g., PETER W. HUBER, LIABILITY 155-61 (1988); Deborah J. La Fetra, *Freedom, Responsibility,* and Risk: Fundamental Principles Supporting Tort Reform, 36 IND. L. REV. 645, 646-654 (2003) (arguing that "the prospect of tort liability inhibits innovation"). The assertion has become so ingrained among tortreform 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 (2002) (claiming that "unchecked and unbalanced tort law can limit the availability of necessary medical services, discourage innovation, lead to the removal of useful and safe products and devices from the marketplace, and increase costs to consumers" supported by a *see generally* cite to WALTER OLSON, THE LITIGATION EXPLOSION (1991)); 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.").

products, but better products. ²⁰ Innovative manufacturers take the opportunity to redesign and rethink unsafe products from the ground up, with greatly improved results. This essay argues that the tort reformers have gotten at least one of their justifications for reform wrong: the law of products liability does not retard innovation.²¹ To the contrary, in some markets it has actually led to a spectacular rise in innovation.

The Essay is divided into three Parts.²² Part One describes the product liability/innovation debate more extensively, and details the arguments and empirical evidence for and against a negative correlation. Part Two 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

²⁰ 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, The Collapse of the Common Good, with an anecdote describing the removal of a double slide in Oolgah, 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 and accompanying text. Other examples of a playground/tort reform connection include a recent Newsweek article, see Stuart Taylor Jr. and Evan Thomas, Civil Wars, NEWSWEEK, December 15, 2004, at 42 ("Playgrounds all over the country have been stripped of monkey bars, jungle gyms, high slides and swings, seesaws and other oldfashioned 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) (citing Howard and the Newsweek article, *supra* note , in support of contention that "[t]he lawsuit culture is even changing the traditional American landscape: playgrounds are increasingly removing seesaws for fear of liability"). ²¹ As noted *infra* notes _____ 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, however, convinced that the innovation claim is bunk.

²² Law review readers will recognize the archetypes for these three parts immediately – Part I (problem – does product liability law retard innovation?), Part II (proposed answer/solution – nope, and sometimes it encourages it), Part III (example/supporting evidence – playground design).

manufacturers are probably in the best position to innovate and "make lemonade" out of the lemons of design defects. Part Three then applies these theories to playground design and argues that product liability law and heightened safety concerns have actually resulted in a quality revolution in public playgrounds.

I. <u>Previous Thinking on the Effect of Product Liability Law on Innovation</u>

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 19th and 20th century torts and product liability law.²³ 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.²⁴

At first common-law courts reacted to the 19th 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 the 19th century tort law is best understood by reading a series of cases involving "the prince of

²³ See Symposium, Product Liability: An Intersection of Law and Technology, 12 DUQ. L. REV. 1 (1974). For an example covering a great 19th Century innovation, see JAMES W. ELY, RAILROADS AND AMERICAN LAW (2001).

²⁴ See Oliver Wendell Holmes, *The Path of the Law*, 10 HARV. L. REV. 457, 467 (1897) (noting that turnof-the-century torts involve injuries from railroads and factories while the existing law of torts comes from the "old days of isolated, ungeneralized wrongs, assaults, slanders, and the like"); John C. P. Goldberg, *Twentieth-Century Tort Theory*, 91 GEO. L.J. 513, 516-518 (2003) (describing the "traditionalist" account of tort law's infancy); 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).

machines," the railroad.²⁵ 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.²⁶ Similarly, early product liability suits were stymied by the requirement of contractual privity²⁷ between sellers and buyers, and the ancient doctrine of *caveat emptor*.²⁸

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

²⁶ 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.*; Shawn E. 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) (describing the empirical results of these tort defenses).

²⁵ FRIEDMAN, *supra* note ___, at 468-76; 300-02.

²⁷ 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 history of the privity requirement); Timothy S. Hall, *Reimagining the Learned Intermediary Rule for the New Pharmaceutical Marketplace*, 35 SETON HALL. L. REV. 193 n. 235 (2004) (same).

²⁸ See OWEN, supra note ___, at 17-23; David Owen, Products Liability Law Revisited, 49 S.C. L. REV. 273, 275-77 (1998). GFor an excellent history of this early period, see Gary T. Schwartz, *The Beginning and the Possible End of the Rise of Modern American Tort Law*, 26 GA. L. REV. 601 (1992).

²⁹ See FRIEDMAN, supra note __, at 476-87; OWEN, supra note __, 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 (1960). 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 1960's with the adoption of a "strict liability" standard for manufactured products.³² 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.³³

Regardless of how the law is couched, however, there is little doubt that from the

mid-1960's until the 1980's there was a large-scale expansion in manufacturer liability to

³² Justice Traynor of the California Supreme Court penned two of the seminal cases in the development of this law, starting with his concurrence in Escola v. Coca-Cola Bottling Co., 150 P. 2d 436 (Cal. 1944) and continuing on to the majority opinion in Greenman v. Yuba Power Products, Inc., 377 P.2d 897, 900 (Cal. 1962) (holding 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 DAVID G. OWEN, PRODUCTS LIABILITY LAW 3-48 (2005). For a 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* 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 read through a Torts casebook section on product liability law. Franklin and Rabin's Tort Law and Alternatives offers a concise trip through the law starting with *Escola* and carries on through the confusion and groping following the mass acceptance of "strict" product liability law after the mid-1960s. *See* MARC A. FRANKLIN & ROBERT L. RABIN, TORT LAW AND ALTERNATIVES 546-651 (7th ed., 2001). Another great example is Richard Epstein's casebook, which traces a similar historical path before launching into the modern approaches. *See* RICHARD A. EPSTEIN, CASES AND MATERIALS ON TORTS 624-729 (5th ed., 1990). The casebooks helpfully elucidate how far reaching the product liability revolution was. Product liability affected everything from traditional notions of causation and duty to contributory fault in the courts' effort to iron out exactly when, why, and how plaintiffs should be recompensed for injuries involving manufactured products. *See Id.*

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 NYU L. REV. 874 (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 & Aaron D. Twerski, *Achieving Consensus On Defective Product Design*, 83 CORNELL L. REV. 867, 868-71 (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 __, at 152-77 (1991) (same).

plaintiffs injured by manufactured products.³⁴ Exactly how many suits there were, and how much was spent on damages, legal and court fees is still a hotly debated question,³⁵ but most agree that 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.³⁶ Whether you call it the "lawsuit culture"³⁷ 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.³⁸

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.³⁹ While it is hard to measure with pinpoint accuracy, given the

³⁴ See Steven P. Croley & Jon D. Hansen, *Rescuing the Revolution: The Revived Case for Enterprise Liability*, 683, 695-706 (1993) (describing 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 different numbers attached to every aspect of the system, and an argument that most of the estimates have been greatly exaggerated, see Marc A. Galanter, *News From Nowhere: the Debased Debate on Civil Justice*, 71 DENV. U. L. REV. 77, 83-90 (1993). For an opposing calculation, see HUBER, supra note ___, at 3-5 (1988). For a more recent high end calculation, *see* BEACON HILL INSTITUTE, 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 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* PHILIP K. HOWARD, THE COLLAPSE OF THE COMMON GOOD: HOW AMERICA'S LAWSUIT CULTURE UNDERMINES OUR FREEDOM 155-66 (2002).

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, *Liability for Defective Products and Services, in* AMERICAN LAW IN A TIME OF GLOBAL INTERDEPENDENCE: U.S. NATIONAL REPORTS TO THE XVITH INTERNATIONAL CONGRESS OF COMPARATIVE LAW 121, 148-49 (Symeon C. Symeonides & John C. Reitz eds., 2002) (reporting that the number of personal-injury product-liability filings in federal courts grew from 2393 in 1975 to 32,856 in 1997 and

American economic performance in the 20th 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 law hamper American manufacturer innovation.⁴⁰

This claim, like many of the tort reformer's arguments, begins with a powerful intuitive story.⁴¹ Product liability law has grown so expensive and pervasive that companies will not risk releasing new, innovative products for fear of unforeseen liability. For example, Peter Huber argues that product liability law favors established

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* note ___, 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. 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* RICHARD A. EPSTEIN, TORTS 93-95 (1999) (providing similar analysis for both negligence and product liability).

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 (2003) (listing some of the legal changes that have led to the product liability retrenchment).

⁴⁰ See supra notes _____ and accompanying text.

⁴¹ Although one would assume that the rise of law and economics and its application to tort law would result in more rigorous and scientific scholarly thinking, it has actually 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* Carroll Towing Co. v. United States, 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 less than 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 OF LAW 69-97 (1st ed., 1972).

products, with known risks and benefits, over risky new products.⁴² The reformers also argue that liability fears have driven necessary and beneficial products off the market.⁴³

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.⁴⁴ The two classic examples are vaccines and small aircraft. In the 1980s both producers of

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. Instead it begins with a playground anecdote. *See* HOWARD, *supra* note ___, at 3-4. The Economist magazine's favorable review of Howard's book called it "a rich seam of anecdote." *See* Common Good, *Selected Reviews, at* http://cgood.org/learn-reading-other-booklist-28.html (last viewed June 1, 2005). Walter Olson's *The Litigation Explosion* similarly begins with an anecdote set in a Long Island hospital. *See* OLSON, *supra* note ___, at 15. It is as if their years of struggling against the current tort system 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 1996).

⁴² See HUBER, supra note ___, at 14-15; 155-61; see also MICHAEL E. PORTER, THE COMPETITIVE ADVANTAGE OF NATIONS 649 (1990) (asserting that the US product liability system "is so extreme and uncertain as to retard innovation"); La Fetra, supra note ___, 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."); 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 worldwide."); 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).

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

⁴⁴ It is interesting just how much of the tort reform case 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.*, MARK C. RAHDERT, COVERING ACCIDENT COSTS: INSURANCE, LIABILITY, AND TORT REFORM 119-21 (1995) (noting jury sympathy with plaintiffs over defendants); STEPHEN DANIELS & JOAN MARTIN, CIVIL JURIES AND THE POLITICS OF REFORM 5 (1995) (discussing jury's role in tort "horror stories"); Murray Mackey, *Liability, Safety, and Innovation in the Automotive Industry*, in THE LIABILITY Maze, *supra* note __, at 191, 201-2 (noting with disapproval the prevalence of juries in American civil trials); David E. Bernstein, *Procedural tort reform: Lessons from Other Nations*, at <u>http://www.cato.org/pubs/regulation/reg19n1e.html</u> (last visited June 1, 2005) (condemning "inconsistent, almost random jury verdicts"); HUBER, *supra* note __, at 173-75 (decrying jury's role in randomness of tort litigation).

small aircraft and certain vaccines pulled out of the market or greatly reduced their output because of litigation concerns.⁴⁵

These are strange examples, however, since both have been basically solved by industry-friendly federal legislation.⁴⁶ 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

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) (describing litigation over vaccines, and vaccine manufacturers that left the market); HUBER, *supra* note ___, at 156. The deleterious effects of product liability on aircraft are featured in no fewer than three chapters in Product Liability and Innovation. See 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]; Frederick B. Sontag, *Indirect Effects of Product Liability on a Corporation, in* MANAGING RISK, *supra* note ___, at 68, 69; Benjamin A. Cosgrove, *Innovation, Engineering Practice, and Product Liability in*

Commercial Aviation, in MANAGING RISK, *supra* note ___, at 113; *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.").

The withdrawal of the morning sickness drug Benedectin 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 126, 145 (Peter H. Schuck ed., 1991); La Fetra, *supra* note ___, 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." Michael Moore & W. Kip Viscusi, *Rationalizing the Relationship between Product Liability and Innovation, in* TORT LAW AND THE PUBLIC INTEREST, *supra* note __, at 106 [hereinafter Moore & Viscusi, *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 was ever a product that requiring careful vetting before public release, it is 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 (2005). 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 Sat. 3755 (codified at 42 U.S.C. § 300aa-11 (2005).

1985, fearful of the lawsuits that would follow if a home-built plane based on his designs crashed, he stopped selling the plans.⁴⁷

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.⁴⁸

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 business, and a smaller share reported abandoning a new product because of liability fears.⁴⁹ Marc Galanter has made short work of this data on multiple occasions.⁵⁰ 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.⁵¹

 ⁴⁷ HUBER, *supra* note __, at 156 (emphasis added). For further description of Burt Rutan and his innovative plane designs, *see* VERA FOSTER ROLLO, BURT RUTAN: REINVENTING THE AIRPLANE (1991).
 ⁴⁸ Compare this activity to the 19th century cases imposing strict liability upon hot air ballooning as an unusually dangerous activity. Apparently in the 19th 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 Co. v. American Cynamid Co., 916 F.2d 1174, 1176-77 (7th Cir. 1990)(discussing Guille v. Swan, 19 Johns. (N.Y. 381 (1822)).

⁴⁹ E. PATRICK MCGUIRE, THE IMPACT OF PRODUCT LIABILITY, THE CONFERENCE BOARD RESEARCH REPORT NO. 908 6-20 (1988) (showing that out of 500 United States companies, 4 out of 10 CEO's 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, 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 WISC. L. REV. 1, 6-8 (1998); Marc Galanter, The Life and Times of the Big Six; Or, The Federal Courts Since the Good Old Days, 1988 WISC. L. REV. 921, 942 n. 79 (1988) [hereinafter Galanter, Big Six].

⁵¹ See Galanter, Big Six, supra note ___, at 942 n. 79 ("[A] 1986 Conference Board survey of the riskmanagers 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]

The second set of empirical data is much more reliable, but also harder to confidently interpret. Professors W. Kip Viscusi and Michael J. Moore⁵² wrote three roughly contemporaneous 1991-93 articles attempting to measure empirically the correlation between products liability law and innovation.⁵³ Each article used different measures for innovation (research and development data,⁵⁴ patent, and product change data),⁵⁵ and measured innovation against product liability costs. All three of the articles basically reach the same conclusion: "At low product liability costs depress innovation once the disincentive effect on new product introductions becomes dominant."⁵⁶

respondents led the Conference Board to undertake 'a broader look at the effect of product liability on overall company operations."").

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, *at* <u>http://www.law.harvard.edu/faculty/directory/facdir.php?id=77</u> (last visited April 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, *at* <u>http://www.darden.virginia.edu/faculty/mooremi.htm</u> (last visited April 1, 2005). Viscusi and Moore collaborated on several articles attempting to discern an empirical relationship between product liability law and innovation.

⁵³ See Michael Moore & W. Kip Viscusi, Product Liability, Research and Development, and Innovation, 101 J. POL. ECON. 161, 161-84 (1993) [hereinafter Moore & Viscusi, Research & Development]; Michael Moore & W. Kip Viscusi, An Industrial Profile of the Links between Product Liability and Innovation, in LIABILITY MAZE, supra note __, at 81 [hereinafter Moore & Viscusi, Industrial Profile]; Moore & Viscusi, Rationalizing, supra note __, at 105. 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 famous economists do the same thing? Read the above and make your own call.
⁵⁴ See Moore & Viscusi, Research & Development, supra note __, at 168-69.

⁵⁵ See Moore & Viscusi, *Industrial Profile, supra* note ___, at 84-93 (this book chapter also uses research and development data as a validity check against the patent and product development data); Moore & Viscusi, *Rationalizing, supra* note __, at 115-22.

⁵⁶ See Moore & Viscusi, *Rationalizing, supra* note ___, at 123; Moore & Viscusi, *Industrial Profile, supra* note ___, 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."). Note that Moore & Viscusi, *Research & Development, supra* note __, 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."

Viscusi and Moore admit that innovation is difficult to measure empirically.⁵⁷ They also admit that the fact that high liability costs deter innovation may be evidence that the product liability system is actually working.⁵⁸ Product liability law is supposed to inhibit the manufacture of especially dangerous products at the margin,⁵⁹ and presumably industries with high liability costs are especially dangerous.⁶⁰

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,⁶¹ and discourages innovation.⁶²

Nor has the battle of the anecdotes proven 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

⁵⁷ See, e.g., Moore & Viscusi, Research & Development, supra note __, at 167-68.

⁵⁸ See Moore & Viscusi, *Rationalizing, supra* note ___, at 106 ("An effective liability system should lead to some withdrawal of products, decreased product introductions"); Moore & Viscusi, *Industrial Profile, supra* note ___, 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.").

⁵⁹ Cf. POSNER, supra note ____, 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 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 Marc Galanter, *Real World Torts: An Antidote to Anecdote*, 55 MD. L. REV. 1093, 1147 & n. 217 (citing Moore & Viscusi, *rationalizing*, supra note ___, and arguing that an "analysis by W. Kip Viscusi and Michael J. Moore found that product liability actually had a positive net effect on innovation"); 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 (citing Moore & Viscusi, *rationalizing*, supra note __, and 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").

⁶² Viscusi himself has used his research to support various product liability reforms. See 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); 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).

whether you think the tort system has crippled innovation in today's economy.⁶³ 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.⁶⁴

Even the defenders of the current system, however, basically balance enhanced safety against any other loss of innovation as a result of product liability.⁶⁵ When they say product liability law may encourage innovation, they mean safety innovations. My thinking on playground design has led me to 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.⁶⁶

II. <u>The "Y2K Effect," Schumperterian Economics, and the Innovative Effects</u> 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 and/or product quality. Assuming all competing firms in the market

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

 ⁶⁴ See RAHDERT, supra note ___, 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."); Robert S. Peck, et al., *Tort Reform 1999: A Building Without a Foundation*, 27 FLA. ST. U. L. REV. 397, 441-42 (2000) (same).
 ⁶⁵ See Peck et al., *supra* note __, at 441 ("While other commentators, especially Peter W. Huber, have

⁶⁵ See Peck et al., supra note __, 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."); Mary L. Lyndon, *Tort Law and Technology*, 12 YALE J. ON REG. 137, 148-170 (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).

⁶⁶ Now seems like an appropriate time to respond to the inevitable complaint that my essay 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 Kip Viscusi and Michael Moore had never been born I would feel comfortable claiming no true empirical studies in the area at all. I therefore feel supremely confident placing my anecdotes and intuitive arguments against my detractors. Since we are neighbors in glass houses we should get along great. Second, as noted above, even the attempts at measuring innovation empirically are rough approximations and come to no hard conclusions. Since the empirical data is not conclusive I feel fine about some anecdotal speculation.

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.⁶⁷ I use the "Y2K crisis" and its aftermath as a case study and supporting evidence.⁶⁸

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.⁶⁹ 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.⁷⁰

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.⁷¹ Even the more

⁶⁷ I use the fudge 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 infra* notes ___, and accompanying text. For our current purposes "certain circumstances" means when litigation or safety concerns are significant enough to cause a substantial product redesign.

⁶⁸ I put the term "crisis" in quotes because in retrospect the entire Y2K problem was pretty overblown. For anyone who lived under a rock from 1997-2000 and needs an overview of what the Y2K problem was, *see*, *e.g.*, MARK A. KELLNER, Y2K: APOCALYPSE OR OPPORTUNITY (1999).

⁶⁹ Y2K required businesses to replace defective hardware and software before the year 2000. 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.

⁷⁰ See, e.g., Mark C. Anderson, et al., *Y2K Spending by Entrepreneurial Firms*, 20 J. ACCOUNTING & PUB. POL'Y 323 (2001) (analyzing the IT spending of firms on Y2K and comparing it to 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).

⁷¹ See, e.g., KELLNER, supra note ___, at 43-56 (1999) (business meltdown) ; Barnaby J. Feder & Andrew Pollack, *World Prepares for Possible Y2K Glitches*, NEW ORLEANS TIMES PICAYUNE, December 27, 1998, at 22A (same); ED WHEELER, Y2K CHAOS (The Prophesy Club 1998) (Y2K video suggesting a biblical apocalypse).

sanguine commentators estimated stunning costs to repair the potential Y2K difficulties, and the possibility of a Y2K fueled recession.⁷² The Y2K recession theory was based on the sheer size of the remedial efforts, the transfer of IP resources to Y2K compliance, and the possibility of mass computer failures on January 1, 2000.⁷³ 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 world-wide computer melt-downs), they were wrong theoretically. The expense of fixing the Y2K problem turned out to be a tremendous benefit for the economy instead of a deficit. Many companies responded to Y2K by reassessing and redesigning their IT functions rather than simply patching their

⁷² The Y2K cost predictions ranged from \$600 billion to 1.6 trillion. *See* EDNA REID, WHY Y2K? 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, *at* <u>http://www.csis.org/html/cm062398.html</u> (last visited April 1, 2005).

⁷³ The leading economist on this front was Deutsche Bank's Edward Yardeni. See Mary Beth Regan, *Ticking Down to the Millennium Bug, How Ready Are We?*, ATLANTA J. CONST., December 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."); James Glassman, *The Apocalypse When?*, DENVER POST, December 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. *See* Carolyn Leitch, *Y2K Predictor Changes Jobs*, GLOBE & MAIL, September 8, 2004, at B15 (announcing Yemeni's move to a firm in Akron, OH).

existing software and hardware.⁷⁴ Instead of a Y2K recession, Y2K helped usher in a

productivity boom.⁷⁵

Economist Chris Farrell offers a pithy explanation of what economists and others

thought would happen, and what actually happened:

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 sand bags. 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 sand bags 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.⁷⁶

I call this the "Y2K effect," when expenditures to avert a potential business liability

result in unexpected benefits.⁷⁷

⁷⁴ See THE UNITED STATES SENATE SPECIAL COMMITTEE ON THE YEAR 2000 TECHNOLOGY PROBLEM, 106TH CONG., Y2K AFTERMATH – CRISIS AVERTED, FINAL COMMITTEE REPORT 17-18 (Comm. Print 2000), *available at*, <u>www.senate.gov/~y2k/documents/final.pdf</u> [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.

⁷⁵ See Roach, supra note __; Roger W. Ferguson, Jr., *Productivity Growth – A Realistic Assessment*, Bank for International Settlements Review, at www.bis.org/review/r021028d.pdf (last visited April 15, 2005) (noting the potential connection between Y2K and the late-1990s productivity acceleration).

⁷⁶ See Chris Farrell, *The Costs of Y2K*, The Surprising Legacy of Y2K, at http://americanradioworks.publicradio.org/features/y2k/b2.html (last visited April 1, 2005). For a much less pithy explanation making the same point, *see* Kevin L. Kliesen, *Was Y2K Behind the Business Investment Boom and Bust?*, FED. RES. BANK OF ST. LOUIS REV., January/February 2003, at 31, 37-41; cf. Robert J. Gordon, *Technology and Economic Performance in the American Economy*, NATIONAL BUREAU OF ECONOMIC RESEARCH, Working Paper 8771, February 2002, at 41 (noting the acceleration in IT spending from 1995-2000 and its effect on productivity).

⁷⁷ This Y2K effect was actually noted by some IT professionals immediately before the year 2000. See Michael W. Bucken, Y2K Aftermath Should be a Boon to Users, APPLICATION DEVELOPMENT TRENDS, February 1999, at 8 (arguing in advance that IT spending on Y2K will have substantial efficiency benefits); Lawrence A. Gordon & Martin P. Loeb, *The Y2K Boon to IT and Business*, 16 INFO. SYS. MGMT. 57 (1999) (same); *but see* Stephanie Schitt-Grohe & Martin Uribe, Y2K, 2 REV. ECON. DYNAMICS 850 (1999) (arguing that Y2K would cripple IT spending based on a more pessimistic cost model).

There are three take-away lessons 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 are frequently much easier to estimate than the benefits. In the Y2K case 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.⁷⁸ The benefits, however, were much harder to predict, since 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 over-rank costs and underestimate benefits.⁷⁹

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).⁸⁰ More cynically, in a politically charged atmosphere the costs of product liability are easy to overstate and manipulate, and the benefits easy to pooh-pooh.⁸¹

Second, outmoded technology, hardware and business practices frequently linger on well beyond their "expiration date" out of sheer inertia. The Y2K problem was

⁷⁸ Of course even the cost predictions varied wildly. *See* Leon A. Kappelman, *the Economics of Y2K~: Questions and Answers*, 17 COMPUTER LAW. 11, 11-12 (2000) (comparing cost predictions to actual costs); Y2K AFTERMATH, *supra* note ___, at 11-12 (discussing the various final cost estimates for Y2K).

⁷⁹ This, of course, raises the broader issue of carefully checking our intuition against the actual facts on the ground. Throughout this essay 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) that was founded by two Nobel prize winning economists); ROGER LOWENSTEIN, WHEN GENIUS FAILED: THE RISE AND FALL OF LONG TERM CAPITAL MANAGEMENT (2001) (same).

⁸⁰ For a great example of an effort to balance the costs and benefits if the medical malpractice system, *see* Gary T. Schwartz, *Reality in the Economic Analysis of Tort Law: Does Tort Law Really Deter?*, 42 U.C.L.A. L. REV. 377 (1994).

⁸¹ For an argument that the costs of the current tort system have been overstated, *see* Marc Galanter, *Real World Torts: An Antidote to Anecdote*, 55 MD. L. REV. 1093, 1140-43 (1996).

actually a result of programmers in the 1970s and 1980s assuming their programs and hardware would never last until the year 2000. 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. 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.⁸²

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.⁸³ The Y2K remediation resulted in new and improved IT instead of a global recession. In some sectors the product liability revolution has likewise spurred an overall reevaluation and redesign, resulting in increased safety⁸⁴ and better products overall.⁸⁵

⁸² 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, at*

http://womenshealth.aetna.com/WH/ihtWH/r.WSIHW000/st.36127/t.50902.html ("recommending only using cribs designed after 1985 and that "[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 – and yet these designs remained on the market until the mid-80's.

Cars are another fine example. There were many more automotive safety advances between 1960 and 2005 than in the 60 preceding odd years of automotive history combined. For example, seat belts were not standard equipment until the mid-1960s. 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).

⁸³ 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.

⁸⁴ See George Eads & Peter Reuter, Designing Safer Products: Corporate Responses to Product Liability Law and Regulation (1983).

A. Schumpertarian Economics, Entrepreneurship, and Innovation

My argument about the behavior of innovative firms matches a great 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.⁸⁶ 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.⁸⁷ Schumpeter's theories are

⁸⁵ Of course measuring exactly what "better" means, especially vis-à-vis concrete costs, is quite difficult. Note that the difficulty in quantifying changes in quality is a long recognized economic problem. A 1996 report criticizing the Consumer Price Index ("CPI") specifically noted the problem with "quality change bias." *See* ADVISORY COMMISSION TO STUDY THE CONSUMER PRICE INDEX, TOWARD A MORE ACCURATE MEASURE OF THE COST OF LIVING 22 (1996); 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"). The CPI measures the prices of products over time, but has a difficult time measuring changes in quality. For example, the price of a refrigerator has risen over time (and that change is measured by the CPI). Current refrigerators are also vastly superior to older refrigerators. They break down less frequently, are better designed, and are even better looking. These changes in quality are quite difficult to capture as a matter of dollars and cents. *See* Robert J. Gordon & Zvi Grilches, *Quality Change and New Products*, 87 AMERICAN ECON. REV. 84, 84-87 (1997); Paul R. Liegey & Nicole Shepler, *Adjusting VCR Prices for Quality Change: A Study Using Hedonic Methods*, MONTHLY LABOR REVIEW, September 1999, at 22 (noting difficulties in measuring changes in quality, and attempting to do so for VCRs).

⁸⁶ Joseph Alois Schumpeter was an Austrian economist (and a lawyer) who emigrated to the US permanently in the 1930s to teach at Harvard University. For a compressed discussion of his life and work, see DAVID REISMAN, SCHUMPETER'S MARKET: ENTERPRISE AND EVOLUTION 4-20 (2004). For a full-on biography, see WOLFGANG F. STOLPER, JOSEPH ALOIS SCHUMPETER (1994). As for the "new economy" and the reawakening of interest in Schumpeter's work, consider *See, e.g.*, 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.").

⁸⁷ See JOSEPH A. SCHUMPETER, CAPITALISM, SOCIALISM, AND DEMOCRACY 83 (Third 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 creating a new one. This process of Creative Destruction is the essential fact about capitalism."); MARIA BROUWER

often cited as fundamental to the modern study of evolutionary economics⁸⁸ and entrepreneurship.⁸⁹

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.⁹⁰ Schumpeter's work on entrepreneurship was also groundbreaking because of its focus on the entrepreneur's psychological profile.⁹¹

There has also been an increased empirical focus upon entrepreneurs recently, and Schumpeter's vision of a bold, inveterate risk taker has been well corroborated.

⁸⁸ See Wolfgang F. Stolper, *Development: Theory and Empirical Evidence, in* EVOLUTIONARY ECONOMICS 9-22 (Horst Hanusch ed., 1988) (noting the centrality of Schumpeter and the "International Schumpeter Society" to the study of evolutionary economics); Hyman P. Minsky, *Schumpeter: Finance and Evolution, in* EVOLVING TECHNOLOGY AND MARKET STRUCTURE: STUDIES IN SCHUMPERTARIAN ECONOMICS 51, 60-65 (1990) (discussing Schumpeter, entrepreneurial finance and economic evolution).

⁸⁹ See Allen Oakley, Schumpeter's Theory of Capitalist Motion: A Critical Exposition and REASSESSMENT 110-121 (1990) (discussing modern applications of Schumpeter's theories of entrepreneurship); Stephen J. Mezias & Elizabeth Boyle, 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).

⁹⁰ 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 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 or will to found a private kingdom." JOSEPH A. SCHUMPETER, A THEORY OF ECONOMIC DEVELOPMENT 93 (Redvers Opie trans., 1934) (Oxford Univ. Press 1961) [hereinafter SCHUMPETER, ECONOMIC DEVELOPMENT]; *see also* Joseph Schumpeter, *The Creative Response in Economic History*, 7 J. Econ. Hist. 149-59 (1947); Richard Arena & Paul-Marie Romani, *Schumpeter on Entrepreneurship, in* CONTRIBUTION OF JOSEPH SCHUMPETER TO ECONOMICS, supra note ___, at 169-179 (exploring institutional applications of the Schumpeterian entrepreneur).

⁹¹ Schumpeter does not simply describe his entrepreneur in terms of his effect upon the economy; instead he spends significant time discussing his 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 ___, at 92-93; *see also* Andre Legris, *On the Boundaries Between Economic Analysis and Economic Sociology, in* THE CONTRIBUTION OF JOSEPH SCHUMPETER TO ECONOMICS, *supra* note __, at 89, 99-103 (describing Schumpeter's treatment of entrepreneurs and institutions). For some criticisms of Schumpeter's "heroic entrepreneur," see MARIA BROUWER, SCHUMPETERIAN PUZZLES: TECHNOLOGICAL COMPETITION AND ECONOMIC EVOLUTION 51-53 (1991).

Entrepreneurs have been found to be less risk-averse than average,⁹² over-optimistic,⁹³ and motivated as much by a desire to revolutionize their market niche as profits.⁹⁴

These characteristics are of particular interest to our study, because risk-taking entrepreneurs are generally less affected by fear of litigation or failure.⁹⁵ This helps explain two trends. First, it helps explain why the product liability revolution has actually 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.⁹⁶ While there is certainly empirical evidence to support the notion that liability concerns matter,⁹⁷ there is

⁹² 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 (1979).

⁹³ See Manuel A. Utset, Reciprocal Fairness, Strategic Behavior & Venture Survival: A Theory of Venture Capital-Financed Firms, 2002 WISC. L. REV. 45, 97-112 (2002) (detailing the over-optimistic entrepreneur literature and studies). This over-optimism means that entrepreneurs tend to over rank their own competence, see Gaylen N. Chandler & Erik Jansen, The Founder's Self-Assessed Competence and Venture Performance, 7 J. BUS. VENTURING 223 (1992), and their chances of success, see Arnold C. Cooper et al., Entrepreneurs' Perceived Chances for Success, 3 J. BUS. VENTURING 97, 106 (1988) (conducting empirical study which found that "[e]ntrepreneurs perceive their prospects for success as substantially better than those for similar businesses"), and even their interpretation of business realities. A number of studies have also 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 Entrepreneural Risk-Taking: Challenging Conventional Wisdom, 10 J. BUS. VENTURING 425, 426 (1995) (Entrepreneurs "perceive more strengths versus weaknesses, opportunities versus threats, and potential for performance improvement versus deterioration.").

⁹⁴ See, e.g., Thomas M. Begley & David P. Boyd, Psychological Characteristics Associated with Performance in Entrepreneurial Firms and Smaller Businesses, 2 J. BUS. VENTURES 79, 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); Donald D. Myers & Daryl J. Hobbs, Technical Entrepreneurs--Are They Different?, in FRONTIERS OF ENTREPRENEURIAL RESEARCH 1986, 659, 670 (Robert Ronstadt et al., eds.) (finding in a survey of more than 1000 entrepreneurs or individuals who showed interest in entrepreneurship that 62.2 percent strongly agreed with proposition that as entrepreneur you can better control outcomes in your life).

⁹⁵ *Cf.* REISMAN, supra note ___, 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."); RITA GUNTHER MCGRATH & IAN MACMILLAN, THE ENTREPRENEURIAL MINDSET: STRATEGIES FOR CONTINUOUSLY CREATING OPPORTUNITY IN A TIME OF UNCERTAINTY 1-21 (2000) (describing the entrepreneurial mindset).

⁹⁶ 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.

⁹⁷ Consider the 1988 Conference Board survey's findings on the consequences of the product liability system on management and operations. *See* E. PATRICK MCGUIRE, THE CONFERENCE BOARD, THE IMPACT OF PRODUCT LIABILITY 17-20 (1988).

also substantial evidence that the actual effect on corporate decision-makers is relatively slight.⁹⁸

Second, it helps explain why those areas of the market that have been more concerned with liability (drug manufacturing, products for children) have not hung their heads and given up. In the face of increased liability these industries have redoubled their efforts at innovation.⁹⁹

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

A focus upon the entrepreneurial nature of American business¹⁰⁰ offers a

modified Calabresian defense for the product liability system.¹⁰¹ In *The Cost of*

Accidents and 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.¹⁰² This places the economic safety incentive where it can make the greatest

⁹⁸ Compare the Conference Board's 1986 survey to the 1988 survey cited above. *See* NATHAN WEBER, THE CONFERENCE BOARD, PRODUCT LIABILITY: THE CORPORATE RESPONSE 2 (1987) ("[The survey's] most striking finding is that the impact of the liability issue seems far more related to rhetoric than reality."); *cf.* Joseph Bankman, The Structure of Silicon Valley Start-Ups, 41 UCLA L. REV. 1737 (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).

⁹⁹ See Viscusi & Moore, *Industrial Profile, supra* note ___, at 94-98, 106-113 (discussing 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 R&D). 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.

¹⁰⁰ See CYNTHIA A. BELTZ, FINANCING ENTREPRENEURS 31-46 (1994) (arguing that the abundance of venture capital and an entrepreneurial mindset are part of the United States' considerable economic advantage); Hobbs, *supra* note __, at 241-43 (same).

¹⁰¹ Jargon-haters beware. I am just about to use "Calabresian" and "Schumperterian" together in the next paragraph. Live with it.

¹⁰² The original and most comprehensive statement of the argument is to be found in GUIDO CALABRESI, THE COST OF ACCIDENTS 135-73, 261-63 (1970). Shorter and clearer statements can be found in 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

difference. Since the cheapest cost avoider in a complex industrialized society is generally the manufacturer or seller (because they have the most concentrated information), strict product liability best serves societal interests.¹⁰³

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 Schumperterian 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 products that are 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. <u>A Case Study – Playground Design</u>

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 30 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

^{(1972) (&}quot;The strict liability test we suggest does not require that a government institution make . . . a costbenefit analysis. It requires . . . only a decision as to which of the parties to the accident is in the best position to make a cost-benefit analysis between accident costs and accident avoidance costs and to act on the 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 may also be that because current product liability law more closely resembles negligence than strict liability, *see infra* notes __, and accompanying text, any Calabresian defense is inapplicable to current law. ¹⁰³ See, e.g., Calabresi & Melamed, *supra* note __, at 1096-1109.

seized playground design as support for their vision of a legal system gone mad, and I find the challenge of a point/counterpoint irresistible.¹⁰⁴

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.¹⁰⁵ Further, the fact that the government is the purchaser for 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 nannystaters have stripped playgrounds of their equipment and have diluted and wimpified the national identity. I want to tell the opposite story: the old playgrounds were unfun deathtraps that have been gratefully replaced by immensely more amusing, and safer playgrounds.

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

¹⁰⁴ There is also 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. Thanks you ABA and AALS! *See* ABA Standard for Approval of Law Schools 402, *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 during the academic year devotes substantially all working time to teaching and legal scholarship"); Association of American Law Schools Bylaw 6-4 (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").
¹⁰⁵ 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 the slide's manufacturer, Game-Time, Inc. 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.

industrialized, urban centers of the late 19th century.¹⁰⁶ The first playgrounds were meant primarily for exercise and character-building among impoverished, urban youth.¹⁰⁷ The equipment on these playgrounds fit this austere, exercise-first model: seesaws, swings, slides, and monkeybars.¹⁰⁸ John F. Kennedy's Council on Youth Fitness further encouraged construction of traditional playgrounds in the 1960s,¹⁰⁹ and this basic playground design remained the dominant paradigm through the 1970s.¹¹⁰

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.¹¹¹ As the study of cognitive psychology and children's play has grown a new field studying child development and playgrounds has blossomed.¹¹² The

¹⁰⁶ EDWARD ALAN HITT, AN HISTORICAL STUDY OF THE TRENDS IN PLAYGROUND DESIGN DEVELOPMENT 1885-1972 22-31 (1978); ERIKSEN, *supra* note ___, at 9-14.

¹⁰⁷ See 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."); 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). ¹⁰⁸ HITT, *supra* note ___, at 28 (listing the above equipment in a "standard play area in the 1900's").

¹⁰⁸ HITT, *supra* note __, at 28 (listing the above equipment in a "standard play area in the 1900's"). ¹⁰⁹ Johnson, *supra* note __, at 1.

¹¹⁰ See MARSHA L. GALGANO, THE HISTORICAL DEVELOPMENT OF PLAYGROUND AND APPARATUS DESIGN FROM 1930 TO 1973 40-41 (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 run-of-the-mill equipment"); BUTLER, *supra* note ___, at 20-25 (listing the swing, the slide, the climbing structure, and the see-saw among "common types of apparatus" in 1947); BRETT, ET AL., *supra* note ___, at 9-11 ("American playgrounds have traditionally consisted of a concrete or asphalt surface with steel jungle gyms, merry-go-rounds, slides, and swings.").

¹¹¹ See MARGUERITE ROUARD & JACQUES SIMON, CHILDREN'S PLAY SPACES 13 (1977) (noting that "children rejected insufficient and unimaginatively arranged" playgrounds, "children must have dynamic, stimulating places filled with opportunities to exercise their sense of discovery"); BRETT, *supra* note ___, at 10-11 ("From a developmental point of view, the traditional playground ignores many of the critical needs of children.").

¹¹² Great recent examples include JOE L. FROST, ET AL., THE DEVELOPMENTAL BENEFITS OF PLAYGROUNDS (2004) [hereinafter FROST, DEVELOPMENTAL BENEFITS], JOE L. FROST, ET AL., PLAY AND CHILD DEVELOPMENT (2001) and BARBARA E. HENDRICKS, DESIGNING FOR PLAY (2001); *see also* JOE L. FROST, AMERICAN PLAYGROUND MOVEMENT 178 (1985). For a more nuts and bolts list of child development objectives in playground design, *see* PLAY FOR ALL GUIDELINES, *supra* note __, 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 __, at 29-60 (discussing "play and recreation objectives" in 1929 and criticizing the exercise only approach).

upshot of these new studies was a broad recognition that playgrounds should do more to encourage group play, imaginative play, and child development in general.¹¹³ There were also aesthetic critiques: "Comprised of a collection of isolated metal structures set upon a flat paved surface, however, play yards from this period evoke images of prison yards."¹¹⁴

The death knell for the traditional playground was not, however, persistent criticism from designers and child development experts. 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,¹¹⁵ and in 1981 the CPSC published its first Handbook for Public Playground

¹¹³ See FROST, DEVELOPMENTAL BENEFITS, *supra* note __, 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."); Pei-San Brown, et al., *Play is Essential for Brain Development, at* <u>http://www.ipema.org/News/default.aspx</u> (last visited July 1, 2005); PLAY FOR ALL GUIDELINES, *supra* note __, at 3-4.

¹¹⁴ See Johnson, supra note ___, at 1-2.

¹¹⁵ See U.S. CONSUMER PRODUCT SAFETY COMMISSION, 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 is actually 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 (Oct. 27, 1972) (codified at 15 U.S.C. §§ 2051-2064). One of the CPSC's first activities was the creation of the National Electronic Injury Surveillance System ("NEISS"), which went on-line July 1, 1972. *See* CPSC, 1975 HAZARD ANALYSIS, *supra* note __, at 1-6. 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.

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

Safety.¹¹⁶ The Handbook had voluntary guidelines for playground equipment and surfaces, and has been periodically updated since 1981.¹¹⁷ The CPSC's work in this area has spawned a veritable alphabet soup of groups interested in playground safety, including an industry group¹¹⁸ and a playground safety non-profit.¹¹⁹

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,¹²⁰ the park and playground design books of the last 30 years really focus on safety and maintenance issues. These books contain many more design specifications (frequently straight from the Handbook),¹²¹ and playground equipment manufacturers now advertise that they follow the Handbook's guidelines.¹²² During the same period

¹¹⁶ See U.S. Consumer Product Safety Commission, Handbook for Public Playground Safety 1 (1998).

¹¹⁷ See id.

¹¹⁸ IPEMA (The "International Playground Equipment Manufacturer's Association"). For information on IPEMA, *see* IPEMA, *Home Page, at* <u>http://www.ipema.org/</u> (last visited May 1, 2005).

¹¹⁹ NPPS (The "National Program for Playground Safety") was founded by a grant from the Center for Disease Control. *See* NPPS, *About Us, at* <u>http://www.playgroundsafety.org/about/index.htm</u> (last visited May 1, 2005).

¹²⁰ See NASH, supra note ___, 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 __ (1909 book, no mention of "safety" in the index or table of contents); BUTLER, supra note __ (1947 book, same).

¹²¹ See LEONARD E. PHILLIPS, PARKS: DESIGN AND MANAGEMENT 27-32 (1996) (devoting an entire chapter to playground safety and the CPSC Handbook); PLAY FOR ALL GUIDELINES, *supra* note ___, at 64-109 (describing "manufactured play equipment settings" and citing to the CPSC handbook throughout).

¹²² See, e.g., Park Structures, Safety, at <u>http://www.parkstructures.com/accessibility.iml</u> ("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.") (last visited May 1, 2005); Kaplan Early Learning Company, *Playgrounds, at* <u>http://www.kaplanco.com/playgrounds/index.asp</u> ("Our Sales Team and Installers are certified by the <u>National Playground Safety Institute</u>, ensuring your project will meet all National Guidelines as put forth by the <u>Consumer Product Safety Commission</u> and ASTM F-1487 (<u>American Society for Testing and</u> <u>Materials</u>") (last visited May 1, 2005); Progressive Playground Designs, *Safety, at* <u>http://www.pdplay.com/safety.cfm</u> ("The company takes a proactive approach to safety compliance by continuously upgrading our products and creating new playground structures that meet or exceed United States and International safety requirements including guidelines set forth by The International Playground

Equipment Manufactures Association (IPEMA), The Consumer Product Safety Commission (CPSC) and ASTM International.") (last visited May 1, 2005).

lawsuits became more prevalent and began to affect the decisions of schools and municipalities.¹²³

The upshot of this new focus on liability and playground safety has been a tremendous turnover in American playgrounds.¹²⁴ Colorful, modular play areas are replacing the "traditional" playground all over America.¹²⁵ Interestingly, the "new" playground design is not only more concerned with safety, it is also much more reflective of child development and child play concerns.¹²⁶ They are also 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

¹²³ For a great overview of the case law in this area, see Edward Steinbrecher, *When Playing Goes Wrong*, TRIAL, July 2000, at 76-81 (discussing liability for children's injuries on playgrounds); Edward M. Swartz, *Products Liability, Litigating Children's Products Cases*, C949 ALI_ABA 1, 4 (1994) (same). For a view from a school administrator, see JONATHAN RAUCH, GOVERNMENT'S END 106-7 (1999) (quoting a school administrator discussing 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 (same from an industry representative).

¹²⁴ It may be that I hang around too much 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.

¹²⁵ One great example of this effect is the most recent NPPS survey of playground equipment, *see* THE NATIONAL 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. From a classic element of the "traditional" playground seesaws are now found in only 13% of American playgrounds, down from 20% in 2000. *See id.* at 4. Merry-gorounds are similarly disappearing, falling from 14% in 2000 to 7% in 2004. *See id.* Interestingly, if you looked at the playground accident data you would expect swings and slides to go before seesaws or merry-go-rounds, since they have cause many more injuries. *See* INJURIES, *supra* note __, at 13-21. ¹²⁶ For example, PLAY FOR ALL GUIDELINES has five "planning criteria:" play value, programming

¹²⁰ For example, PLAY FOR ALL GUIDELINES has five "planning criteria:" play value, programming potential, safety, play leadership, and risk management. *See* PLAY FOR ALL GUIDELINES, *supra* note ___, at 64; Linda Cain Ruth, *Playground Design*, whole Building Design Guide, *at*

http://www.wbdg.org/design/playground.php (last visited May 1, 2005); *cf.* ERIKSEN, *supra* note ___, at 57-92 (describing the "playscape" as a replacement for the traditional playground); Jay Beckwith, *No More Cookie Cutter Parks, at* http://www.bpfp.org/PlaygroundDesign?NoMoreCookieCutter.htm (last visited May 1, 2005) (same).

play. ¹²⁷ Admittedly, relative 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.¹²⁸ New playgrounds are also more likely to include water play and themes (like pirate ships or castles).¹²⁹

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,¹³⁰ or the Crown Fountains

¹²⁷ Interestingly, the tort reform advocates, who generally take a "less-government"/libertarian approach, have ignored the governmental/parental supervision effects in their vociferous defense of the traditional playground. Aside from the sheer cost of maintenance, pure libertarians would presumably 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 just let my children wander free on the playground. I would likely feel quite differently on a traditional playground. It seems like a true "less government" approach would supply a baseline of play and risk (and I would argue the new playgrounds do just that) and allow private individuals to purchase any additional risk they want. If a tort reformer wants to pave her backyard and install a seesaw, they are still available for sale. *See, e.g.*, Outside Toys Pro, *Seesaws, at* <u>http://www.outsidetoyspro.com/products/productDetail.asp?PROD_ID=79&DEPid=0&ROOT_dept=0</u> (last visited July 1, 2005).

¹²⁸ Furthermore, the increased interest in playgrounds has led to whole new approaches to playground design. Consider Leathers and Associates community-based design approach, which involves the community in every aspect of the design process. *See* Leathers & Associates, *About Us, at* <u>http://www.leathersassociates.com/intro_frame.htm</u> (last visited June 1, 2005). Another example is the Boundless Playground movement, designing playgrounds for handicapped accessibility. *See* Boundless Playgrounds, *About Us, at* <u>http://www.boundlessplaygrounds.org/aboutus/aboutus_unique.php</u> (last visited June 1, 2005).

¹²⁹ Knoxville has two really fun water-based play areas, Concord Park and the Fountains at World's Fair Park. As 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.
¹³⁰ See Knoxville Zoo, Kid's Cove, at http://www.knoxville-zoo.org/kidscove/kidscove.htm (last visited

¹³⁰ See Knoxville Zoo, *Kid's Cove, at* <u>http://www.knoxville-zoo.org/kidscove/kidscove.htm</u> (last visited June 1, 2005).

at Chicago's Millennium Park¹³¹ or plans for a centerfield berm playground at the University of South Carolina's new baseball park.¹³²

The new playground design has spread to the private sector: a visit to a McDonald's playground or a Chuck E. Cheese certainly evinces the dominance of the new design over the traditional.¹³³ Backyard play structures also invariably resemble the new playgrounds more than the traditional.¹³⁴

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."¹³⁵ If this is what had happened in playgrounds

¹³¹ See Chicago's Millennium Park, The Crown Fountain, at <u>http://www.millenniumpark.org/crown.htm</u> (last visited June 1, 2005). For a favorable review of the fountains and Millennium Park as a whole, see Witold Rybczynski, Chicago's Magic Kingdom, Slate (May 11, 2005), at 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, at http://www.worldsfairpark.com/attractions.html (last visited June 1, 2005).

¹³² See John C. Drake, Design Details Emerge for USC Baseball Stadium, THE STATE (May 27, 2005), available at http://www.thestate.com/mld/thestate/news/special_packages/growth/11749917.htm (last visited July 12, 2005) ("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."). ¹³³ See, e.g. Soft Contained Playgrounds, Playgrounds That Power Business, at

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 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 possible even superior).

See, e.g., Walmart Online Catalogue, Outdoor Play, at

http://www.walmart.com/catalog/catalog.gsp?cat=14521&path=0%3A4171%3A14521 (last visited July 12, 2005). There has also been tremendous worldwide growth in the playground equipment and design industries. See OIS Capital Corporation, Independent Research: Diversaflow Corporation, at www.qiscapital.com/images/RRDVF.pdf (last visited July 12, 2005) (giving a favorable report on playground manufacturing corporation Diversaflow, and noting "increasing worldwide demand for safe, sturdy play equipment").

¹³⁵ "Spring Rocking Equipment" is the little horseys or ducks resting on top of springs in current playgrounds. The replacement of seesaws with spring-rockers is actually exactly what the CPSC's Handbook for Public Playground Safety suggests should be done. See CPSC, HANDBOOK supra note ___, at 23. For illustrations of spring rockers, including a horsey and a dog, see *id.* at 27-28.

across America I would probably agree with the tort reformers.¹³⁶ 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."¹³⁷ Of course, this is not generally 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.¹³⁸

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.¹³⁹ Of course, critics remain. Interestingly, playground designers have been among critics of the new playground. Their complaints fall into two categories. First, the new playground design criteria stifle creativity, and the new playgrounds are boring and cookie-cutter.¹⁴⁰ Nevertheless, these criticisms generally compare the current playgrounds with uniquely

¹³⁶ 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 ____.

¹³⁷ CPSC, HANDBOOK *supra* note ___, at 28.

¹³⁸ It may be helpful here to remember the Y2K example of "brush-clearing." *See supra* notes ___, and accompanying text. Once the old playground designs were swept away designers, park and school officials, and the public at large was free to innovate.

¹³⁹ According to the NPPS survey 82% of playgrounds now have "suitable" playground surfaces (meaning that "asphalt, concrete, dirt, and grass" have been replaced with more shock absorbent materials). *See* NPPS, *supra* note ___, at 12.

¹⁴⁰ See Janny Scott, When Child's Play is Too Simple; Experts Criticize Safety-Conscious Recreation as Boring, N.Y. TIMES, July 15, 2000, at B9; HENDRICKS, supra note __, at 163-65; Johnson, supra note __, at 2-3. Not to sound cynical, but at least some of this criticism can be attributed to economic self-interest. Similar to architect's complaints about pre-fabricated housing, I tend to be a little suspicious of designer's 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, PS 321, which replaced the sorry playground of my youth with one designed by a landscape architect. See Liz Farrell Landscape Architecture, Awards & Competitions, at http://www.newyork-

architects.com/content/profiles/index.cfm?fuseaction=profile&architect=2037&lang=e

designed playgrounds, and are not an endorsement of the "traditional" playground over new playgrounds.¹⁴¹ Even the critics admit that new "cookie-cutter" playgrounds are an improvement over the traditional, exercise-centered approach.¹⁴²

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 is

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 equipment, 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 Lori 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.¹⁴³

There are three interesting points about Howard's critique. First, the first portion is a

great example of considering the costs without the attendant benefits. Howard begins

playgrounds" favorably to "traditional playgrounds").

¹⁴¹ 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 1950s in Europe adventure playgrounds provided children with a small parcel of land, tools, and materials for building structures. Under the supervision of an adult the children built whatever they felt like. *See* ERIKSEN, *supra* note __, at 20-27. Because of the level of supervision necessary (among other factors) the adventure playground never took off in the US. *See id.* Despite the concept's lack of success in the US 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 strengths of the adventure playground model); ROUARD & SIMON, *supra* note __, 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 U.S. ¹⁴² *See* Beckwith, *supra* note __, at 1; BRETT, ET AL., *supra* note __, at 9-15 (comparing newer "creative

¹⁴³ See HOWARD, supra note ____, at 3-4. Howard has been cited by the U.S. House of Representatives, see H.R. REP. NO. 108-682, at 9-10 (2004) (citing Howard in support of 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. and Evan Thomas, Civil Wars, NEWSWEEK, December 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.").

with the costs – traditional playgrounds are being "closed" or "stripped" – before he ever turns to the benefits of the replacement playgrounds.¹⁴⁴

Second, once he does turn to the potential benefits he notes that new playground equipment is expensive and "boring." As support for this position he uses "Lori 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. In all honesty I was somewhat flummoxed by this criticism of the new playgrounds. I seriously doubted there is an epidemic of children crashing their bikes into playground equipment.

So, I emailed Professor Johnson and asked her two questions. First, was there empirical support for a bike-crashing trend? The answer, unsurprisingly, was no.¹⁴⁵ Second, I asked her if, despite her misgivings with the cookie-cutter nature of current playgrounds, she preferred them to the "prison yard" playgrounds of yore? The answer was a qualified yes.¹⁴⁶

¹⁴⁴ For a similar cost first approach, see JONATHAN RAUCH, GOVERNMENT'S END 106-7 (1999) (arguing that "playgrounds have been stripped of their equipment"). As for Bristol, Connecticut, it is hard to determine from a distance whether they have left all of their 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, at* http://www.bristolrotaryct.org/Playground/Playground.htm and

http://www.bristolrotaryct.org/Playground/Groundbreaking.htm (last visited May 1, 2005); *see also* <u>http://www.boundlessplaygrounds.org/findplaygrounds/CT/bristol.php</u>. There is another exceptional "boundless" playground in Chattanooga, Tennessee at the Siskin School. *See* Siskin School, *Playground Education, at* <u>http://www.siskin.org/playgroundedu/home.asp</u> (last visited May 1, 2005).

¹⁴⁵ Her email 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 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."

¹⁴⁶ The "prison yard" reference is Johnson's own description of the traditional playground. *See* Johnson, *supra* note ____, at 1. In her email Professor Johnson states the following: "However as far as your question

That being said, Professor Johnson (among other playground designers) raises important questions about the interaction between risk, safety, and keeping children's interest.¹⁴⁷ I think there is certainly 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.¹⁴⁸

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 (monkey-bars) and swings were much more dangerous than seesaws or carousels,¹⁴⁹ probably because falls from a height are the number one playground injury danger.¹⁵⁰ Nevertheless, slides, swings, and climbers are still found on most playgrounds, while seesaws and carousels are rapidly heading towards extinction.¹⁵¹ As the NPPS has noted "the most common pieces of equipment found on playgrounds involve minimum heights of six feet."¹⁵² Playground safety advocates have focused on

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?" ¹⁴⁷ See Johnson, *supra* note __; Scott, *supra* note __.

¹⁴⁸ In the Torts literature this is frequently referred to as the "second best" problem of eliminating products. 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. 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 __, at iii ("Overall three-fourths (79 percent) of the injuries that occurred on public equipment involved falls.").

¹⁴⁹ See CPSC, 1975 HAZARD ANALYSIS, supra note ___, at 13-16.

¹⁵⁰ This was true in 1975, *see* CPSC, 1975 HAZARD ANALYSIS, *supra* note ___, at 3 (Three-fourths of all the injuries were falls from slides or climbing apparatus."), and 2001. See CPSC, 2005 SPECIAL STUDY, supra note , at iii ("Overall three-fourths (79 percent) of the injuries that occurred on public equipment involved falls.").

¹⁵¹ See NPPS, HOW SAFE?, supra note ___, at 4.
¹⁵² See id.

playground surfacing, rather than eliminating all height from playgrounds.¹⁵³ This is a sign that even the playground safety proponents balance the need for entertaining playgrounds with safety concerns.¹⁵⁴

Third, Howard and others directly link the playground revolution to lawsuits, but the loss of the seesaw can hardly be chalked up to lawsuits. A June 2005 Westlaw "all courts" search of "negligence or 'product liability' /p seesaw" draws only 25 cases nationally.¹⁵⁵ 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 has driven most of the reforms. People (and especially parents) are just much more safety conscious these days.¹⁵⁶

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 have been improved above and

¹⁵³ See CPSC, 2001 SPECIAL STUDY, *supra* note __, at 25; NPPS, How SAFE?, *supra* note __, at 4. ¹⁵⁴ 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.

¹⁵⁵ Westlaw search, allcases database June 1, 2005 (search terms: "product liability" negligence /p seesaw). Twenty-five cases were found ranging in date from 1994 to 1902.

¹⁵⁶ Notably, Philip Howard actually probably agrees with me about this point. *See* Philip Howard, Comments at the 2002 Judicial Conference of the Second Circuit, *available at* 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.").

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 are not only safer (made of rounded and frequently padded plastic, and including safety belts and bars to prevent slippage), but also featuring wheels for easy movement, angle adjustments for sleeping, height adjustments, removable platters for easy cleaning, among other more exotic features.¹⁵⁷ Similar seismic shifts in design have occurred in strollers, car seats, and cribs.¹⁵⁸

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 has probably 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 have certainly not experienced a suppression of innovation.

¹⁵⁷ See, e.g., Amazon.com, Cappuccino Prima Pappa "R" High Chair, at <u>http://www.amazon.com/exec/obidos/tg/detail/-/B00070QJBW/104-4713768-9179927?v=glance</u> (last visited July 1, 2005).

¹⁵⁸ 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.

I should also 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 psychology has had insalubrious effects.¹⁵⁹ 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.

¹⁵⁹ If you want an example of these effects, consider my behavior at home since I began researching 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 choking hazard. *See* CPSC, *After Recent Death, CPSC Warns against Wearing Bike Helmets on Playgrounds, at* http://www.cpsc.gov/cpscpub/prerel/prhtml99/99065.html (last visited June 1, 2005). If safety concerns now dictate parents sending children out to play in helmets we have certainly gone too far.